

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

Document number: SD-WM-DP-263

Section 1 of 2

Title: Bank 241-AP-105, Cores 208, 209 and
210, Analytical Results for the final
Report

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Originator: Nuzum, J. L.
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ENGINEERING DATA TRANSMITTAL

Page 1 of 1

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Tank 241-AP-105, Cores 208, 209 and 210, Analytical Results for the Final Report

Jennifer L. Nuzum

Waste Management of Hanford, Inc., Richland, WA 99352
U.S. Department of Energy Contract DE-AC06-96RL13200

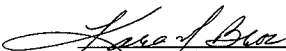
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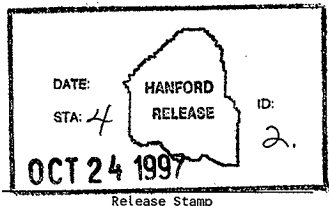
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ANALYTICAL SERVICES

**TANK 241-AP-105, CORES 208, 209 AND 210,
ANALYTICAL RESULTS FOR THE FINAL REPORT**

Project Coordinator: JENNIFER L. NUZUM

**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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222-S ANALYTICAL SERVICES

**TANK 241-AP-105, CORES 208, 209 AND 210,
ANALYTICAL RESULTS FOR THE FINAL REPORT**

Summary

This document is the final laboratory report for Tank 241-AP-105. Push mode core segments were removed from Risers 24 and 28 between July 2, 1997, and July 14, 1997. Segments were received and extruded at 222-S Laboratory. Analyses were performed in accordance with *Tank 241-AP-105 Push Mode Core Sampling and Analysis Plan* (TSAP) (Hu, 1997) and *Tank Safety Screening Data Quality Objective* (DQO) (Dukelow, et al., 1995).

None of the subsamples submitted for total alpha activity (AT), differential scanning calorimetry (DSC) analysis, or total organic carbon (TOC) analysis exceeded the notification limits as stated in TSAP and DQO. The statistical results of the 95% confidence interval on the mean calculations are provided by the Tank Waste Remediation Systems (TWRS) Technical Basis Group, and are not considered in this report.

Appearance and Sample Handling

Two cores, each consisting of four segments, were expected from Tank 241-AP-105. Three cores were sampled, and complete cores were not obtained. TSAP states 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 all cores.

Attachment 1 illustrates subsamples generated in the laboratory for analysis and identifies their sources. This reference also relates tank farm identification numbers to their corresponding 222-S Laboratory sample numbers.

Core 208

Segments 1 and 2 were removed from Tank 241-AP-105, Riser 24, between July 2, 1997, and July 8, 1997. All segments were received by 222-S Laboratory between July 2, 1997, and July 8, 1997. Table 1 summarizes extrusion information.

Core 209

Segments 1-3 were removed from Tank 241-AP-105, Riser 28, between July 10, 1997, and July 11,

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1997. All segments were received by 222-S Laboratory on July 14, 1997. Table 2 summarizes extrusion information.

Core 210

Segments 2-3 were removed from Tank 241-AP-105, Riser 24, on July 14, 1997. All segments were received by 222-S Laboratory on July 14, 1997. Table 3 summarizes extrusion information.

Field Blank

A field blank was provided to 222-S Laboratory with Core 208. This sample was treated as a drainable liquid in accordance with TSAP.

Hydrostatic Head Fluid Blank

There was no indication of the use of hydrostatic head fluid (HHF) in sampling, nor a HHF blank provided to 222-S Laboratory.

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Table 1. Sample Receipt and Extrusion Information for AP-105, Core 208.

Customer ID	Segment	Date Sampled	Date Received	Date Extruded	Inches Extruded*	Liquid Recovered (g)	Solids Recovered (g)	Sample Description
Field Blank	NA	7/8/97	N/A	N/A	N/A	N/A	N/A	Field Blank consisted of deionized water.
208-01	1	7/2/97	7/2/97	7/8/97	0.0	331.7--Drainable	0.0	Drainable liquid was pale yellow and clear. No organic layer. Trace salt crystals were present in the drainable liquid.
208-02	2	7/2/97	7/2/97	7/8/97	11.0	80.9--Drainable	130.1--Lower Half 165.0--Upper Half	Drainable liquid was pale yellow and clear. No organic layer. Solids were pale yellow and resembled a wet salt.

*Approximate Inches Extruded

Table 2. Sample Receipt and Extrusion Information for AP-105, Core 209.

Customer ID	Segment	Date Sampled	Date Received	Date Extruded	Inches Extruded*	Liquid Recovered (g)	Solids Recovered (g)	Sample Description
209-01	1	7/10/97	7/14/97	7/15/97	0.5	267.5--Drainable	14.4--Lower Half	Drainable liquid was pale yellow and opaque. No organic layer. Solids were pale yellow and resembled a wet salt.
209-02	2	7/10/97	7/14/97	7/15/97	16.0	0.0	143.0--Lower Half 244.4--Upper Half	Solids were pale yellow and resembled a wet salt.
209-03	3	7/11/97	7/14/97	7/16/97	16.0	0.0	185.7--Lower Half 260.9--Upper Half	Solids were pale yellow and resembled a wet salt.

*Approximate Inches Extruded

Table 3. Sample Receipt and Extrusion Information for AP-105, Core 210.

Customer ID	Segment	Date Sampled	Date Received	Date Extruded	Inches Extruded*	Liquid Recovered (g)	Solids Recovered (g)	Sample Description
210-02	2	7/14/97	7/14/97	7/16/97	9.0	0.0	349.0--Lower Half	Solids were pale yellow and resembled a wet salt. Drainable liquid was present (pale yellow and opaque) and was sampled with the solid material as it was impossible to separate.
210-03	3	7/14/97	7/14/97	7/16/97	10.5	135.8--Drainable	256.7--Lower Half	Drainable liquid was pale yellow and opaque. No organic layer. Solids were pale yellow and resembled a wet salt.

*Approximate Inches Extruded

Analytical Results Summary

The Data Summary Table (Table 4) included in this report compiles analytical results associated with each subsample submitted in accordance with TSAP and DQO.

Liquid subsamples prepared for analysis by an acid adjustment of the direct subsample are indicated by a "D" in the A# column of Table 4. Solid subsamples prepared for analysis by performing a fusion digest are indicated by a "F" in the A# column of Table 4. Solid subsamples prepared for analysis by performing a water digest are indicated by a "W" in the A# column of Table 4.

Inorganic Analyses**Differential Scanning Calorimetry (DSC) Analysis**

DSC analysis was performed on all 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. All results were below DSC notification limits. In accordance with TSAP, total organic carbon (TOC) analysis was performed on all subsamples showing exothermic DSC results.

Relative percent difference (RPD) between sample and duplicate exceeded 20 for six subsamples. These are shown in Table 5. One of these subsamples, Lower Half Segment 2 of Core 210, (S97T001784) was analyzed in triplicate. These results are presented in Table 6. Elevated RPDs may be due to inhomogeneity between sample and duplicate. Further analyses were not requested.

Table 5. DSC Relative Percent Differences Exceeding 20%

Sample	Sample Description	RPD
S97T001726	Core 208 Segment 2 Lower Half	34.6
S97T001730	Core 208 Segment 2 Upper Half	26.8
S97T001779	Core 209 Segment 2 Lower Half	20.9
S97T001781	Core 209 Segment 3 Lower Half	24.5
S97T001783	Core 210 Segment 2 Lower Half	55.9
S97T001784	Core 210 Segment 3 Lower Half	54.8

Table 6. Triplicate Results for DSC Analyses

Sample ID	Sample Result (Joules/g)	Duplicate Result (Joules/g)	Triplicate Result (Joules/g)	Mean (Joules/g)
S97T001784	86.1	49.0	73.45	69.5

Thermogravimetric Analysis (TGA)

TGA was performed on all direct subsamples. TGA results were typically determined by summing weight loss steps below 200°C, however, the chemist noted weight loss steps were observed above 200°C for both Upper and Lower Half Segment 2 of Core 208 (S97T001726 and S97T001730). More information may be obtained by examining the raw data.

There were no exceptions to the quality control (QC) parameters stated in TSAP for these subsamples.

Density

Bulk density was performed on solid lower half segments. Results from bulk density tests ranged from 1.39 g/mL to 1.81 g/mL. The highest bulk density (1.81 g/mL) was used to calculate the solid total alpha notification limit. There was not enough sample to perform a bulk density determination on Lower Half Segment 1 of Core 209 (S97T001765). There were no QC parameters stated in TSAP for bulk density analysis.

Specific Gravity (SpG)

Specific gravity analyses were performed on direct liquid subsamples. There were no exceptions to the QC parameters stated in TSAP for these subsamples.

Ion Chromatography (IC)

IC analysis was performed on direct liquid and solid subsamples. For these subsamples, only bromide (Br) was reviewed for QC in accordance with TSAP. Results are included in Table 4. There were no exceptions to the QC parameters stated in TSAP for Br.

All other analyte results are presented in Appendix A. These results are opportunistic, and do not have customer defined QC parameters. Any anomalies associated with the results are not discussed.

Inductively Coupled Plasma Spectrophotometry (ICP)

ICP was performed on direct liquid and solid subsamples. For these subsamples, only lithium (Li) was reviewed for QC in accordance with TSAP. Results are included in Table 4. There were no exceptions to the QC parameters stated in TSAP for Li.

All other analyte results are presented in Appendix A. These results are opportunistic, and do not have customer defined QC parameters. Any anomalies associated with the results are not discussed.

Total Organic Carbon (TOC)

TOC analysis was performed for all subsamples showing exothermic DSC results in accordance with TSAP. All results were below TOC notification limits.

RPD between sample and duplicate exceeded 20 for two subsamples. These subsamples, Lower Half Segments 2 of Core 208 (S97T001726) and Core 210 (S97T001783), were performed in triplicate. The results are presented in Table 7. Rerun analyses were not requested.

Table 7. Triplicate Results for Total Organic Carbon

Sample ID	Sample Result ($\mu\text{g/g}$)	Duplicate Result ($\mu\text{g/g}$)	Triplicate Result ($\mu\text{g/g}$)	Mean ($\mu\text{g/g}$)
S97T001726	4.31E+03	5.49E+03	4.29E+03	4.70E+03
S97T001783	3.76E+03	6.96E+03	5.69E+03	5.47E+03

For all TOC analyses, a "Total Organic Carbon Analysis Report" worksheet is included as raw data. Due to programming limitations with the TOC instrument software, the sample size listed on this worksheet is incorrect. This value is not used in the final calculations (also included) and has no bearing on the results in Table 4.

Total Inorganic Carbon (TIC)

TIC analyte results are presented in Appendix A. These results are opportunistic, and do not have customer defined QC parameters. Any anomalies associated with the results are not discussed.

Ammonia (NH₃)

NH₃ analyses were performed on direct liquid subsamples. There were no exceptions to the QC parameters stated in TSAP for these subsamples.

Radiochemistry Analyses

Total Alpha (AT) Analysis

AT analyses were requested for direct liquid subsamples and solid lower half segments. All results were below the total alpha activity notification limits of 61.5 $\mu\text{Ci/mL}$ for liquids and 34.0 $\mu\text{Ci/g}$ for solids (based on a bulk density of 1.81 g/mL).

RPD between sample and duplicate for Lower Half Segment 3 of Core 209 (S97T001810) was 72.0. This was caused by low alpha activity in the sample. Rerun analysis was not requested.

One of the preparation blanks showed AT results above the detection level. The level in the preparation blank is inconsequential when compared to sample results, and does not impact sample data quality.

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Procedures

Table 8 lists the analytical procedures used for performing sample analyses. Abbreviations for analyses are defined in the table notes.

Table 8. Analytical Procedures

Analysis	Matrix	Preparation Procedure	Analysis Procedure
DSC	Solid Liquid	N/A	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
NH ₃	Liquid	N/A	LA-631-001 Rev. C-0
AT	Liquid Solid	N/A +LA-549-141 Rev. F-0	LA-508-101 Rev. G-0
Sp.G	Liquid	N/A	LA-510-112 Rev. D-1
IC	Liquid Solid	N/A ++LA-504-101 Rev F-0	LA-533-105 Rev. D-1
ICP	Liquid Solid	N/A +LA-549-141 Rev F-0	LA-505-151, Rev. E-1 LA-505-161 Rev. C-2
TOC/TIC	Solid	N/A	LA-342-100 Rev. E-0

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Notes:

N/A	not applicable (these are direct samples)
DSC	differential scanning calorimetry
TGA	thermogravimetric analysis
NH ₃	ammonia
AT	total alpha
Sp.G	specific gravity
IC	ion chromatography
ICP	inductively coupled plasma
TOC	total organic carbon
TIC	total inorganic carbon
+	fusion digest
++	water digest

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References

- 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.
- Hu, T.A., 1997, *Tank 241-AP-105 Push Mode Core Sampling and Analysis Plan*, HNF-SD-WM-TSAP-138, Rev. 0, Lockheed Martin Hanford Corporation, Richland, WA 99352.
- Markel, L. P., 1997, *Quality Assurance Plan for the 222-S Laboratories*, WHC-SD-CP-QAPP-016, Rev. 2, Rust Federal Services of Hanford, Incorporated, Richland, WA 99352.

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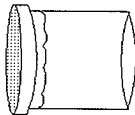
AP-105 SAMPLE BREAKDOWN (ATTACHMENT 1)

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AP-105
Core:208
Seg: Field Blank
S97T001689

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@ICP-D01
DSC-01
DSC-02
TGA-01
SPG-01
NH3-01
@ALPHA01



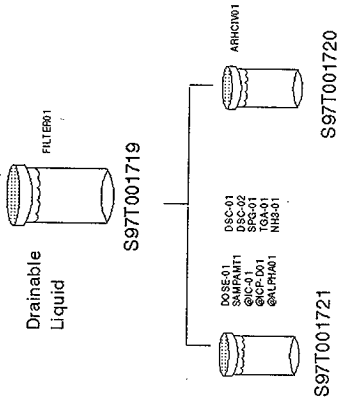
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S97T001627

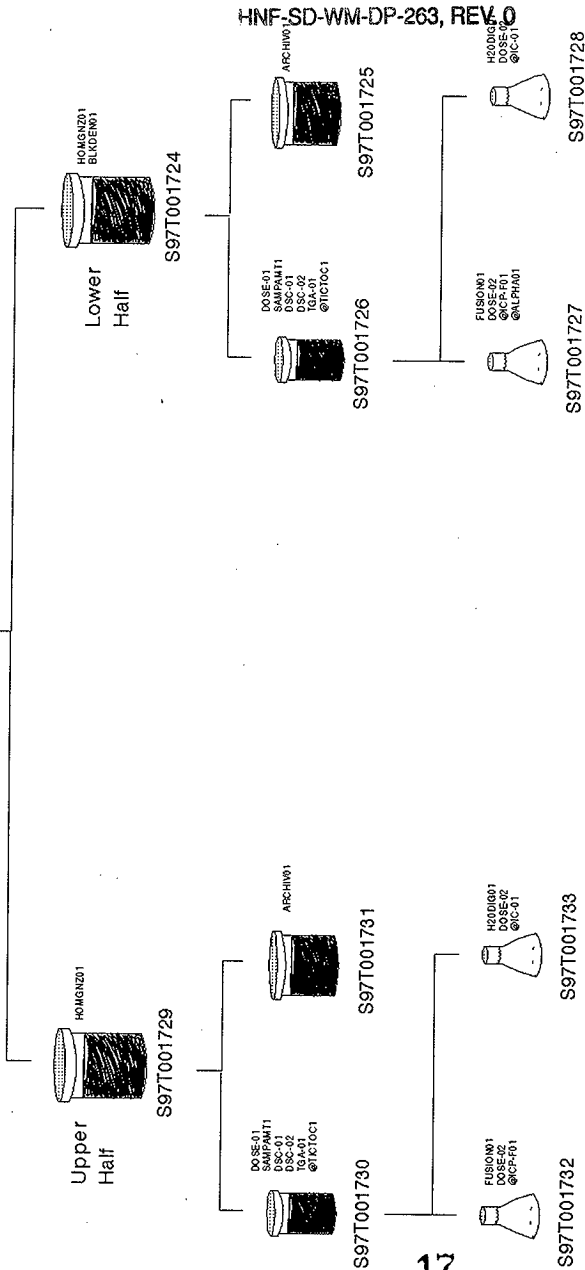
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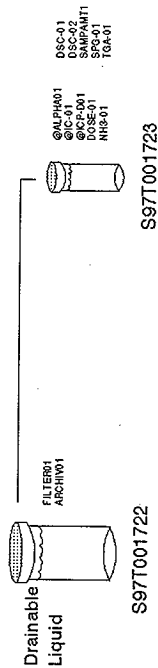


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Seg: 2 (208-02)
S97T001628

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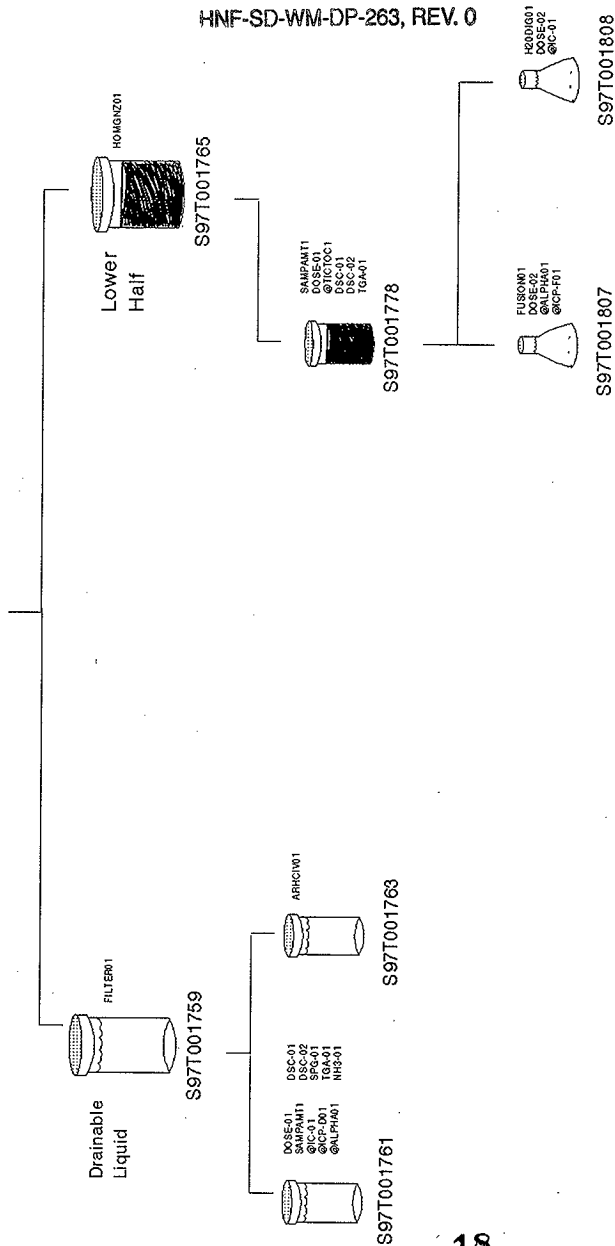
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Core:209

Seg: 1 (209-01)

S97T001747

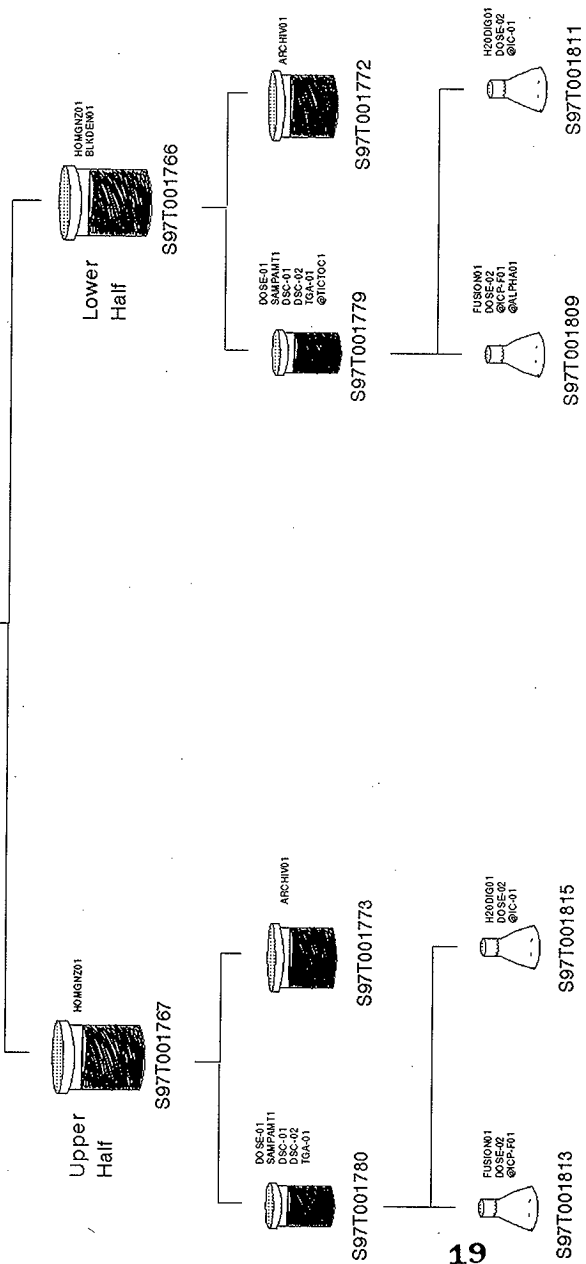
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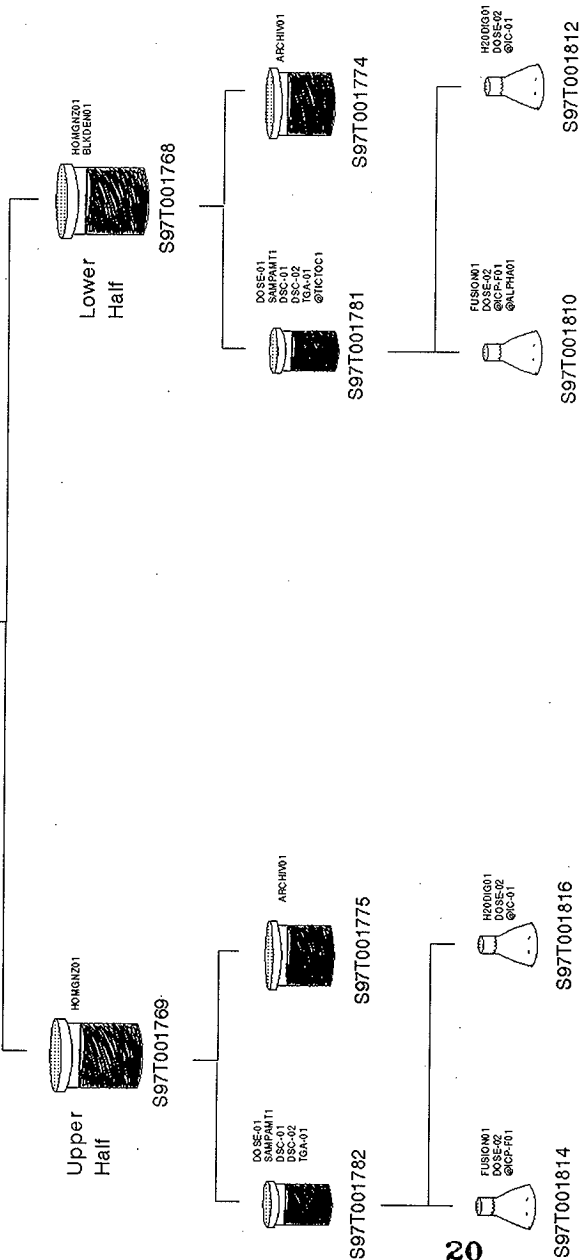
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Core:209
Seg: 2 (209-02)
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ATTACHMENT 1



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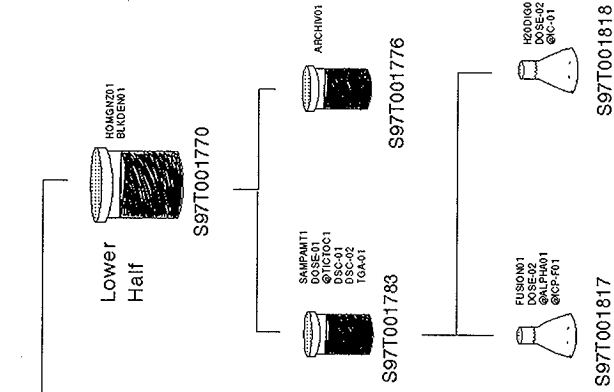
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Seg: 2 (210-02)

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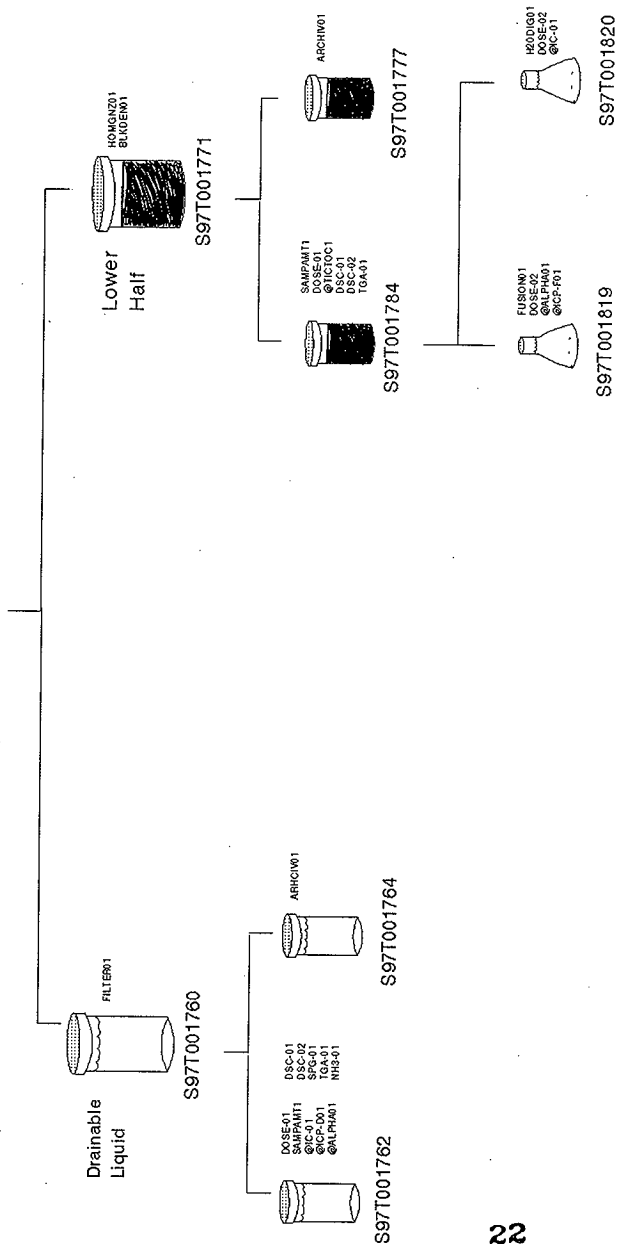
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Core:210

Seg: 3 (210-03)

S97T001751

ATTACHMENT 1



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SAMPLE DATA SUMMARY

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Table 4. Data Summary Table
AP-105 (P)

CORE NUMBER: 208
SEGMENT #: Field Blank
SEGMENT PORTION: Field Blank

Sample#	R /#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S97T001689		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
S97T001689		DSC Exotherm on Perkin Elmer	Joules/g	102.4	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S97T001689		Ammonia by ISE-Std Additions	ug/mL	106.4	n/a	39.00	63.70	61.35	7.66	n/a	1.000	n/a
S97T001689		Specific Gravity	Sp.G.	99.17	n/a	9.80e-01	9.79e-01	9.80e-01	0.10	n/a	1.00e-03	n/a
S97T001689		% Water by IGA on Perkin Elmer	%	99.03	n/a	99.56	99.72	99.64	0.16	n/a	n/a	n/a
S97T001689		Lithium-ICP-Acid Dil.	ug/mL	103.8	<1.00e-02	<1.00e-02	<1.00e-2	n/a	n/a	n/a	1.00e-02	n/a
S97T001689		Bromide by Ion Chromatograph	ug/mL	101.5	<1.25e-01	<1.25e-01	<1.25e-1	n/a	n/a	n/a	1.25e-01	n/a
S97T001689		Alpha in Liquid Samples	UCI/mL	72.30	<4.36e-07	<5.88e-07	<3.19E-7	n/a	n/a	n/a	7.89e-07	5.00E+02

Table 4. Data Summary Table
AP-105 (P)

CORE NUMBER: 208
SEGMENT #: 1

SEGMENT POSITION: Drainable Liquid

Sample#	R A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S97T001721		DSC Exotherm Dry	Calculated									
S97T001721		DSC Exotherm Dry	Joules/g Dry	n/a	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S97T001721		DSC Exotherm on Perkin Elmer	Joules/g	101.5	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S97T001721		Aspirin ISE STD Additions	ug/mL	102.2	<2.00e-01	3.24e+02	289.0	306.5	11.4	80.60	2.500	n/a
S97T001721		Specific Gravity	%	101.2	n/a	1.254	1.291	1.272	2.91	n/a	1.00e-03	n/a
S97T001721		% Water by TGA on Perkin Elmer	%	99.75	n/a	65.81	65.55	65.68	0.40	n/a	n/a	n/a
S97T001721		D Lithium TCP-Acid Dil	ug/mL	105.8	<1.00e-02	<	<4.01e0	n/a	n/a	104.0	4.010	n/a
S97T001721		Bromide by Ion Chromatograph	ug/mL	105.11	<1.25e-01	<5.18e+02	<5.18e2	n/a	n/a	99.32	517.6	n/a
S97T001721		Alpha in Liquid Samples	ucj/mL	79.101	<4.60e-03	<4.60e-03	<4.60E-3	n/a	n/a	102.3	1.10e-02	5.00E+02

Table 4., Data Summary Table
AP-105 (P)

CORE NUMBER: 208
SEGMENT #: 2

SEGMENT PORTION: U Upper Half of Segment

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S97T001730		DSC Exotherm Dry, Calculated	Joules/g Dry	n/a	n/a	1.03e-02	78.55	90.67	26.7	n/a	n/a	n/a
S97T001730		DSC Exotherm on Perkin Elmer	Joules/g	102.0	n/a	61.95	47.31	54.62	26.8	n/a	n/a	n/a
S97T001730		% Water by TGA on Perkin Elmer	%	98.95	n/a	38.83	39.21	39.02	0.97	n/a	n/a	n/a
S97T001730		TCC by Per sulfate/Coulometry	ug/g	92.67	1.200	6.00e-03	6.78e+03	6.39e+03	12.2	n/a	40.00	n/a
S97T001730	F	Lithium-LCP-Fusion	ug/g	97.00	<1.00e-02	<2.00e-02	<1.90e2	n/a	n/a	n/a	200.0	n/a
S97T001735	W	Iodamide by Ion Chromatograph	ug/g	101.51	<1.25e-01	<9.56e+02	<1.00e3	n/a	n/a	n/a	996.3	n/a

L Lower Half of Segment: L Lower Half of Segment

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S97T001724		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
S97T001726		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
S97T001726		DSC Exotherm on Perkin Elmer	Joules/g	102.0	n/a	55.97	39.48	47.72	34.6	n/a	n/a	n/a
S97T001726		% Water by TGA on Perkin Elmer	%	98.95	n/a	38.03	40.71	39.37	6.81	n/a	n/a	n/a
S97T001726		TCC by Per sulfate/Coulometry	ug/g	92.67	1.200	4.31e+03	5.49e+03	4.90e+03	24.1	119.4	40.00	n/a
S97T001727	F	Lithium-LCP-Fusion	ug/g	97.00	<1.00e-02	<1.89e+02	<1.70e2	n/a	n/a	94.70	189.0	n/a
S97T001727	F	Alpha of Digested Solid	uc/g	77.50	<5.95e-03	<1.28e-02	<8.02E-3	n/a	n/a	80.61	1.50e-02	2.43e-02
S97T001728	W	Bromide by Ion Chromatograph	ug/g	101.51	<1.25e-01	<1.01e+03	<9.56e2	n/a	n/a	100.7	1.01e+03	n/a

Drainable Liquid: Drainable Liquid

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S97T001723		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
S97T001723		DSC Exotherm on Perkin Elmer	Joules/g	101.3	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S97T001723		Amnia by ISE-STD ADDITIONS	ug/mL	101.2	<2.00e-01	1.00e+02	94.00	97.00	6.19	n/a	2.500	n/a
S97T001723		Specific Gravity	Sp.G.	99.12	n/a	1.407	1.375	1.391	2.30	n/a	1.00e-03	n/a
S97T001723		% Water by TGA	%	99.73	n/a	53.84	55.14	55.49	1.31	n/a	n/a	n/a
S97T001723	D	Lithium-LCP-Acid DIL	ug/mL	103.8	<1.00e-02	<4.010	<4.01e0	n/a	n/a	n/a	4.010	n/a
S97T001723		Bromide by Ion Chromatograph	ug/mL	103.1	<1.25e-01	<5.18e+02	<5.18e2	n/a	n/a	n/a	517.6	n/a
S97T001723		Alpha in Liquid Samples	uc/mL	79.00	<4.60e-03	<1.43e-02	<9.20E-3	n/a	n/a	n/a	2.10e-02	5.00e-02

Table 4. Data Summary Table
AP-105 (P)CORE NUMBER: 209
SEGMENT #: 1

SEGMENT PORTION: L Lower Half of Segment

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S97T001778		DSC Exotherm Dry, Calculated	Joules/g Dry	n/a	n/a	1.30e+02	142.7	136.1	9.62	n/a	n/a	n/a
S97T001778		DSC Exotherm on Perkin Elmer	Joules/g	103.0	n/a	71.23	78.43	74.83	9.62	n/a	n/a	n/a
S97T001778		% Water by TGA on Perkin Elmer	%	100.6	n/a	45.39	44.70	45.05	1.53	n/a	n/a	n/a
S97T001778		TOC by Persulfate/Coulometry	ug/g	92.67	1.200	5.96e+03	6.50e+03	6.23e+03	8.67	n/a	40.00	n/a
S97T001807		F Lithium -ID--Fusion	ug/g	95.20	<1.00e-02	<1.85e+02	<1.85e+02	n/a	n/a	n/a	186.0	n/a
S97T001807		F Alpha of Digested Solid	uci/g	81.00	<1.25e-02	6.02e-03	6.24e-03	6.13e-03	3.59	n/a	7.00e-03	1.38E+02
S97T001808		W Bromide by Ion Chromatograph	ug/g	94.23	<1.25e-01	<9.94e+02	<9.90e+02	n/a	n/a	n/a	994.2	n/a

Drainable Liquid: Drainable Liquid

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S97T001761		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
S97T001761		DSC Exotherm on Perkin Elmer	Joules/g	101.7	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S97T001761		Ammonia by ISE-Std Additions	ug/mL	104.5	<1.000	16.90	16.60	16.75	1.79	n/a	1.000	n/a
S97T001761		% Specific Gravity	99.6-	101.8	n/a	1.271	1.266	1.268	0.39	n/a	1.00e-03	n/a
S97T001761		% Water by TGA on Perkin Elmer	%	99.03	n/a	65.38	65.43	65.41	0.08	n/a	n/a	n/a
S97T001761		F Lithium ID- Acid DTL	ug/mL	105.8	<1.00e-02	<4.010	<4.01e+01	n/a	n/a	n/a	4.010	n/a
S97T001761		Bromide by Ion Chromatograph	ug/mL	101.0	<1.25e-01	<5.18e+02	<5.18e+02	n/a	n/a	n/a	517.6	n/a
S97T001761		Alpha in Liquid Samples	uci/mL	99.50	<2.34e-03	<3.86e-03	<2.34E-3	n/a	n/a	n/a	6.00e-03	5.00E+02

Table 4. Data Summary Table
AP-105 (P)

CORE NUMBER: 209
SEGMENT #: 2

SEGMENT PORTION: U Upper Half of Segment

Sample#	R	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count	Err%
S97T001760		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	n/a
S97T001760		DSC Exotherm on Perkin Elmer	Joules/g	101.3	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a	n/a
S97T001760		% Water by IGA on Perkin Elmer	%	99.03	n/a	52.36	52.38	52.37	0.04	n/a	n/a	n/a	n/a
S97T001815	F	Lithium - ICP-Fusion	ug/g	95.20	<1.00e-02	<1.89e-02	<1.95e2	n/a	n/a	n/a	189.0	n/a	n/a
S97T001815	W	Bromide by Ion Chromatograph	ug/g	94.23	<1.25e-01	<9.92e+02	<9.94e2	n/a	n/a	n/a	992.2	n/a	n/a

L Lower Half of Segment: L Lower Half of Segment

Sample#	R	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count	Err%
S97T001766		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	n/a
S97T001776		DSC Exotherm Dry, Calculated	Joules/g Dry	n/a	n/a	76.34	94.18	85.26	20.9	n/a	n/a	n/a	n/a
S97T001776		DSC Exotherm on Perkin Elmer	Joules/g	103.0	n/a	45.88	56.60	51.24	20.9	n/a	n/a	n/a	n/a
S97T001776		% Water by IGA on Perkin Elmer	%	100.6	n/a	38.45	41.35	39.90	7.27	n/a	n/a	n/a	n/a
S97T001779		QC by Perisulfate/Coulometry	ug/g	92.67	6.800	3.86e+03	3.94e+03	3.89e+03	2.57	119.0	40.00	n/a	n/a
S97T001809	F	Lithium - ICP-Fusion	ug/g	95.20	<1.00e-02	<1.86e+02	<1.91e2	n/a	n/a	87.90	186.0	n/a	n/a
S97T001809	F	Alpha of Digested Solid	uCi/g	81.00	<1.25e-02	<9.70e-03	<9.93E-3	n/a	n/a	80.99	1.30e-02	5.00e+02	n/a
S97T001811	W	Bromide by Ion Chromatograph	ug/g	95.23	<1.25e-01	<9.71e+02	<9.57e2	n/a	n/a	93.21	971.3	n/a	n/a

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Table 4. Data Summary Table
AP-105 (P)

CODE NUMBER: 209
SEGMENT #: 3

SEGMENT PORTION: U Upper Half of Segment

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err
S97T001782		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
S97T001782		DSC Exotherm on Perkin Elmer	Joules/g	98.51	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S97T001782		% Water by IGA on Perkin Elmer	%	99.97	n/a	51.62	51.38	51.50	0.47	n/a	n/a	n/a
S97T001814	F	Lithium - ICP-Fusion	ug/g	102.0	<1.00e-02	<2.08e-02	<2.01e2	n/a	n/a	n/a	208.0	n/a
S97T001816	W	Bromide by Ion Chromatograph	ug/g	94.06	<1.25e-01	<9.45e+02	<8.90e2	n/a	n/a	n/a	945.1	n/a

L Lower Half of Segment: L Lower Half of Segment

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err
S97T001748		Bul Density of Sample	g/mL	n/a	n/a	1.560	n/a	n/a	n/a	n/a	5.00e-01	n/a
S97T001784		DSC Exotherm Dry Calculated	Joules/g Dry	n/a	n/a	21.14	16.52	18.83	24.5	n/a	n/a	n/a
S97T001784		DSC Exotherm on Perkin Elmer	Joules/g	102.4	n/a	10.21	7.980	9.095	24.5	n/a	n/a	n/a
S97T001784		% Water by IGA on Perkin Elmer	%	99.03	n/a	51.80	51.60	51.70	0.39	n/a	n/a	n/a
S97T001781		TOC Dry Gravimetric/Combustion	ug/g	92.67	6.800	5.68e+03	5.08e+03	5.38e+03	11.2	n/a	40.00	n/a
S97T001810	F	Lithium - ICP-Fusion	ug/g	102.0	<1.00e-02	<2.01e+02	<2.00e2	n/a	n/a	n/a	201.0	n/a
S97T001810	F	Alpha of Digested Solid	ug/g	85.50	<3.80e-03	1.06e-02	4.99e-03	7.79e-03	72.0	85.93	9.00e-03	9.03E-01
S97T001812	W	Bromide by Ion Chromatograph	ug/g	94.06	<1.25e-01	<9.65e+02	<9.96e2	n/a	n/a	n/a	964.7	n/a

Table 4. Data Summary Table
AP-105 (P)

CORE NUMBER: 210
SEGMENT #: 2

SEGMENT PORTION: L Lower Half of Segment

Sample#	R	#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S97I001770			Bulk Density of Sample	g/ml	n/a	n/a	1.500	n/a	n/a	n/a	n/a	5.00e-01	n/a
S97I001783			DSC Exotherm Dry, Calculated	Joules/g Dry	n/a	n/a	1.64e+02	92.24	128.0	55.8	n/a	n/a	n/a
S97I001783			DSC Exotherm on Perkin Elmer	Joules/g	101.5	n/a	90.46	50.96	70.71	55.9	n/a	n/a	n/a
S97I001783			% Water by TGA on Perkin Elmer	%	99.78	n/a	45.00	44.51	44.75	1.09	n/a	n/a	n/a
S97I001783			TOC by Persulfate/Coulometry	ug/g	101.7	7.200	3.76e+03	6.96e+03	5.36e+03	59.7	n/a	40.00	n/a
S97I001817			F Lithium -ICP-Fusion	ug/g	102.0	<1.00e-02	<1.94e+02	<1.90e2	n/a	n/a	n/a	194.0	n/a
S97I001817			F Lithium -ICP-Fusion	ug/g	73.50	<7.43e-03	<1.17e-02	<1.15E-2	n/a	n/a	79.09	1.50e-02	5.00E+02
S97I001818			W Bromide by Ion Chromatograph	ug/g	96.77	<1.25e-01	<9.54e+02	<9.16e2	n/a	n/a	n/a	954.5	n/a

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Table 4. Data Summary Table
AP-105 (P)CORE NUMBER: 210
SEGMENT #: 3

SEGMENT PORTION: L Lower Half of Segment

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S97T001771		Bulk Density of Sample	g/mL	n/a	n/a	1.640	n/a	n/a	n/a	n/a	5.00e-01	n/a
S97T001784		DSC Exotherm Dry Calculated	Joules/g Dry	n/a	n/a	1.49e+02	84.85	116.9	54.8	n/a	n/a	n/a
S97T001784		DSC Exotherm on Perkin Elmer	Joules/g	101.5	n/a	86.09	49.04	67.56	54.8	n/a	n/a	n/a
S97T001784		% Water by TGA on Perkin Elmer	%	99.78	n/a	40.77	43.64	42.20	6.80	n/a	n/a	n/a
S97T001784		TOC by Persulfate/Coulometry	ug/g	101.7	7.200	6.16e+03	7.40e+03	6.78e+03	18.3	n/a	40.00	n/a
S97T001819		F Lithium-ICP-Fusion	ug/g	102.0	<1.00e-02	<1.89e-02	<1.95e2	n/a	n/a	n/a	189.0	n/a
S97T001819		F Alpha of Digested Solid	uCi/g	73.50	<7.43e-03	<1.69e-02	<1.33E-2	n/a	n/a	n/a	1.50e-02	5.00E+02
S97T001820		H Bromide by Ion Chromatograph	ug/g	96.77	<1.25e-01	<9.48e+02	<9.23e2	n/a	n/a	n/a	948.3	n/a

Drainable Liquid: Drainable Liquid

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S97T001762		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
S97T001762		DSC Exotherm on Perkin Elmer	Joules/g	101.7	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S97T001762		Ammonia by ISE-Std Additions	ug/mL	104.5	<1.000	53.70	48.40	51.05	10.4	n/a	1.000	n/a
S97T001762		Specific Gravity	Sp.G.	101.8	n/a	1.356	1.348	1.352	0.59	n/a	1.00e-03	n/a
S97T001762		% Water by TGA on Perkin Elmer	%	99.03	n/a	53.09	52.72	52.91	0.70	n/a	n/a	n/a
S97T001762		D Lithium-ICP-Acid Dil.	ug/mL	103.8	<1.00e-02	< 6.010	<6.01e0	n/a	n/a	n/a	6.010	n/a
S97T001762		Bromide by Ion Chromatograph	ug/mL	101.0	<1.25e-01	<6.44e+02	<6.44e2	n/a	n/a	n/a	643.9	n/a
S97T001762		Alpha in Liquid Samples	uCi/mL	89.50	1.10e-02	1.02e-02	9.93e-03	1.01e-02	2.68	n/a	8.00e-03	6.92E+01

CHAIN OF CUSTODY FORMS

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CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

Shipment Number 200W-08-11F (2) Sample Number 210 (3) Supervisor M.C. Jones (4) Tank AP-105 (5) Riser 24 (6) Segment 7 (7) Core 210 (8) Cask Serial Number 18-G

Radiation Survey Data:		(9) FIELD	(33) LABORATORY	(10) Shipment Description
Over Top Dose Rate		<u>0.1 mSv</u>	<u>0.1 mSv</u>	A. Work Package Number <u>ES-97-00321</u>
Side Dose Rate		<u>0.5 mSv</u>	<u>0.5 mSv</u>	B. Cask Seal Number <u>8462</u>
Bottom Dose Rate		<u>0.5 mSv</u>	<u>0.5 mSv</u>	C. Sampler Serial Number <u>97-235</u>
Smearable Contamination		<u>1.334 Bq/100cm²</u> (Alpha)	<u>16.7 Bq/100cm²</u> (Alpha)	D. Date and Time Sampler Unsealed <u>7-14-97 0134</u>
		<u>16.7 Bq/100cm²</u> (Beta-Gamma)	<u>16.7 Bq/100cm²</u> (Beta-Gamma)	E. Expected Liquid Content <u>20%</u>
		<u>16.7 Bq/100cm²</u> (Signature)	<u>16.7 Bq/100cm²</u> (Signature)	F. Expected Solid Content <u>80%</u>
RCT* (HPT)		<u>16.7 Bq/100cm²</u>	<u>16.7 Bq/100cm²</u>	G. Dose Rate Through Drill String <u>2 R/hr</u>
				H. Expected Sample Length <u>19"</u>

1) INFORMATION (Include statement of laboratory tests to be performed.)

HNF-SD-WM-DP-263, REV. 0

2) Field Comments

(34) Laboratory Comments

S977T001750

(11) Point of Origin	(14) Destination	(15) Sender Name (Sign and PRINT)	(16) Date/Time	(17) Sender Comments
AP-105	232-S	Donna M. Keith Jones Sackels	7-14-97	
(12) Relinquished By (Sign and PRINT)	(13) Relinquished By (Sign and PRINT)	(18) Received By (Sign and PRINT)	(19) Date/Time	(22) Receiver Comments
Donna M. Keith Jones Sackels	Donna M. Keith Jones Sackels	Donna M. Keith Jones Sackels	7-14-97	
(20) Relinquished By (Sign and PRINT)	(21) Relinquished By (Sign and PRINT)	(24) Received By (Sign and PRINT)	(25) Date/Time	(28) Receiver Comments
Donna M. Keith Jones Sackels	Donna M. Keith Jones Sackels	Donna M. Keith Jones Sackels	7-14-97	
(26) Relinquished By (Sign and PRINT)	(27) Relinquished By (Sign and PRINT)	(30) Received By (Sign and PRINT)	(31) Date/Time	(32) Receiver Comments
Donna M. Keith Jones Sackels	Donna M. Keith Jones Sackels	Donna M. Keith Jones Sackels	7-14-97	

(18) Seal Intact Upon Release?

(31) Seal Intact Upon Receipt?

(32) Seal Date Consistent with this Record?

Yes ☒ No ☐

Shipment No. Yes ☒ No ☐

Cask Seal No. Yes ☒ No ☐

Sample No. Yes ☒ No ☐

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

Shipment Number 200w-08-TF (2) Sample Number 210-02-03 (3) Supervisor M.C. Jones M.C. Jones
 Tank AP-105 (5) Riser 24 (6) Segment 2 (7) Core 210 (8) Cask Serial Number C-2002

Radiation Survey Data:		(9) FIELD		(33) LABORATORY		(10) Shipment Description	
Over Top Dose Rate	<u>0.005 mS/hr</u>		<u>0.005 mS/hr</u>	A. Work Package Number	<u>ES-97-00324</u>		
Side Dose Rate	<u>0.18 mS/hr</u>		<u>0.17 mS/hr</u>	B. Cask Seal Number	<u>2463</u>		
Bottom Dose Rate	<u>0.07 mS/hr</u>		<u>0.07 mS/hr</u>	C. Sampler Serial Number	<u>97-234</u>		
Smearable Contamination	<u>< 0.334 Bq</u>		<u>< 0.334 Bq</u>	D. Date and Time Sampler Unseated	<u>7-14-97 0240</u>		
			<u>< 16.7 Bq</u>	E. Expected Liquid Content	<u>20%</u>		
			<u>< 16.7 Bq</u>	F. Expected Solid Content	<u>88%</u>		
RCT* (HPT)	<u>A. J. Harper</u>		<u>Charles Cooper</u>	G. Dose Rate Through Drill String	<u>2.81 HR</u>		
				H. Expected Sample Length	<u>19"</u>		

1) INFORMATION (include statement of laboratory tests to be performed.)

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HNF-SD-WM-DP-263, REV. 0

Field Comments		Laboratory Comments		Shipment No.		Cask Seal No.		Sample No.	
5977001751		5977001751		Shipment No. ☒ Yes ☐ No		Cask Seal No. ☒ Yes ☐ No		Sample No. ☒ Yes ☐ No	
(13) Point of Origin	AP-105	(14) Destination	222-S	(15) Sender Name (Sign and PRINT)	James Sickels	(16) Date/Time	7-14-97	(17) Sender Comments	
(18) Relinquished By (Sign and PRINT)	James Sickels	(19) Received By (Sign and PRINT)	James Sickels	(20) Relinquished By (Sign and PRINT)	James Sickels	(21) Date/Time	7-14-97	(22) Receiver Comments	
(23) Relinquished By (Sign and PRINT)	James Sickels	(24) Received By (Sign and PRINT)	James Sickels	(25) Relinquished By (Sign and PRINT)	James Sickels	(26) Date/Time	7-14-97	(27) Receiver Comments	
(28) Relinquished By (Sign and PRINT)	James Sickels	(29) Received By (Sign and PRINT)	James Sickels	(30) Relinquished By (Sign and PRINT)	James Sickels	(31) Date/Time	7-14-97	(32) Receiver Comments	
(31) Seal Intact Upon Release?		(31) Seal Intact Upon Receipt?		(32) Seal Data Consistent with this Record?					
☒ Yes ☐ No		☒ Yes ☐ No		☒ Yes ☐ No					

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

Jul. 8. 1997 12:49PM WHC 222S LAB ROOM 2F BACKSIDE No. 4624 P. 1/1

1) Shipment Number N/A 2) Sample Number Field Black (3) Supervisor R. Frank Frost (4) Cask Serial Number N/A

5) Riser 24 (6) Segment N/A (7) Core 208

(9) FIELD		(33) LABORATORY		(10) Shipment Description
Radiation Survey Date:				A. Work Package Number
Over Top Dose Rate				B. Cask Seal Number
Side Dose Rate				C. Sampler Serial Number
Bottom Dose Rate				D. Date and Time Sampler Unseated
Smearable Contamination				E. Expected Liquid Content
				F. Expected Solid Content
				G. Dose Rate Through Drill String
				H. Expected Sample Length

1) INFORMATION (Include statement of laboratory tests to be performed.)

HNF-SD-WM-DP-263, REV. 0

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(34) Laboratory Comments		(32) Seal Data Consistent with this Record?			
3) Point of Origin <u>R-24</u> (14) Destination <u>222's LABS</u> 4) Relinquished By (Sign and PRINT) <u>James Pickels</u> 5) Relinquished By (Sign and PRINT) <u>James Pickels</u> 6) Relinquished By (Sign and PRINT) <u>James Pickels</u> 7) Relinquished By (Sign and PRINT) <u>James Pickels</u>		(16) Date/Time	(17) Sender Comments		
		(21) Date/Time	(22) Receiver Comments		
		(25) Date/Time	(26) Receiver Comments		
		(29) Date/Time	(30) Receiver Comments		
		(31) Seal Intact Upon Release?		(31) Seal Intact Upon Receipt?	
		☒ Yes ☐ No		☒ Yes ☐ No	
		Shipment No. ☐ Yes ☒ No		Cask Seal No. ☐ Yes ☒ No	

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

Document Number	20010-08-77	(2) Sample Number	208-1	(3) Supervisor	R. Frank Ford	(4) Cask Serial Number	70
PK	HP-105	(5) Riser	24	(6) Segment	1	(7) Core	208
on Survey Date:		(9) FIELD		(10) Shipment Description			
Top Dose Rate	4.005 mSv	12 mSv/hr		A. Work Package Number			
Dose Rate	12 mSv/hr	12 mSv/hr		B. Cask Seal Number			
on Dose Rate	3.5 mSv/hr	0.035 mSv		C. Sampler Serial Number			
isotopic Contamination	1.334 Bq	(Alpha)		D. Date and Time Sampler Unsealed			
		(Alpha)		E. Expected Liquid Content			
		(Beta-Gamma)		F. Expected Solid Content			
		(Alpha)		G. Dose Rate Through Drill String			
		(Alpha)		H. Exported Sample Length			
RCI*	0.05	RCI*		RCI*			
(HPT)		(HPT)		(HPT)			

DISCLOSURE (Include statement of laboratory tests to be performed.)

HNF-SD-WM-DP-263, REV. 0

Field Components		(34) Laboratory Comments		
Universal sample 8 13 1/2" pipe sample clear				
Date of Origin 8-24 P-105 Requisitioned By (Sign and PRINT) James S. Hicks Requisitioned By (Sign and PRINT) James S. Hicks Requisitioned By (Sign and PRINT)	(14) Destination 223's Lab	(15) Sender Name (Sign and PRINT) James S. Hicks (20) Received By (Sign and PRINT) James S. Hicks (24) Received By (Sign and PRINT) James S. Hicks (28) Received By (Sign and PRINT)	(16) Date/Time 7-2-97 (21) Date/Time 7-2-87 (25) Date/Time 7-2-97 (29) Date/Time	(17) Sender Comments (22) Receiver Comments (26) Receiver Comments (30) Receiver Comments
(31) Seal Intact Upon Release? ☒ Yes ☐ No		(32) Seal Data Consistent with this Record? ☒ Yes ☐ No		
(31) Seal Intact Upon Receipt? ☒ Yes ☐ No		Shipment No. ☒ Yes ☐ No Crack Seal No. ☒ Yes ☐ No		
Sample No. ☐ No ☒ Yes		Sample No. ☐ No ☒ Yes		

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

Shipment Number 2000-08-11 (2) Sample Number 208-02 (3) Supervisor M.C. Jones (4) Cask Serial Number 12-6
 Tank AP-105 (5) Riser _____ (6) Segment 2 (7) Core 208

(31) FIELD		(33) LABORATORY		(110) Shipment Description	
Top Dose Rate	40.5 mSv/h	Count	20.5	A. Work Package Number	ES-97-00321
Side Dose Rate	17 mSv/h	Count	20 mSv/h	B. Cask Seal Number	12500
Bottom Dose Rate	10 mSv/h	Count	10 mSv/h	C. Sampler Serial Number	97-221
Measurable Contamination	< 334 Bq (Alpha)	Count	< 203 m LNU (Alpha)	D. Date and Time Sampler Unsealed	7-2-97 / 1000 1030
	< 16.7 Bq (Beta-Gamma)	Count	< 1000 dpm LNU (Beta-Gamma)	E. Expected Liquid Content	30%
		Count		F. Expected Solid Content	70%
		Count		G. Dose Rate Through Drill String	700 mR / HR
		Count		H. Expected Sample Length	14'34"

RCT* Bob G. Smith (Signature) RCT* _____ (Signature)
 (HPT) (HPT)

INFORMATION (include statement of laboratory tests to be performed.)

HNF-SD-WM-DP-263, REV. 0

COPY

(34) Laboratory Comments

HDB. Went off 1494" into the stroke.

39

(14) Destination		(15) Rec'd Name (Sign and PRINT)		(16) Date/Time		(17) Sender Comments	
AP-105	200-5	James Pickels	James Pickels	7-2-97			
(20) Received By (Sign and PRINT)		(21) Date/Time		(22) Receiver Comments			
James Pickels		7-2-97					
(24) Received By (Sign and PRINT)		(25) Date/Time		(26) Receiver Comments			
James Pickels		7-2-97					
(28) Received By (Sign and PRINT)		(29) Date/Time		(30) Receiver Comments			
James Pickels		7-2-97					

(32) Seal Data Consistent with this Record?
 Shipment No. _____ Yes ☒ No ☐
 Rec'd Seal No. _____ Yes ☒ No ☐

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

(33) Seal Data Consistent with this Record?
 Sample No. _____ Yes ☒ No ☐

(34) Laboratory Comments
 HDB. Went off 1494" into the stroke.

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

Jul. 14, 1997 12:55PM WHC Z22S LAB ROOM 2F BACKSIDE No. 4838 P. 3/4

Shipment Number 2000-08-7F (2) Sample Number 209-01 (3) Supervisor R. Frank East
 Tank AP-105 (5) Riser 28 (6) Segment 1 (7) Core 209 (8) Cask Serial Number 1013C

(9) FIELD		(33) LABORATORY		(10) Shipment Description	
distillation Survey Date:				A. Work Package Number	<u>ES-97-0032310</u>
Over Top Dose Rate	<u>.01 mSv</u>		<u>.01 mSv</u>	B. Cask Seal Number	<u>1135</u>
Side Dose Rate	<u>.15 mSv</u>		<u>.15 mSv</u>	C. Sampler Serial Number	<u>97-236</u>
Bottom Dose Rate	<u>.05 mSv</u>		<u>.05 mSv</u>	D. Date and Time Sampler Unseated	<u>7-10-97/1215</u>
Smearable Contamination	<u>< .334 Bq/100cm²</u> (Alpha)		<u>< .334 Bq/100cm²</u> (Alpha)	E. Expected Liquid Content	<u>100%</u>
	<u>< 16.7 Bq/100cm²</u> (Beta-Gamma)		<u>< 16.7 Bq/100cm²</u> (Beta-Gamma)	F. Expected Solid Content	<u>0%</u>
RCT* (HPT)	<u>R. Miller</u> (Signature)	RCT* (HPT)	<u>[Signature]</u> (Signature)	G. Dose Rate Through Drill String	<u>800 mR</u>
				H. Expected Sample Length	<u>19"</u>

1) INFORMATION (include statement of laboratory tests to be performed.)

HNF-SD-WM-DP-263, REV. 0

(34) Laboratory Comments		(32) Seal Date Consistent with this Record?	
(1) Field Comments <u>Universal sampler sample clean</u>	(2) Laboratory Comments <u>5977001747</u>	(31) Seal Intact Upon Release? ☒ Yes ☐ No	(32) Seal Date Consistent with this Record? ☒ Yes ☐ No
(1) Point of Origin <u>R-28</u>	(14) Destination <u>222's Lab</u>	(15) Sender Name (Sign and PRINT) <u>James Seikel</u>	(16) Date/Time <u>7-14-97</u>
(2) Relinquished By (Sign and PRINT) <u>James Seikel</u>	(20) Received By (Sign and PRINT) <u>[Signature]</u>	(21) Date/Time <u>7-14-97</u>	(22) Receiver Comments
(3) Relinquished By (Sign and PRINT) <u>[Signature]</u>	(24) Received By (Sign and PRINT) <u>[Signature]</u>	(25) Date/Time <u>7-14-97</u>	(26) Receiver Comments
(4) Relinquished By (Sign and PRINT) <u>[Signature]</u>	(28) Received By (Sign and PRINT) <u>[Signature]</u>	(29) Date/Time <u>7-14-97</u>	(30) Receiver Comments

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

Jul. 14, 1997 12:54PM SWC 2225 LAB ROOM 2F BACKSIDE No. 4838 P. 2/4

Shipment Number 200w-08-JF (2) Sample Number 209-02 (3) Supervisor R. Frank Leach

Tank AP105 (5) Riser 28 (6) Segment 2 (7) Core 209 (8) Cask Serial Number 67

(9) FIELD (10) Shipment Description

Over Top Dose Rate 2.05 rad/hr 0.005 mSv/hr 1.5 mSv A. Work Package Number ES-97-0032210

Side Dose Rate 18 rad/hr 0.18 mSv/hr 18 uSv/hr B. Cask Seal Number 1136

Bottom Dose Rate 7 rad/hr 0.07 mSv/hr 7 uSv/hr C. Sampler Serial Number 97-237

Smearable Contamination 220 1354 Bq (Alpha) 220 537489 D. Date and Time Sampler Unsealed 7-10-97/1310

21K 16.7 Bq (Beta-Gamma) spt sludge, pos E. Expected Liquid Content Expiring about 1998

RCT* [Signature] (HPT) RCT* [Signature] (HPT) F. Expected Solid Content 900MR

G. Dose Rate Through Drill String 19"

H. Expected Sample Length

1) INFORMATION (Include statement of laboratory tests to be performed.)

HNF-SD-WM-DP-263, REV. 0

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(11) Field Comments 2225 Lab

(12) universal samples

(13) sample clean

(14) Destination 2225 Lab

(15) Sender Name (Sign and PRINT) James Sicket

(16) Date/Time 7-14-97

(17) Sender Comments

(18) Received By (Sign and PRINT) [Signature]

(19) Date/Time 7-14-97

(20) Receiver Comments

(21) Date/Time 7-14-97

(22) Receiver Comments

(23) Date/Time 7-14-97

(24) Received By (Sign and PRINT) [Signature]

(25) Date/Time 7-14-97

(26) Receiver Comments

(27) Relinquished By (Sign and PRINT)

(28) Date/Time

(29) Receiver Comments

(30) Date/Time

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

(32) Seal Data Consistent with this Record? ☒ Yes ☐ No

(33) Laboratory Comments 5977001748

(34) Laboratory Comments

(35) Shipment No. ☒ Yes ☐ No

(36) Cask Seal No. ☒ Yes ☐ No

(37) Sample No. ☒ Yes ☐ No

DISTRIBUTION: White - Office of Sample Management Yellow - Recipient of Sample Pink - Core Sampling, S6-85 Goldentred - Tank Farm Operations, S4-43 BC-6000-309 (02/94)

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

(1) Tank AP-105 (2) Sample Number 209-03 (3) Supervisor Dr. Hartley, D. Hartley
 (4) Riser 28 (5) Segment 3 (6) Core 209 (7) Core Serial Number 469
 (8) Cash/Serial Number 469

(9) FIELD
 (10) Shipment Description
 (11) Point of Origin
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HNF-SD-WM-DP-263, REV. 0

1) INFORMATION (Include statement of laboratory tests to be performed.)

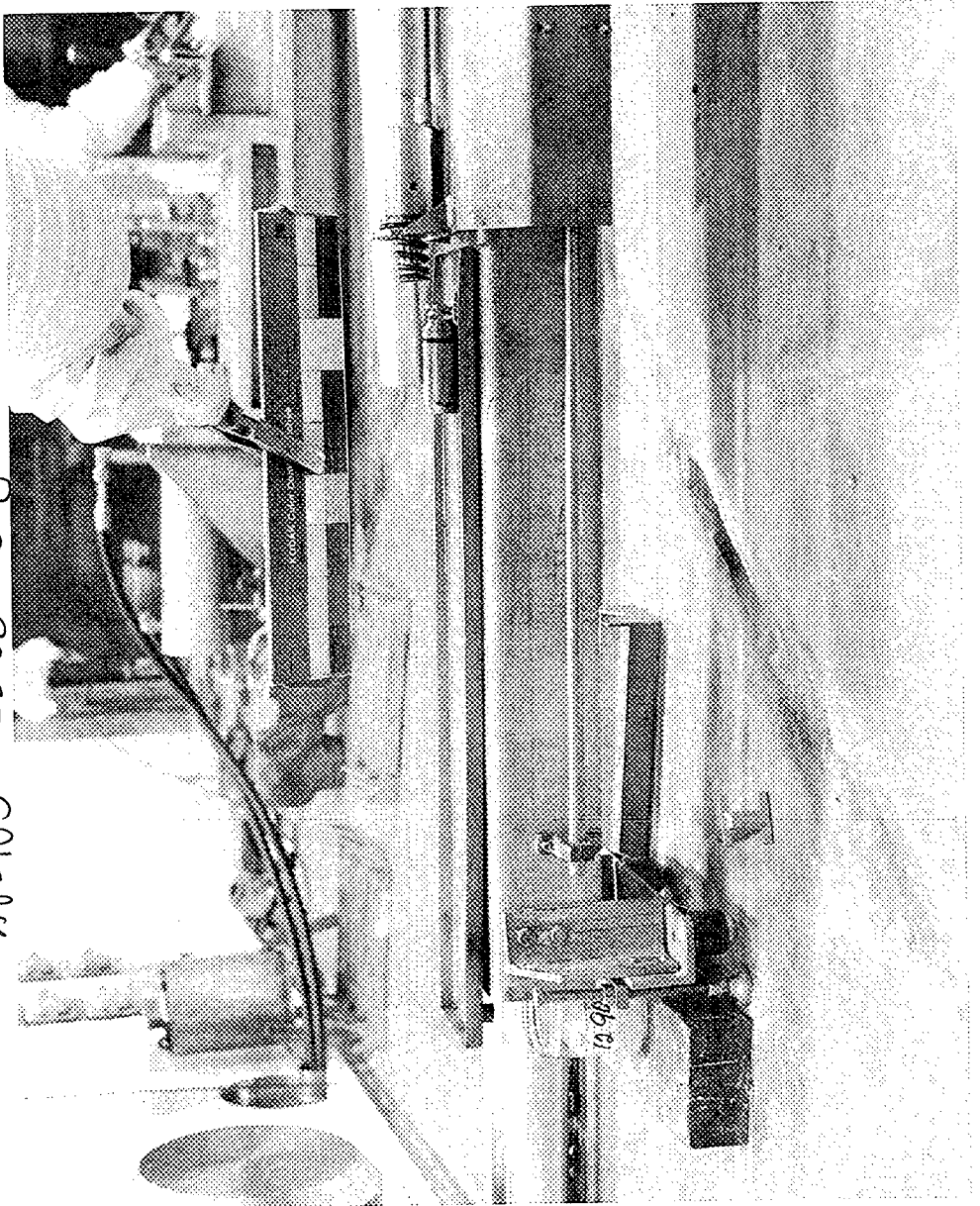
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PHOTOGRAPHS

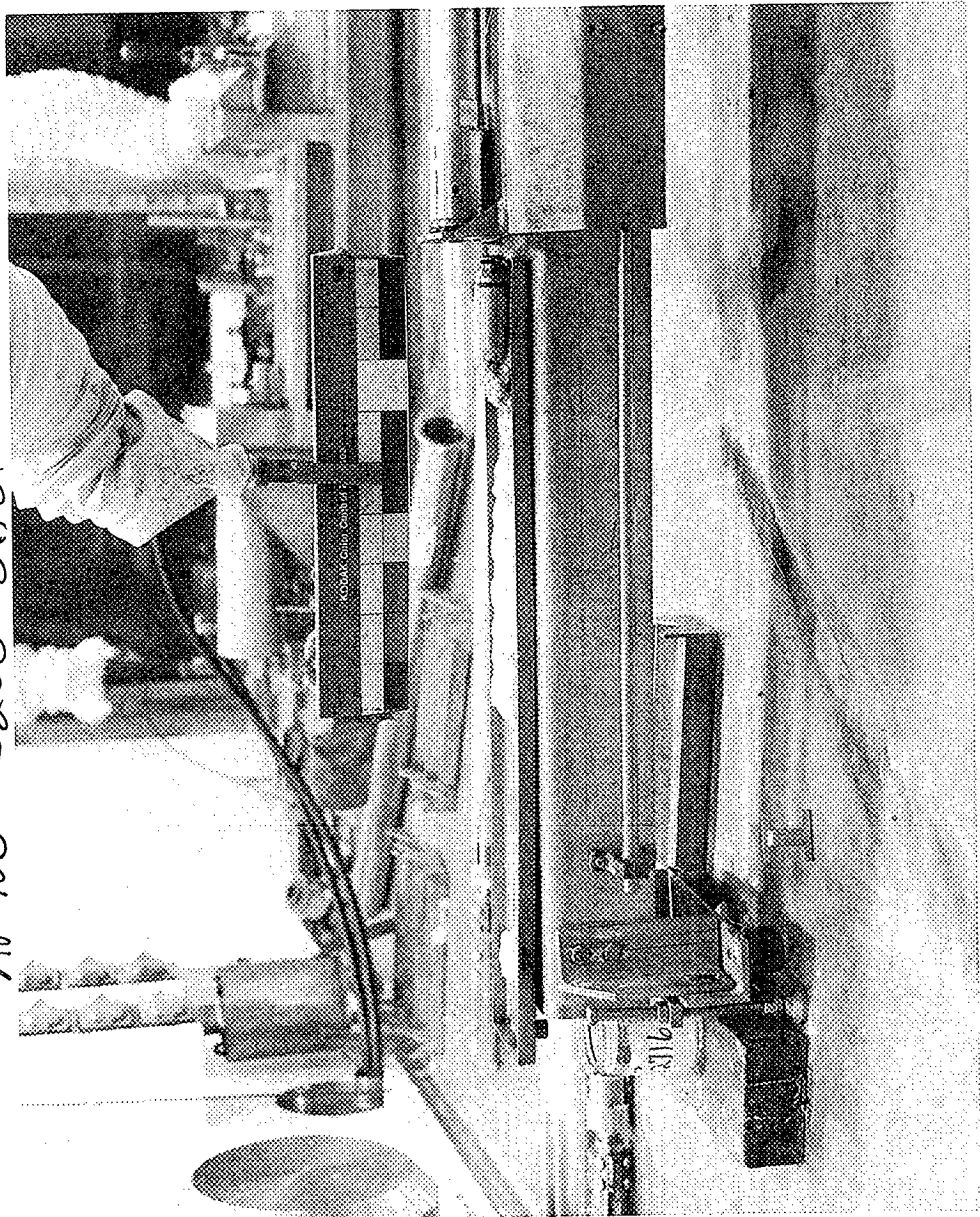
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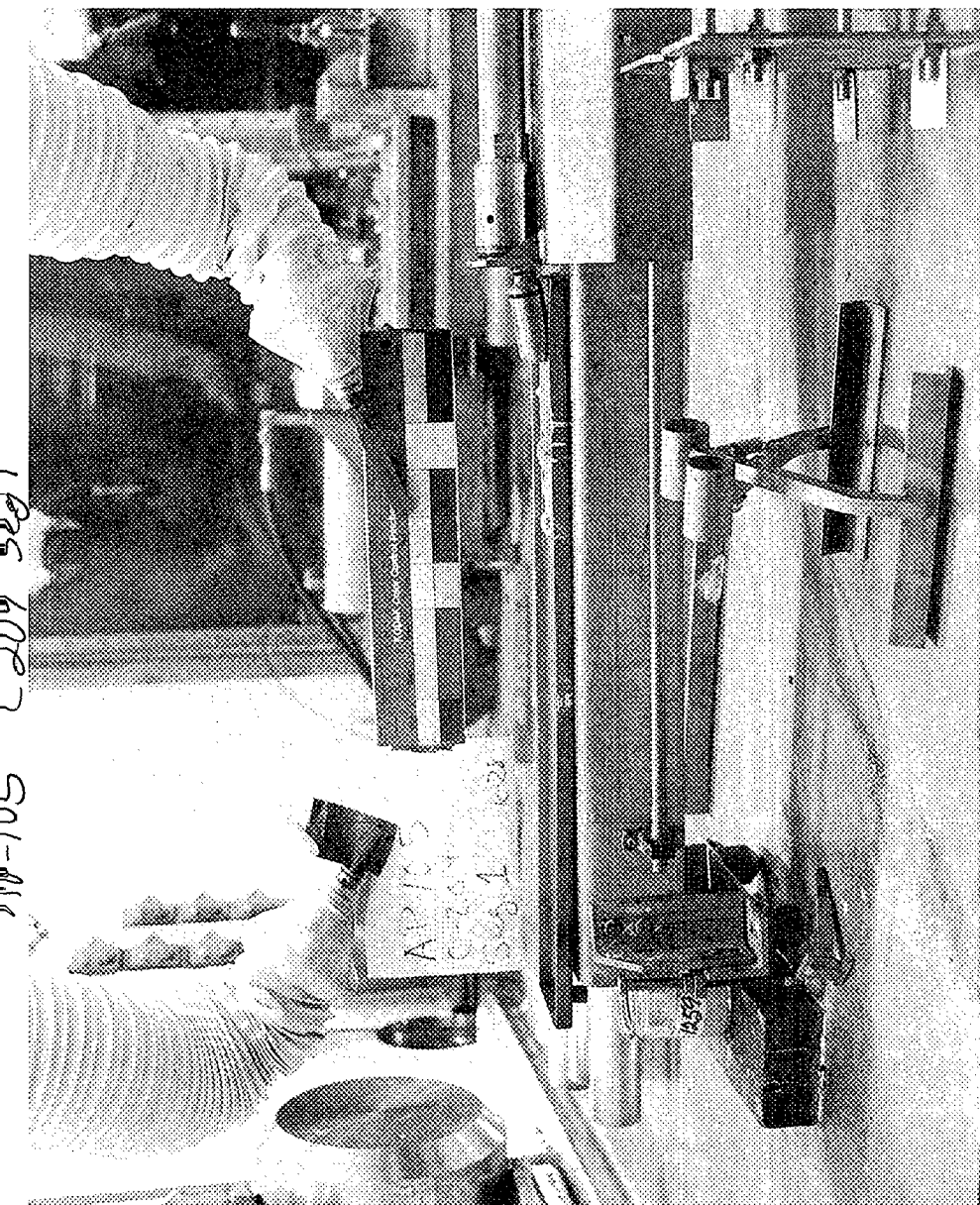
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AP-105 C208 Sec 1

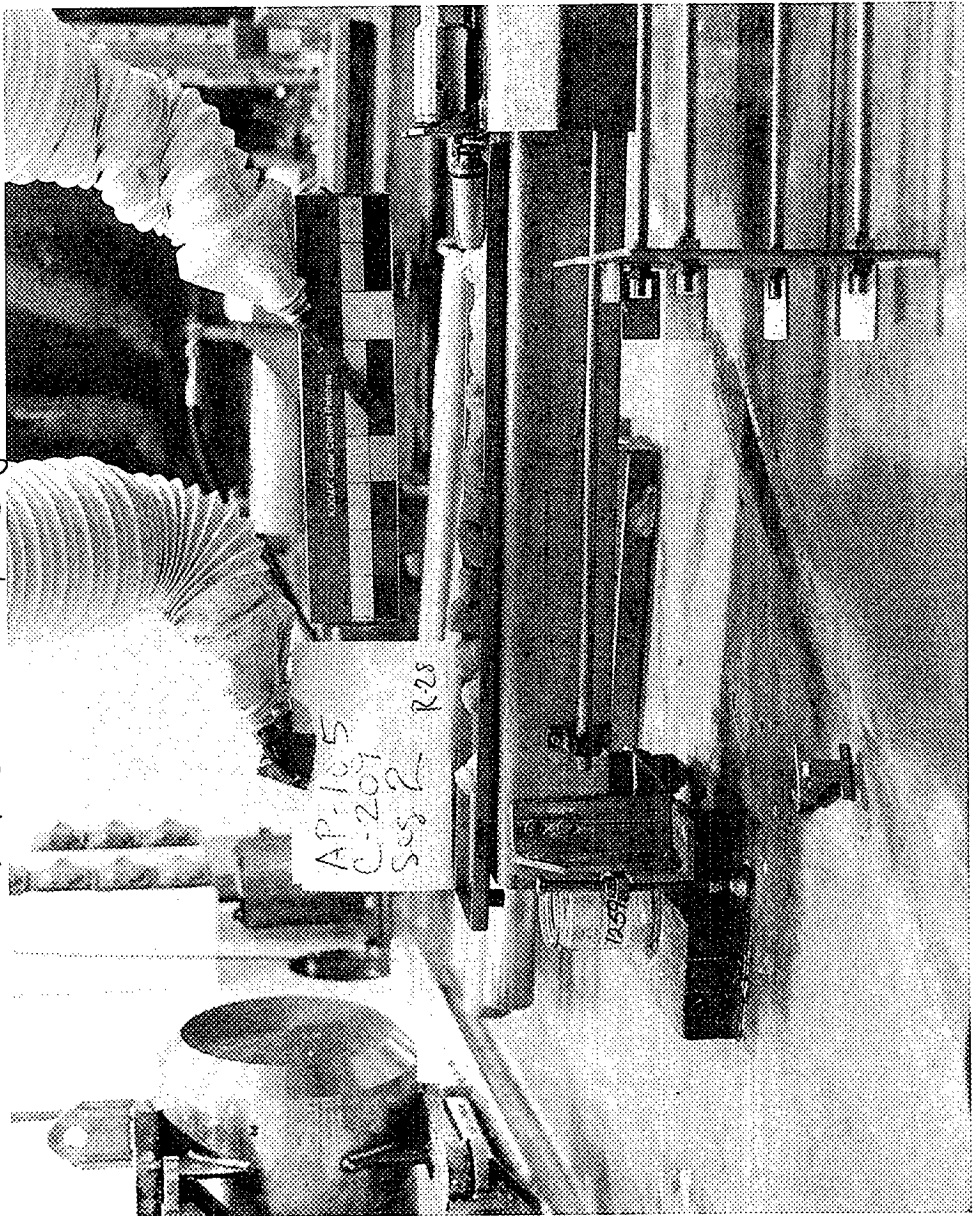


AP-105 C208 3992

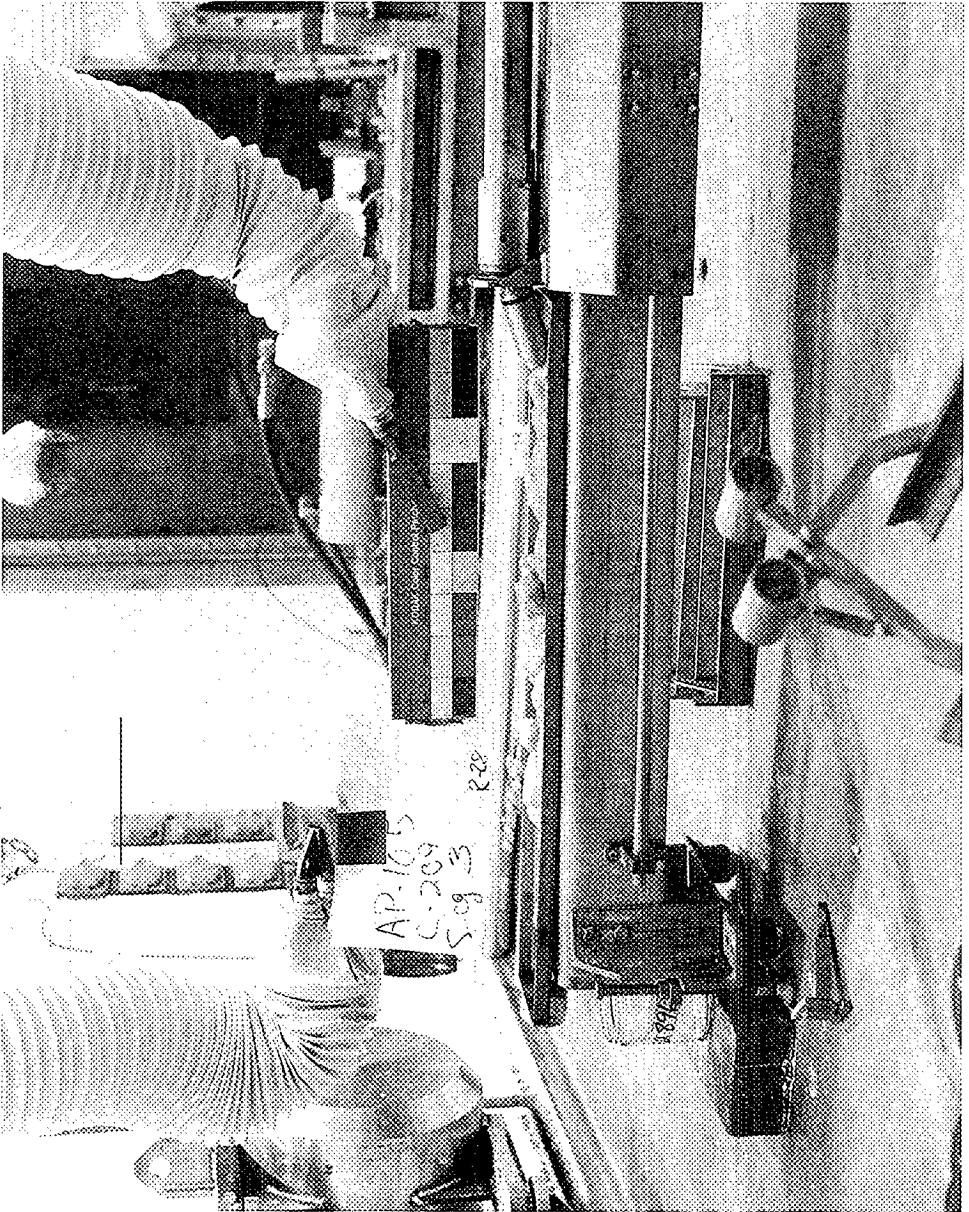




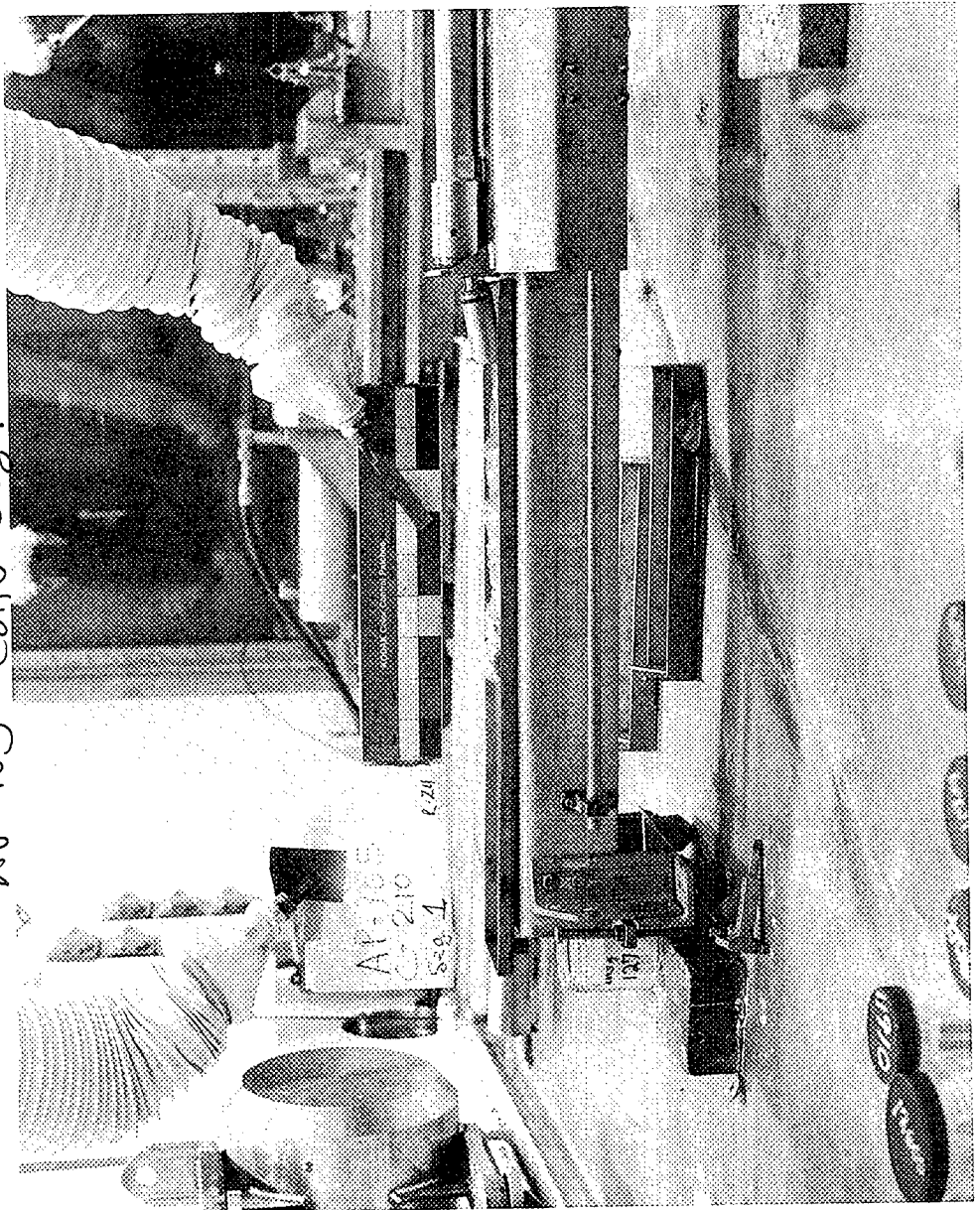
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C-209
SUS 2
R28



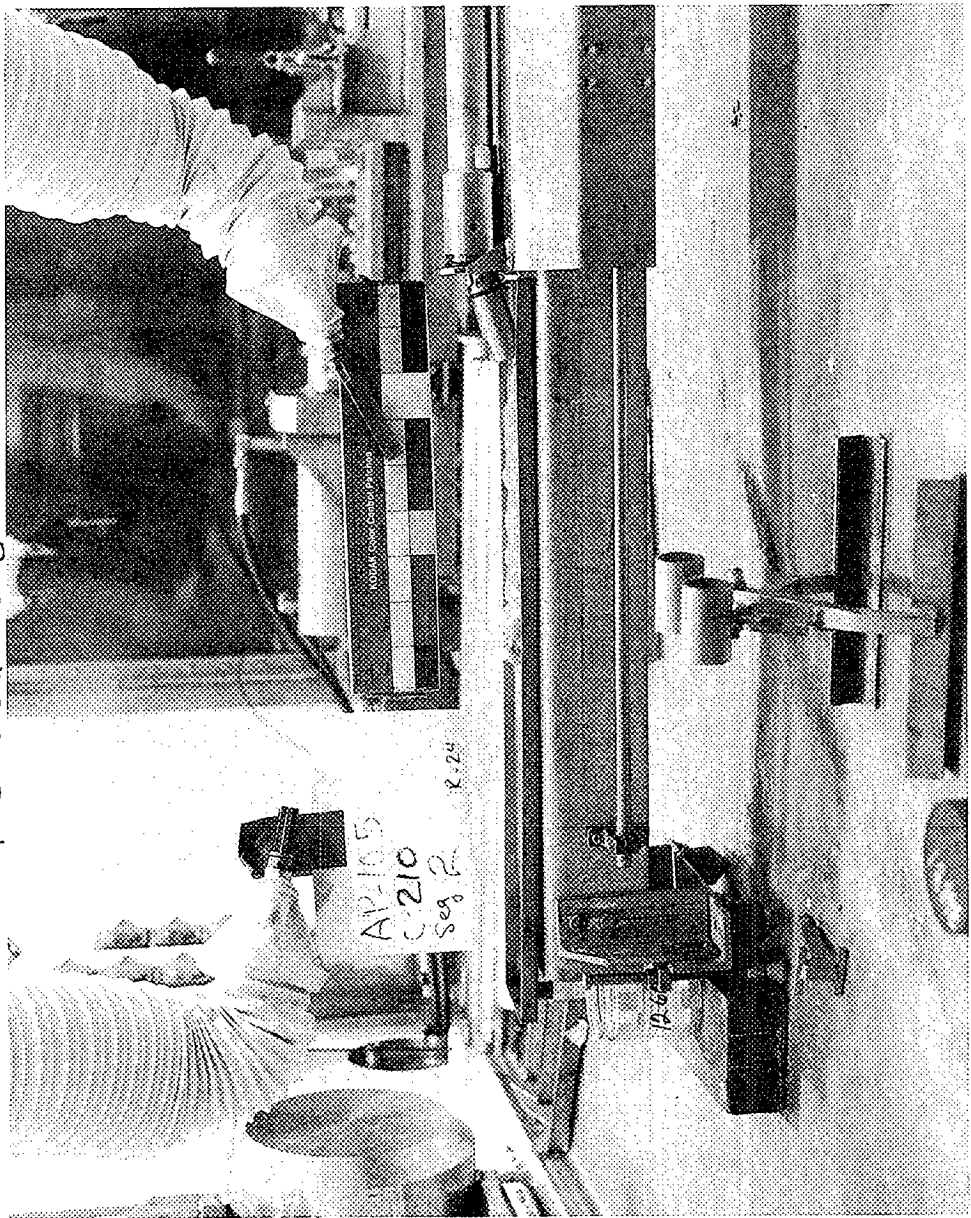
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AP-105 C210 Seg 1



AP-105 C-210 Seg 2



SAMPLE HANDLING

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worklist: Version 2.1 05/15/95
07/08/97 08:32

HNF-SD-WM-DP-263, REV. 0

Page: 1

LABCORE Data Entry Template for Worklist# 19172

Analyst: AB Instrument: BA000 Book # NA
 Method: LO-160-103 Rev/Mod C-0
 Worklist Comment: AP-105 C208 SEG # 1 RISER 24 EXTRUSION

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 INSTCHK01			EXTRUD01	SOLID	20.00	19.96	N/A	
		2 INSTCHK02			EXTRUD01	SOLID	500.00	500.12	N/A	
97000455	AP-105	3 SAMPLE	S97T001627	0	DLIQVOL1	SOLID	N/A	260		ml
97000455	AP-105	4 SAMPLE	S97T001627	0	DLIQWT01	SOLID	N/A	331.7		g
97000455	AP-105	5 SAMPLE	S97T001627	0	EST.G/ML	SOLID	N/A	1.33		g/ml
97000455	AP-105	6 SAMPLE	S97T001627	0	EXTRUD01	SOLID	N/A	Complete		
97000455	AP-105	7 SAMPLE	S97T001627	0	LLIQWT01	SOLID	N/A	0		g
97000455	AP-105	8 SAMPLE	S97T001627	0	NOTEBOOK	SOLID	N/A	N-1345		
97000455	AP-105	9 SAMPLE	S97T001627	0	SLDVOL01	SOLID	N/A	NA		ml
97000455	AP-105	10 SAMPLE	S97T001627	0	SLDWT-01	SOLID	N/A	0		g
97000455	AP-105	11 SAMPLE	S97T001627	0	APPEAR01	SOLID	N/A	Complete		
97000455	AP-105	12 SAMPLE	S97T001627	0	ORGVOL01	SOLID	N/A	0		ml

Final page for worklist # 19172

Alan B Campbell
 Analyst Signature Date

AB Campbell 7-10-97
 Analyst Signature Date

Validated
 R K Fuller
 7/14/97

Data Entry Comments:

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

worklist rpt Version 2.1 05/15/95
07/08/97 08:32

HNF-SD-WM-DP-263, REV. 0

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LABCORE Data Entry Template for Worklist# 19173

Analyst: ABC Instrument: BA000 Book # NAMethod: LO-160-103 Rev/Mod C-0

Worklist Comment: AP-105 C208 SEG # 2 RISER 24 EXTRUSION

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 INSTCHK01			EXTRUD01	SOLID	20.00	0.12	N/A	
		2 INSTCHK02			EXTRUD01	SOLID	500.00	500.12	N/A	
97000455	AP-105	3 SAMPLE	S97T001628	0	DLIQT01	SOLID	N/A	60		ml
97000455	AP-105	4 SAMPLE	S97T001628	0	DLIQT01	SOLID	N/A	80.9		g
97000455	AP-105	5 SAMPLE	S97T001628	0	EST.G/ML	SOLID	N/A	1.35		g/ml
97000455	AP-105	6 SAMPLE	S97T001628	0	EXTRUD01	SOLID	N/A	Complete		
97000455	AP-105	7 SAMPLE	S97T001628	0	LLIQT01	SOLID	N/A	0		g
97000455	AP-105	8 SAMPLE	S97T001628	0	NOTEBOOK	SOLID	N/A	N-1345		
97000455	AP-105	9 SAMPLE	S97T001628	0	SLDVOL01	SOLID	N/A	NA		ml
97000455	AP-105	10 SAMPLE	S97T001628	0	SLDWT-01	SOLID	N/A	295.1		g
97000455	AP-105	11 SAMPLE	S97T001628	0	APPEAR01	SOLID	N/A	Complete		
97000455	AP-105	12 SAMPLE	S97T001628	0	ORGVOL01	SOLID	N/A	0		ml

Final page for worklist # 19173

Analyst Signature ABC Campbell Date 7-10-97Analyst Signature ABC Campbell Date 7-10-97

Data Entry Comments:

Validated
RK Miller
7/11/97

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

HNF-SD-WM-DP-263, REV. 0

Page: 1

workdisrpt Version 2.1 05/15/95
07/14/97 14:18

LABCORE Data Entry Template for Worklist# 19284

Analyst: AKA Instrument: BA000 Book # 117AMethod: LO-160-103 Rev/Mod 60

Worklist Comment: AP-105 C209 SEG # 1 RISER 28 EXTRUSION

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 INSTCHK01			EXTRUD01	SOLID	<u>200</u>	<u>2002</u>	N/A	
		2 INSTCHK02			EXTRUD01	SOLID	<u>500.00</u>	<u>500.14</u>	N/A	
97000478	AP-105 (P)	3 SAMPLE	S97T001747	0	DLIQVOL1	SOLID	N/A	<u>230</u>	<u>230</u>	ml
97000478	AP-105 (P)	4 SAMPLE	S97T001747	0	DLIQWT01	SOLID	N/A	<u>267.5</u>	<u>267.5</u>	g
97000478	AP-105 (P)	5 SAMPLE	S97T001747	0	EST..G/ML	SOLID	N/A	<u>122</u>		g/ml
97000478	AP-105 (P)	6 SAMPLE	S97T001747	0	EXTRUD01	SOLID	N/A	<u>complete</u>		
97000478	AP-105 (P)	7 SAMPLE	S97T001747	0	LLIQWT01	SOLID	N/A	<u>0</u>		g
97000478	AP-105 (P)	8 SAMPLE	S97T001747	0	NOTEBOOK	SOLID	N/A	<u>11-1345</u>		
97000478	AP-105 (P)	9 SAMPLE	S97T001747	0	SLDVOL01	SOLID	N/A	<u>14.4</u>		ml
97000478	AP-105 (P)	10 SAMPLE	S97T001747	0	SLDWT-01	SOLID	N/A	<u>complete</u>		g
97000478	AP-105 (P)	11 SAMPLE	S97T001747	0	APPEAR01	SOLID	N/A	<u>0</u>		ml
97000478	AP-105 (P)	12 SAMPLE	S97T001747	0	ORGVOL01	SOLID	N/A	<u>0</u>		ml

Final page for worklist # 19284

Analyst Signature Alita Hansen Date 7/15/97Analyst Signature Alita Hansen Date 7/15/97

Data Entry Comments:

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

HNF-SD-WM-DP-263, REV. 0

Page: 1

workdistrpt Version 2.1 05/15/95

07/14/97 14:19

LABCORE Data Entry Template for Worklist# 19285

Analyst: AYA Instrument: BA000 Book # N/AMethod: LO-160-103 Rev/Mod B0

Worklist Comment: AP-105 C209 SEG # 2 RISER 28 EXTRUSION

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 INSTCHK01			EXTRUD01	SOLID	<u>20.00</u>	<u>20.22</u>	<u>N/A</u>	
		2 INSTCHK02			EXTRUD01	SOLID	<u>500.00</u>	<u>500.14</u>	<u>N/A</u>	
97000478	AP-105 (P)	3 SAMPLE	S97T001748	0	DLIQT01	SOLID	<u>N/A</u>	<u>0</u>		ml
97000478	AP-105 (P)	4 SAMPLE	S97T001748	0	DLIQT01	SOLID	<u>N/A</u>	<u>0</u>		g
97000478	AP-105 (P)	5 SAMPLE	S97T001748	0	EST.G/ML	SOLID	<u>N/A</u>	<u>0</u>		g/ml
97000478	AP-105 (P)	6 SAMPLE	S97T001748	0	EXTRUD01	SOLID	<u>N/A</u>	<u>complete</u>		
97000478	AP-105 (P)	7 SAMPLE	S97T001748	0	DLIQT01	SOLID	<u>N/A</u>	<u>0</u>		g
97000478	AP-105 (P)	8 SAMPLE	S97T001748	0	NOTEBOOK	SOLID	<u>N/A</u>	<u>N1345</u>		
97000478	AP-105 (P)	9 SAMPLE	S97T001748	0	SLDVOL01	SOLID	<u>N/A</u>	<u>N/A</u>		ml
97000478	AP-105 (P)	10 SAMPLE	S97T001748	0	SLDWT-01	SOLID	<u>N/A</u>	<u>367.4</u>		g
97000478	AP-105 (P)	11 SAMPLE	S97T001748	0	APPEAR01	SOLID	<u>N/A</u>	<u>complete</u>		
97000478	AP-105 (P)	12 SAMPLE	S97T001748	0	ORGVOL01	SOLID	<u>N/A</u>	<u>0</u>		ml

Final page for worklist # 19285

Analyst Signature Alita Hansen Date 7/16/97Analyst Signature Alita Hansen Date 7/16/97Validated 7/17/97CSJ

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-263, REV. 0

Page: 1

worklist rpt Version 2.1 05/15/95

07/14/97 14:21

LABCORE Data Entry Template for Worklist# 19286

Analyst: AVA Instrument: BA000 Book # NAMethod: LO-160-103 Rev/Mod 60

Worklist Comment: AP-105 C209 SEG # 3 RISER 28 EXTRUSION

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	INSTCHK01		EXTRUD01	SOLID	<u>2000</u>	<u>19.85</u>	<u>N/A</u>	
		2	INSTCHK02		EXTRUD01	SOLID	<u>5000</u>	<u>49.85</u>	<u>N/A</u>	
97000478	AP-105 (P)	3	SAMPLE	S97T001749	0	DLIQVOL1	SOLID	<u>N/A</u>	<u>0</u>	mL
97000478	AP-105 (P)	4	SAMPLE	S97T001749	0	DLIQWT01	SOLID	<u>N/A</u>	<u>0</u>	g
97000478	AP-105 (P)	5	SAMPLE	S97T001749	0	EST.G/ML	SOLID	<u>N/A</u>	<u>0</u>	g/mL
97000478	AP-105 (P)	6	SAMPLE	S97T001749	0	EXTRUD01	SOLID	<u>N/A</u>	<u>complete</u>	
97000478	AP-105 (P)	7	SAMPLE	S97T001749	0	LLIQWT01	SOLID	<u>N/A</u>	<u>0</u>	g
97000478	AP-105 (P)	8	SAMPLE	S97T001749	0	NOTEBOOK	SOLID	<u>N/A</u>	<u>N-1345</u>	
97000478	AP-105 (P)	9	SAMPLE	S97T001749	0	SLDVOL01	SOLID	<u>N/A</u>	<u>NA</u>	mL
97000478	AP-105 (P)	10	SAMPLE	S97T001749	0	SLDWT-01	SOLID	<u>N/A</u>	<u>446.6</u>	g
97000478	AP-105 (P)	11	SAMPLE	S97T001749	0	APPEAR01	SOLID	<u>N/A</u>	<u>complete</u>	
97000478	AP-105 (P)	12	SAMPLE	S97T001749	0	ORGVOL01	SOLID	<u>N/A</u>	<u>0</u>	mL

Final page for worklist # 19286

Alita Huron 7/16/97
Analyst Signature Date

Alita Huron 7/16/97
Analyst Signature Date

Validated 7/17/97
CSA

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-263, REV. 0

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worklist rpt Version 2.1 05/15/95

07/14/97 14:22

LABCORE Data Entry Template for Worklist# 19287

Analyst: AKH Instrument: BA000 Book # 12AMethod: LO-160-103 Rev/Mod B0Worklist Comment: AP-105 C210 SEG #1 ^{2 gm 10/19/97} RISER 24 EXTRUSION

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 INSTCHK01			EXTRUD01	SOLID	<u>2000</u>	<u>19.85</u>	<u>N/A</u>	
		2 INSTCHK02			EXTRUD01	SOLID	<u>500.00</u>	<u>498.51</u>	<u>N/A</u>	
97000479	AP-105 (P)	3 SAMPLE	S97T001750	0	DLIQLV01	SOLID	<u>N/A</u>	<u>0</u>		ml
97000479	AP-105 (P)	4 SAMPLE	S97T001750	0	DLIQLV01	SOLID	<u>N/A</u>	<u>0</u>		g
97000479	AP-105 (P)	5 SAMPLE	S97T001750	0	EST.G/ML	SOLID	<u>N/A</u>	<u>0</u>		g/ml
97000479	AP-105 (P)	6 SAMPLE	S97T001750	0	EXTRUD01	SOLID	<u>N/A</u>	<u>complete</u>		
97000479	AP-105 (P)	7 SAMPLE	S97T001750	0	LLIQLV01	SOLID	<u>N/A</u>	<u>0</u>		g
97000479	AP-105 (P)	8 SAMPLE	S97T001750	0	NOTEBOOK	SOLID	<u>N/A</u>	<u>N-1345</u>		
97000479	AP-105 (P)	9 SAMPLE	S97T001750	0	SLDVOL01	SOLID	<u>N/A</u>	<u>NA</u>		ml
97000479	AP-105 (P)	10 SAMPLE	S97T001750	0	SLDWT-01	SOLID	<u>N/A</u>	<u>3490</u>		g
97000479	AP-105 (P)	11 SAMPLE	S97T001750	0	APPEAR01	SOLID	<u>N/A</u>	<u>complete</u>		
97000479	AP-105 (P)	12 SAMPLE	S97T001750	0	ORGVOL01	SOLID	<u>N/A</u>	<u>0</u>		ml

Final page for worklist # 19287

Celita Huron 7/16/97
Analyst Signature Date

Celita Huron 7/16/97
Analyst Signature Date

Validated 7/17/97
CEL

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-263, REV. 0

Page: 1

worklist Version 2.1 05/15/95

07/14/97 14:23

LABCORE Data Entry Template for Worklist# 19288

Analyst: AVA Instrument: BA000 Book # NAMethod: LO-160-103 Rev/Mod B0

Worklist Comment: AP-105 C210 SEG #2 RISER 24 EXTRUSION

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 INSTCHK01			EXTRUD01	SOLID	20.00	19.85	N/A	
		2 INSTCHK02			EXTRUD01	SOLID	50200	498.51	N/A	
97000479	AP-105 (P)	3 SAMPLE	S97T001751	0	DLIQVOL1	SOLID	N/A	90		ml
97000479	AP-105 (P)	4 SAMPLE	S97T001751	0	DLIQWT01	SOLID	N/A	135.8		g
97000479	AP-105 (P)	5 SAMPLE	S97T001751	0	EST.G/ML	SOLID	N/A	1.51		g/ml
97000479	AP-105 (P)	6 SAMPLE	S97T001751	0	EXTRUD01	SOLID	N/A	complete		
97000479	AP-105 (P)	7 SAMPLE	S97T001751	0	LLIQWT01	SOLID	N/A	0		g
97000479	AP-105 (P)	8 SAMPLE	S97T001751	0	NOTEBOOK	SOLID	N/A	11-1345		
97000479	AP-105 (P)	9 SAMPLE	S97T001751	0	SLDVOL01	SOLID	N/A	170		ml
97000479	AP-105 (P)	10 SAMPLE	S97T001751	0	SLDWT-01	SOLID	N/A	250.7		g
97000479	AP-105 (P)	11 SAMPLE	S97T001751	0	APPEAR01	SOLID	N/A	complete		
97000479	AP-105 (P)	12 SAMPLE	S97T001751	0	CRGVOL01	SOLID	N/A	0		ml

Final page for worklist # 19288

Alita Thurson 7/16/97
 Analyst Signature Date
Validated 7/17/97
CSL

Alita Thurson 7/16/97
 Analyst Signature Date

Data Entry Comments:

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

SAMPLE PREPARATIONS

HNH-SD-WM-DP-263, REV. 0

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LABCORE Data Entry Template for Worklist# 19501

Analyst: RLM Instrument: FUS01 Book # NA

Method: LA-549-141 Rev/Mod FO

Worklist Comment: AP-105 FUSION DIGEST C208S2 UH,LH lad

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			FUSION01	SOLID	<u>1</u>	<u>.250</u>	<u>N/A</u>	g/L
97000455	AP-105 (P)	2 SAMPLE	S97T001727	0	F	FUSION01	SOLID	<u>N/A</u>	<u>2.1744</u>	g/L
		<u>0.5436g</u> → <u>.250g</u>								
97000455	AP-105 (P)	3 SAMPLE	S97T001727	0	F	DOSE-02	SOLID	<u>N/A</u>	<u>25</u>	mrad/hour
97000455	AP-105 (P)	4 DUP	S97T001727	0	F	FUSION01	SOLID	<u>2.1744</u>	<u>2.4180</u>	<u>N/A</u> g/L
		<u>0.6045g</u> → <u>.250g</u>								
97000455	AP-105 (P)	5 DUP	S97T001727	0	F	DOSE-02	SOLID	<u>25</u>	<u>25</u>	<u>N/A</u> mrad/hour
97000455	AP-105 (P)	6 SAMPLE	S97T001732	0	F	FUSION01	SOLID	<u>N/A</u>	<u>2.0500</u>	g/L
		<u>0.5125g</u> → <u>.250g</u>								
97000455	AP-105 (P)	7 SAMPLE	S97T001732	0	F	DOSE-02	SOLID	<u>N/A</u>	<u>25</u>	mrad/hour
97000455	AP-105 (P)	8 DUP	S97T001732	0	F	FUSION01	SOLID	<u>2.0500</u>	<u>2.1556</u>	<u>N/A</u> g/L
		<u>0.5389g</u> → <u>.250g</u>								
97000455	AP-105 (P)	9 DUP	S97T001732	0	F	DOSE-02	SOLID	<u>25</u>	<u>25</u>	<u>N/A</u> mrad/hour

Final page for worklist # 19501

RLM 8/2/97
Analyst Signature Date

Suzanne Bue 8/02/97
Analyst Signature Date

[Signature] 8-2-97
REVIEWER SIGNATURE DATE

597T001726 → 1727
597T001730 → 1732

Data Entry Comments: Weights - RLM 20ML 4M HCL + 20ML CON HNO3 used
no visible solids.

LABCORE Data Entry Template for Worklist# 19503

Analyst: SLH Instrument: FUS01 Book # NA

Method: LA-549-141 Rev/Mod F-0

Worklist Comment: AP-105 FUSION DIGEST C109S1LH 2 UH,LH lad

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			FUSION01	SOLID	<u>1</u>	<u>.250</u>	<u>N/A</u>	<u>g/L</u>
97000478	AP-105 (P)	2 SAMPLE	S97T001807 0 F		FUSION01	SOLID	<u>N/A</u>	<u>2.2012</u>		<u>g/L</u>
		.5503 → .250L								
97000478	AP-105 (P)	3 SAMPLE	S97T001807 0 F		DOSE-02	SOLID	<u>N/A</u>	<u>17.5</u>		<u>mrad/hour</u>
97000478	AP-105 (P)	4 DUP	S97T001807 0 F		FUSION01	SOLID	<u>2.2012</u>	<u>2.2216</u>	<u>N/A</u>	<u>g/L</u>
		.5554 → .250L								
97000478	AP-105 (P)	5 DUP	S97T001807 0 F		DOSE-02	SOLID	<u>17.5</u>	<u>17.5</u>	<u>N/A</u>	<u>mrad/hour</u>
97000478	AP-105 (P)	6 SAMPLE	S97T001809 0 F		FUSION01	SOLID	<u>N/A</u>	<u>2.202</u>		<u>g/L</u>
		.5505 → .250L								
97000478	AP-105 (P)	7 SAMPLE	S97T001809 0 F		DOSE-02	SOLID	<u>N/A</u>	<u>20</u>		<u>mrad/hour</u>
97000478	AP-105 (P)	8 DUP	S97T001809 0 F		FUSION01	SOLID	<u>2.202</u>	<u>2.1516</u>	<u>N/A</u>	<u>g/L</u>
		.5379 → .250L								
97000478	AP-105 (P)	9 DUP	S97T001809 0 F		DOSE-02	SOLID	<u>20</u>	<u>22.5</u>	<u>N/A</u>	<u>mrad/hour</u>
97000478	AP-105 (P)	10 SAMPLE	S97T001813 0 F		FUSION01	SOLID	<u>N/A</u>	<u>2.1700</u>		<u>g/L</u>
		.5425 → .250L								
97000478	AP-105 (P)	11 SAMPLE	S97T001813 0 F		DOSE-02	SOLID	<u>N/A</u>	<u>22.5</u>		<u>mrad/hour</u>
							<u>20</u>			
97000478	AP-105 (P)	12 DUP	S97T001813 0 F		FUSION01	SOLID	<u>2.1700</u>	<u>2.1016</u>	<u>N/A</u>	<u>g/L</u>
		.5269 → .250L								
97000478	AP-105 (P)	13 DUP	S97T001813 0 F		DOSE-02	SOLID	<u>22.5</u>	<u>20</u>	<u>N/A</u>	<u>mrad/hour</u>
							<u>20</u>			

Final page for worklist # 19503

Sandra L. Hood Boatright
Analyst Signature Date
8-3-97

Susan Bee 8/04/97
Analyst Signature Date

Data Entry Comments:

S97T00178 → S97T001807
S97T00179 → S97T001809
S97T001780 → S97T001813
weighed by SLH Boatright

submitted by Ed McCown
HPT Gerry Gunuskey

A. H. H. H. H. 8/4/97
REVIEWER SIGNATURE DATE

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

LABCORE Data Entry Template for Worklist# 19504

Analyst: SLH Instrument: FUS01 Book # NA

Method: LA-549-141 Rev/Mod F-0

Worklist Comment: AP-105 FUSION DIGEST C209S3 LH,UH lad

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			FUSION01	SOLID	<u>1</u>	<u>.250</u>	<u>N/A</u>	g/L
97000478	AP-105 (P)	2 SAMPLE	S97T001810	0	F	FUSION01	SOLID	<u>N/A</u>	<u>2.036</u>	g/L
		.5090 →	.250L							
97000478	AP-105 (P)	3 SAMPLE	S97T001810	0	F	DOSE-02	SOLID	<u>N/A</u>	<u>25</u>	mrad/hour
97000478	AP-105 (P)	4 DUP	S97T001810	0	F	FUSION01	SOLID	<u>2.036</u>	<u>2.0512</u>	<u>N/A</u> g/L
		.5128 →	.250L							
97000478	AP-105 (P)	5 DUP	S97T001810	0	F	DOSE-02	SOLID	<u>25</u>	<u>25</u>	<u>N/A</u> mrad/hour
97000478	AP-105 (P)	6 SAMPLE	S97T001814	0	F	FUSION01	SOLID	<u>N/A</u>	<u>1.9712</u>	g/L
		.4928 →	.250L							
97000478	AP-105 (P)	7 SAMPLE	S97T001814	0	F	DOSE-02	SOLID	<u>N/A</u>	<u>20</u>	mrad/hour
97000478	AP-105 (P)	8 DUP	S97T001814	0	F	FUSION01	SOLID	<u>1.9712</u>	<u>2.0376</u>	<u>N/A</u> g/L
		.5094 →	.250L							
97000478	AP-105 (P)	9 DUP	S97T001814	0	F	DOSE-02	SOLID	<u>20</u>	<u>25</u>	<u>N/A</u> mrad/hour

Final page for worklist # 19504

Sandra J Hord Boatright
Analyst Signature Date
8-3-97

Susan Bee 8/04/97
Analyst Signature Date

[Signature] 8/4/97
REVIEWER SIGNATURE DATE

S97T001781 → S97T001810

S97T001782 → S97T001814

Data Entry Comments:

weighed by SLHord Boatright

submitted by Rick Cowen

HPT Gerry Gunnskey

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# 19508

Analyst: RLM Instrument: FUS01 Book # NA

Method: LA-549-141 Rev/Mod F-0

Worklist Comment: AP-105 FUSION DIGEST C210S1, 2 LH lad ^{2,3 gm 10/19/97}

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			FUSION01	SOLID	<u>1</u>	<u>.250</u>	<u>N/A</u>	g/L
97000479	AP-105 (P)	2 SAMPLE	S97T001817	0 F	FUSION01	SOLID	<u>N/A</u>	<u>2.1136</u>		g/L
		<u>0.5284g</u> → <u>.250g</u>								
97000479	AP-105 (P)	3 SAMPLE	S97T001817	0 F	DOSE-02	SOLID	<u>N/A</u>	<u>25</u>		mrad/hour
97000479	AP-105 (P)	4 DUP	S97T001817	0 F	FUSION01	SOLID	<u>2.1136</u>	<u>2.1580</u>	<u>N/A</u>	g/L
		<u>0.5395g</u> → <u>.250g</u>								
97000479	AP-105 (P)	5 DUP	S97T001817	0 F	DOSE-02	SOLID	<u>25</u>	<u>25</u>	<u>N/A</u>	mrad/hour
97000479	AP-105 (P)	6 SAMPLE	S97T001819	0 F	FUSION01	SOLID	<u>N/A</u>	<u>2.1724</u>		g/L
		<u>0.5431g</u> → <u>.250g</u>								
97000479	AP-105 (P)	7 SAMPLE	S97T001819	0 F	DOSE-02	SOLID	<u>N/A</u>	<u>25</u>		mrad/hour
97000479	AP-105 (P)	8 DUP	S97T001819	0 F	FUSION01	SOLID	<u>2.1724</u>	<u>2.1012</u>	<u>N/A</u>	g/L
		<u>0.5253g</u> → <u>.250g</u>								
97000479	AP-105 (P)	9 DUP	S97T001819	0 F	DOSE-02	SOLID	<u>25</u>	<u>25</u>	<u>N/A</u>	mrad/hour

Final page for worklist # 19508

RLM 8/12/97
Analyst Signature Date
SL Hood Boatright 8-2-97

Susan Dee 8/02/97
Analyst Signature Date

[Signature] 8-2-97
REVIEWER SIGNATURE DATE

597T001783 → 1817
597T001784 → 1819

Data Entry Comments:

Weights - RLM

LABCORE Data Entry Template for Worklist# 19502

Analyst: RM Instrument: H2O01 Book # 10AMethod: LA-504-101 Rev/Mod F-0

Worklist Comment: AP-105 H2O DIGEST C208S2 LH,UH lad

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			H2ODIG01	SOLID	<u>1</u>	<u>.100</u>	<u>N/A</u>	g/L
97000455	AP-105 (P)	2 SAMPLE	S97T001728	0 W	H2ODIG01	SOLID	<u>N/A</u>	<u>5.0650</u>		g/L
		<u>0.5065g</u> → <u>.100g</u>								
97000455	AP-105 (P)	3 SAMPLE	S97T001728	0 W	DOSE-02	SOLID	<u>N/A</u>	<u>20</u>		mrad/hour
97000455	AP-105 (P)	4 DUP	S97T001728	0 W	H2ODIG01	SOLID	<u>5.0650</u>	<u>5.3060</u>	<u>N/A</u>	g/L
		<u>0.5306g</u> → <u>.100g</u>								
97000455	AP-105 (P)	5 DUP	S97T001728	0 W	DOSE-02	SOLID	<u>20</u>	<u>20</u>	<u>N/A</u>	mrad/hour
97000455	AP-105 (P)	6 SAMPLE	S97T001733	0 W	H2ODIG01	SOLID	<u>N/A</u>	<u>5.1450</u>		g/L
		<u>0.5145g</u> → <u>.100g</u>								
97000455	AP-105 (P)	7 SAMPLE	S97T001733	0 W	DOSE-02	SOLID	<u>N/A</u>	<u>20</u>		mrad/hour
97000455	AP-105 (P)	8 DUP	S97T001733	0 W	H2ODIG01	SOLID	<u>5.1450</u>	<u>5.200</u>	<u>N/A</u>	g/L
		<u>0.5120g</u> → <u>.100g</u>								
97000455	AP-105 (P)	9 DUP	S97T001733	0 W	DOSE-02	SOLID	<u>20</u>	<u>20</u>	<u>N/A</u>	mrad/hour

Final page for worklist # 19502

Analyst Signature RM McCann 8/2/97
DateAnalyst Signature Susan Dec 8/02/97
Date

<u>RM McCann</u> 8-2-97
REVIEWER SIGNATURE DATE

597T001726 → 1728

597T001730 → 1733

Data Entry Comments:

Weight - RM McCann

LABCORE Data Entry Template for Worklist# 19505

Analyst: 088 Instrument: H2001 Book # NA

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

Worklist Comment: AP-105 H2O DIGEST C209S1LH 2 UH,LH lad

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			H200IG01	SOLID	<u>1</u>	<u>.100</u>	<u>N/A</u>	g/L
97000478	AP-105 (P)	2 SAMPLE	S97T001808 0 W		H200IG01	SOLID	<u>N/A</u>	<u>5.155</u>		g/L
		<u>.5155</u> → <u>.100L</u>								
97000478	AP-105 (P)	3 SAMPLE	S97T001808 0 W		DOSE-02	SOLID	<u>N/A</u>	<u>20</u>		mrad/hour
97000478	AP-105 (P)	4 DUP	S97T001808 0 W		H200IG01	SOLID	<u>5.155</u>	<u>5.176</u>	<u>N/A</u>	g/L
		<u>.5176</u> → <u>.100L</u>								
97000478	AP-105 (P)	5 DUP	S97T001808 0 W		DOSE-02	SOLID	<u>20</u>	<u>20</u>	<u>N/A</u>	mrad/hour
97000478	AP-105 (P)	6 SAMPLE	S97T001811 0 W		H200IG01	SOLID	<u>N/A</u>	<u>5.276</u>		g/L
		<u>.5276</u> → <u>.100L</u>								
97000478	AP-105 (P)	7 SAMPLE	S97T001811 0 W		DOSE-02	SOLID	<u>N/A</u>	<u>25</u>		mrad/hour
97000478	AP-105 (P)	8 DUP	S97T001811 0 W		H200IG01	SOLID	<u>5.276</u>	<u>5.354</u>	<u>N/A</u>	g/L
		<u>.5354</u> → <u>.100L</u>								
97000478	AP-105 (P)	9 DUP	S97T001811 0 W		DOSE-02	SOLID	<u>25</u>	<u>25</u>	<u>N/A</u>	mrad/hour
97000478	AP-105 (P)	10 SAMPLE	S97T001815 0 W		H200IG01	SOLID	<u>N/A</u>	<u>5.165</u>		g/L
		<u>.5165</u> → <u>.100L</u>								
97000478	AP-105 (P)	11 SAMPLE	S97T001815 0 W		DOSE-02	SOLID	<u>N/A</u>	<u>25</u>		mrad/hour
		<u>.5165</u> → <u>.100L</u>								
97000478	AP-105 (P)	12 DUP	S97T001815 0 W		H200IG01	SOLID	<u>5.165</u>	<u>5.158</u>	<u>N/A</u>	g/L
		<u>.5158</u> → <u>.100L</u>								
97000478	AP-105 (P)	13 DUP	S97T001815 0 W		DOSE-02	SOLID	<u>25</u>	<u>25</u>	<u>N/A</u>	mrad/hour

Final page for worklist # 19505

AP 8/4/97
Analyst Signature Date

Susan Lee 8/04/97
Analyst Signature Date

S97T00178 → S97T001808 SLH3
S97T00179 → S97T001809 8-3-97
S97T00180 → S97T001815 8-3-97

Data Entry Comments:

weighed by Susan Portant
submitted by RLMcCorm
Hpt Scott Corbaley

Validated
8/4/97
AK Feller

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# 19506

Analyst: ASB Instrument: H2001 _____ Book # NA

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

Worklist Comment: AP-105 H2O DIGEST C209S3 LH,UH lad

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			H2ODIG01	SOLID	<u>1</u>	<u>.100</u>	<u>N/A</u>	<u>g/L</u>
97000478	AP-105 (P)	2 SAMPLE	S97T001812 0 W		H2ODIG01	SOLID	<u>N/A</u>	<u>5.313</u>	<u>3</u>	<u>g/L</u>
		<u>.5313</u> → <u>.100L</u>								
97000478	AP-105 (P)	3 SAMPLE	S97T001812 0 W		DOSE-02	SOLID	<u>N/A</u>	<u>30</u>		<u>mrad/hour</u>
97000478	AP-105 (P)	4 DUP	S97T001812 0 W		H2ODIG01	SOLID	<u>5.313</u>	<u>5.144</u>	<u>N/A</u>	<u>g/L</u>
		<u>.5144</u> → <u>.100L</u>								
97000478	AP-105 (P)	5 DUP	S97T001812 0 W		DOSE-02	SOLID	<u>30</u>	<u>30</u>	<u>N/A</u>	<u>mrad/hour</u>
97000478	AP-105 (P)	6 SAMPLE	S97T001816 0 W		H2ODIG01	SOLID	<u>N/A</u>	<u>5.424</u>		<u>g/L</u>
		<u>.5424</u> → <u>.100L</u>								
97000478	AP-105 (P)	7 SAMPLE	S97T001816 0 W		DOSE-02	SOLID	<u>N/A</u>	<u>30</u>		<u>mrad/hour</u>
97000478	AP-105 (P)	8 DUP	S97T001816 0 W		H2ODIG01	SOLID	<u>5.424</u>	<u>5.758</u>	<u>N/A</u>	<u>g/L</u>
		<u>.5758</u> → <u>.100L</u>								
97000478	AP-105 (P)	9 DUP	S97T001816 0 W		DOSE-02	SOLID	<u>30</u>	<u>30</u>	<u>N/A</u>	<u>mrad/hour</u>

Final page for worklist # 19506

ASB 8-4-97
Analyst Signature Date

Susan Du 8/04/97
Analyst Signature Date

1781
S97T001810 → S97T001812
SLIB 8-3-97
S97T001814 → S97T001816
1782

Validated
8/4/97
AK Fuller

Data Entry Comments:

weighed by Sifford Boettig
submitted by Bl McCann
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.

LABCORE Data Entry Template for Worklist# 19507

Analyst: BW Instrument: H2O01 Book # NAMethod: LA-504-101 Rev/Mod F-0Worklist Comment: AP-105 H2O DIGEST C210S^{2,3 gm 1019/97}+2-LH lad

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			H2ODIG01	SOLID	<u>1</u>	<u>.100</u>	<u>N/A</u>	<u>g/L</u>
97000479	AP-105 (P)	2 SAMPLE	S97T001818	0 W	H2ODIG01	SOLID	<u>N/A</u>	<u>5.3700</u>		<u>g/L</u>
		<u>0.5370g → 0.100g</u>								
97000479	AP-105 (P)	3 SAMPLE	S97T001818	0 W	DOSE-02	SOLID	<u>N/A</u>	<u>25</u>		<u>mrads/hour</u>
97000479	AP-105 (P)	4 DUP	S97T001818	0 W	H2ODIG01	SOLID	<u>5.3700</u>	<u>5.5940</u>	<u>N/A</u>	<u>g/L</u>
		<u>0.5594g → 0.100g</u>								
97000479	AP-105 (P)	5 DUP	S97T001818	0 W	DOSE-02	SOLID	<u>25</u>	<u>25</u>	<u>N/A</u>	<u>mrads/hour</u>
97000479	AP-105 (P)	6 SAMPLE	S97T001820	0 W	H2ODIG01	SOLID	<u>N/A</u>	<u>5.4040</u>		<u>g/L</u>
		<u>0.5404g → 0.100g</u>								
97000479	AP-105 (P)	7 SAMPLE	S97T001820	0 W	DOSE-02	SOLID	<u>N/A</u>	<u>25</u>		<u>mrads/hour</u>
97000479	AP-105 (P)	8 DUP	S97T001820	0 W	H2ODIG01	SOLID	<u>5.4040</u>	<u>5.5540</u>	<u>N/A</u>	<u>g/L</u>
		<u>0.5554g → 0.100g</u>								
97000479	AP-105 (P)	9 DUP	S97T001820	0 W	DOSE-02	SOLID	<u>25</u>	<u>20</u>	<u>N/A</u>	<u>mrads/hour</u>

Final page for worklist # 19507

Analyst Signature BW Date 8/6/97Analyst Signature Susan Wu Date 8/02/97

 REVIEWER SIGNATURE	<u>8-2-97</u> DATE
---	-----------------------

597T001783 → 1818
597T001784 → 1820

Data Entry Comments:

Weights - BW

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-263, REV. 0

BULK DENSITY WORKSHEETS

HNH-SD-WM-DP-263, REV. 0

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Bulk Density Worksheet

Requestor: Alvazum

Date: 7-11-97

HNF-SD-WM-DP-263, REV. 0

Tank: AP105
Core: 208
Seg: 2 LH
Auger:
Sample ID: 5971001724

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



Jar#: 11906
Jar/Vial Size: 125 mL
Initial Weight: 250.3 g
Final Weight: 133.4 g
Net Weight: g

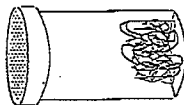


Cone#: 11906(A)
Final Vol: 13.0 mL
Initial Weight: 7.5 g
Final Weight: 25.4 g
Net Weight: 18.1 g
Sample ID: 5971001724

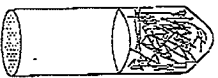
Appearance/Narrative:

Tank:
Core:
Seg:
Auger:
Sample ID:

Start Time:
End Time:
Homogenization Time (Min.): 10/5/4



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:

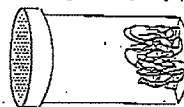
Appearance/Narrative:

18.1
13.0 = 1.39 g/mL of settled
10 mL of solids

Bulk Density Worksheet

Requestor: NUZOMTank: AL105Core: 209Seg: 2LHAuger: ---Sample ID: 597001766

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

Jar#: 12596

Jar/Vial Size: _____ mL

Initial Weight: _____ g

Final Weight: _____ g

Net Weight: _____ g



74

Cone#: 12596Final Vol: 10.0 mLInitial Weight: 7.74 gFinal Weight: 25.46 gNet Weight: 18.12 gSample ID: 597001766Appearance/Narrative: BRPMD = 18.12 / 100 = 1.81 g/mL

Tank: _____

Core: _____

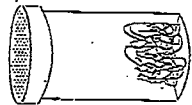
Seg: _____

Auger: _____

Sample ID: _____

Start Time: _____

End Time: _____

Homogenization
Time (Min.): _____

Jar#: _____

Jar/Vial Size: _____ mL

Initial Weight: _____ g

Final Weight: _____ g

Net Weight: _____ g



7-2297

Cone#: _____

Final Vol: _____ mL

Initial Weight: _____ g

Final Weight: _____ g

Net Weight: _____ g

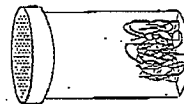
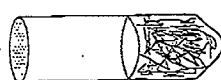
Sample ID: _____

Appearance/Narrative: _____

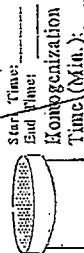
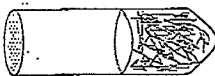
HNF-SD-WM-DP-263, REV. 0

Date: 7/21/97

Bulk Density Worksheet

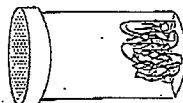
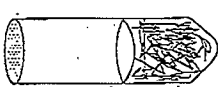
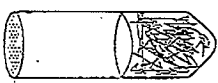
Requestor: ALU7UMDate: 7/22/87Tank: AL-105Core: 204Seg: 3LHAuger: —Sample ID: 97100 1768Start Time: —End Time: —Homogenization
Time (Min.): —Jar#: 12896Jar/Vial Size: — mLInitial Weight: — gFinal Weight: 90.5 gNet Weight: 72.89 gCone#: 96Final Vol: 10.5 mLInitial Weight: 7.72 gFinal Weight: 24.04 gNet Weight: 16.37 gSample ID: —Appearance/Narrative: 94Bulk Den = $\frac{94}{10.5} = 1.56 \text{ gm/mL}$

Tank: —
 Core: —
 Seg: —
 Auger: —
 Sample ID: —

Start Time: —End Time: —Homogenization
Time (Min.): —Jar#: —Jar/Vial Size: — mLInitial Weight: — gFinal Weight: 77.9 gNet Weight: 7.22 gCone#: —Final Vol: — mLInitial Weight: — gFinal Weight: — gNet Weight: — gSample ID: —Appearance/Narrative: —

HNF-SD-WM-DP-263, REV. 0

Bulk Density Worksheet

Requestor: N474KDate: 7-23-97Tank: AP-105Core: 310Seg: 11H 2 LHAuger: Q401619Sample ID: 597760/770Start Time: _____
End Time: _____
Homogenization
Time (Min.): _____Jar#: 12206
Jar/Vial Size: _____ mL
Initial Weight: _____ g
Final Weight: 0.7 g
Net Weight: 90 gCone#: 90
Final Vol: 10.0 mL
Initial Weight: 7.73 g
Final Weight: 22.7 g
Net Weight: 15.04 g
Sample ID: _____Appearance/Narrative: Black powder15.04 / 10.0 = 1.50 g/mL3 mL liquid
2 mL solidTank: _____
Core: _____
Seg: _____
Auger: _____
Sample ID: _____Start Time: _____
End Time: _____
Homogenization
Time (Min.): _____Jar#: _____
Jar/Vial Size: _____ mL
Initial Weight: _____ g
Final Weight: 0.7 g
Net Weight: 90 gCone#: 7-23-97
Final Vol: _____ mL
Initial Weight: _____ g
Final Weight: _____ g
Net Weight: _____ g
Sample ID: _____

Appearance/Narrative: _____

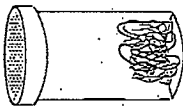
Bulk Density Worksheet

Requestor: WU24A

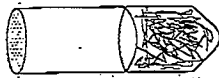
Date: 7-23-97

Tank: AL-105
 Core: 210
 Seg: 2th 3 LH
 Auger: ---
 Sample ID: 597700/771

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



Jar#: 12898
 Jar/Vial Size: _____ mL
 Initial Weight: _____ g
 Final Weight: 12.8 g
 Net Weight: 7.2397 g



Cone#: 98
 Final Vol: 10 mL
 Initial Weight: 7.2 g
 Final Weight: 24.10 g
 Net Weight: 16.43 g
 Sample ID: _____

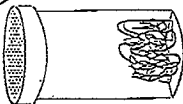
Appearance/Narrative: 16.43

Bulk Density = 10.0 mL = 1.643 g/mL

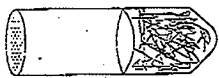
1 mL 1.64
9 mL solid

Tank: _____
 Core: _____
 Seg: _____
 Auger: _____
 Sample ID: _____

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



Jar#: _____
 Jar/Vial Size: _____ mL
 Initial Weight: _____ g
 Final Weight: 7.23 g
 Net Weight: 7.2397 g



Cone#: _____
 Final Vol: _____ mL
 Initial Weight: _____ g
 Final Weight: _____ g
 Net Weight: _____ g
 Sample ID: _____

Appearance/Narrative: _____

HNF-SD-WM-DP-263, REV. 0

HNF-SD-WM-DP-263, REV. 0

INORGANIC ANALYSIS

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LABCORE Data Entry Template for Worklist# 19327

Analyst: SMF Instrument: DSC0 3 Book # 12N14-B
Method: LA-514-114 Rev/Mod D-1
Worklist Comment: AP-105 DSC, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-03	LIQUID	<u>28.45</u>	<u>28.83</u>	<u>N/A</u>	Joules/g
97000455	AP-105 (P)	2 SAMPLE	S97T001721	0	DSC-03	LIQUID	<u>N/A</u>	<u>0</u>		Joules/g
97000455	AP-105 (P)	3 DUP	S97T001721	0	DSC-03	LIQUID	<u>0</u>	<u>0</u>	<u>N/A</u>	Joules/g
97000455	AP-105 (P)	4 SAMPLE	S97T001723	0	DSC-03	LIQUID	<u>N/A</u>	<u>0</u>		Joules/g
97000455	AP-105 (P)	5 DUP	S97T001723	0	DSC-03	LIQUID	<u>0</u>	<u>0</u>	<u>N/A</u>	Joules/g

Final page for worklist # 19327

Lusie M. Dalton 8-17-97
Analyst Signature Date
Validated 8/22/97 Bachelor

R. Jones 8-18-97
Analyst Signature Date

Data Entry Comments:

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

Curve 1: DSC

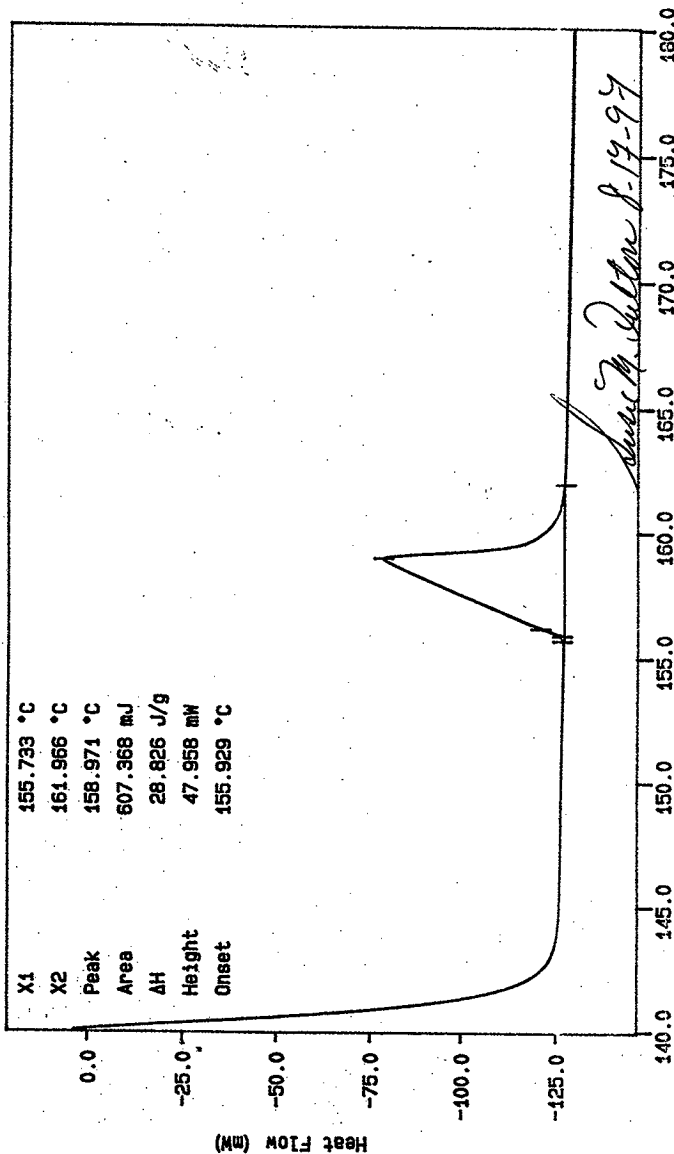
File Info: IND081702 Sun Aug 17 07:12:12 1997

Sample Weight: 21.070 mg

12N14-B

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 81 TO 85.

HNF-SD-WM-DP-263, REV. 0



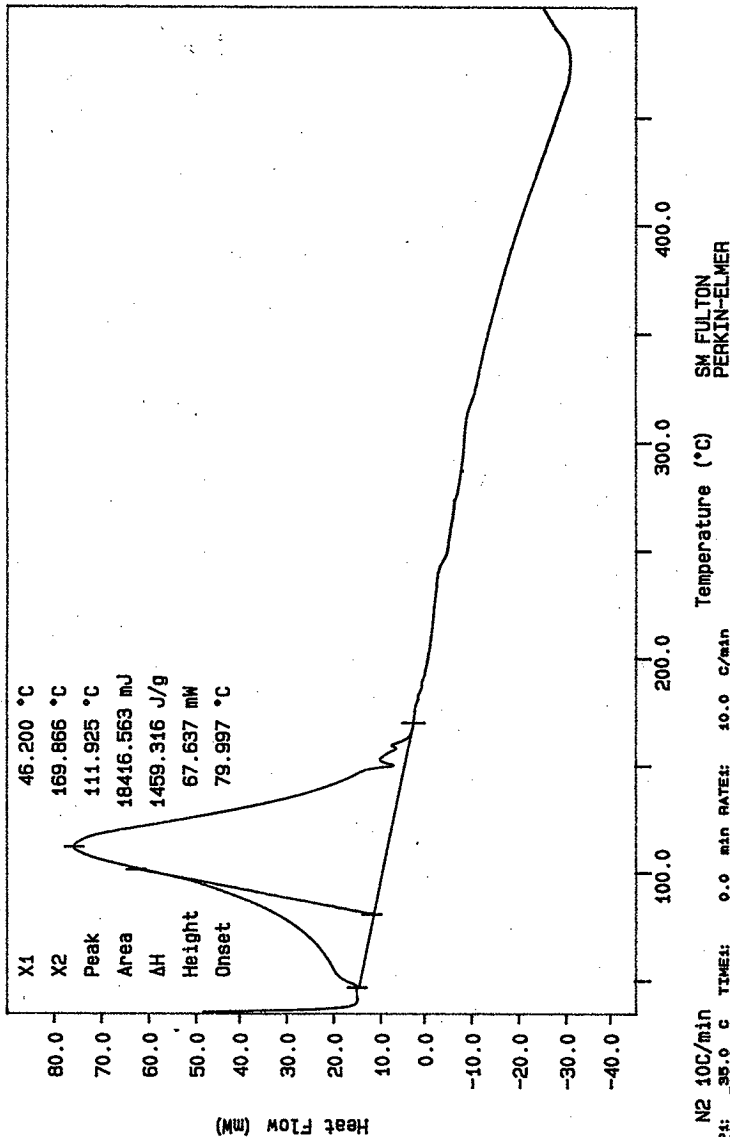
N2, EXOTHERM DOWN

TEMP: 149.8 °C

RATES: 0.0 min

JD SPELLMAN
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Aug 17 21:25 1997

Curve 1: DSC
 File Info: SAM081709 Sun Aug 17 23: 01: 21 1997
 Sample Weight: 12.620 mg
 S97T001721



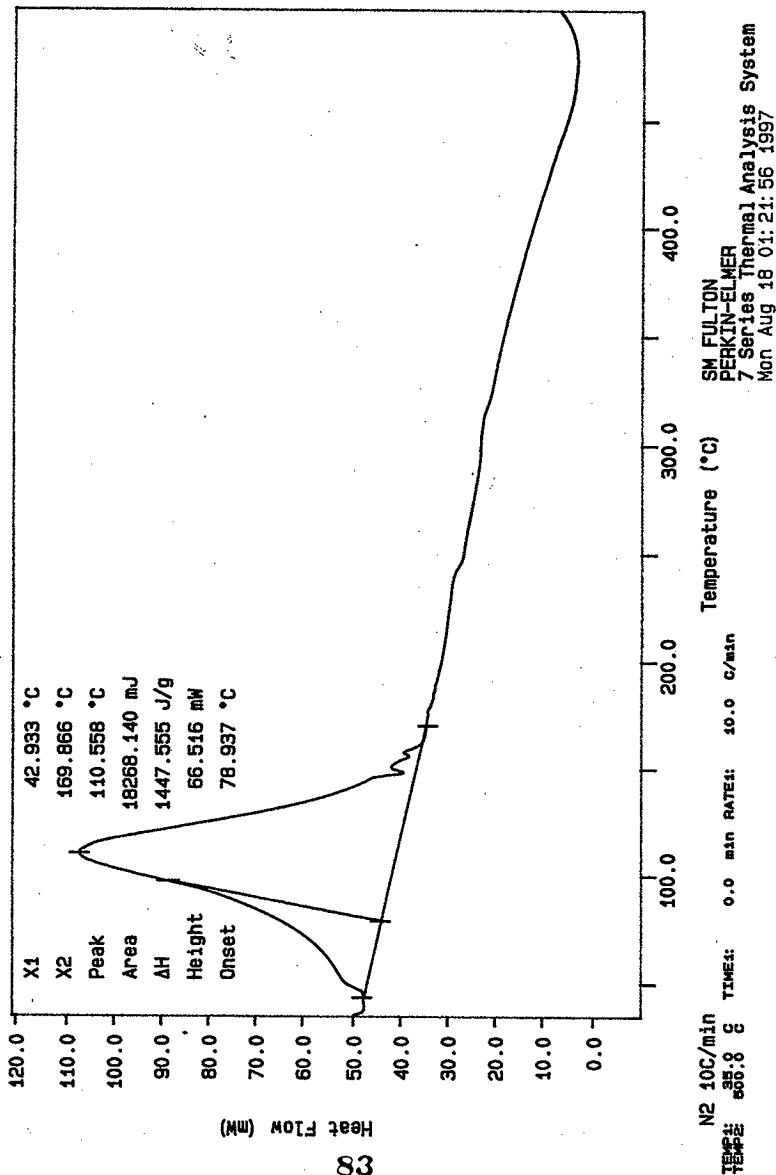
SM FULTON
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Aug 17 23: 06: 53 1997

Curve 1: DSC

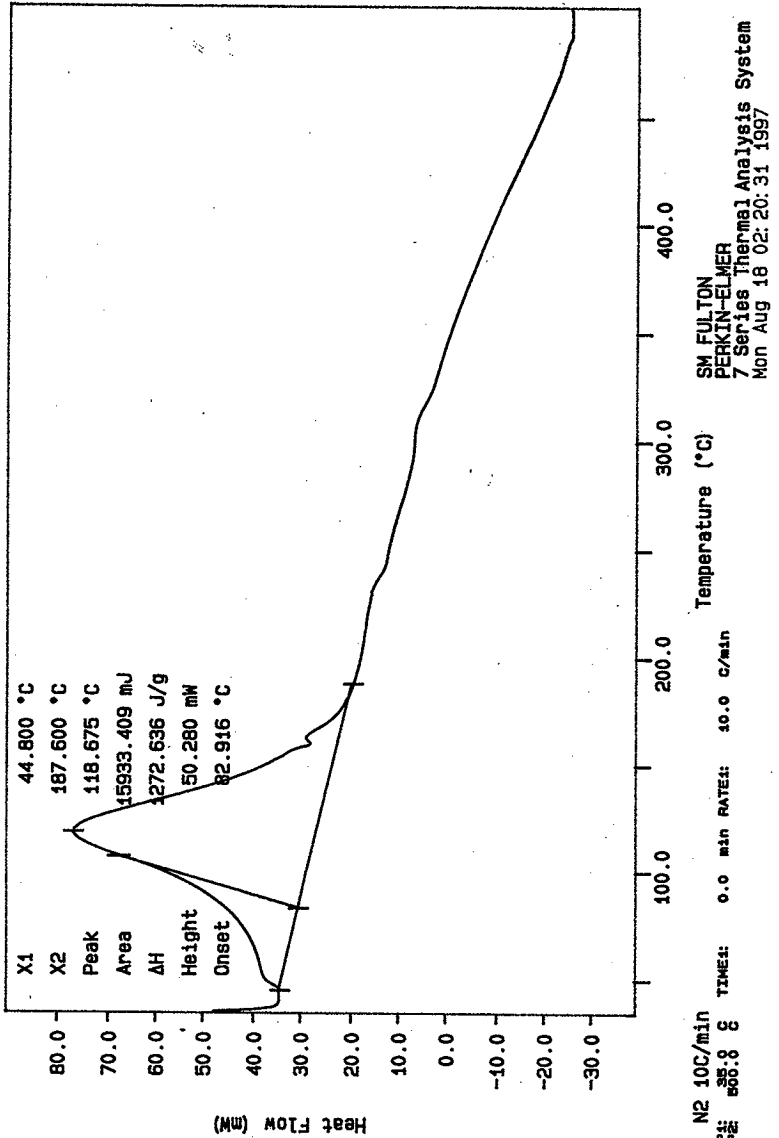
File Info: SAM081710 Mon Aug 18 00:08:54 1997

Sample Weight: 12.620 mg

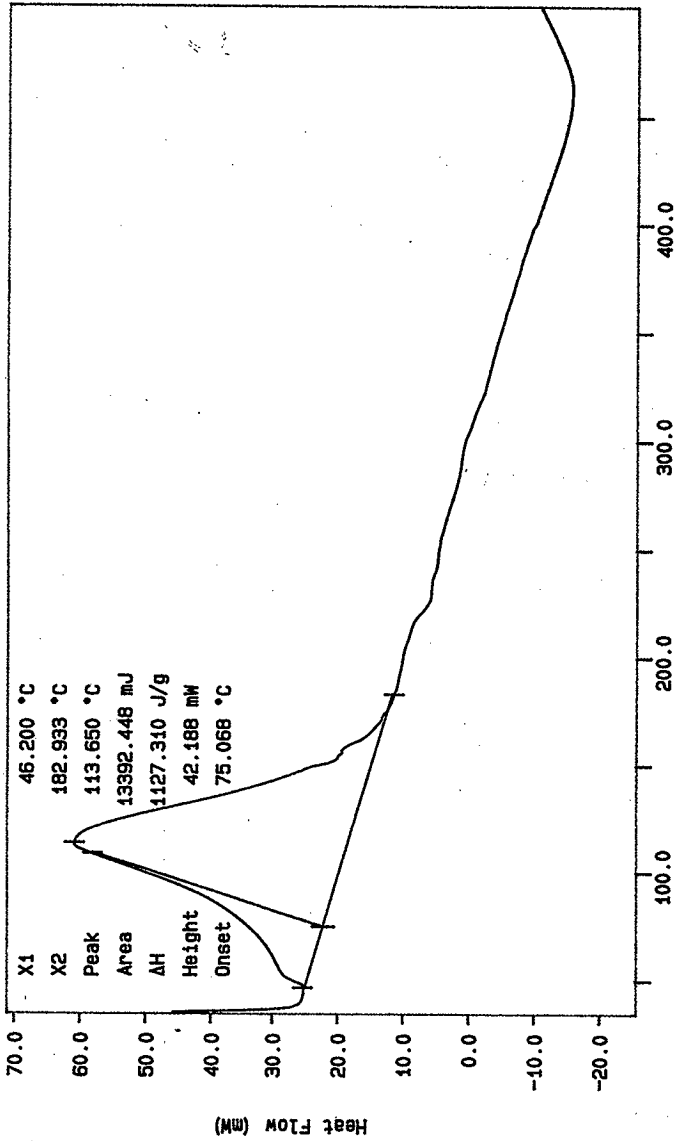
S97T001721 DUP



Curve 1: DSC
 File Info: SAM081711 Mon Aug 18 02:14:29 1997
 Sample Weight: 12.520 mg
 S97T001723



Curve 1: DSC
 File Info: SA081712 Mon Aug 18 03:10:25 1997
 Sample Weight: 11.880 mg
 S97T001723 DUP



SM FULTON
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Mon Aug 18 05:00:05 1997

N2 100 C/min
 TEMPERATURE 35.0 °C
 RATE 10.0 C/min
 TIME 500.0 s

LABCORE Data Entry Template for Worklist# 19328

Analyst: DPB Instrument: DSC0 3 Book # 12N/4BMethod: LA-514-114 Rev/Mod D-1

Worklist Comment: AP-105 DSC, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-03	SOLID	<u>28.45</u>	<u>29.01*</u>	<u>N/A</u>	Joules/g
97000455	AP-105 (P)	2 SAMPLE	S97T001726	0	DSC-03	SOLID	<u>N/A</u>	<u>55.97</u>		Joules/g
97000455	AP-105 (P)	3 DUP	S97T001726	0	DSC-03	SOLID	<u>55.97</u>	<u>39.48</u>	<u>N/A</u>	Joules/g *
97000455	AP-105 (P)	4 SAMPLE	S97T001730	0	DSC-03	SOLID	<u>N/A</u>	<u>61.93</u>		Joules/g
97000455	AP-105 (P)	5 DUP	S97T001730	0	DSC-03	SOLID	<u>61.93</u>	<u>47.31</u>	<u>N/A</u>	Joules/g *

Final page for worklist # 19328

Analyst Signature

Date

Analyst Signature

Date

Validated 8/22/97 B. Machelor

* QC exceeds UCL

Data Entry Comments:

High RPDs due to sample inhomogeneities. Rerun only at customer request. Done

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.

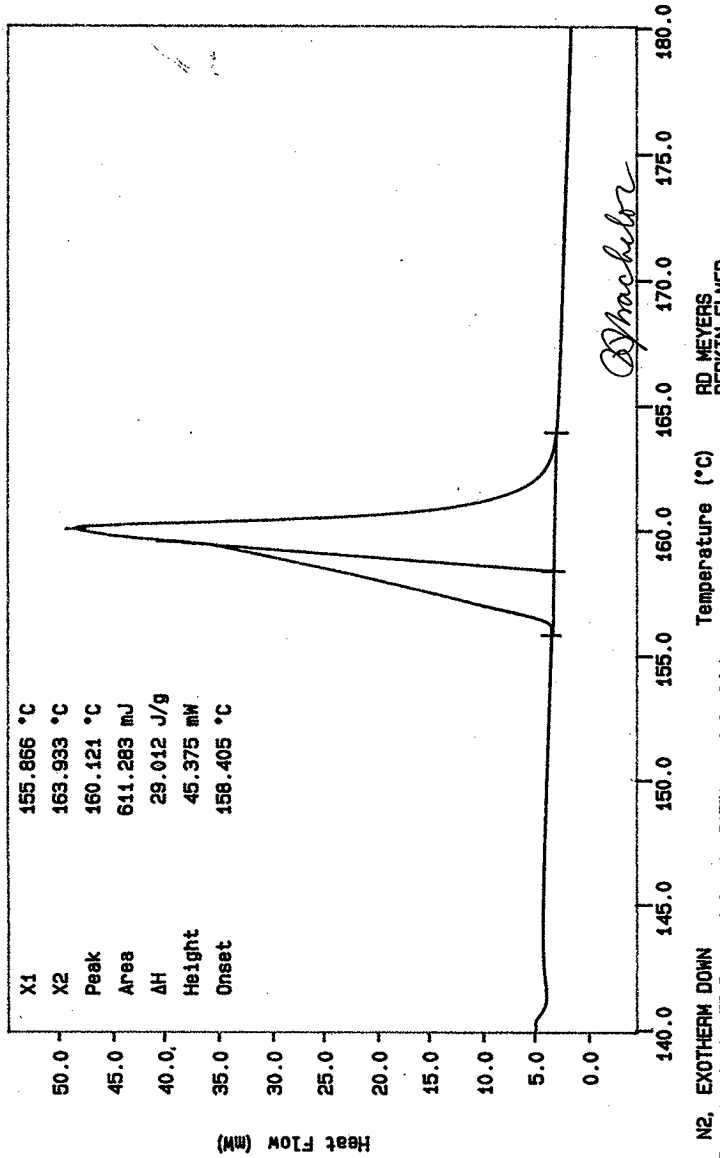
Curve 1: DSC

File Info: INDB01501 Fri Aug 15 07:35:56 1997

Sample Weight: 21.070 mg

12N14-B

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 87 TO 91.

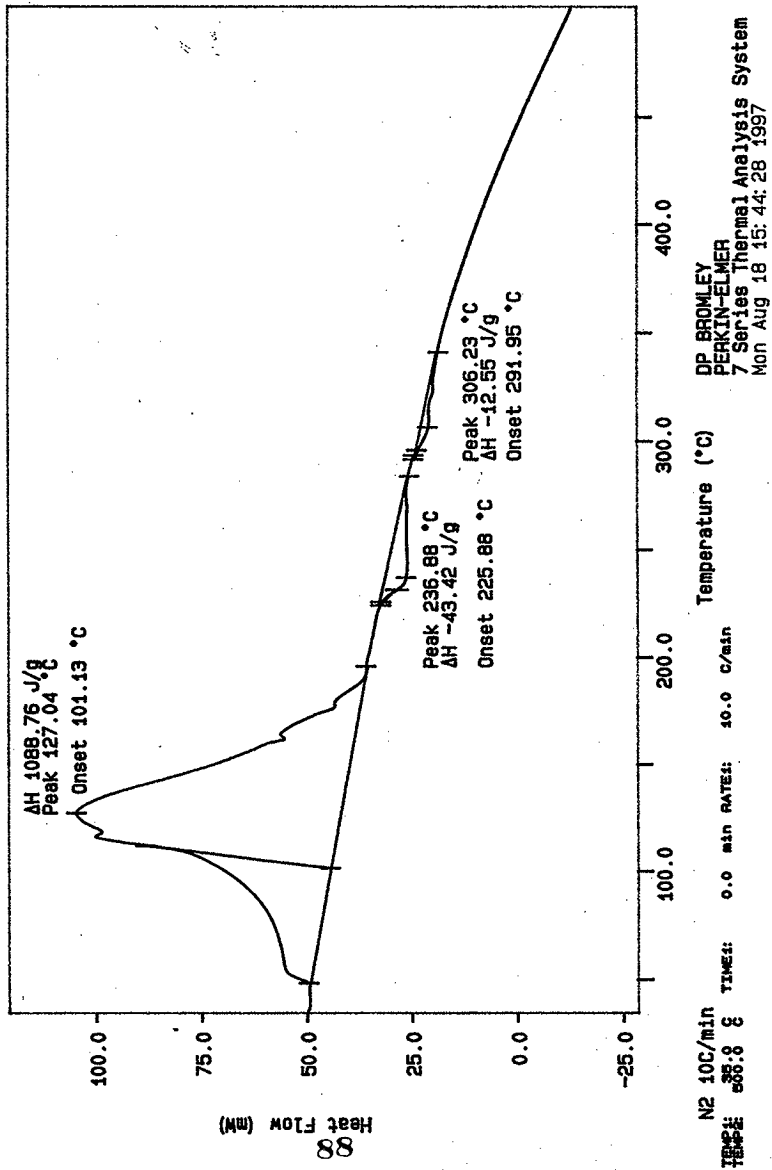


N2, EXOTHERM DOWN

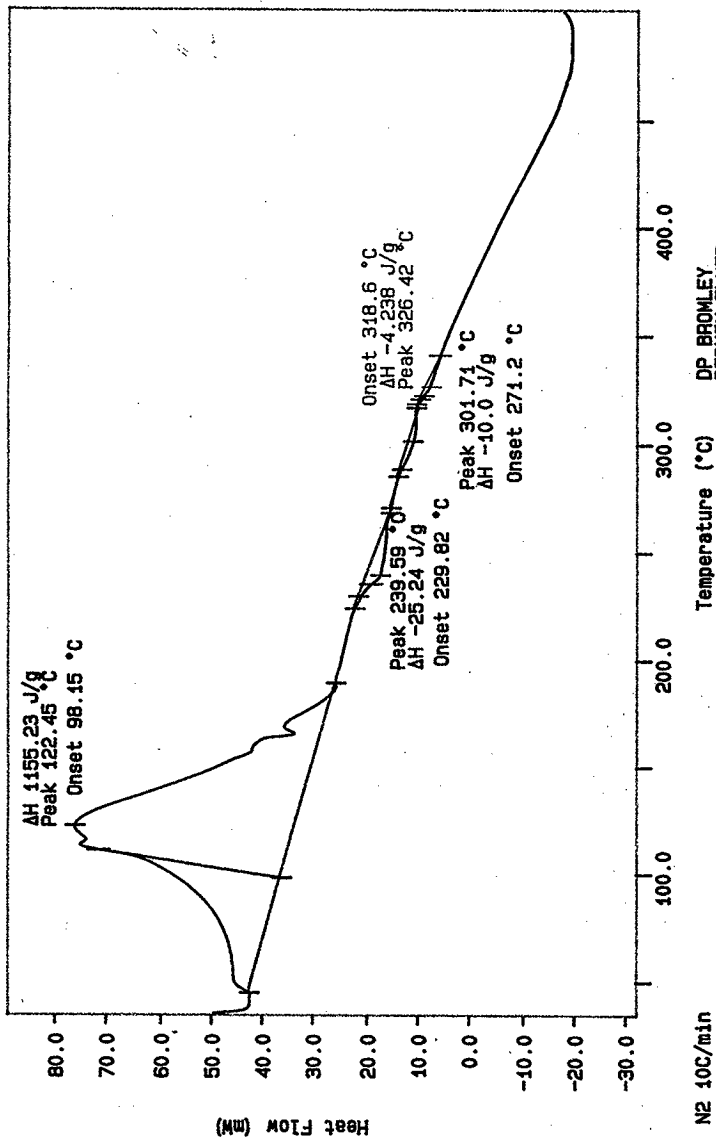
TEMP: 148.8 °C TIME: 0.0 min RATE: 10.0 °C/min

RD MEYERS
PERKIN-ELMER
7 Series Thermal Analysis System
Mon Aug 18 16:01:19 1997

Curve 1: DSC
File Info: SAK081513 Sat Aug 15 00:28:21 1997
Sample Weight: 19.550 mg
S97T001726SAM



Curve 1: DSC
 File Info: SAM081601 Sat Aug 16 02:23:38 1997
 Sample Weight: 12.650 mg
 S97T001726DUP



DP BROMLEY
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Mon Aug 18 15:48:08 1997

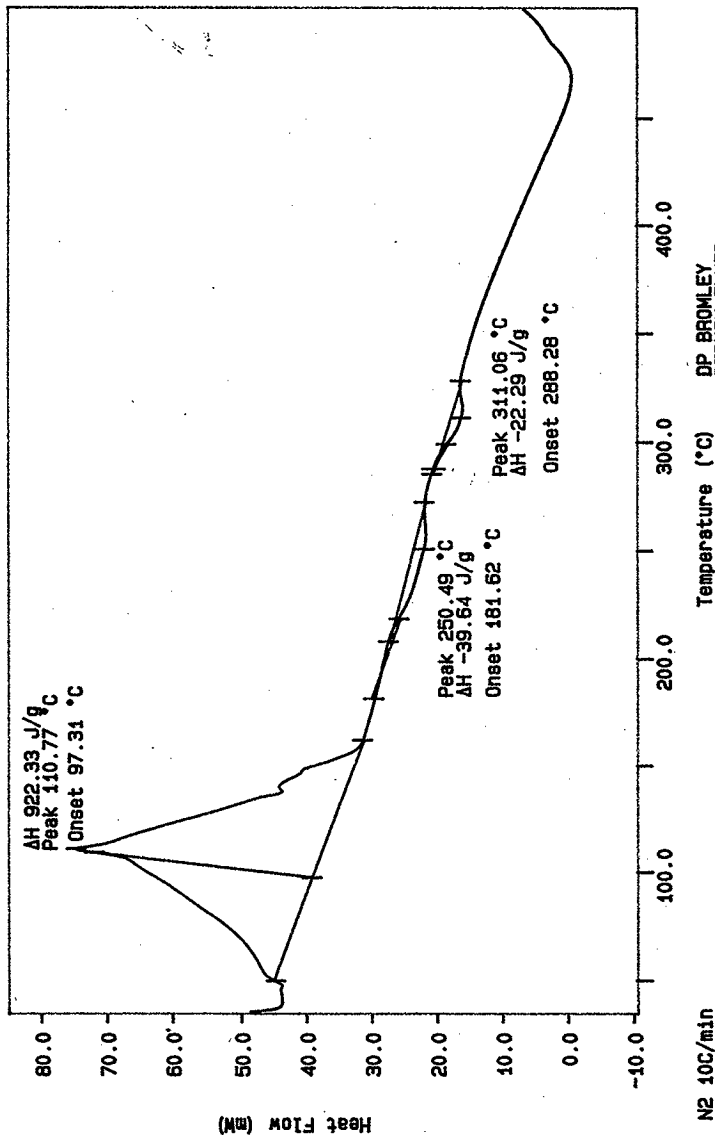
N2 10C/min
 TIME: 0.0 min RATE: 10.0 C/min

Curve 1: DSC

File info: SAM081602 Sat Aug 16 03:19:34 1997

Sample Weight: 10.770 mg

S977001730SAM



DP BROMLEY
PERKIN-ELMER
7 Series Thermal Analysis System
Mon Aug 18 15:51:03 1997

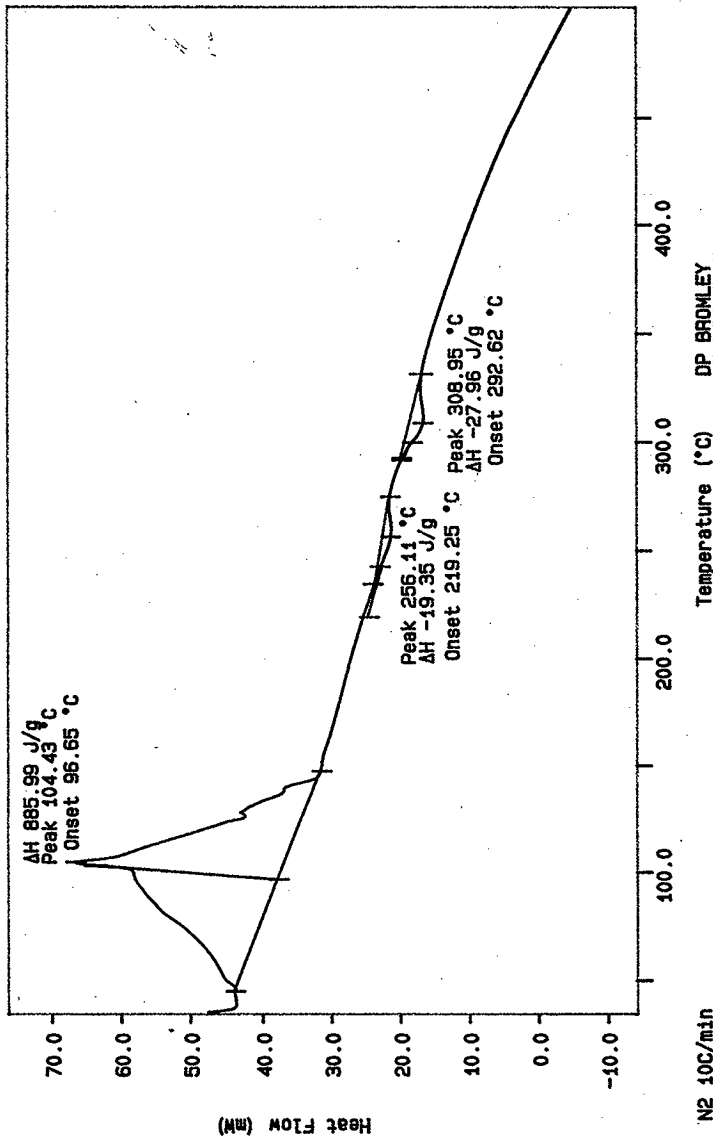
N2 10C/min
TIME: 35.8 s
RATE: 0.0 min RATE: 10.0 C/min

Curve 1: DSC

File Info: SAM081603 Sat Aug 16 05:27:52 1997

Sample Weight: 8.040 mg

S97T001730DUP



DP BROMLEY
PERKIN-ELMER
7 Series Thermal Analysis System
Mon Aug 18 15:55:01 1997

N2 10C/min
TIME: 35.8 s
RATE: 10.0 C/min

LABCORE Data Entry Template for Worklist# 19485

Analyst: KRM Instrument: DSC0 3 Book # 12N14B

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

Worklist Comment: AP-105 DSC, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-03	SOLID	<u>28.45</u>	<u>29.29*</u>	N/A	Joules/g
97000478	AP-105 (P)	2 SAMPLE	S97T001778	0	DSC-03	SOLID	N/A	<u>71.23</u>		Joules/g
97000478	AP-105 (P)	3 DUP	S97T001778	0	DSC-03	SOLID	<u>71.23</u>	<u>78.43</u>	N/A	Joules/g
97000478	AP-105 (P)	4 SAMPLE	S97T001779	0	DSC-03	SOLID	N/A	<u>45.88</u>		Joules/g
97000478	AP-105 (P)	5 DUP	S97T001779	0	DSC-03	SOLID	<u>45.88</u>	<u>56.60</u>	N/A	Joules/g

Final page for worklist # 19485

Analyst Signature

Date

8-18-97

Analyst Signature

Date

8-23-97

Validated 8/25/97 JB macher

* QC dup exceeds UCL

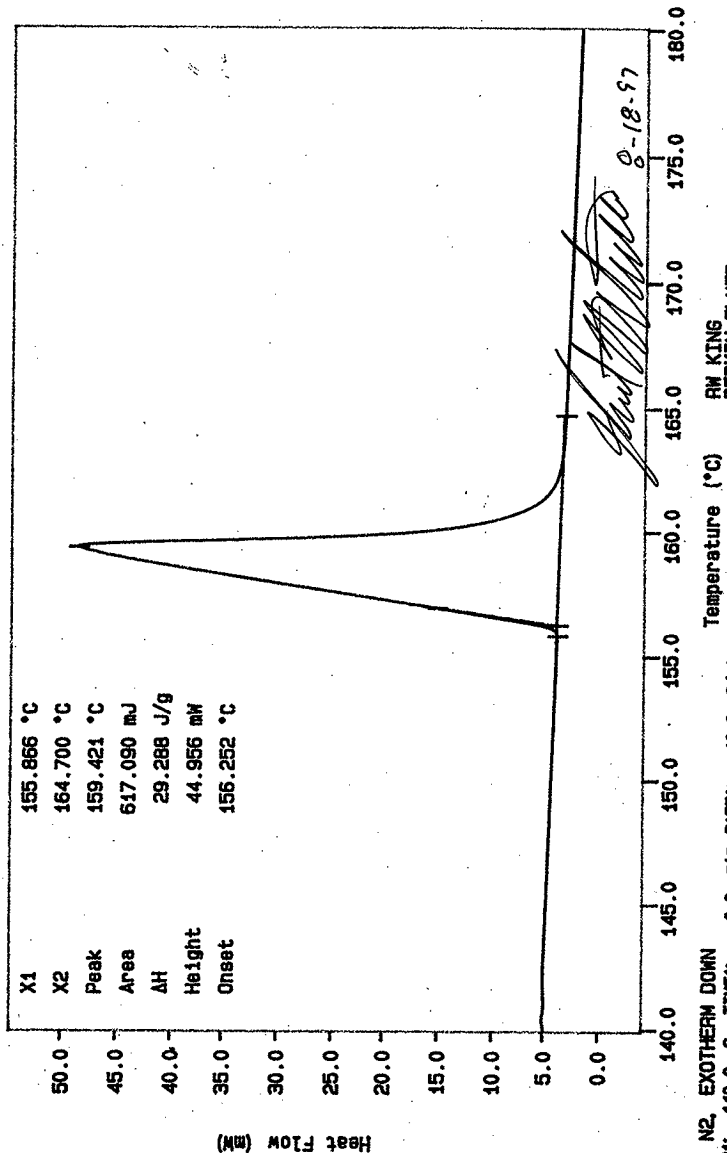
Data Entry Comments:

High RPD 597T001779 due to sample inhomogeneities. Rerun only at customer request. JB 8/22/97

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

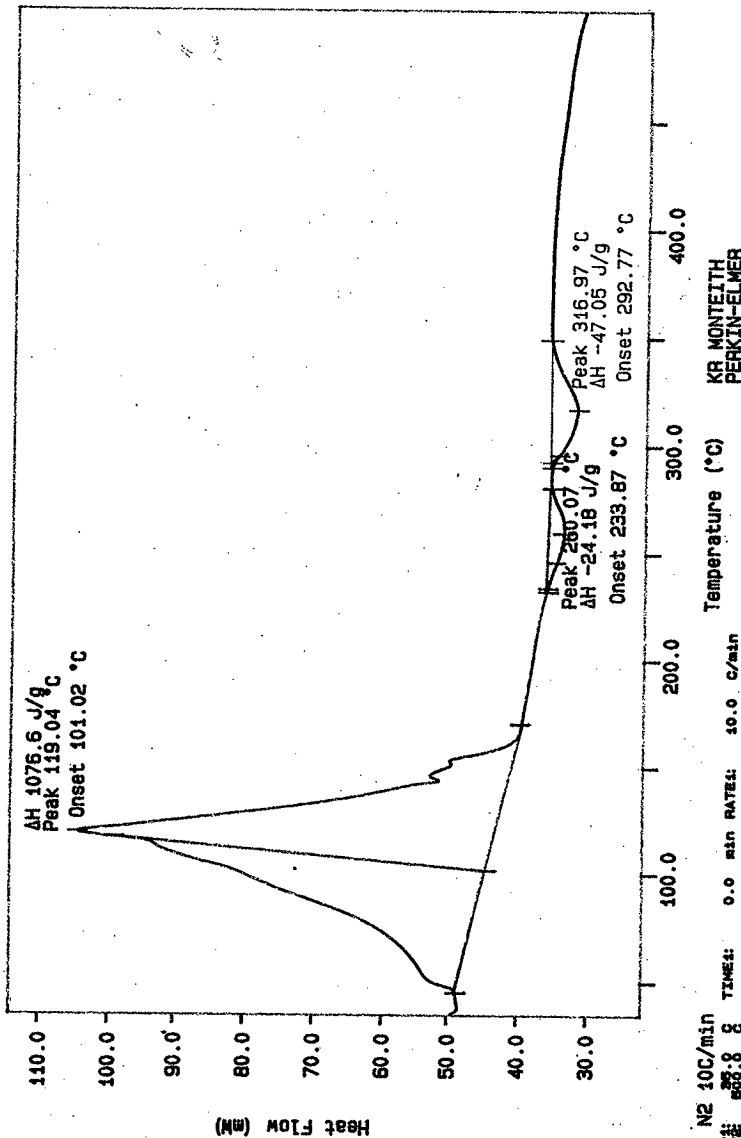
Curve 1: DSC
 File Info: IN0081801 Mon Aug 18 07:08:35 1997
 Sample Weight: 21.070 mg
 12N14-B

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 93 TO 97.



N2, EXOTHERM DOWN
 THERM 148.8 °C
 0.0 min RATE: 10.0 C/min
 RM KING
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Mon Aug 18 19:51:42 1997

Curve 1: DSC
 File Info: SAM081808 Mon Aug 18 19:34:24 1997
 Sample Weight: 14.800 mg
 S97T001778



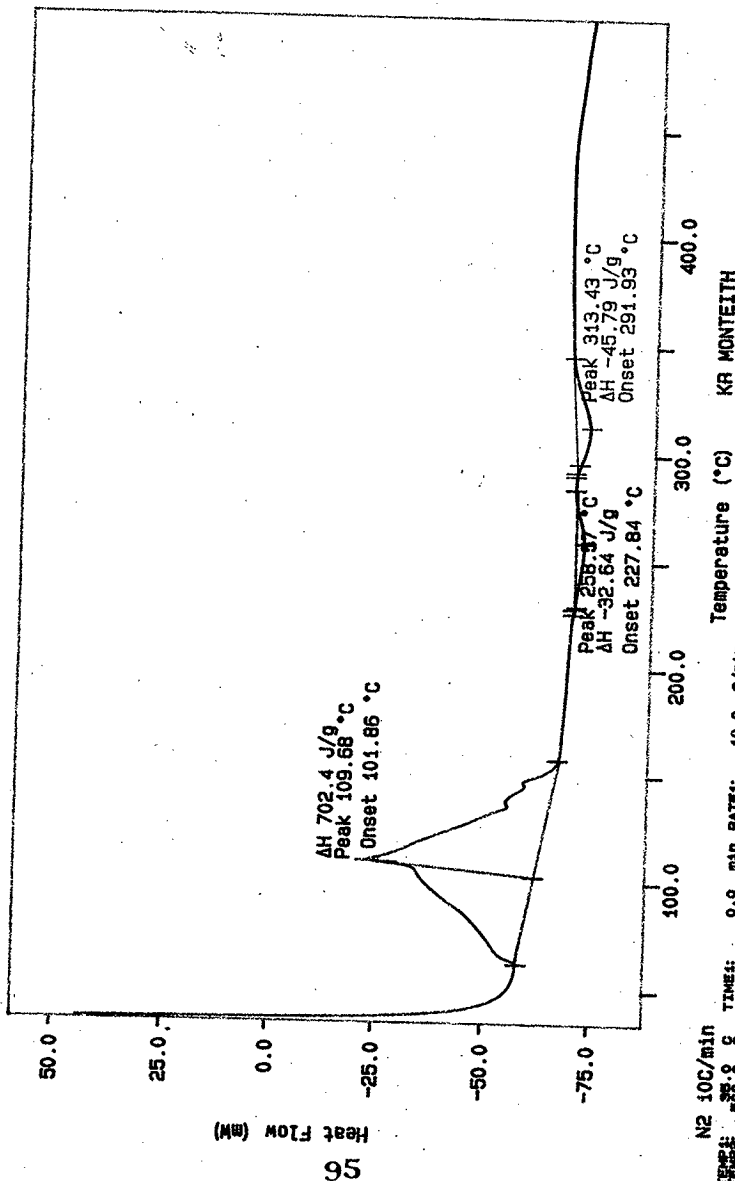
KR MONTEITH
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Fri Aug 22 11:27:09 1997

Curve 1: DSC

File info: SA0081809 Mon Aug 18 20:24:27 1997

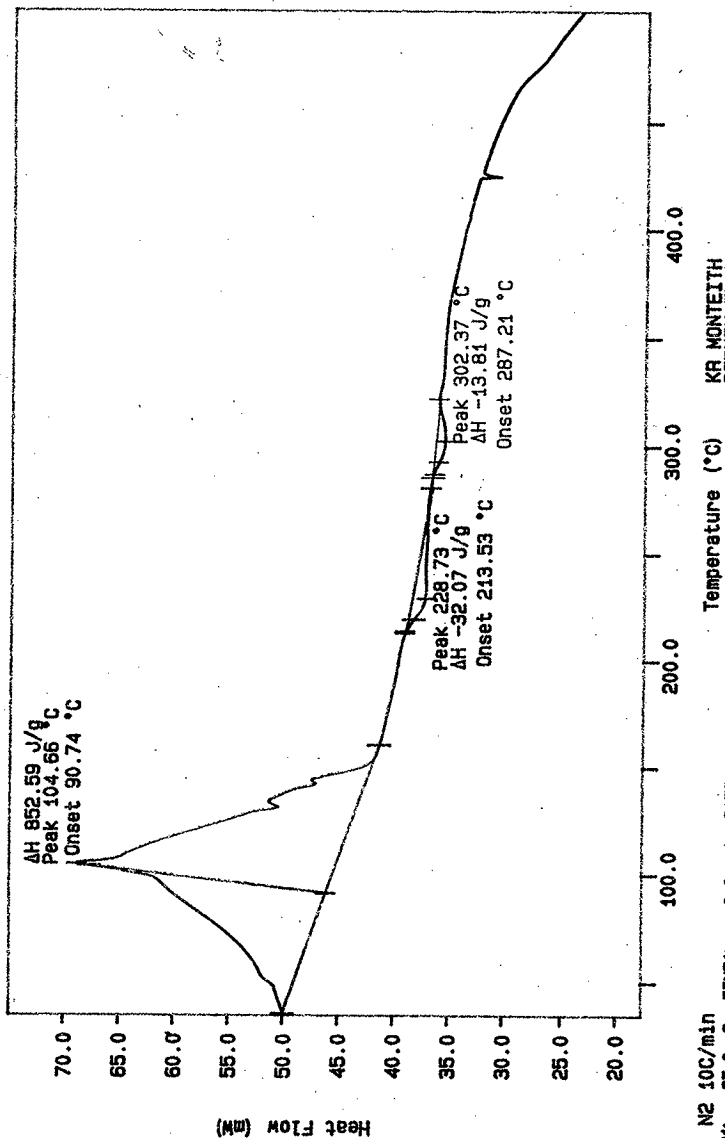
Sample Weight: 12.810 mg

S97T001778 DUP



KR MONTEITH
PERKIN-ELMER
7 Series Thermal Analysis System
Fri Aug 22 11:29:39 1997

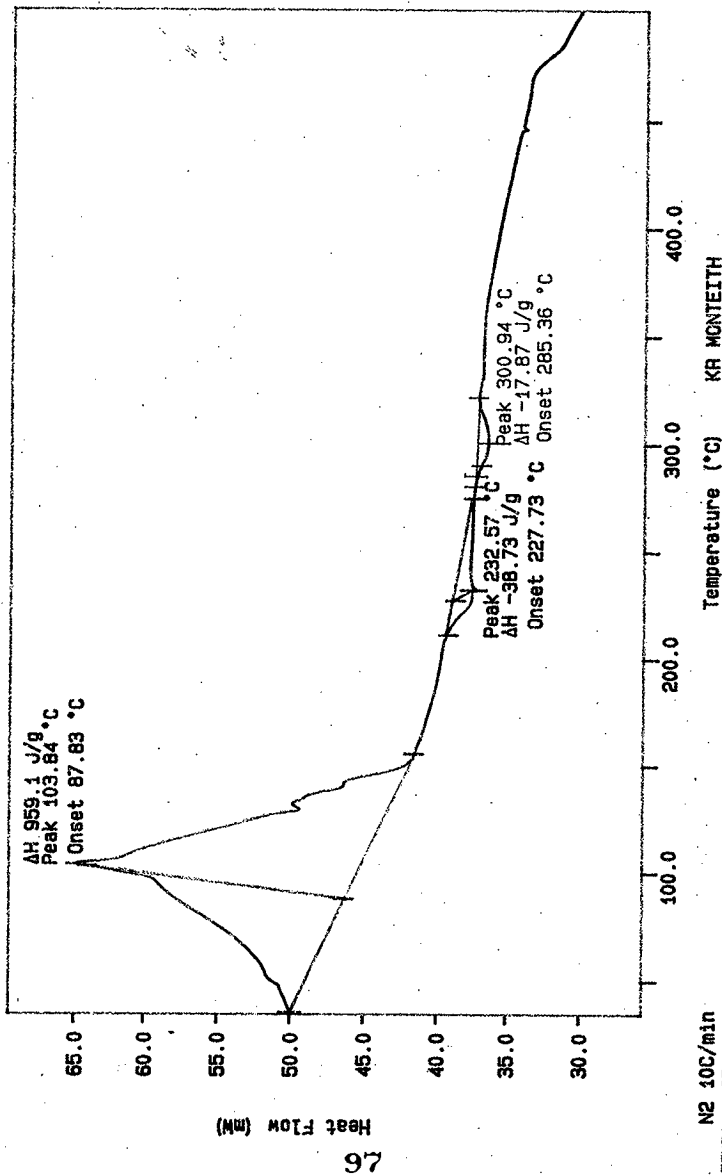
Curve 1: DSC
 File info: SAM081810 Mon Aug 18 22:09:10 1997
 Sample Weight: 7.500 mg
 S97T004779



KR MONTEITH
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Fri Aug 22 11:32:15 1997

N2 10C/min
 TEMPERATURE 35.0 °C
 TIME: 0.0 min RATE: 10.0 C/min

Curve 1: DSC
 File Info: SAM081811 Mon Aug 18 23:14:52 1997
 Sample Weight: 5.640 mg
 S97T001779 DUP



KR MONTEITH
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Fri Aug 22 11:34:54 1997

N2 10C/min
 TEMPERATURE 35.8 °C
 TIME: 0.0 min RATE: 10.0 C/min

LABCORE Data Entry Template for Worklist# 19486

Analyst: JS Instrument: DSC0 3 Book # 12N14B

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

Worklist Comment: AP-105 DSC, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-03	SOLID	<u>20.45</u>	<u>29.13*</u>	<u>N/A</u>	Joules/g
97000478	AP-105 (P)	2 SAMPLE	S97T001780	0	DSC-03	SOLID	<u>N/A</u>	<u>17.15</u>		Joules/g *
97000478	AP-105 (P)	3 DUP	S97T001780	0	DSC-03	SOLID	<u>17.15</u>	<u>0</u>	<u>N/A</u>	Joules/g
97000478	AP-105 (P)	4 SAMPLE	S97T001781	0	DSC-03	SOLID	<u>N/A</u>	<u>10.21</u>		Joules/g
97000478	AP-105 (P)	5 DUP	S97T001781	0	DSC-03	SOLID	<u>10.21</u>	<u>7.98</u>	<u>N/A</u>	Joules/g *

Final page for worklist # 19486

JS 8/20/97
Analyst Signature Date

Frank Munk 8-23-97
Analyst Signature Date

Validated/Rejected 8/25/97 BB McClery

* QC Dup exceeds UCL

Data Entry Comments:

High RPD S97T001780 due to instrument response. Rerun sample. BB 8/22/97

High RPD S97T001781 due to sample inhomogeneities. Rerun only at customer request. BB 8/22/97

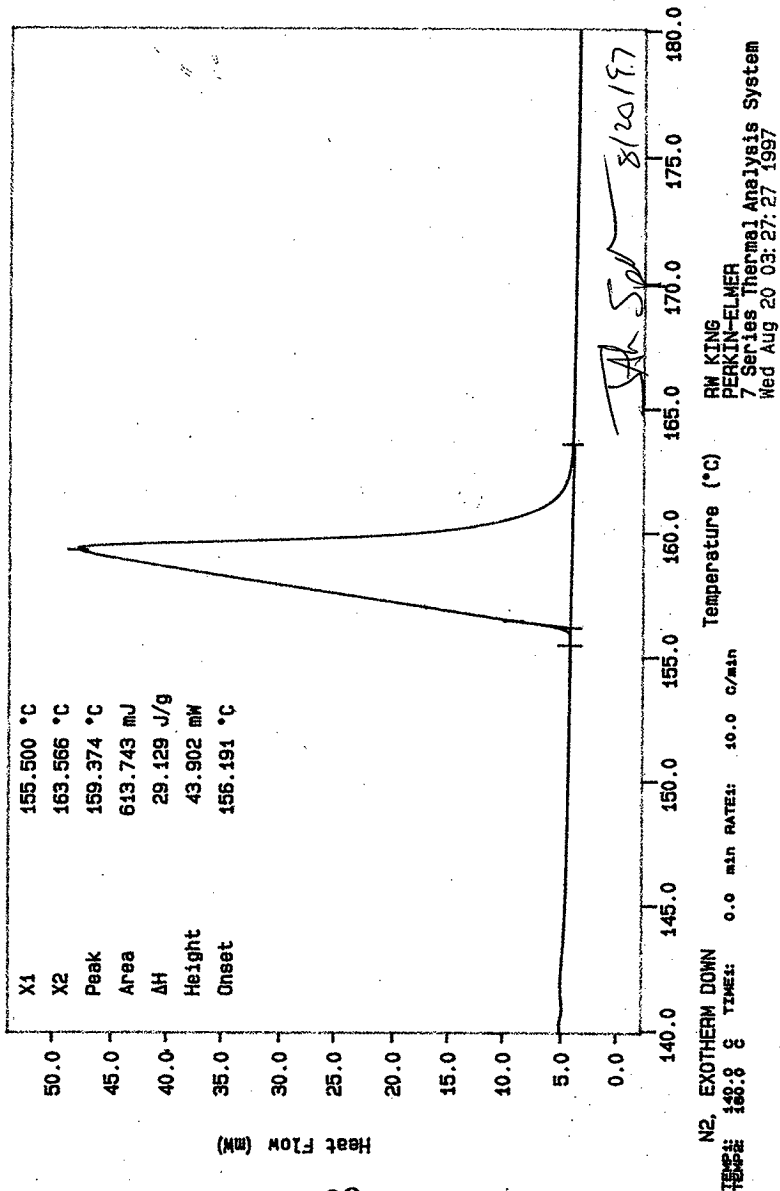
Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

Curve 1: DSC

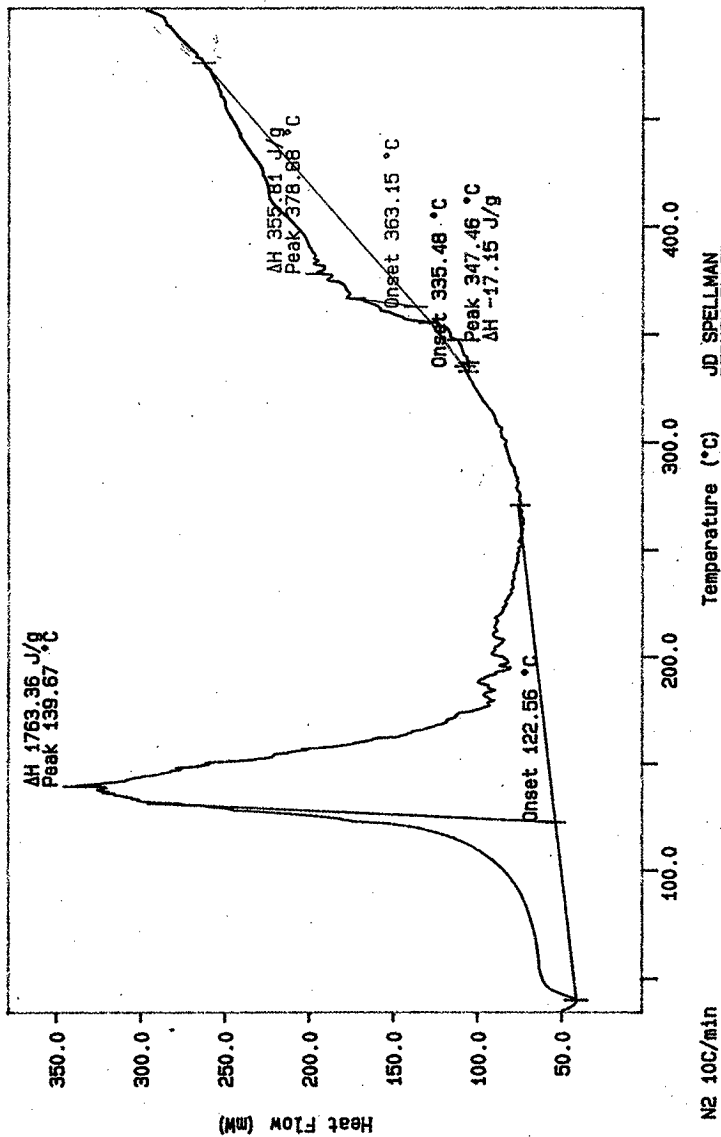
File Info: IN0081901 Tue Aug 19 06:59:12 1997

Sample Weight: 21.070 mg

12N14-B

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 99 TO 103

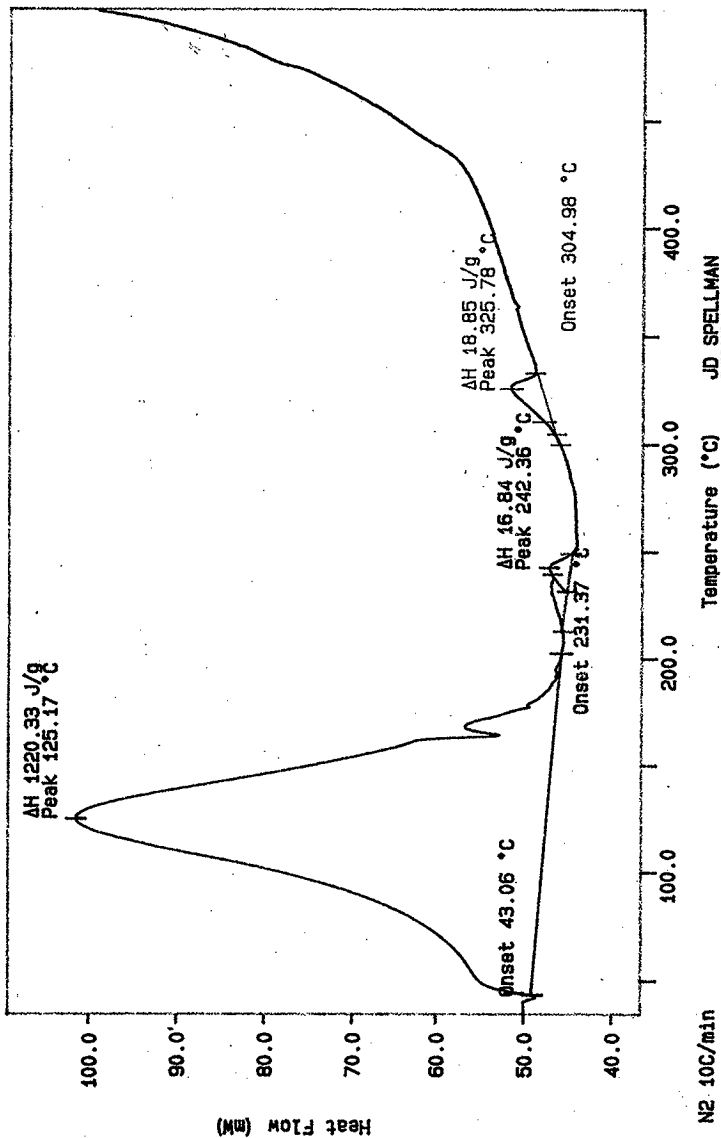
Curve 1: DSC
File Info: SAM082001 Wed Aug 20 04: 04: 48 1997
Sample Weight: 43.440 mg
S97T001780



JD SPELLMAN
PERKIN-ELMER
7 Series Thermal Analysis System
Wed Aug 20 04: 54: 37 1997

N2 10C/min
TIME: 0.0 min RATE: 10.0 C/min

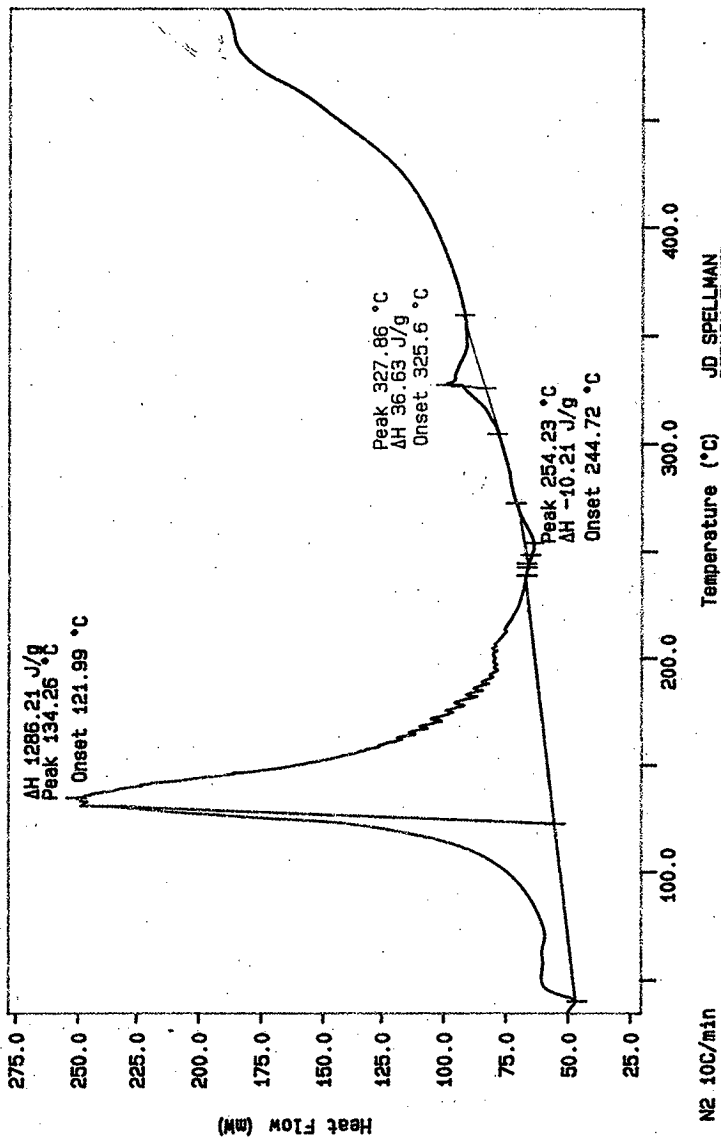
Curve 1: DSC
File Info: SAM082002 Wed Aug 20 05:49:45 1997
Sample Weight: 16.580 mg
S97T001780DUP



N2 10C/min
TEMP: 35.8 °C
TIME: 0.0 min RATE: 10.0 C/min

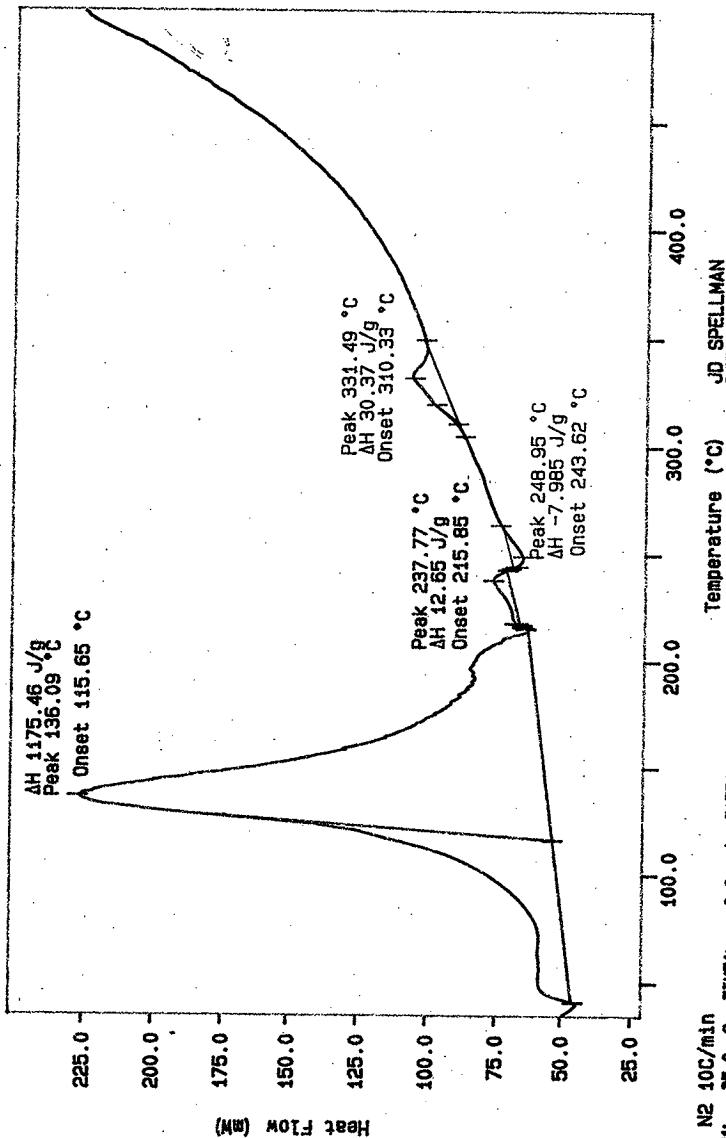
JD SPELLMAN
PERKIN-ELMER
7 Series Thermal Analysis System
Wed Aug 20 07:16:52 1997

Curve 1: DSC
 File Info: SAM081907 Tue Aug 19 22:51:31 1997
 Sample Weight: 39.110 mg
 S97T001781



N2 10C/min
 TIME: 0.0 min RATE: 10.0 C/min
 JD SPELLMAN
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Fri Aug 22 11:13:32 1997

Curve 1: DSC
 File info: SAN081908 Wed Aug 20 00:37:54 1997
 Sample Weight: 41.280 mg
 S97T001784DUP



JD SPELLMAN
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Fri Aug 22 11:20:43 1997

N2 10C/min
 TIME: 35.8 s
 RATE: 0.0 min RATE: 10.0 C/min

LABCORE Data Entry Template for Worklist# 19487Analyst: ADP Instrument: DSC0 3 Book # 12N14BMethod: LA-514-114 Rev/Mod D-1

Worklist Comment: AP-105 DSC, RUN UNDER N2. RCJ

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				DSC-03	SOLID	<u>28.45</u>	<u>27.97*</u>	<u>N/A</u>	Joules/g
97000478	AP-105 (P)	2	SAMPLE	S97T001782	0		DSC-03	SOLID	<u>N/A</u>	<u>0</u>		Joules/g
97000478	AP-105 (P)	3	DUP	S97T001782	0		DSC-03	SOLID	<u>0</u>	<u>0</u>	<u>N/A</u>	Joules/g

Final page for worklist # 19487

Anthony P. Smith 8-23-97
 Analyst Signature Date

St. Peter 8-25-97
 Analyst Signature Date

Data Entry Comments:

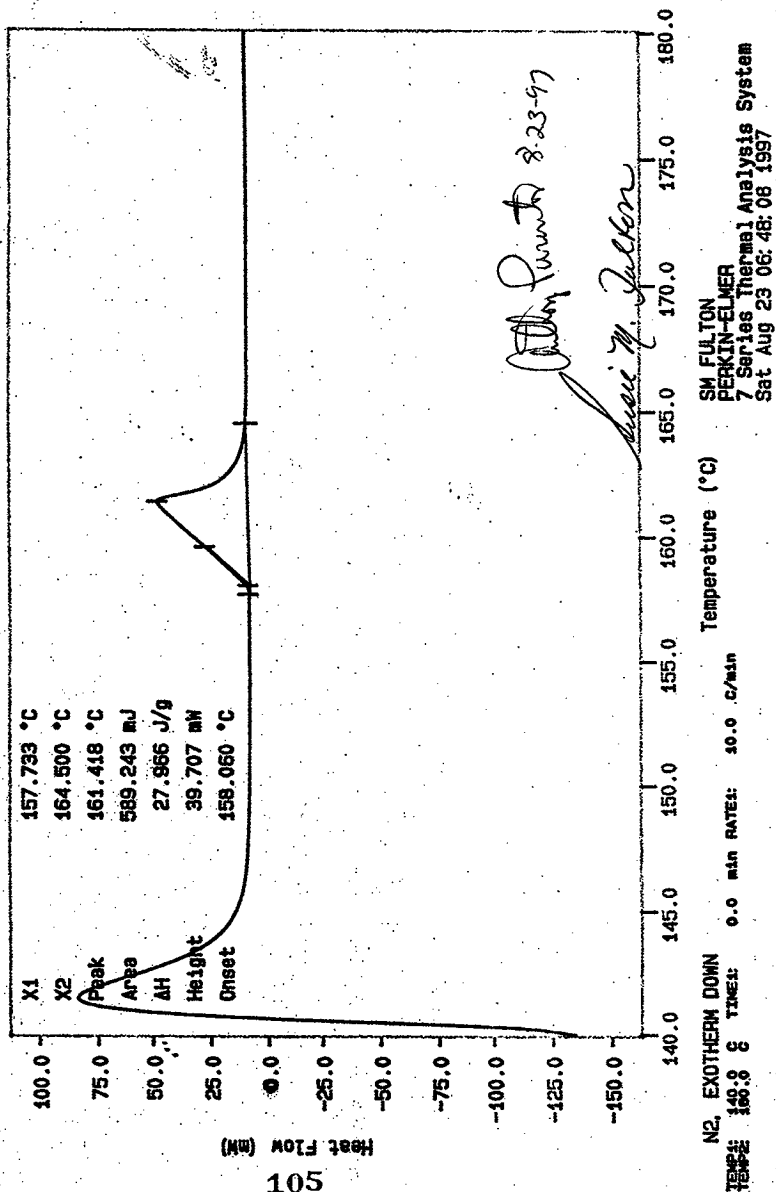
Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
 R = Replicate Number, A = Aliquot Code.

Curve 1: DSC

File Info: IN0082301 Sat Aug 23 06:40:36 1997

Sample Weight: 21.070 mg

12N14-B

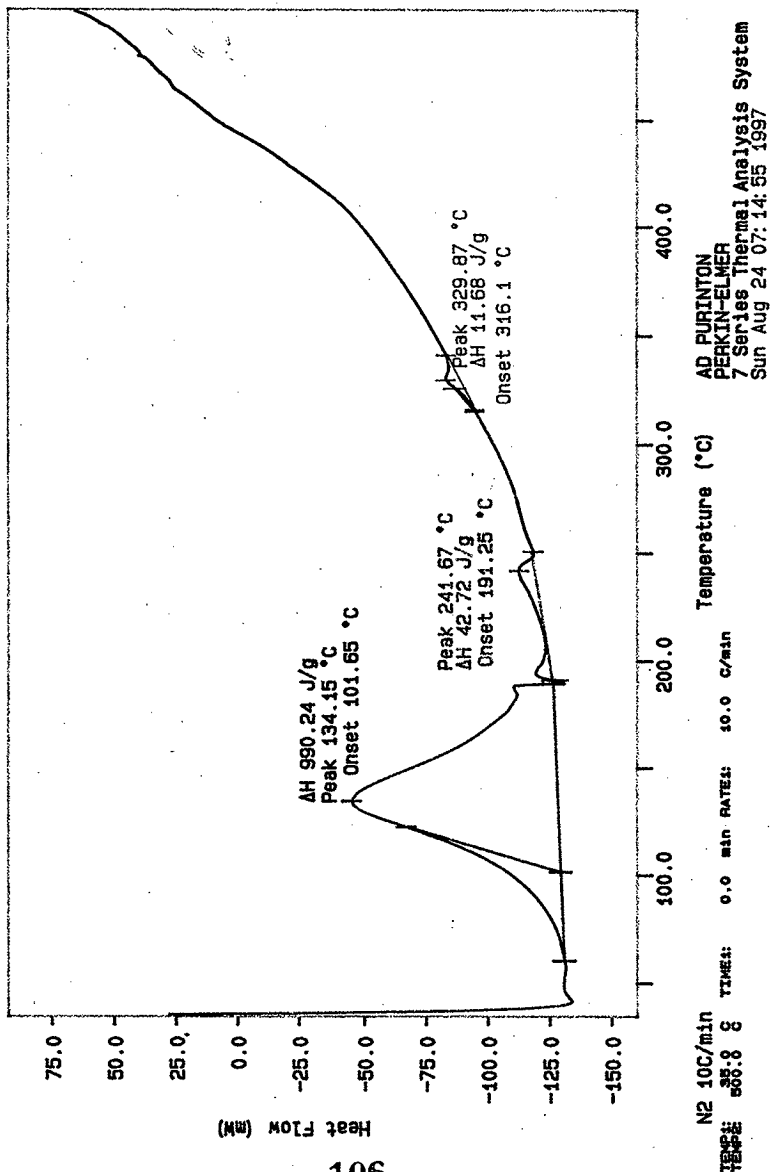
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 102 TO 107.

Curve 1: DSC

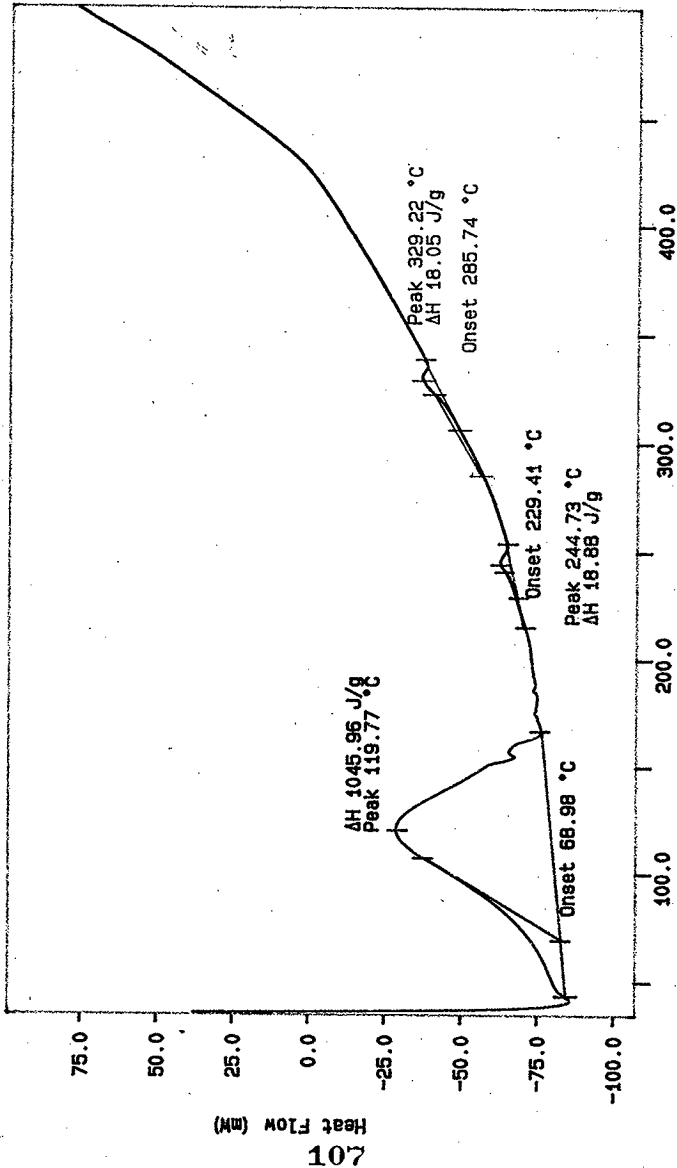
File Info: SAM082309 Sun Aug 24 01:59:49 1997

Sample Weight: 25.980 mg

S97T001782 SAM



Curve 1: DSC
 File Info: SAM082310 Sun Aug 24 03:08:26 1997
 Sample Weight: 16.890 mg
 S97T001782 DUP



N2 10C/min
 TEMPERATURE 38.9 °C
 TIME 500.9 s
 RATE 10.0 C/min
 AD. PURINTON
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Aug 24 07:10:23 1997

LABCORE Data Entry Template for Worklist# 19545

Analyst: R/K Instrument: DSC0 3 Book # 127148

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

Worklist Comment: AP-105 DSC, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-03	LIQUID	<u>28.45</u>	<u>28.94</u>	<u>N/A</u>	Joules/g
97000478	AP-105 (P)	2 SAMPLE	S97T001761	0	DSC-03	LIQUID	<u>N/A</u>	<u>0</u>		Joules/g
97000478	AP-105 (P)	3 DUP	S97T001761	0	DSC-03	LIQUID	<u>0</u>	<u>0</u>	<u>N/A</u>	Joules/g
97000479	AP-105 (P)	4 SAMPLE	S97T001762	0	DSC-03	LIQUID	<u>N/A</u>	<u>0</u>		Joules/g
97000479	AP-105 (P)	5 DUP	S97T001762	0	DSC-03	LIQUID	<u>0</u>	<u>0</u>	<u>N/A</u>	Joules/g

Final page for worklist # 19545

Nof/Kinn 8/19/97
Analyst Signature Date

Tim Mub 8-22-97
Analyst Signature Date

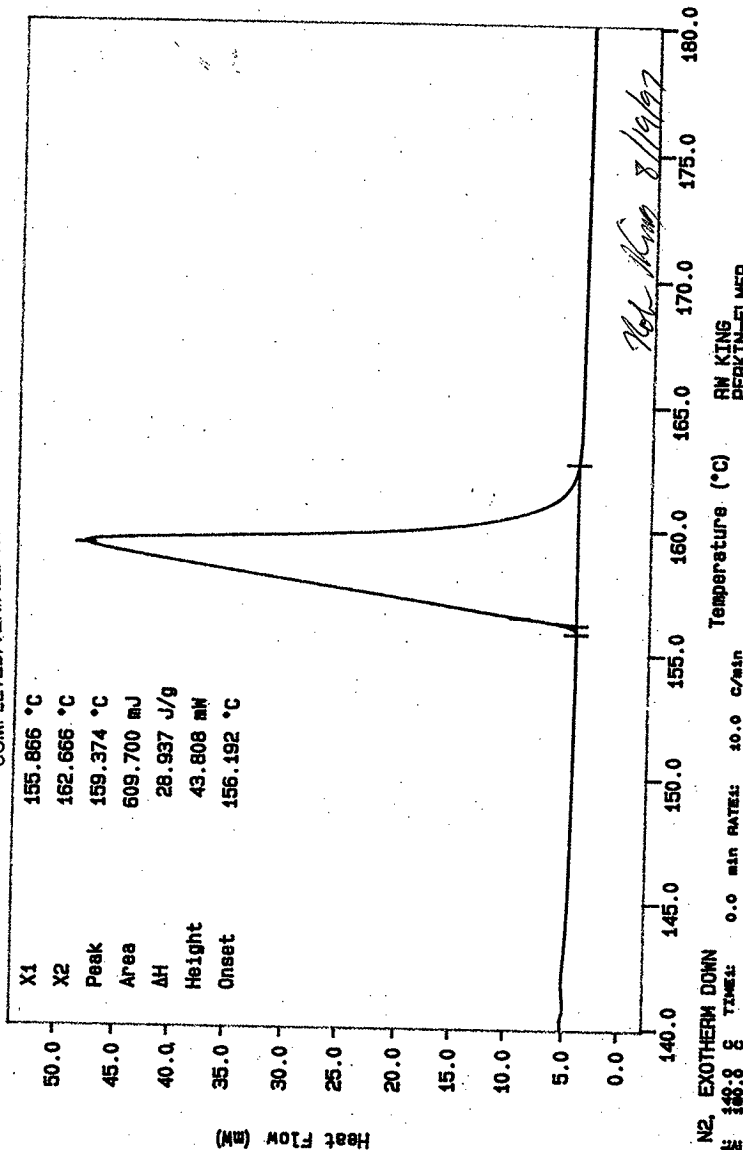
Validated 8/25/97 Rachelor

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: IND081901 Tue Aug 19 06:59:12 1997
 Sample Weight: 21.070 mg
 12N14-B

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 109 TO 112.



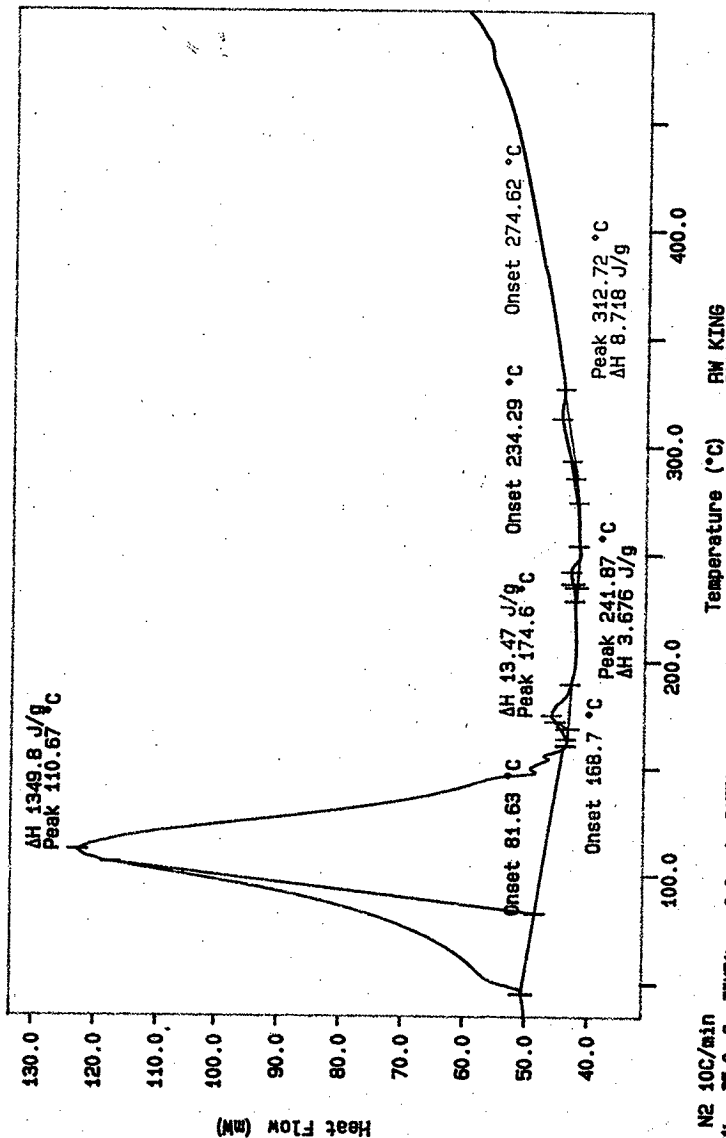
RM KING
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Tue Aug 19 07:00:46 1997

Curve 1: DSC

File Info: SAK081901 Tue Aug 19 08:00:08 1997

Sample Weight: 15.420 mg

S97T001751



N2 100/min

TEMP: 250.8 °C

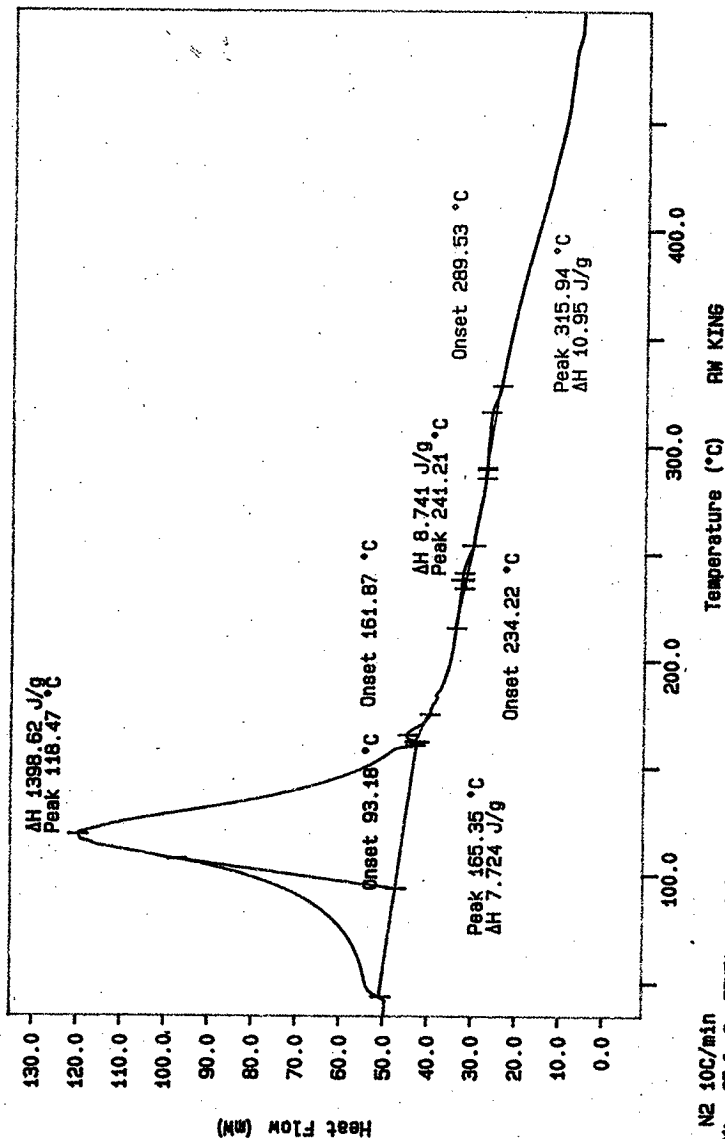
TIME: 0.0 min RATE: 10.0 °C/min

Temperature (°C)

RM KING
PERKIN-ELMER

7 Series Thermal Analysis System
Tue Aug 19 09:29:30 1997

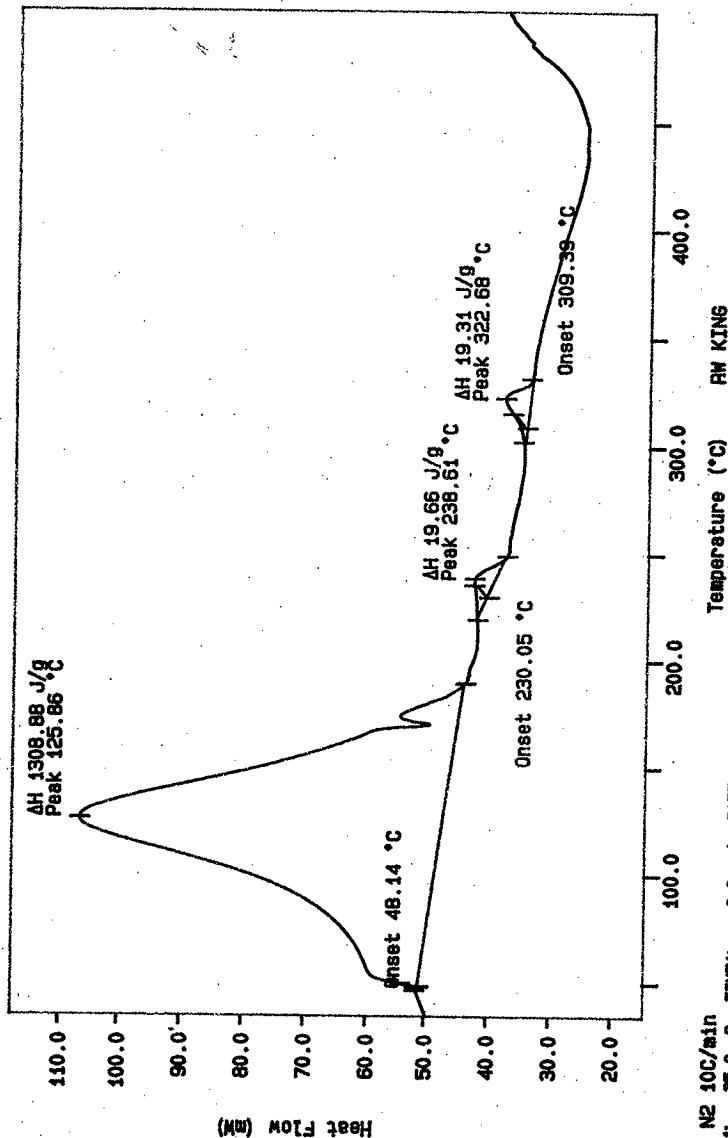
Curve 1: DSC
 File Info: SA081902 Tue Aug 19 10:56:09 1997
 Sample Weight: 13.190 mg
 S97T001761 DUP



RM KING
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Tue Aug 19 11:06:42 1997

N2 10C/min
 TEMP: 35.8 °C
 TIME: 55.8 s
 RATE: 0.0 min RATE: 10.0 C/min

Curve 1: DSC
 File info: SAM081903 Tue Aug 19 11:48:47 1997
 Sample Weight: 16.570 mg
 S97T001762



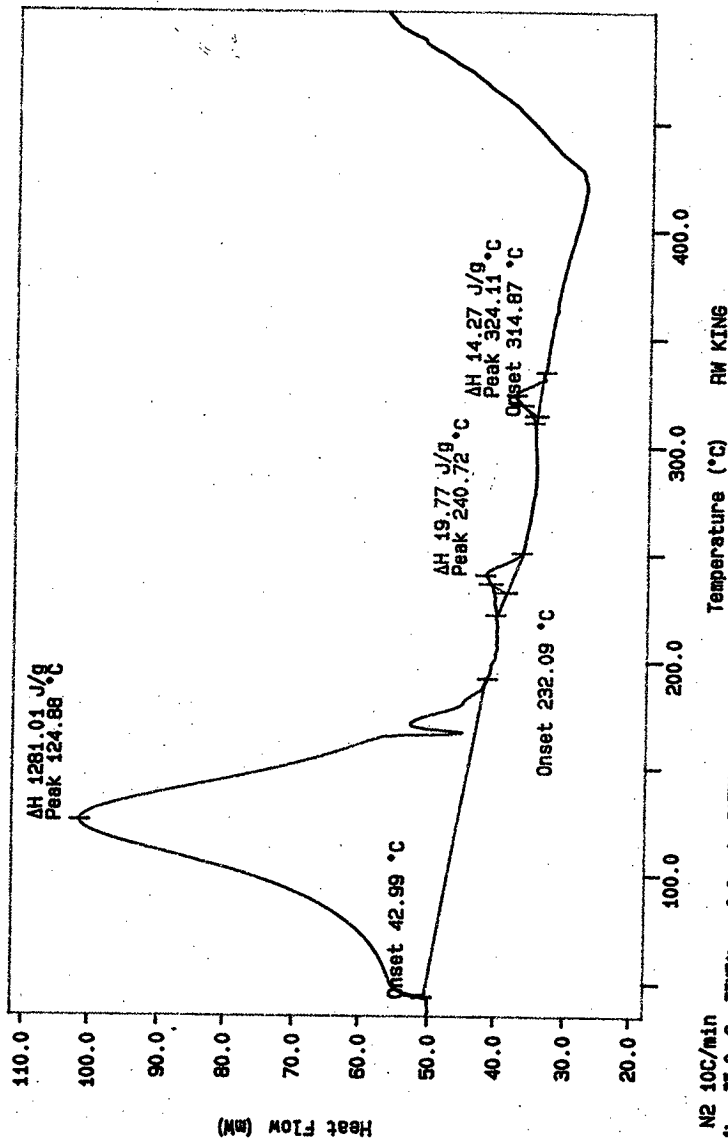
N2 10C/min
 TIME: 36.0 g
 RATE: 0.0 min RATE: 10.0 C/min
 RM KING
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Tue Aug 19 13:02:27 1997

Curve 1: DSC

File info: SA0081904 Tue Aug 19 13:44:52 1997

Sample Weight: 15.750 mg

S977001762 DUP



N2 10C/min

TIME: 200.8 s

RATE: 0.0 min RATE: 10.0 C/min

Temperature (°C)

RM KING
PERKIN-ELMER7 Series Thermal Analysis System
Tue Aug 19 13:50:11 1997

LABCORE Completed Worklist Report for Worklist# 19547

Analyst: rwk

Instrument: DSC03

Book# 12N14B

Method: LA-S14-114 Rev/Mod D-1

Worklist Comment: AP-105 DSC, RUN UNDER N2. RCJ

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD		0	DSC-03	SOLID	28.45	28.88	101.511 % Recovery	
2 SAMPLE	S97T001783	0	DSC-03	SOLID	N/A	90.46	Joules/g	
3 DUP	S97T001783	0	DSC-03	SOLID	90.46	50.96	55.862 RPD	
4 SAMPLE	S97T001784	0	DSC-03	SOLID	N/A	86.09	Joules/g	
5 DUP	S97T001784	0	DSC-03	SOLID	86.09	49.04	54.826 RPD	
6 TRIPL	S97T001784	0	DSC-03	SOLID	86.09	73.45	15.846 RPD	

Comments Section:

Comments for sample# S97T001783 and test DSC-03

HIGH RPD'S DUE TO SAMPLE INHOMOGENEITIES. RERUN ONLY AT CUSTOMER REQUEST. lcm

Comments for sample# S97T001784 and test DSC-03

HIGH RPD'S DUE TO SAMPLE INHOMOGENEITIES. RERUN ONLY AT CUSTOMER REQUEST. PPB

Final page for worklist# 19547

See Attached for Signatures
Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Paula S. Pacheco
Reviewer Signature _____ Date 8/25/97

LABCORE Data Entry Template for Worklist# 19547

Analyst: MA Instrument: DSC0 3 Book # 127148

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

Worklist Comment: AP-105 DSC, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-03	SOLID	<u>28.45</u>	<u>28.88</u>	N/A	Joules/g
97000479	AP-105 (P)	2 SAMPLE	S97T001783	0	DSC-03	SOLID	N/A	<u>90.46</u>	<u>8/28/97</u>	Joules/g
97000479	AP-105 (P)	3 DUP	S97T001783	0	DSC-03	SOLID	<u>90.46</u>	<u>50.96</u>	<u>8/28/97</u>	Joules/g *
97000479	AP-105 (P)	4 SAMPLE	S97T001784	0	DSC-03	SOLID	N/A	<u>86.09</u>	N/A	Joules/g
97000479	AP-105 (P)	5 DUP	S97T001784	0	DSC-03	SOLID	<u>86.09</u>	<u>49.04</u>	N/A	Joules/g *
		6 TRIP	S97T001784	0	DSC-03	SOLID	<u>86.09</u>	<u>73.45</u>		

Final page for worklist # 19547

Not King 8/20/97
Analyst Signature Date

Frank Mark 8-22-97
Analyst Signature Date

* QC exceeds UCL

Data Entry Comments:

High RPDs (both samples) due to sample inhomogeneities. Rerun only at customer request. 8/22/97

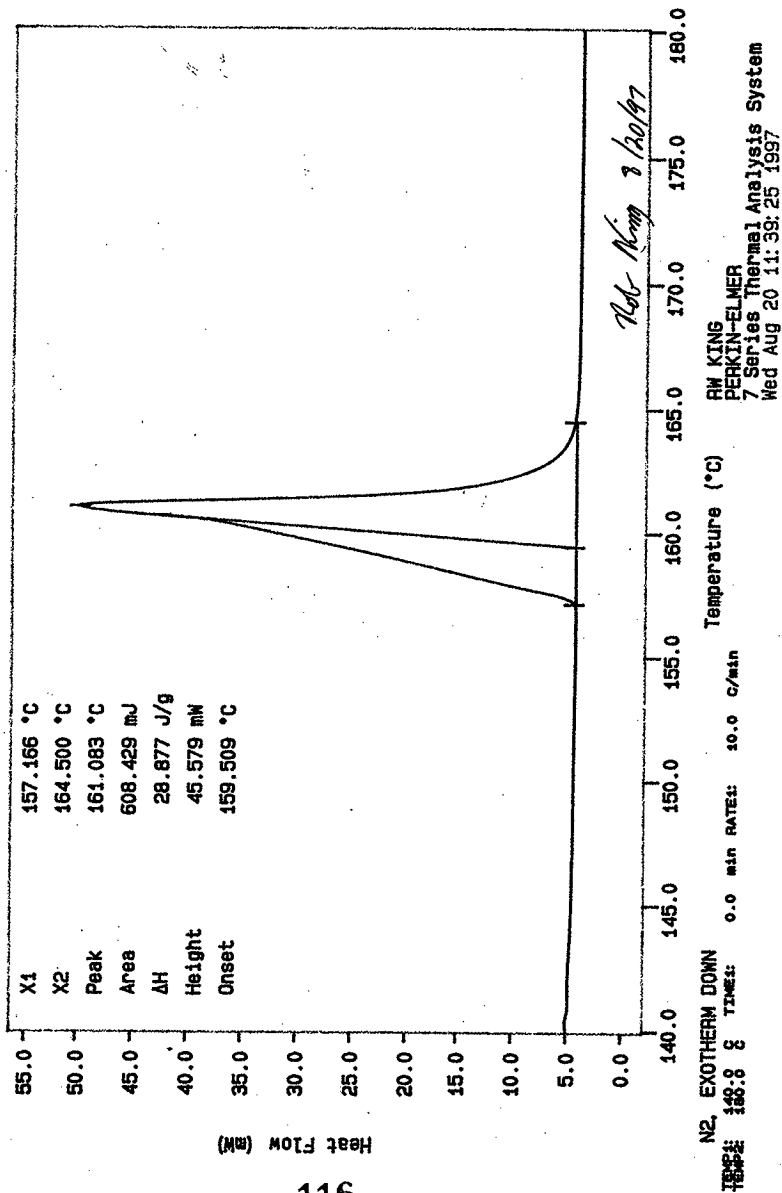
Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

Curve 1: DSC

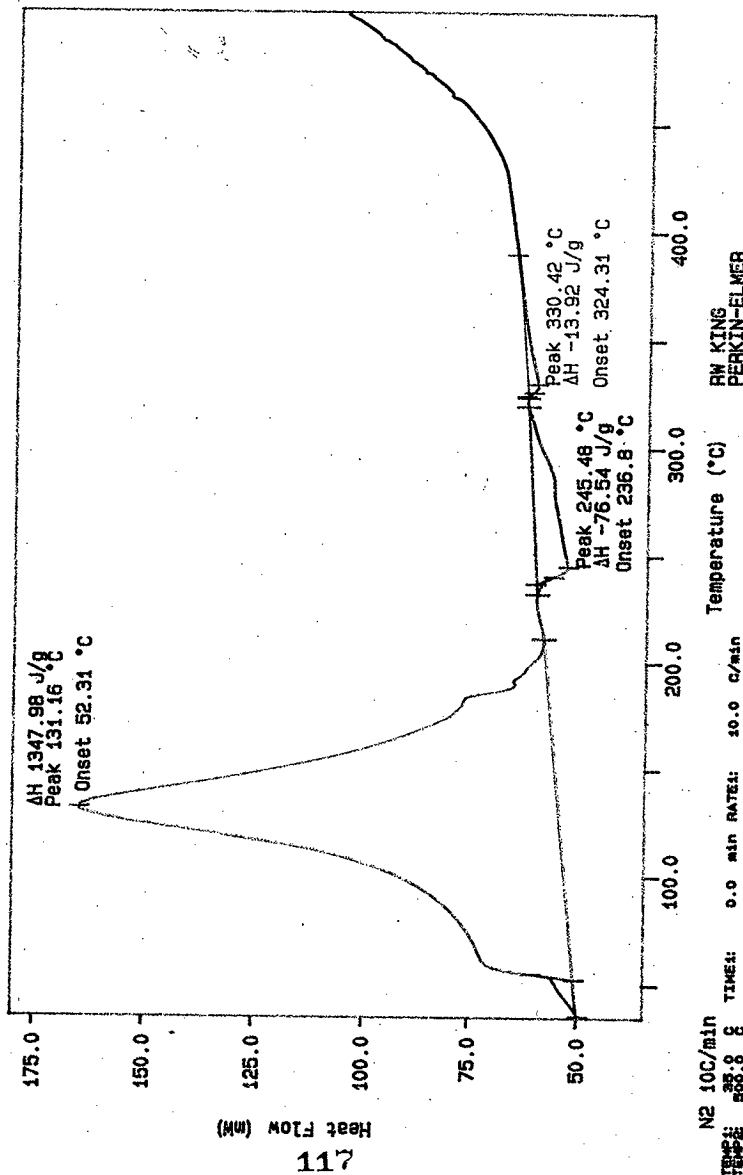
File Info: IND082002 Wed Aug 20 06:30:31 1997

Sample Weight: 21.070 mg

12N14-B

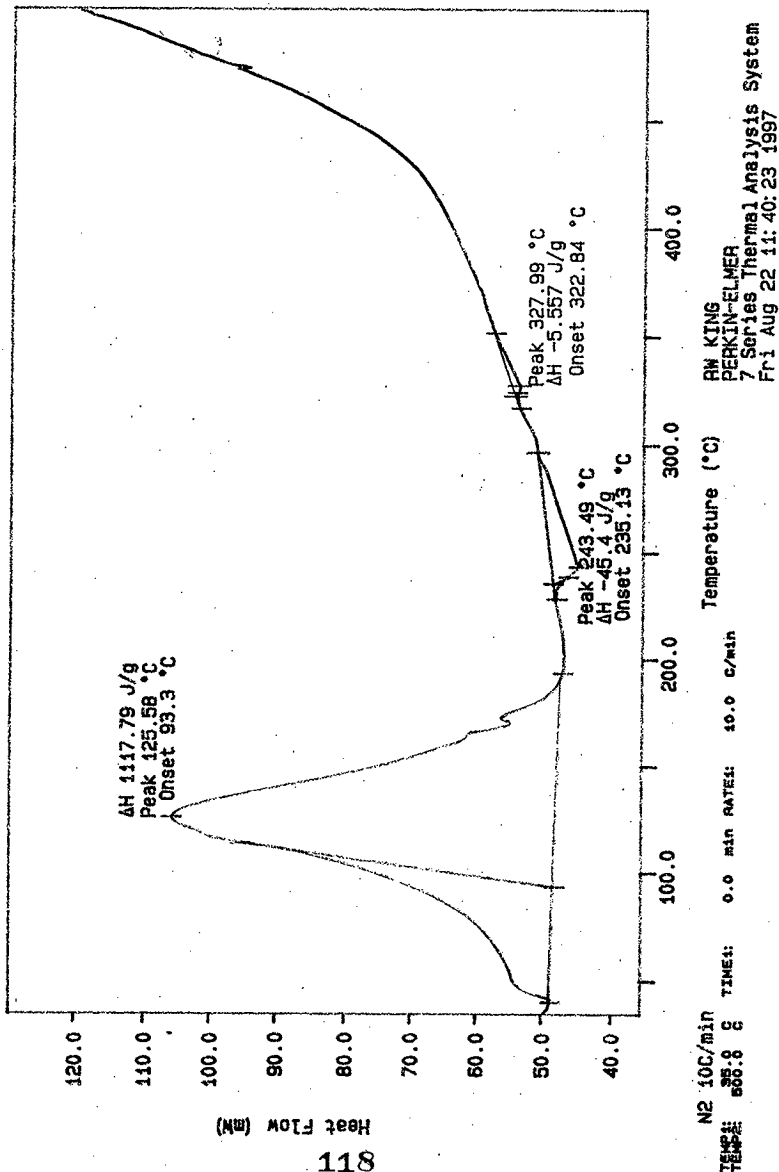
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 116 TO 121.

Curve 1: DSC
 File Info: SAH082010 Wed Aug 20 13:00:21 1997
 Sample Weight: 28.790 mg
 S97T001783

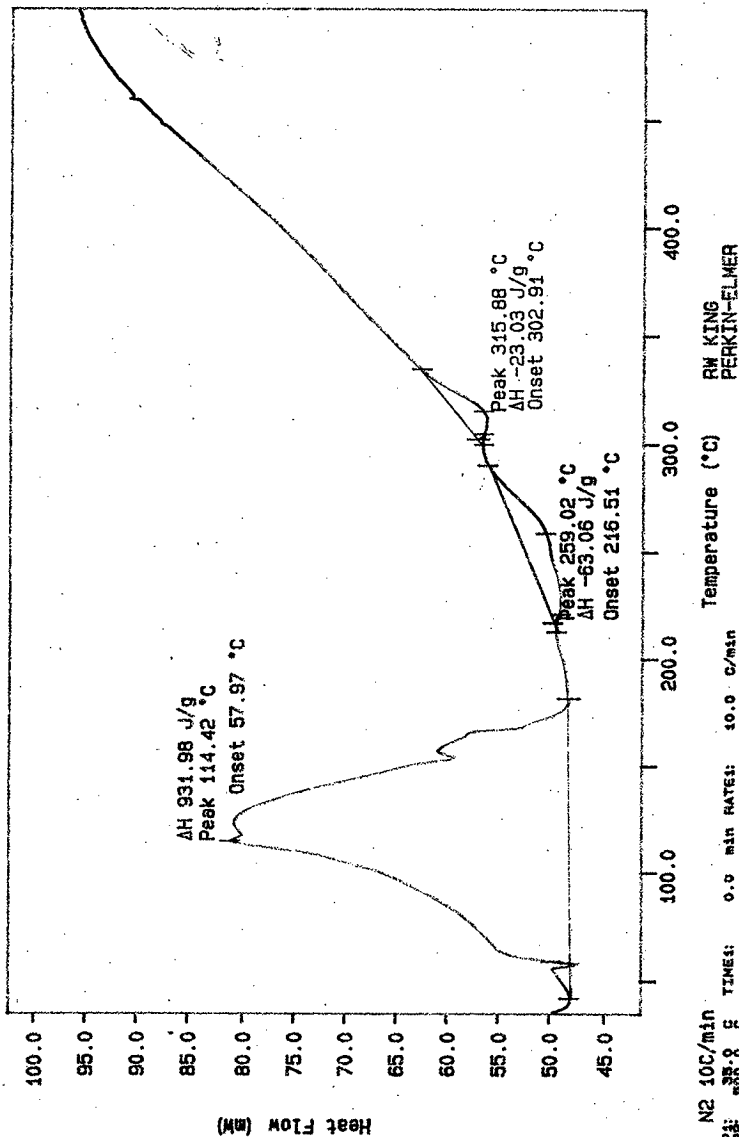


RW KING
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Fri Aug 22 11:37:50 1997

Curve 1: DSC
 File Info: SAM082011 Wed Aug 20 14:34:53 1997
 Sample Weight: 17.800 mg
 S97T001783 DUP



Curve 1: DSC
File info: SAM082012 Wed Aug 20 15:25:05 1997
Sample Weight: 12.900 mg
997T001784



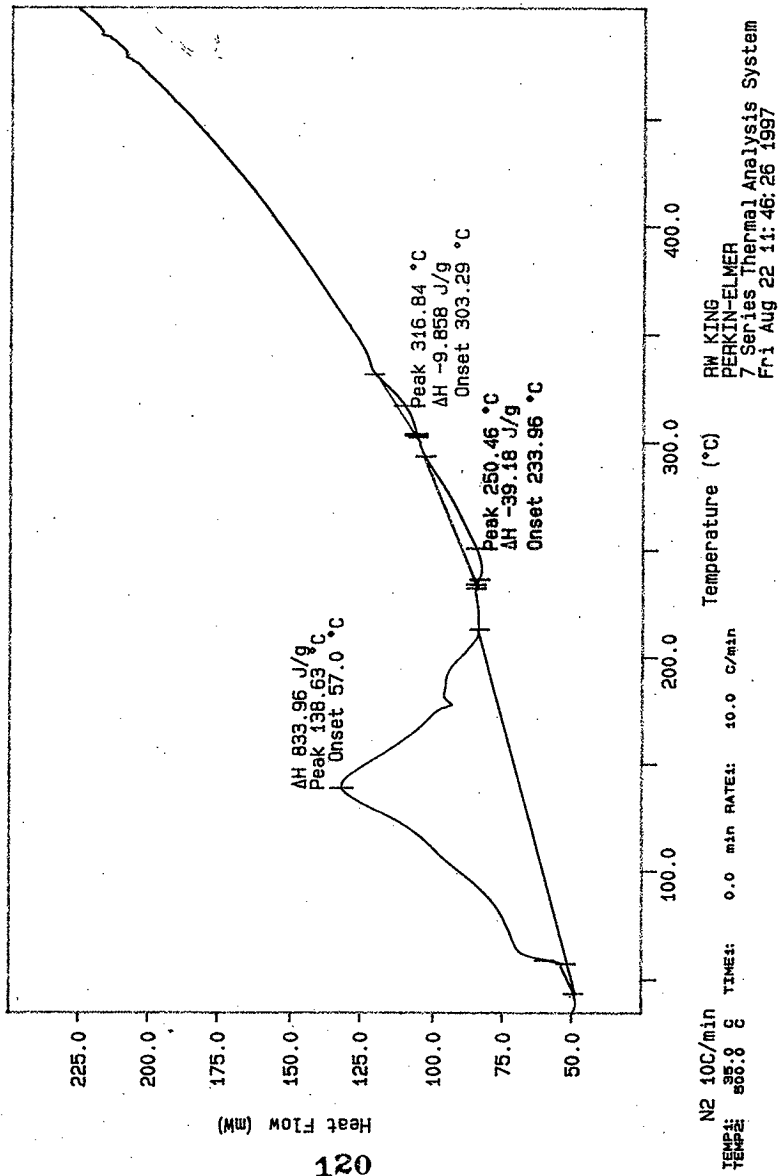
RH KING
PERKIN-ELMER
7 Series Thermal Analysis System
Fri Aug 22 11:43:09 1997

Curve 1: DSC

File info: SAM082013 Wed Aug 20 16:15:16 1997

Sample Weight: 32.870 mg

S97T001784 DUP

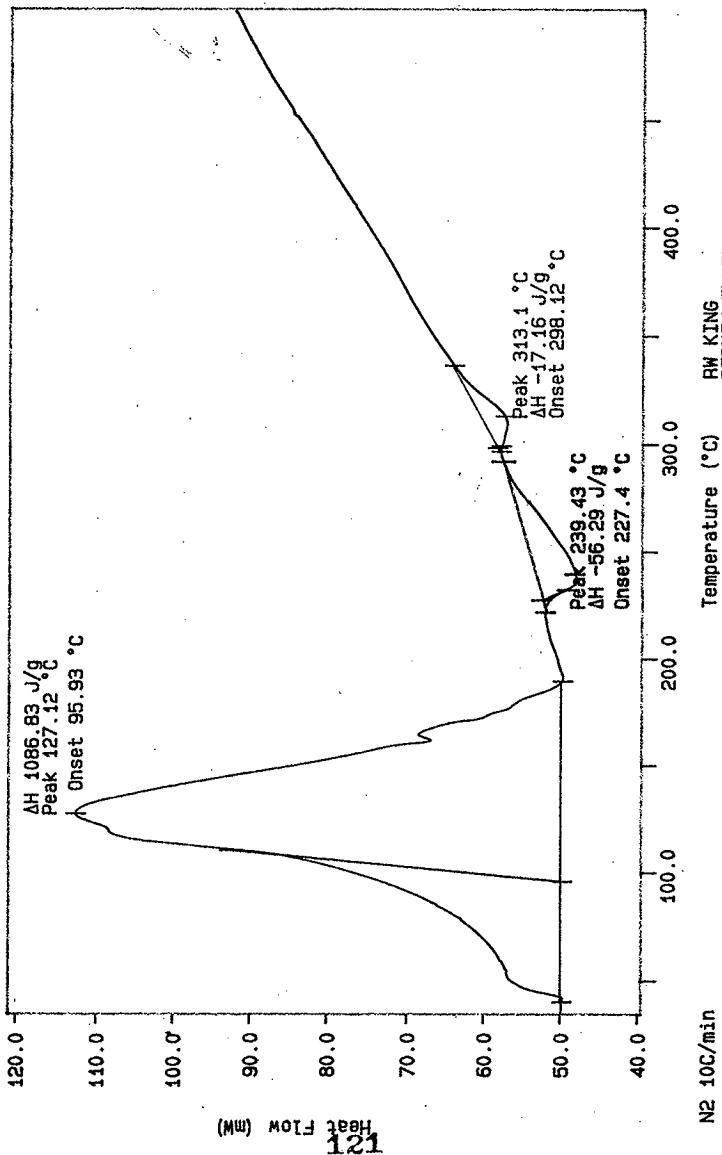


Curve 1: DSC

File info: SAM082014 Wed Aug 20 17:25:40 1997

Sample Weight: 20.500 mg

S97T001784 TRIP



N2 10C/min

TEMP 50.0 °C

TIME:

0.0 min RATE: 10.0 C/min

PERKIN-ELMER

7 Series Thermal Analysis System

Fr:1 Aug 22 11:48:58 1997

worklistpt Version 2.1 05/15/95
07/29/97 13:01

Page: 1

LABCORE Data Entry Template for Worklist# 19561

Analyst: Jds Instrument: DSC0 3 Book # 12N143Method: LA-514-114 Rev/Mod D-1

Worklist Comment: AP105, DSC-03. Run under Nitrogen. skm

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-03	LIQUID	<u>28.45</u>	<u>29.13</u>	<u>N/A</u>	Joules/g
97000455	AP-105 (P)	2 SAMPLE	S97T001689	0	DSC-03	LIQUID	<u>N/A</u>	<u>0</u>		Joules/g
97000455	AP-105 (P)	3 DUP	S97T001689	0	DSC-03	LIQUID	<u>0</u>	<u>0</u>	<u>N/A</u>	Joules/g

Final page for worklist# 19561

Analyst Signature

Date

Analyst Signature

Date

Data Entry Comments:

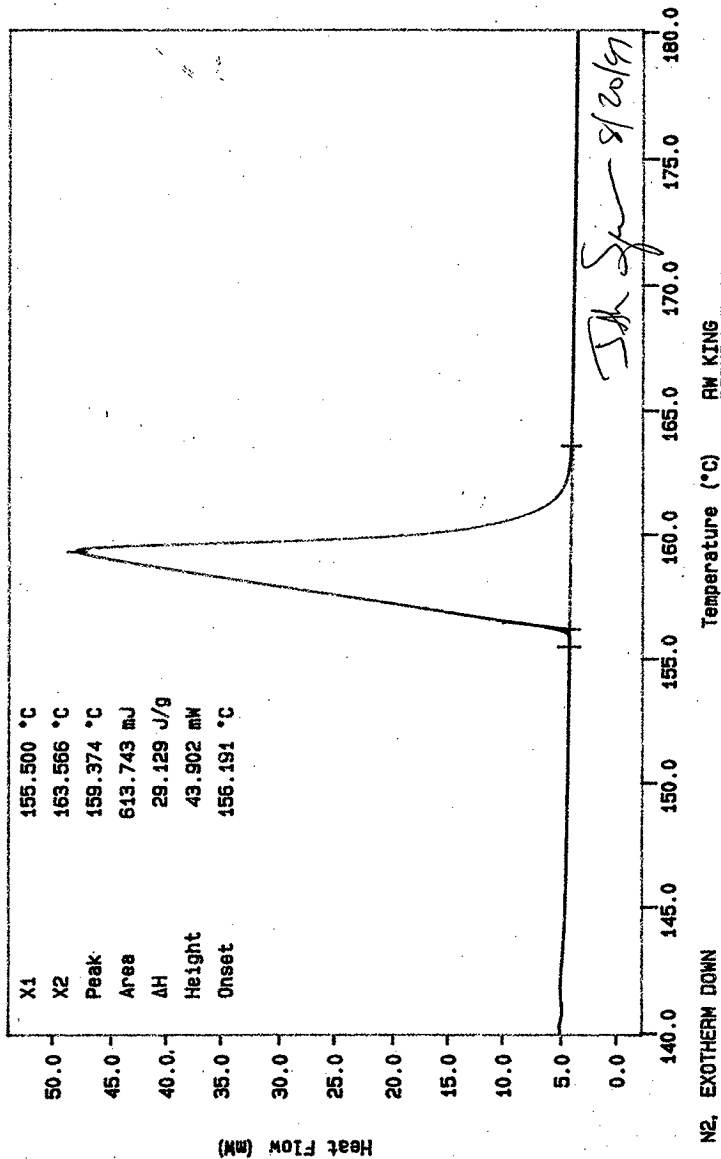
Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

Curve 1: DSC

File Info: IND081901 Tue Aug 19 06:59:12 1997

Sample Weight: 21.070 mg

12N14-B

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 122 TO 125.

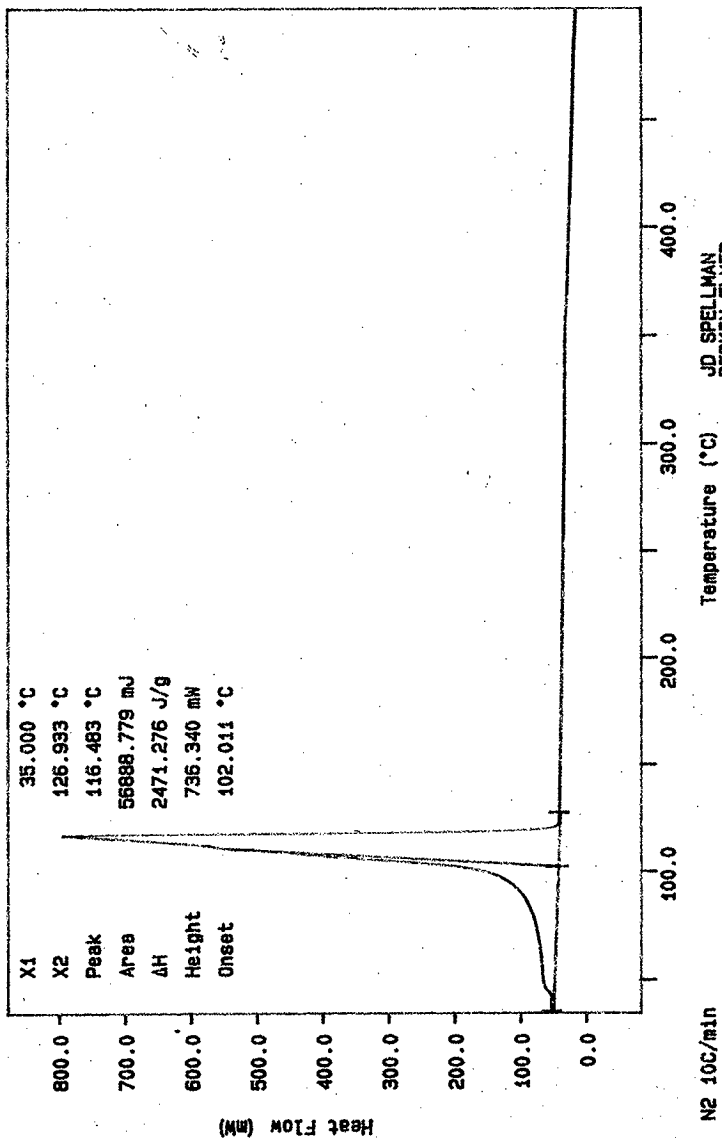
N2, EXOTHERM DOWN

TEMP: 163.8 °C TIME: 0.0 min RATE: 10.0 °C/min

Temperature (°C)

RM KING
PERKIN-ELMER7 Series Thermal Analysis System
Tue Aug 19 18:59:34 1997

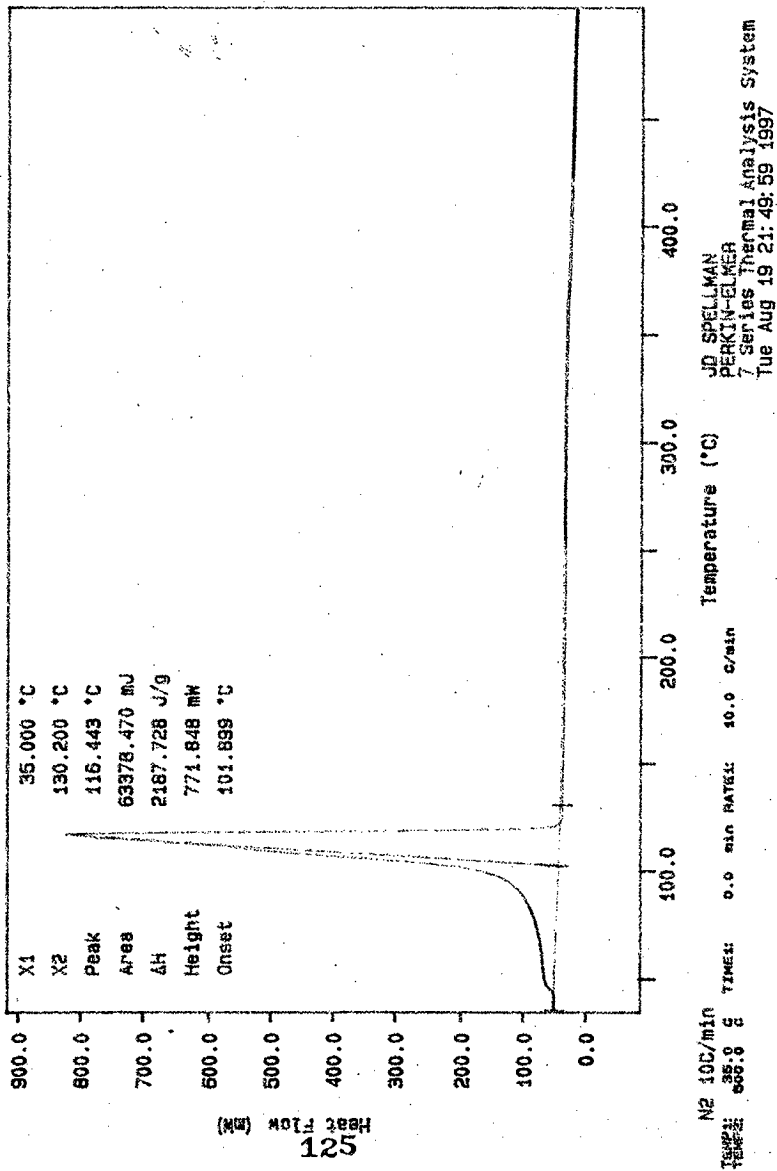
Curve 1: DSC
 File Info: SA081905 Tue Aug 19 20:05:30 1997
 Sample Weight: 23.020 mg
 S977001689



JD SPELLMAN
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Tue Aug 19 20:08:12 1997

N2 10C/min
 TEMP: 35.0 °C
 TIME: 555.8 s
 0.0 min RATE: 10.0 °C/min

Curve 1: DSC
 File Info: SAM081906 Tue Aug 19 21:18:31 1997
 Sample Weight: 28.970 mg
 S97T001689DUP



LABCORE Data Entry Template for Worklist# 19958

Analyst: ppb Instrument: DSC0 2 Book # N/A

Method: LA-514-113 Rev/Mod 03 8/27/97

Worklist Comment: DSC-02 AP-105 liuid. -ppb

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
97000455	AP-105 (P)	1 SAMPLE	S97T001689	0	DSC-02	LIQUID	<u>N/A</u>	<u>0</u>		Joules/g Dry
97000455	AP-105 (P)	2 DUP	S97T001689	0	DSC-02	LIQUID	<u>0</u>	<u>0</u>	<u>N/A</u>	Joules/g Dry
97000455	AP-105 (P)	3 SAMPLE	S97T001721	0	DSC-02	LIQUID	<u>N/A</u>	<u>0</u>		Joules/g Dry
97000455	AP-105 (P)	4 DUP	S97T001721	0	DSC-02	LIQUID	<u>0</u>	<u>0</u>	<u>N/A</u>	Joules/g Dry
97000455	AP-105 (P)	5 SAMPLE	S97T001723	0	DSC-02	LIQUID	<u>N/A</u>	<u>0</u>		Joules/g Dry
97000455	AP-105 (P)	6 DUP	S97T001723	0	DSC-02	LIQUID	<u>0</u>	<u>0</u>	<u>N/A</u>	Joules/g Dry
97000478	AP-105 (P)	7 SAMPLE	S97T001761	0	DSC-02	LIQUID	<u>N/A</u>	<u>0</u>		Joules/g Dry
97000478	AP-105 (P)	8 DUP	S97T001761	0	DSC-02	LIQUID	<u>0</u>	<u>0</u>	<u>N/A</u>	Joules/g Dry
97000479	AP-105 (P)	9 SAMPLE	S97T001762	0	DSC-02	LIQUID	<u>N/A</u>	<u>0</u>		Joules/g Dry
97000479	AP-105 (P)	10 DUP	S97T001762	0	DSC-02	LIQUID	<u>0</u>	<u>0</u>	<u>N/A</u>	Joules/g Dry

Final page for worklist # 19958

ppb 8/27/97
Analyst Signature Date

Analyst Signature Date

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 19961

Analyst: ppb Instrument: DSC0 2 Book # NA

Method: LA-514-113 Rev/Mod 083 8/27/97

Worklist Comment: DSC-02 AP-105 solid. -ppb

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
97000455	AP-105 (P)	1 SAMPLE	S97T001726	0	DSC-02	SOLID	<u>N/A</u>	<u>0</u>		Joules/g Dry
97000455	AP-105 (P)	2 DUP	S97T001726	0	DSC-02	SOLID	<u>0</u>	<u>0</u>	<u>N/A</u>	Joules/g Dry
97000455	AP-105 (P)	3 SAMPLE	S97T001730	0	DSC-02	SOLID	<u>N/A</u>	<u>102.82</u>		Joules/g Dry
97000455	AP-105 (P)	4 DUP	S97T001730	0	DSC-02	SOLID	<u>102.82</u>	<u>78.56</u>	<u>N/A</u>	Joules/g Dry
97000478	AP-105 (P)	5 SAMPLE	S97T001778	0	DSC-02	SOLID	<u>N/A</u>	<u>129.62</u>		Joules/g Dry
97000478	AP-105 (P)	6 DUP	S97T001778	0	DSC-02	SOLID	<u>129.62</u>	<u>142.72</u>	<u>N/A</u>	Joules/g Dry
97000478	AP-105 (P)	7 SAMPLE	S97T001779	0	DSC-02	SOLID	<u>N/A</u>	<u>76.34</u>		Joules/g Dry
97000478	AP-105 (P)	8 DUP	S97T001779	0	DSC-02	SOLID	<u>76.34</u>	<u>94.18</u>	<u>N/A</u>	Joules/g Dry

Final page for worklist # 19961

08/27/97
Analyst Signature Date

Analyst Signature Date

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 19962

Analyst: ppb Instrument: DSC0 2 Book # NAMethod: LA-514-113 Rev/Mod 08/10/23/97

Worklist Comment: DSC-02 AP-105 solid. -ppb

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
97000478	AP-105 (P)	1 SAMPLE	S97T001780	0	DSC-02	SOLID	<u>N/A</u>	<u>0</u>		Joules/g Dry
97000478	AP-105 (P)	2 DUP	S97T001780	0	DSC-02	SOLID	<u>0</u>	<u>0</u>	<u>N/A</u>	Joules/g Dry
97000478	AP-105 (P)	3 SAMPLE	S97T001781	0	DSC-02	SOLID	<u>N/A</u>	<u>21.14</u>		Joules/g Dry
97000478	AP-105 (P)	4 DUP	S97T001781	0	DSC-02	SOLID	<u>21.14</u>	<u>16.52</u>	<u>N/A</u>	Joules/g Dry
97000478	AP-105 (P)	5 SAMPLE	S97T001782	0	DSC-02	SOLID	<u>N/A</u>	<u>0</u>		Joules/g Dry
97000478	AP-105 (P)	6 DUP	S97T001782	0	DSC-02	SOLID	<u>0</u>	<u>0</u>	<u>N/A</u>	Joules/g Dry
97000479	AP-105 (P)	7 SAMPLE	S97T001783	0	DSC-02	SOLID	<u>N/A</u>	<u>163.74</u>		Joules/g Dry
97000479	AP-105 (P)	8 DUP	S97T001783	0	DSC-02	SOLID	<u>163.74</u>	<u>92.24</u>	<u>N/A</u>	Joules/g Dry
97000479	AP-105 (P)	9 SAMPLE	S97T001784	0	DSC-02	SOLID	<u>N/A</u>	<u>148.96</u>		Joules/g Dry
97000479	AP-105 (P)	10 DUP	S97T001784	0	DSC-02	SOLID	<u>148.96</u>	<u>84.85</u>	<u>N/A</u>	Joules/g Dry
97000479	AP-105 (P)	11 TRIPL	S97T001784	0	DSC-02	SOLID	<u>148.96</u>	<u>127.09</u>	<u>N/A</u>	Joules/g Dry

Final page for worklist # 19962

ppb 10/23/97
 Analyst Signature Date

 Analyst Signature Date

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 19989

Analyst: ASP

Instrument: DSC0 3

Book # 12 N14/B

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

Worklist Comment: Rerun due to high RPD. Run under N2. -ppb

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-03	SOLID	<u>28.45</u>	<u>28.83</u>	<u>N/A</u>	Joules/g
97000478	AP-105 (P)	2 SAMPLE	S97T001780 0		DSC-03	SOLID	<u>N/A</u>	<u>0</u>		Joules/g
97000478	AP-105 (P)	3 DUP	S97T001780 0		DSC-03	SOLID	<u>0</u>	<u>0</u>	<u>N/A</u>	Joules/g

Final page for worklist # 19989

ASP
Analyst Signature

8-25-97
Date

[Signature]
Analyst Signature

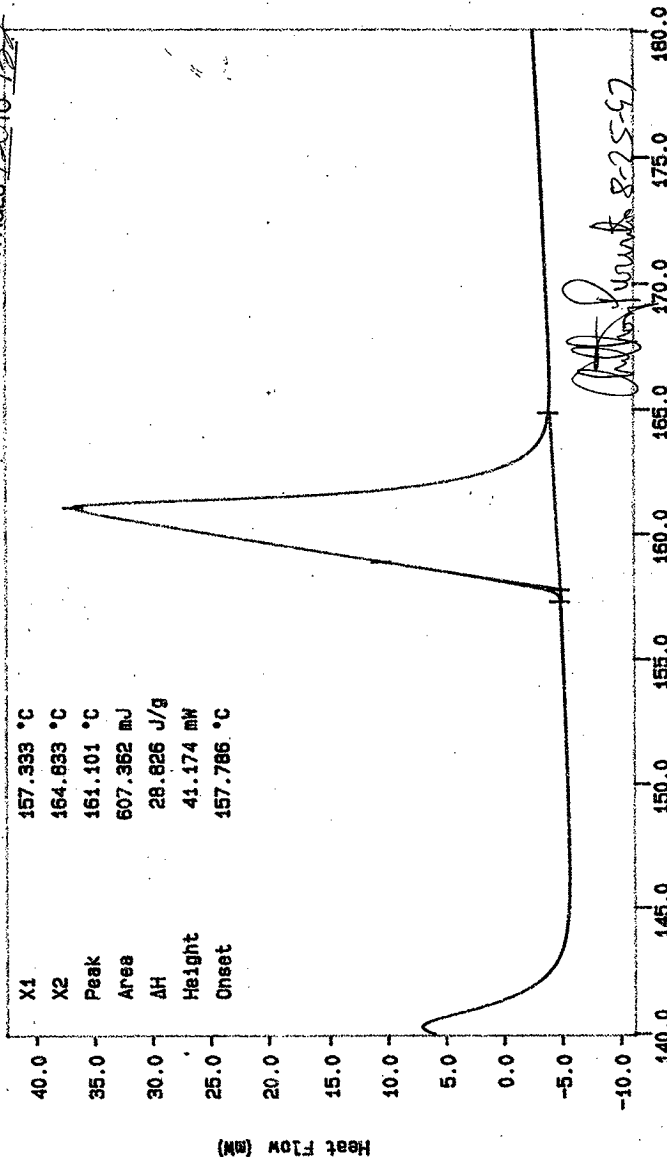
8-26-97
Date

Data Entry Comments:

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

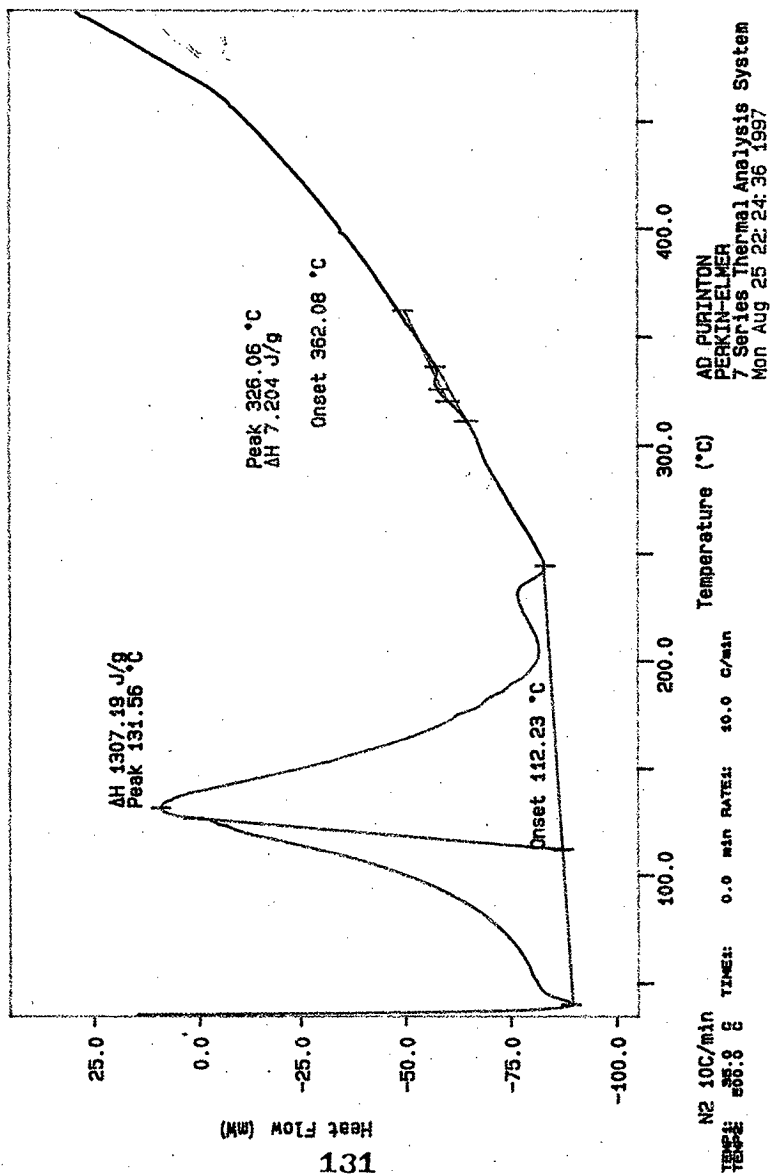
Curve 1: DSC
 File Info: IND082501 Mon Aug 25 20:56:57 1997
 Sample Weight: 21.070 mg
 12N14-B

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 120 TO 122

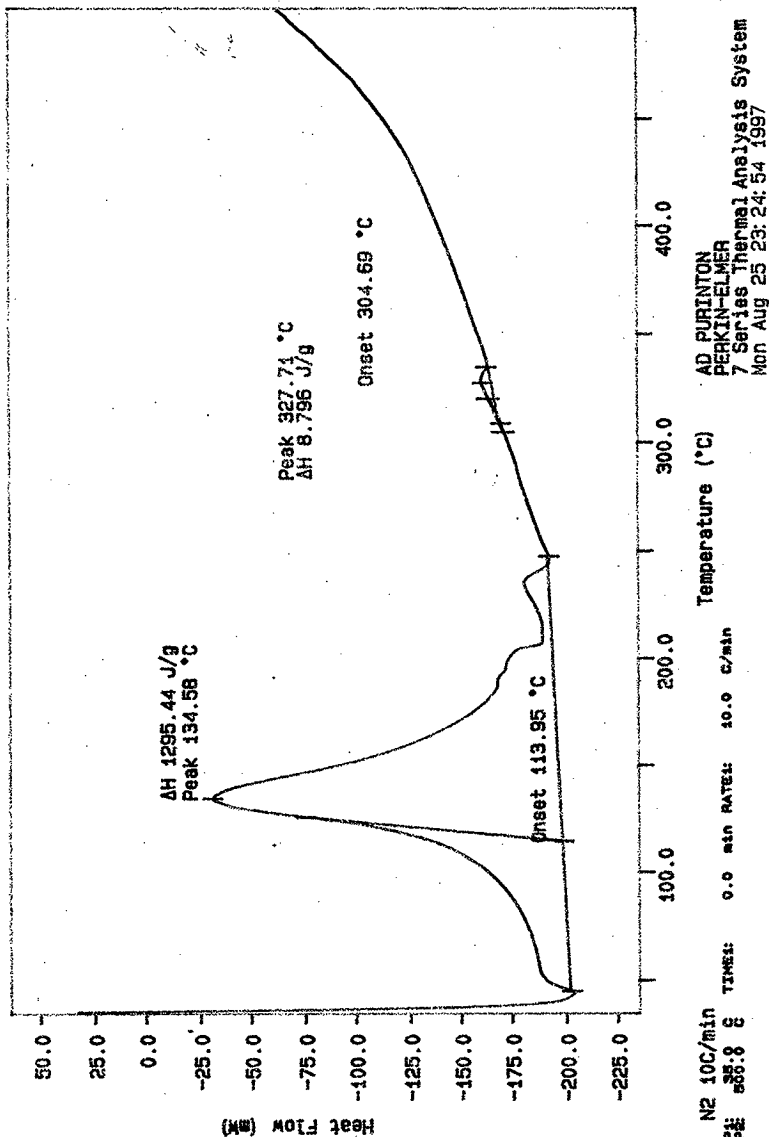


N2, EXOTHERM DOWN
 TEMPERATURE 166.8 °C
 RATE 0.0 min RATE: 10.0 C/min
 AD PURINTON
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Mon Aug 25 21:08:17 1997

Curve 1: DSC
File Info: SAM082501 Mon Aug 25 22:23:24 1997
Sample Weight: 27.700 mg
S97T001780 SAM



Curve 1: DSC
File Info: SAM082502 Mon Aug 25 23:17:54 1997
Sample Weight: 42.050 mg
S97T001780 DUP



LABCORE Data Entry Template for Worklist# 19315

Analyst: SMF Instrument: TGA0 3 Book # 103N8-A

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

Worklist Comment: AW-104 TGA, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-03	LIQUID	<u>59.0</u>	<u>58.84</u>	N/A	%
97000455	AP-105 (P)	2 SAMPLE	S97T001721	0	TGA-03	LIQUID	N/A	<u>65.81</u>		%
97000455	AP-105 (P)	3 DUP	S97T001721	0	TGA-03	LIQUID	<u>65.81</u>	<u>65.55</u>	N/A	%
97000455	AP-105 (P)	4 SAMPLE	S97T001723	0	TGA-03	LIQUID	N/A	<u>53.84</u>		%
97000455	AP-105 (P)	5 DUP	S97T001723	0	TGA-03	LIQUID	<u>53.84</u>	<u>53.14</u>	N/A	%

Final page for worklist # 19315

Susie M. Dutton 8-17-97
Analyst Signature Date

[Signature] 8-19-97
Analyst Signature Date

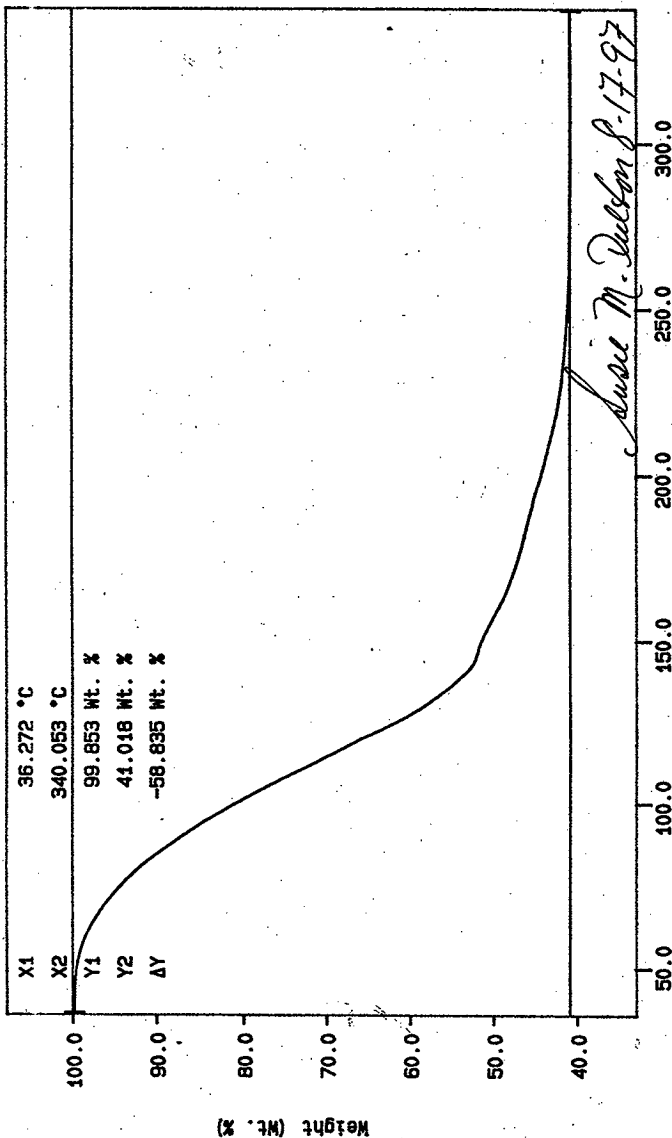
Validated 8/22/97 [Signature]

Data Entry Comments:

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

Curve 1: TGA
 File info: TER081701 Sun Aug 17 07:15:48 1997
 Sample Weight: 14.095 mg
 STD 103NB-A

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



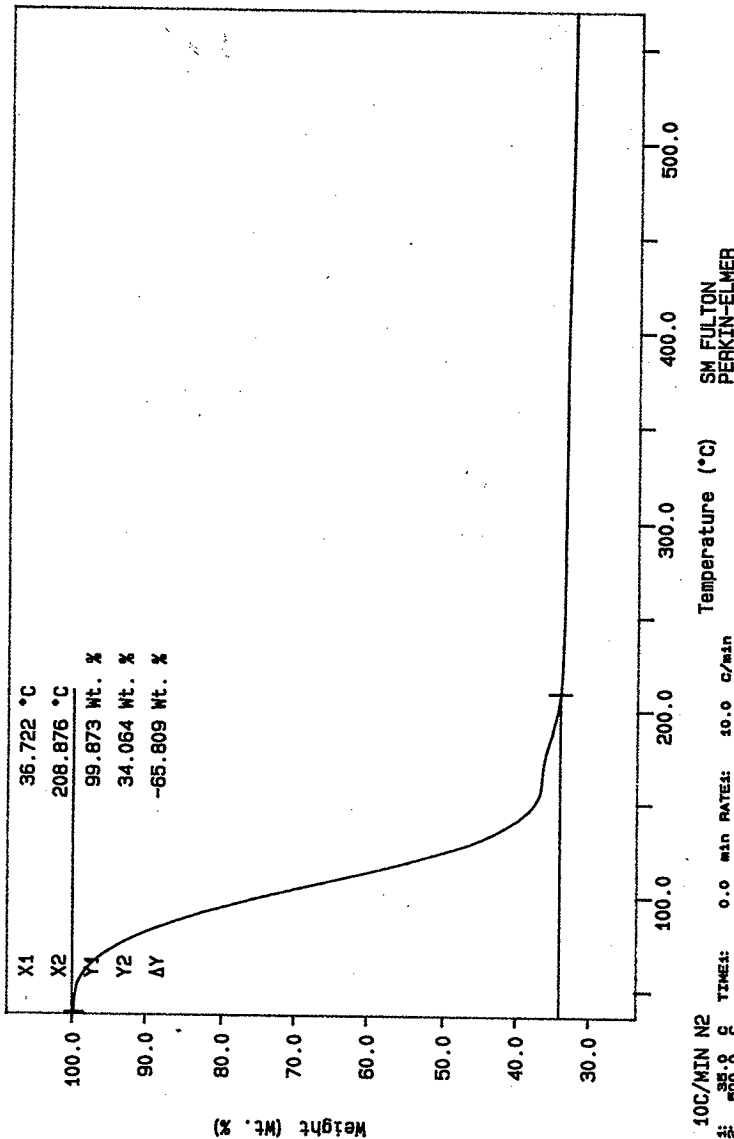
10C/MIN N2
 TEMP: 35.0 °C
 TIME: 300.8 s
 10C/MIN RATE: 10.0 C/min
 JD SPELLMAN
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Aug 17 21:34:15 1997

Curve 1: TGA

File Info: SA081711 Mon Aug 18 02:16:20 1997

Sample Weight: 12.416 mg

S97T001721

10C/MIN N2
TEMP: 35.0 °C
TIME: 500.0 s

0.0 min RATE: 10.0 °C/min

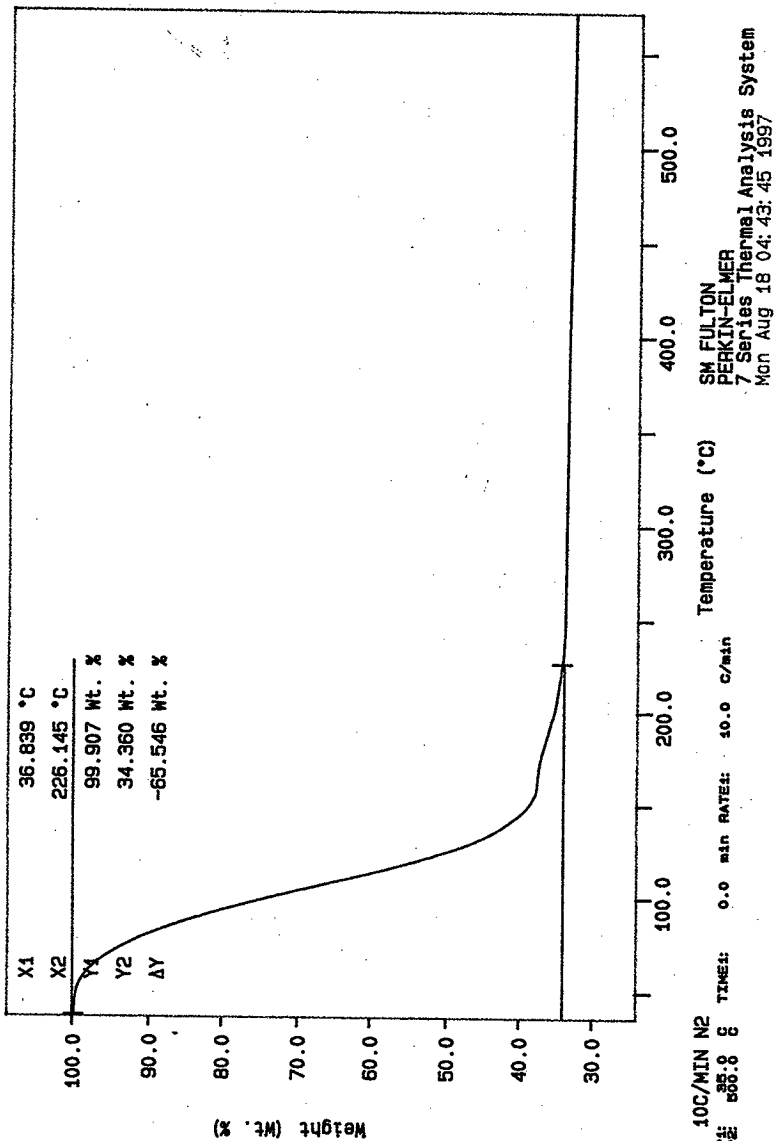
SM FULTON
PERKIN-ELMER7 Series Thermal Analysis System
Mon Aug 18 02:16:20 1997

Curve 1: TGA

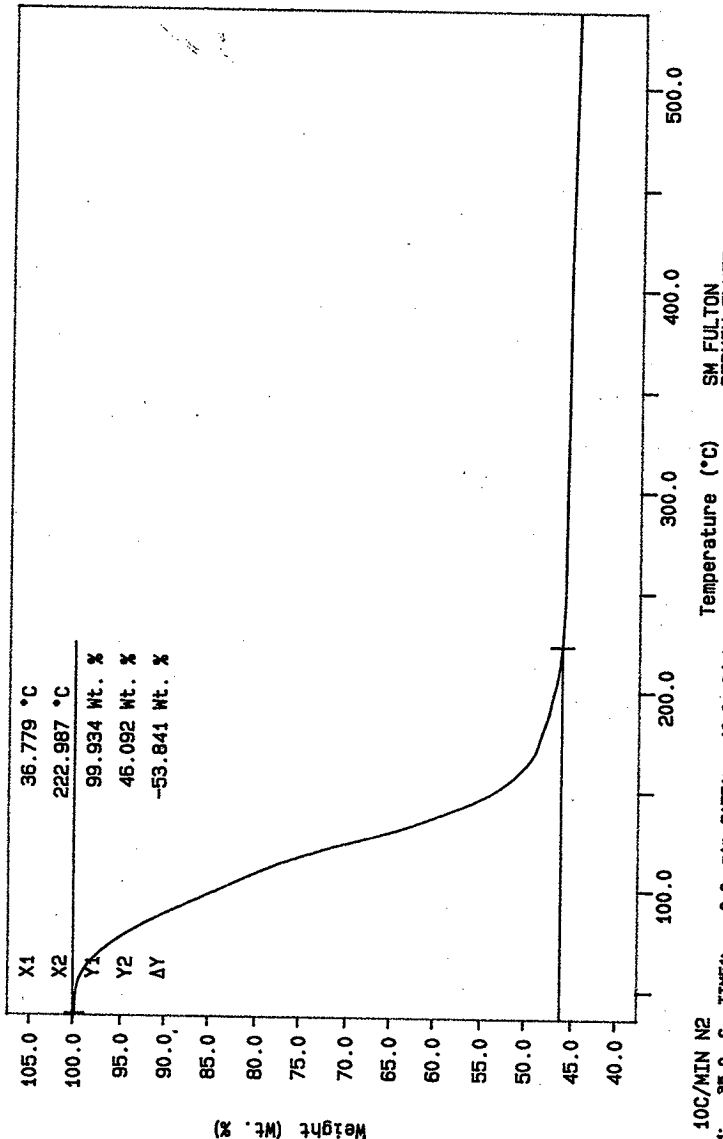
File info: SAN081712 Mon Aug 18 03:23:34 1997

Sample Weight: 13.097 mg

S97T001721 DUP

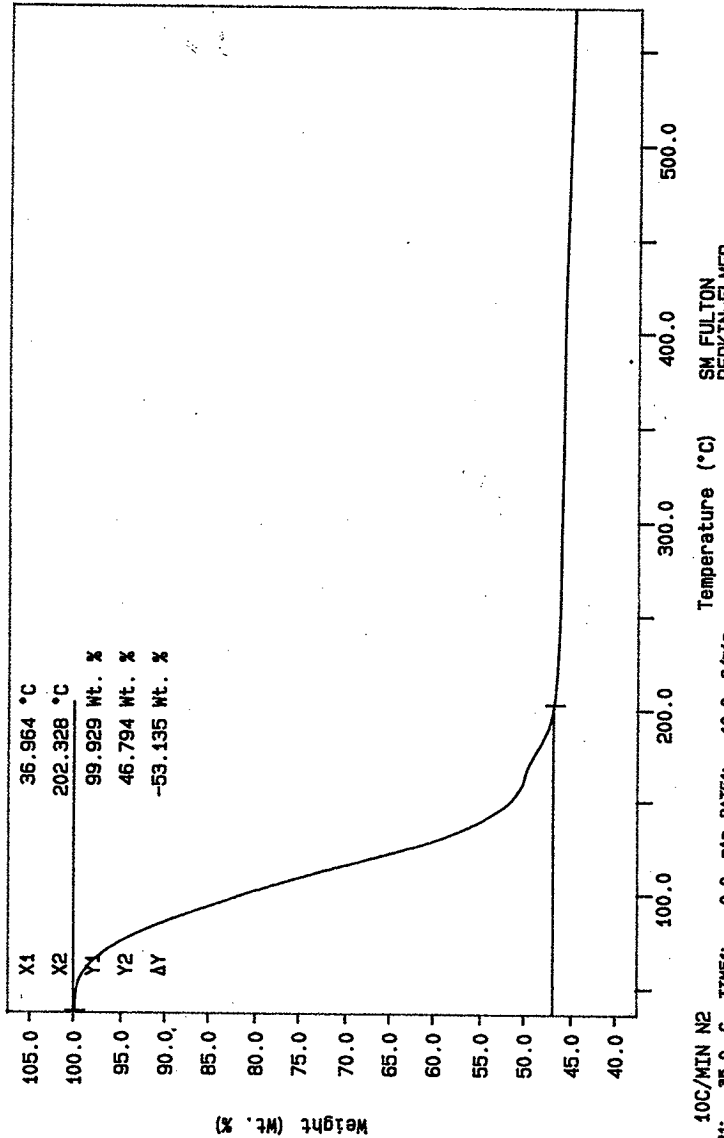


Curve 1: TGA
 File Info: SAM081709 Sun Aug 17 23:16:52 1997
 Sample Weight: 15.388 mg
 S97T001723



10C/MIN N2
 TEMP: 35.8 °C
 TIME: 0.0 min RATE: 10.0 C/min
 SM FULTON
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Aug 17 23:17:03 1997

Curve 1: TGA
 File Info: SAW081710 Mon Aug 18 00:28:37 1997
 Sample Weight: 10.775 mg
 S97T001723 DUP



SM FULTON
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Mon Aug 18 01:24:27 1997

LABCORE Data Entry Template for Worklist# 19317

Analyst: DPB Instrument: TGA0 3 Book # 103N8-AMethod: LA-514-114 Rev/Mod D-1

Worklist Comment: AP-105 TGA, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-03	SOLID	<u>59.0</u>	<u>58.38</u>	<u>N/A</u>	%
97000455	AP-105 (P)	2 SAMPLE	S97T001726	0	TGA-03	SOLID	<u>N/A</u>	<u>38.03</u>		%
97000455	AP-105 (P)	3 DUP	S97T001726	0	TGA-03	SOLID	<u>38.03</u>	<u>40.71</u>	<u>N/A</u>	%
97000455	AP-105 (P)	4 SAMPLE	S97T001730	0	TGA-03	SOLID	<u>N/A</u>	<u>38.83</u>		%
97000455	AP-105 (P)	5 DUP	S97T001730	0	TGA-03	SOLID	<u>38.83</u>	<u>39.21</u>	<u>N/A</u>	%

Final page for worklist # 19317

David R. Bromley 8/16/97
 Analyst Signature Date

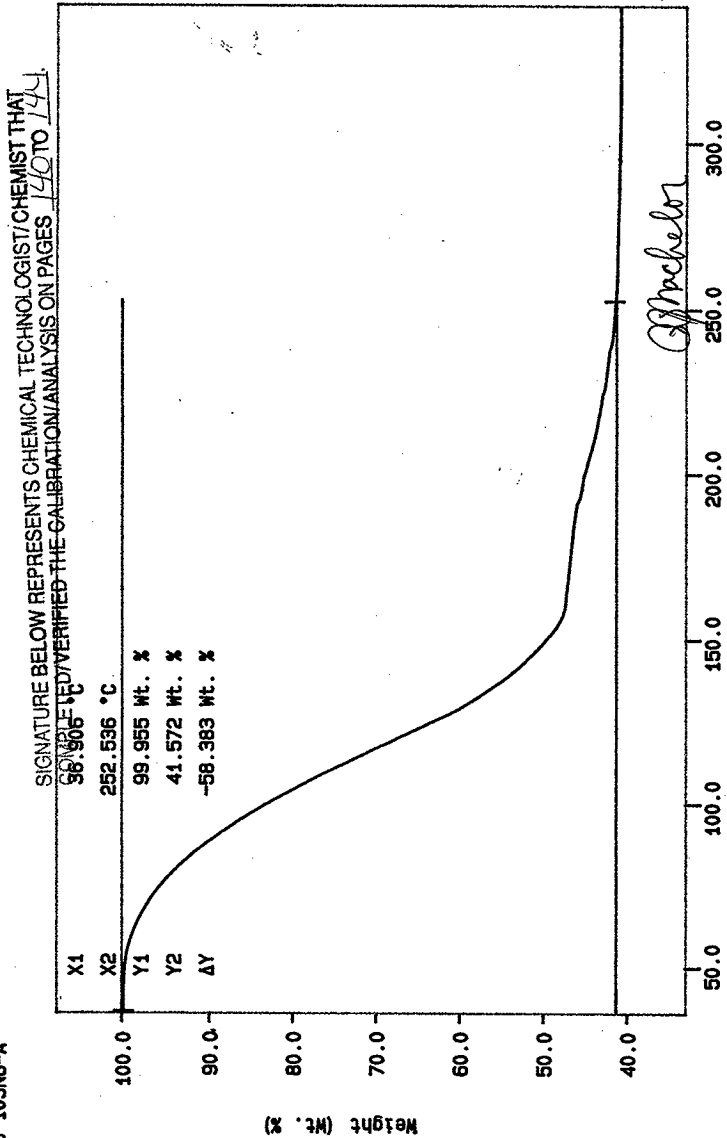
[Signature] 8-26-97
 Analyst Signature Date

Data Entry Comments:

Weight loss observed above 200 °C for both samples. *DPB* 8/18/97

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

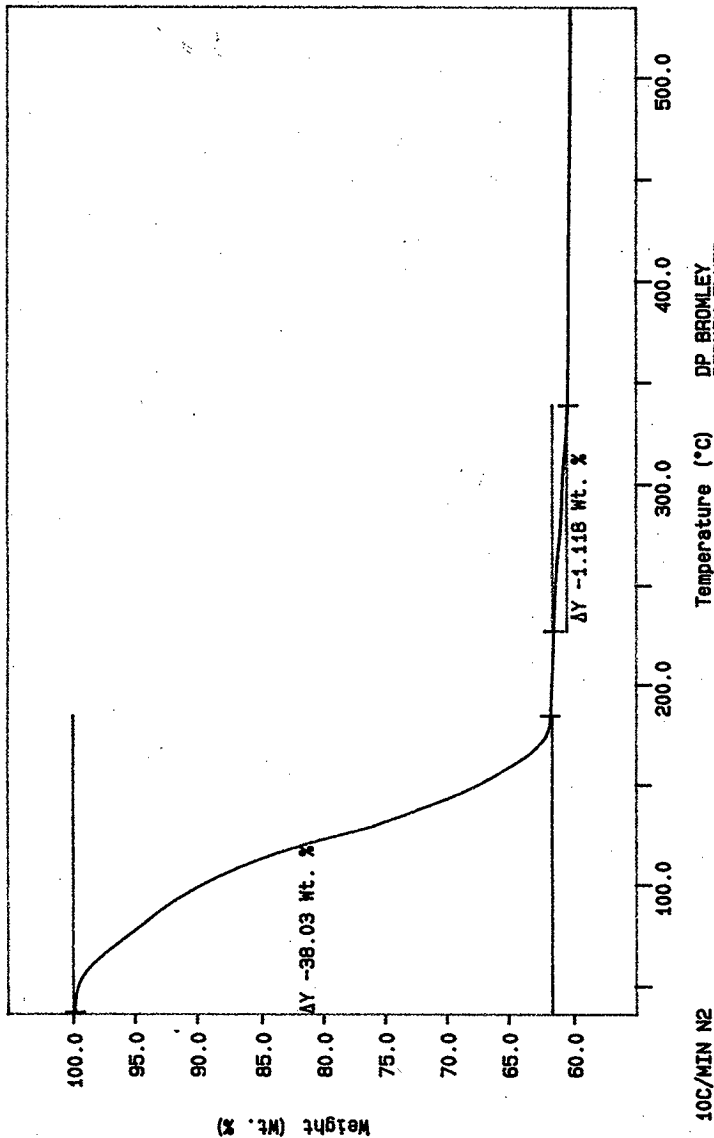
Curve 1: T6A
 File Info: TER081501 Fri Aug 15 07:58:19 1997
 Sample Weight: 13.998 mg
 STD 103NB-A



RD MEYERS
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Mon Aug 18 15:59:31 1997

100/MIN N2
 TIME: 35.8 s
 RATE: 10.0 C/min

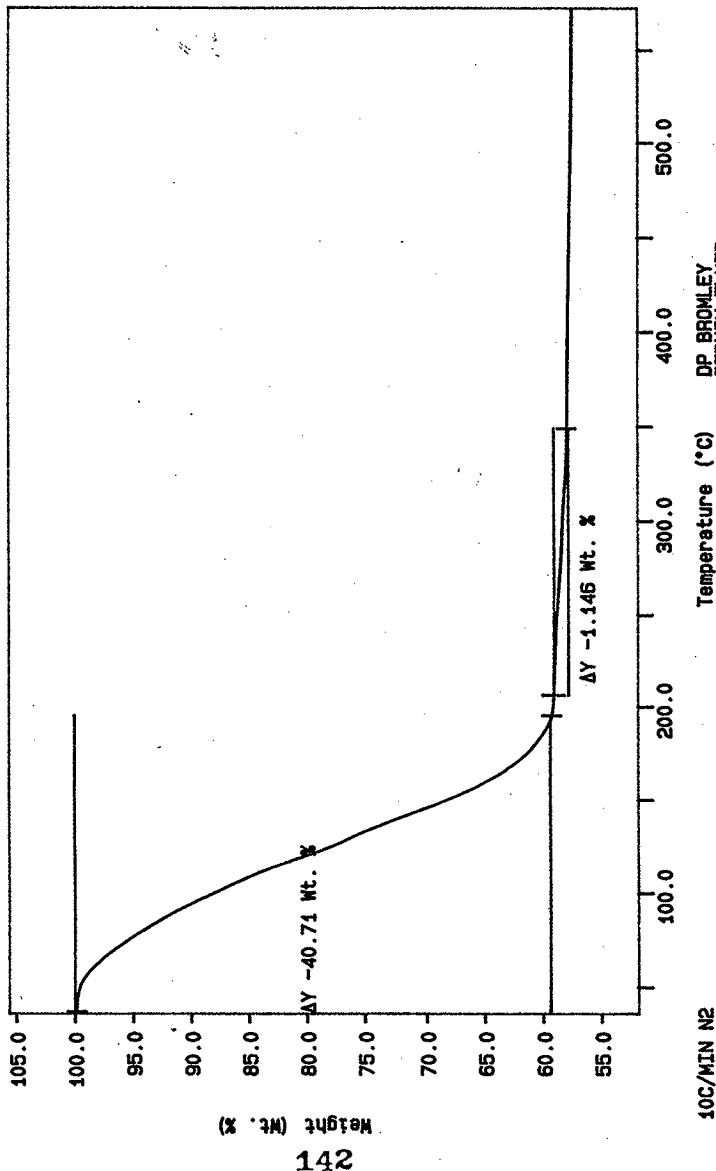
Curve 1: TGA
 File Info: SAK081508 Fri Aug 15 22:47:32 1997
 Sample Weight: 15.729 mg
 S97T001726SAM



DP BROMLEY
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Mon Aug 18 16:03:38 1997

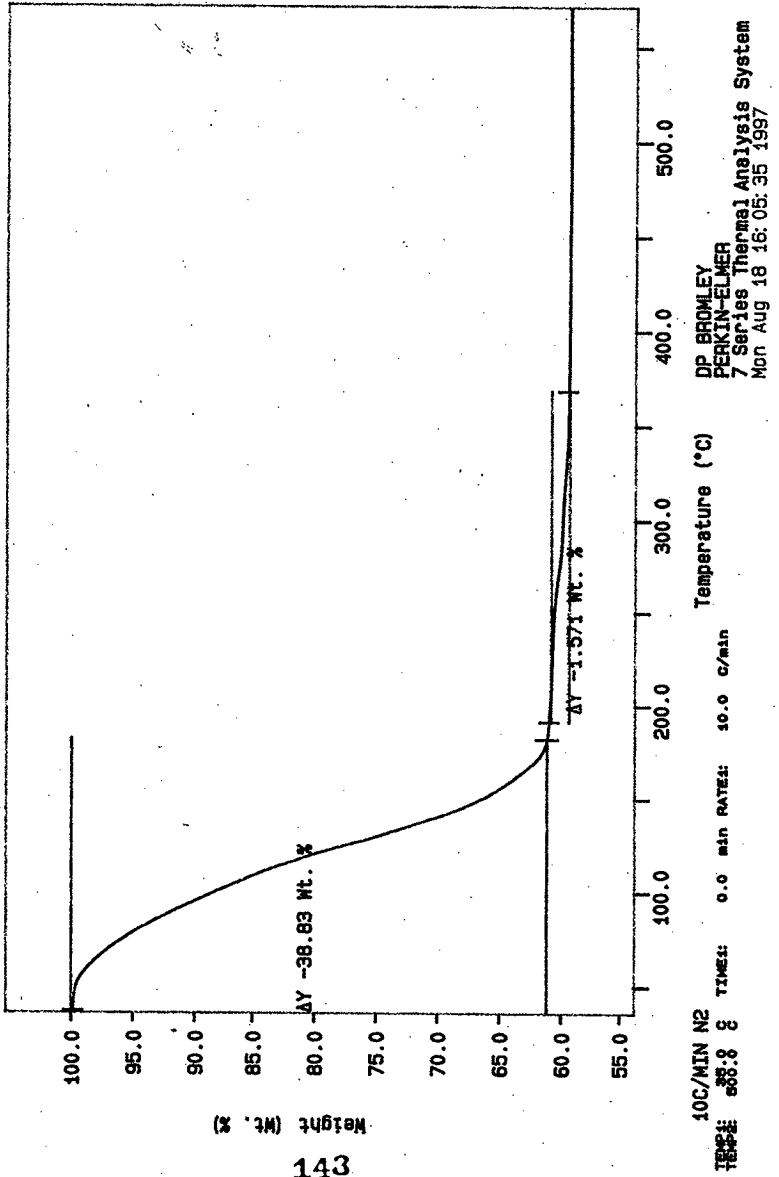
100/MIN N2
 TEMP: 35.0 °C
 TIME: 55.8 s
 0.0 min RATE: 10.0 C/min

Curve 1: TGA
 File info: SA0081509 Sat Aug 16 00:19:56 1997
 Sample Weight: 18.269 mg
 S97T001726DUP

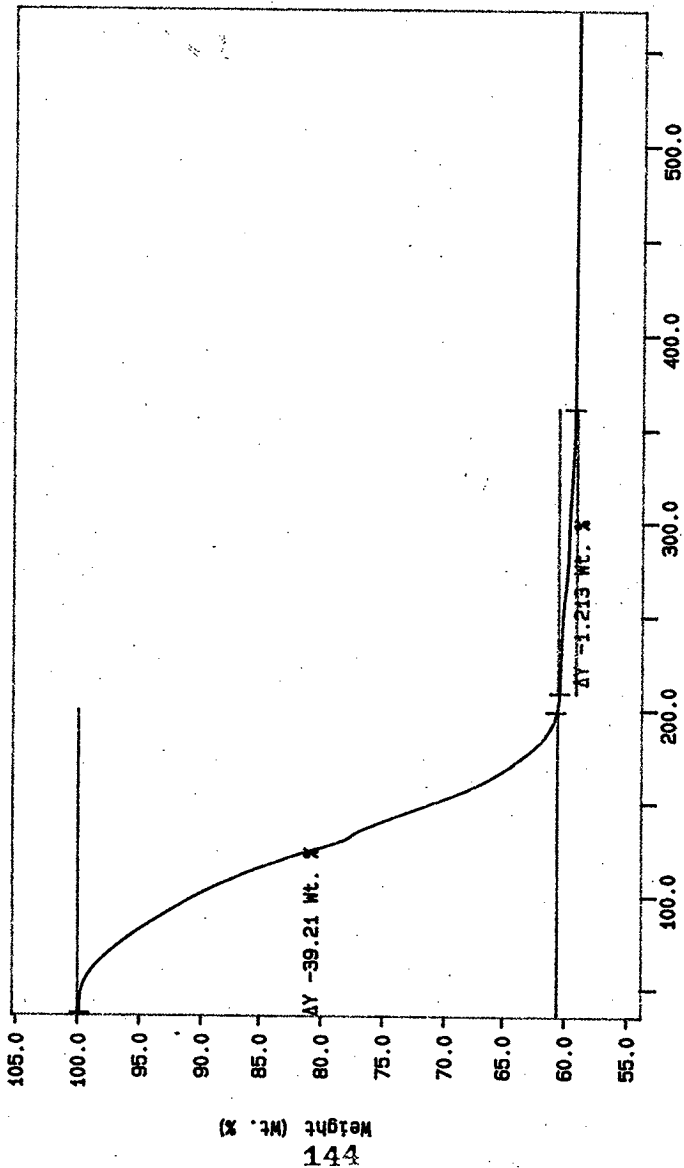


DP BROMLEY
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Mon Aug 18 15:57:22 1997

Curve 1: TGA
 File Info: SAM081601 Sat Aug 16 02:33:43 1997
 Sample Weight: 16.359 mg
 S97T001730SAM



Curve 1: TGA
 File Info: SAM081602 Sat Aug 16 05:21:47 1997
 Sample Weight: 18.173 mg
 S97T001730DUP



DP BROMLEY
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Mon Aug 18 16:07:40 1997

100/MIN N2
 TEMP: 35.8 °C
 TIME: 558.8 s
 0.0 min RATE: 10.0 C/min

worklistrpt Version 2.1 05/15/95
07/24/97 08:32

Page: 1

LABCORE Data Entry Template for Worklist# 19479

Analyst: KRM Instrument: TGA0 3 Book # 103W8AMethod: LA-514-114 Rev/Mod D-1

Worklist Comment: 'AP-105 TGA, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-03	SOLID	<u>59.0</u>	<u>59.35*</u>	<u>N/A</u>	%
97000478	AP-105 (P)	2 SAMPLE	S97T001778	0	TGA-03	SOLID	<u>N/A</u>	<u>45.39</u>		%
97000478	AP-105 (P)	3 DUP	S97T001778	0	TGA-03	SOLID	<u>45.39</u>	<u>44.70</u>	<u>N/A</u>	%
97000478	AP-105 (P)	4 SAMPLE	S97T001779	0	TGA-03	SOLID	<u>N/A</u>	<u>38.45</u>		%
97000478	AP-105 (P)	5 DUP	S97T001779	0	TGA-03	SOLID	<u>38.45</u>	<u>41.35</u>	<u>N/A</u>	%

Final page for worklist # 19479

Analyst Signature

Date

Analyst Signature

Date

Data Entry Comments:

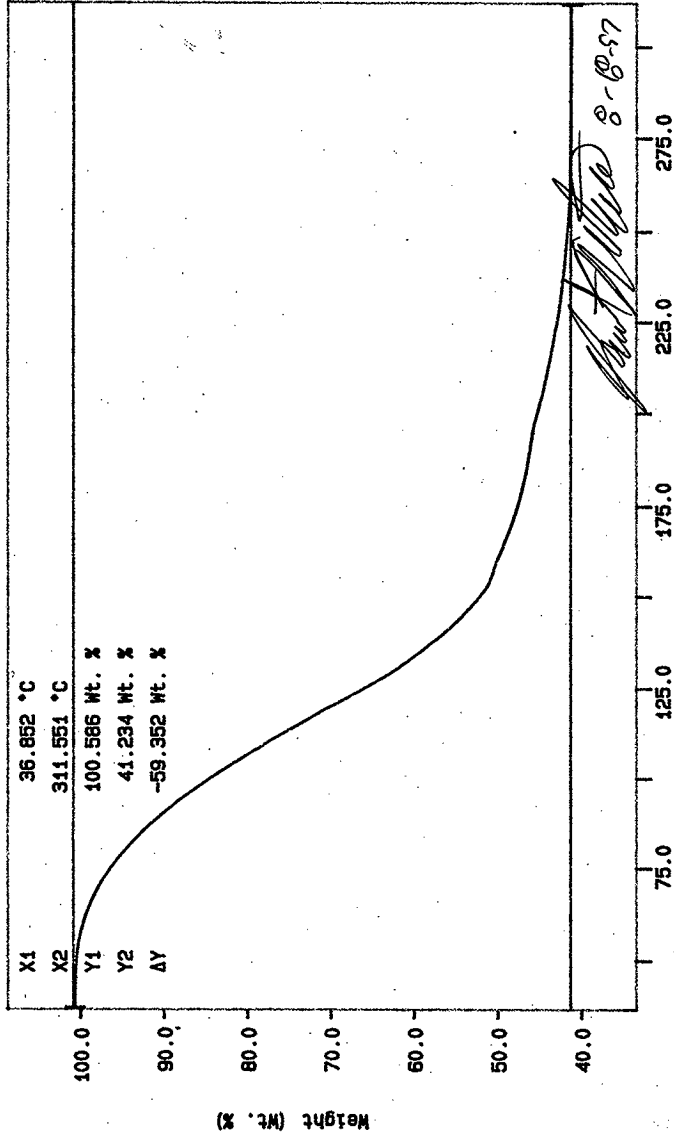
Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

Curve 1: TGA

File Info: TER081801 Mon Aug 18 07:20:32 1997

Sample Weight: 15.895 mg

STD 103N8-A

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

10C/MIN N2

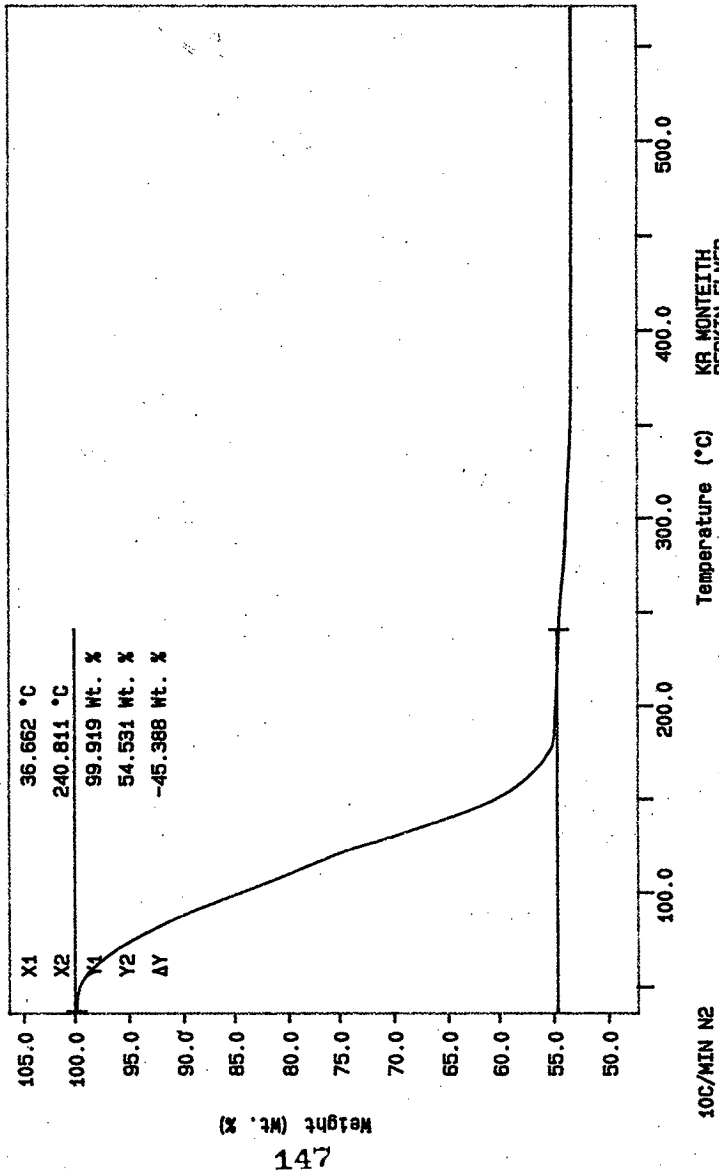
TEMP: 300.0 °C
TIME: 0.0 min RATE: 10.0 C/min

Temperature (°C)

RW KING
PERKIN-ELMER
7 Series Thermal Analysis System

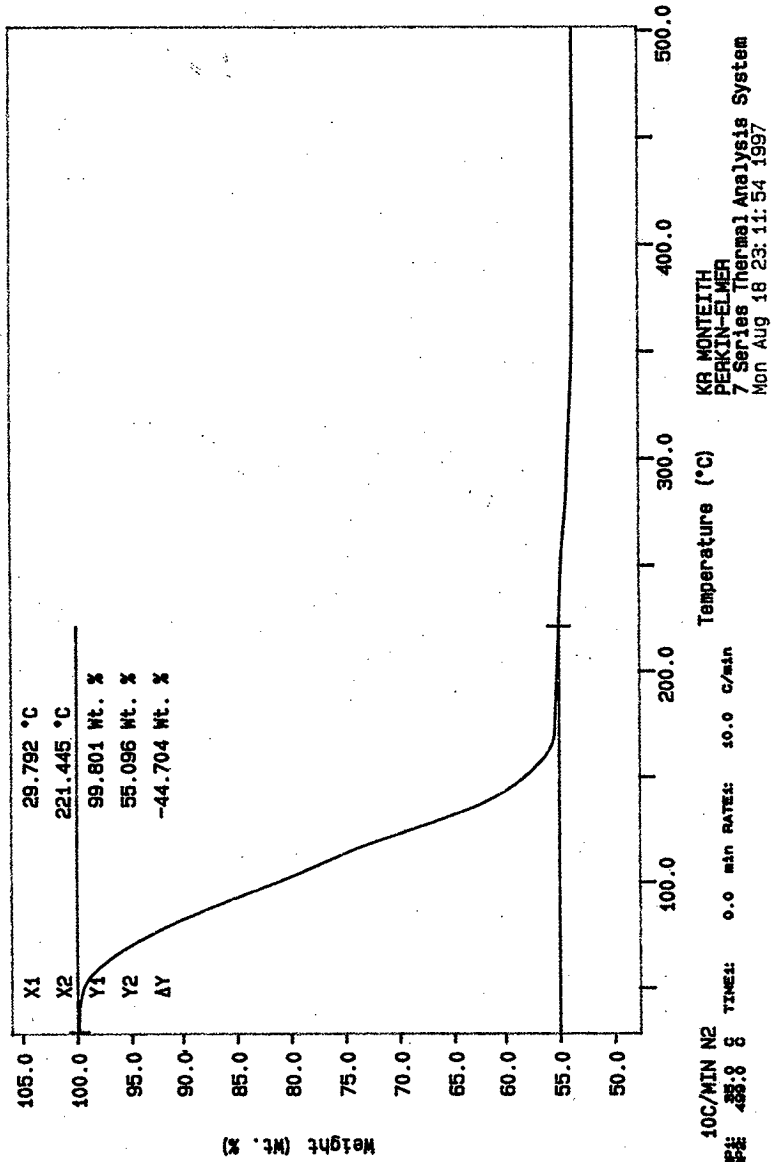
Mon Aug 18 19:49:32 1997

Curve 1: TGA
 File Info: SA081810 Mon Aug 18 22:08:34 1997
 Sample Weight: 14.332 mg
 S97T001778

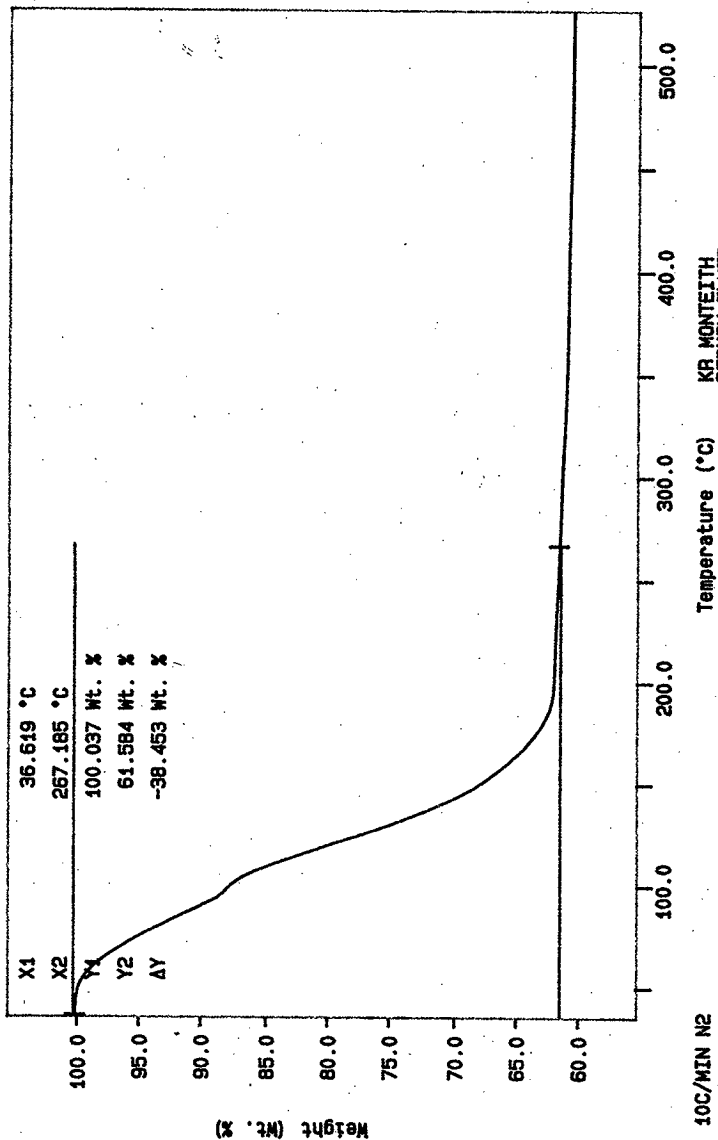


10C/MIN N2
 TGA: 33.8 g
 TIME: 0.0 min RATE: 10.0 C/min
 KR MONTEITH
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Mon Aug 18 22:34 1997

Curve 1: TGA
File Info: SAM081811 Mon Aug 18 23:11:25 1997
Sample Weight: 12.144 mg
S977001778 DUP



Curve 1: T6A
 File Info: SAN081808 Mon Aug 18 19:26:04 1997
 Sample Weight: 20.879 mg
 S97T001779



KR MONTEITH
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Mon Aug 18 19:26:23 1997

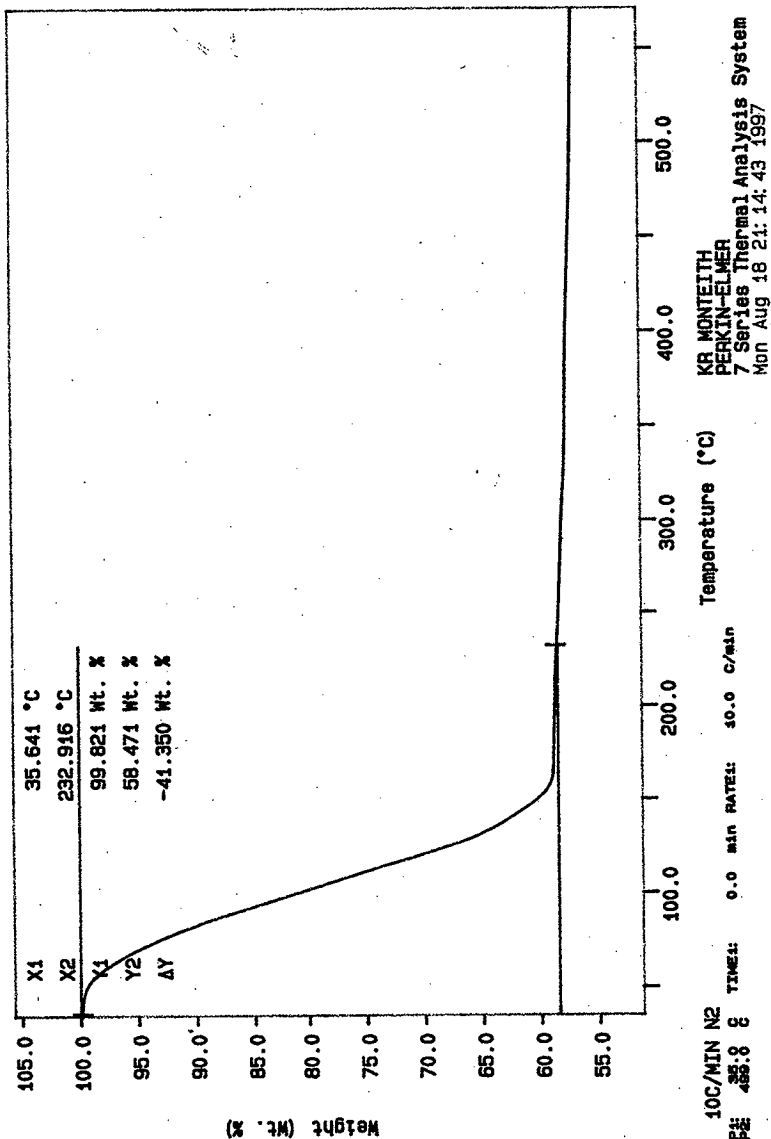
10C/MIN N2
 TEMPERATURE 25.0 °C
 TIME 0.0 min RATE 10.0 C/min

Curve 1: TGA

File info: SAM081809 Mon Aug 18 20:33:41 1997

Sample Weight: 9.497 mg

S97T001779 DUP



LABCORE Data Entry Template for Worklist# 19480

Analyst: Jds Instrument: TGA0 3 Book # 103 N8A

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

Worklist Comment: AP-105 TGA, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				TGA-03	SOLID	<u>59.0</u>	<u>58.43</u>	<u>N/A</u> %
97000478	AP-105 (P)	2 SAMPLE	S97T001780	0		TGA-03	SOLID	<u>N/A</u>	<u>52.36</u>	<u>N/A</u> %
97000478	AP-105 (P)	3 DUP	S97T001780	0		TGA-03	SOLID	<u>52.36</u>	<u>52.38</u>	<u>N/A</u> %
97000478	AP-105 (P)	4 SAMPLE	S97T001781	0		TGA-03	SOLID	<u>N/A</u>	<u>51.80</u>	<u>N/A</u> %
97000478	AP-105 (P)	5 DUP	S97T001781	0		TGA-03	SOLID	<u>51.80</u>	<u>51.60</u>	<u>N/A</u> %

Final page for worklist # 19480

Jds 8/20/97
Analyst Signature Date

Jim Muck 8-22-97
Analyst Signature Date

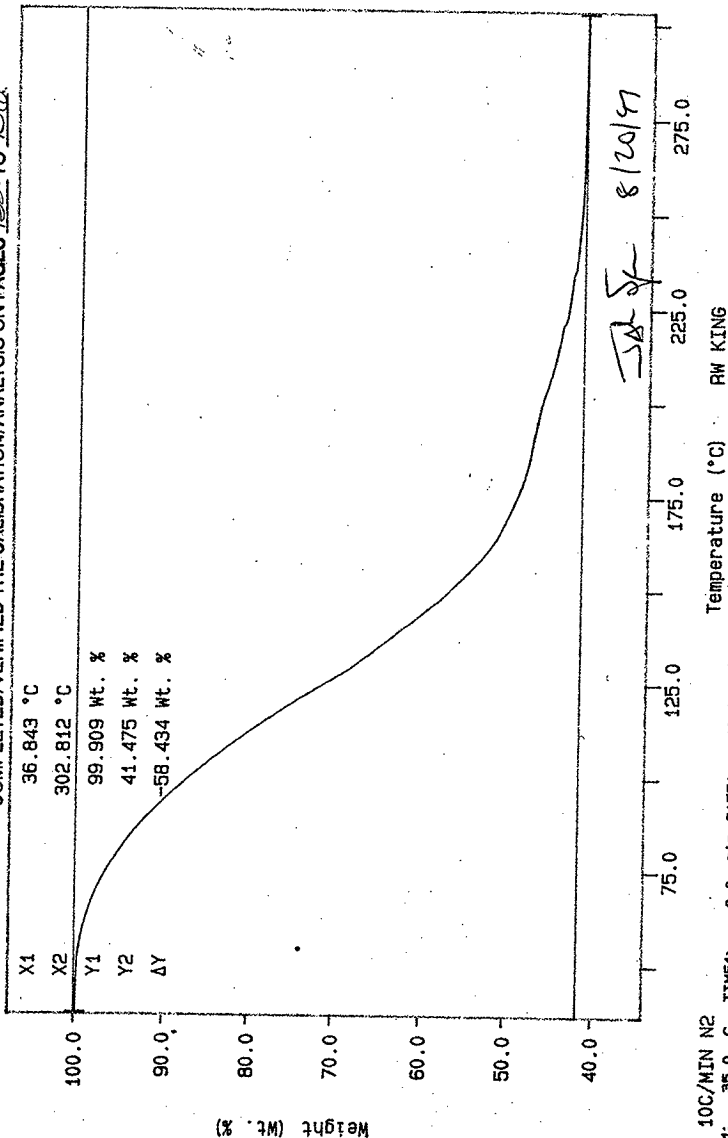
Validated 8/25/97 @ MacHebr

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.

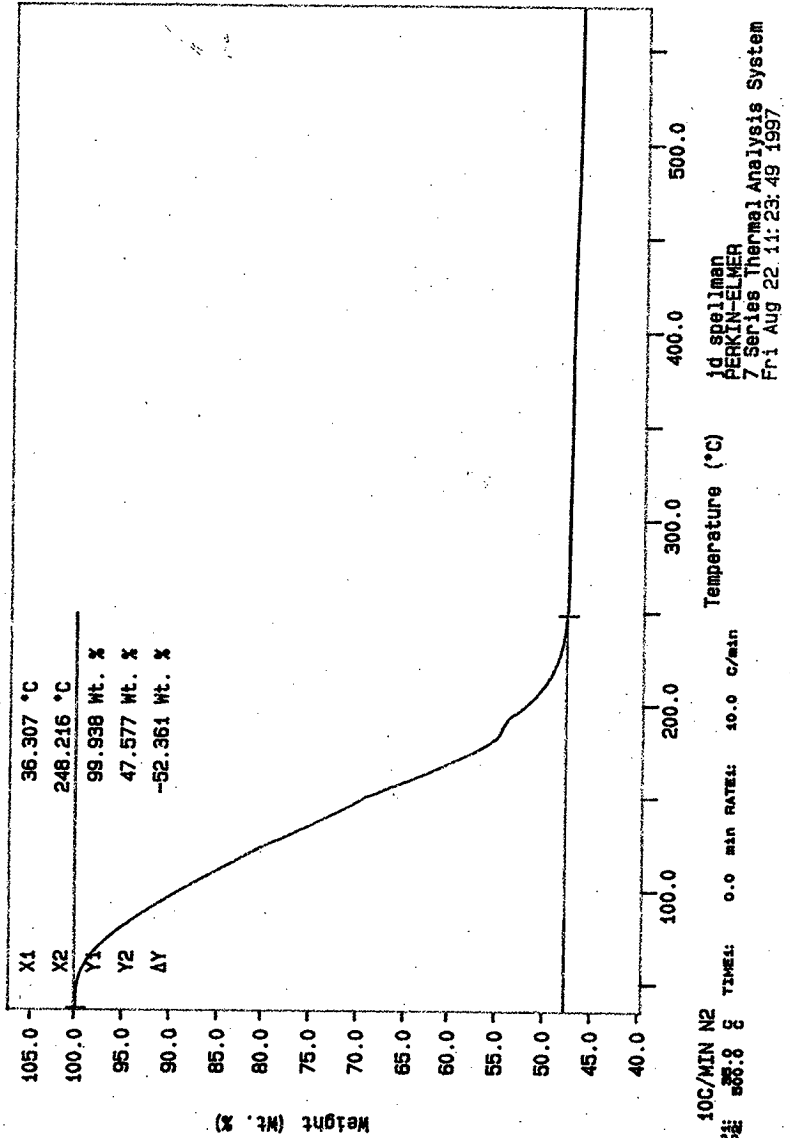
Curve 1: TGA
 File info: TER081901 Tue Aug 19 07:10:04 1997
 Sample Weight: 22.872 mg
 STD 103NB-A

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 152 TO 156a

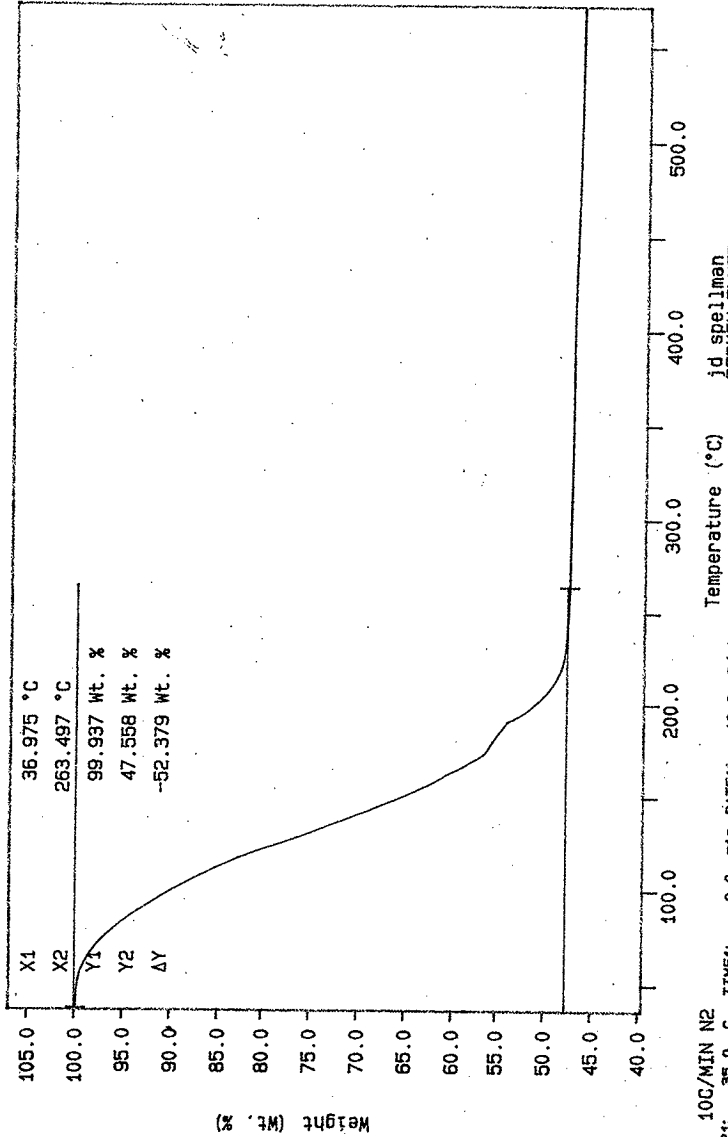


10C/MIN N2
 TEMP: 35.0 °C
 TIME: 300.0 s
 10.0 min RATE: 10.0 C/min
 RW KING
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Wed Aug 20 03:23:57 1997

Curve 1: TGA
 File info: SAM081907 Tue Aug 19 22:54:24 1997
 Sample Weight: 32.348 mg
 S97T001780



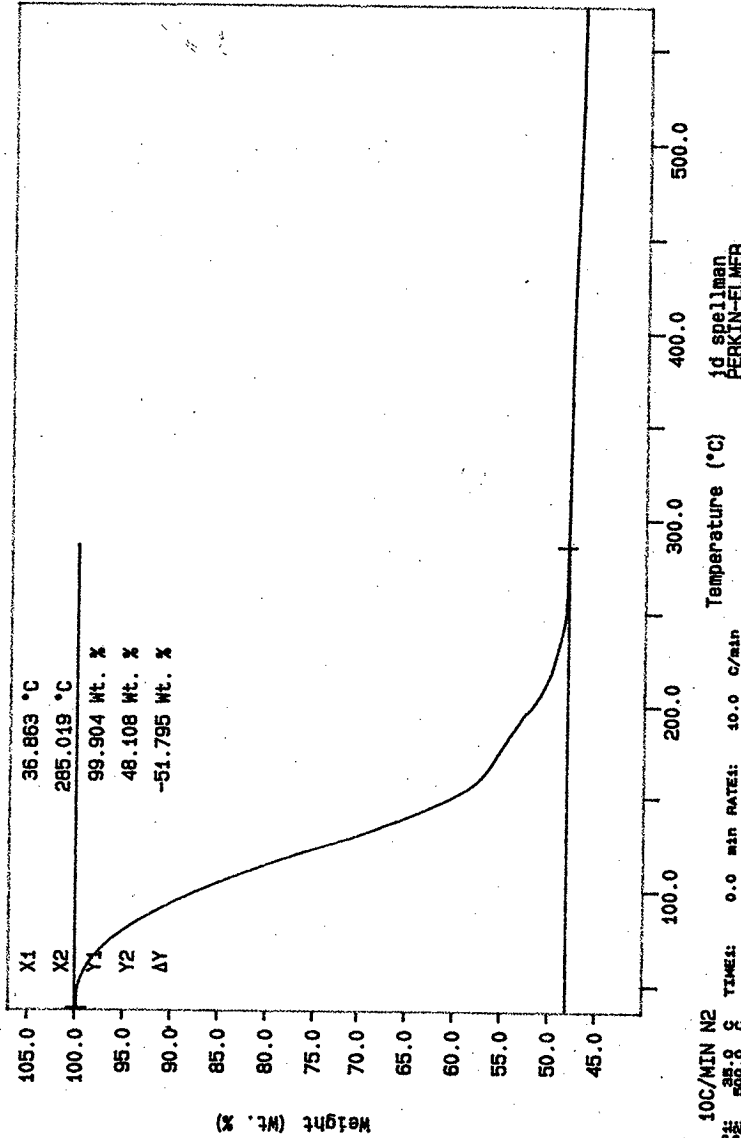
Curve 1: TGA
 File info: SAM081908 Wed Aug 20 00:34:08 1997
 Sample Weight: 25.586 mg
 S97T001780DUP



id: spellman
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Wed Aug 20 03:09:42 1997

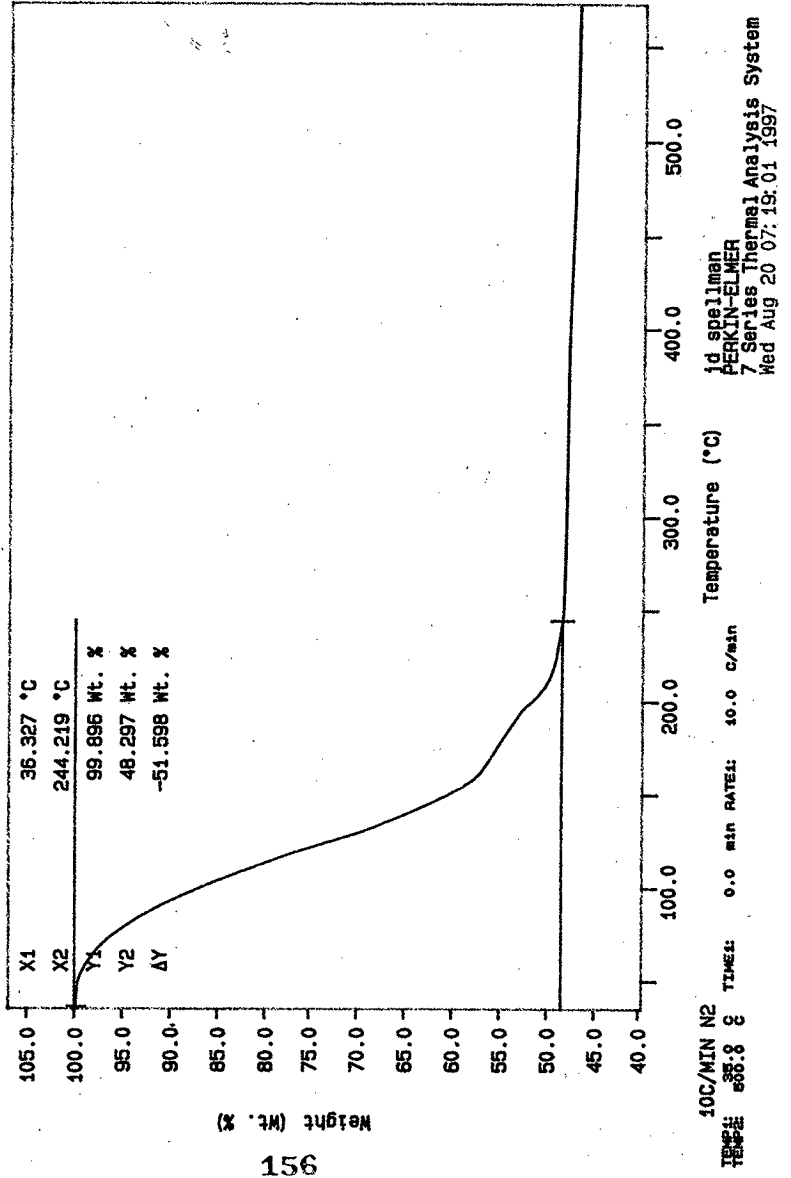
100/MTN N2
 TEMP1: 35.0 °C
 TEMP2: 500.0 °C

Curve 1: TGA
 File Info: SAM082001 Wed Aug 20 04:01:51 1997
 Sample Weight: 18.402 mg
 S97T001781



1d Spellman
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Wed Aug 20 04:56:58 1997

Curve 1: TGA
 File info: SAM082002 Wed Aug 20 05:51:53 1997
 Sample Weight: 18.190 mg
 S97T001781DUP



LABCORE Data Entry Template for Worklist# 19481

Analyst: ADP Instrument: TGA0 3 Book # 103 N8 AMethod: LA-514-114 Rev/Mod D-1

Worklist Comment: AP-105 TGA, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-03	SOLID	<u>59.0</u>	<u>58.98*</u>	<u>N/A</u>	<u>%</u>
97000478	AP-105 (P)	2 SAMPLE	S97T001782	0	TGA-03	SOLID	<u>N/A</u>	<u>51.62</u>		<u>%</u>
97000478	AP-105 (P)	3 DUP	S97T001782	0	TGA-03	SOLID	<u>51.62</u>	<u>51.38</u>	<u>N/A</u>	<u>%</u>

Final page for worklist # 19481

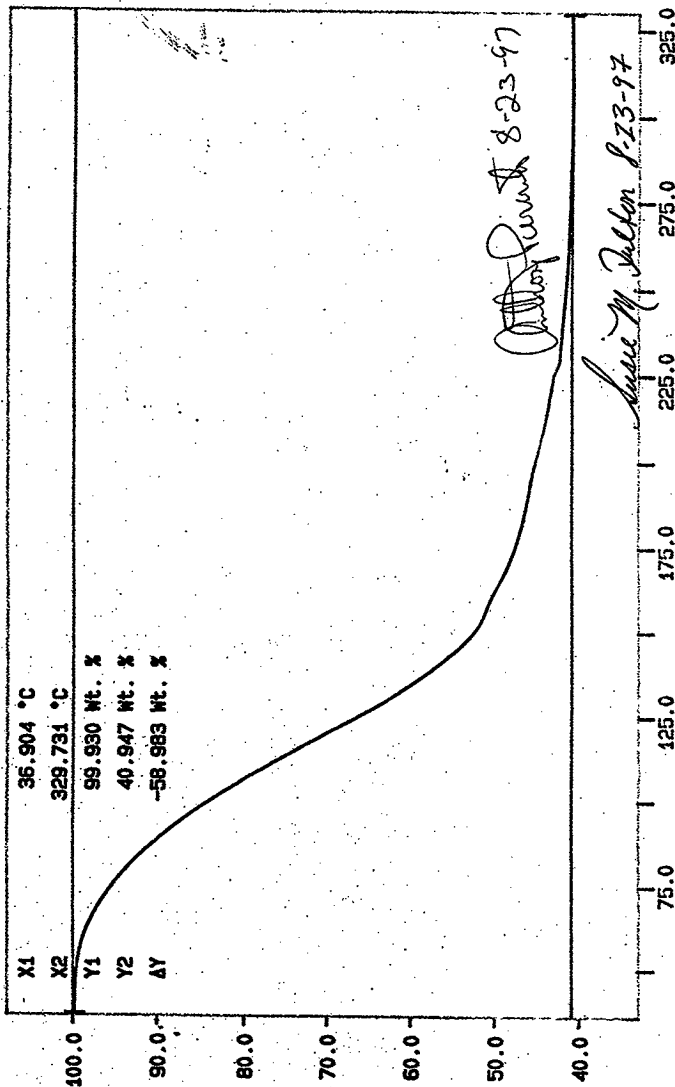
Anthony Puntero 8-23-97
Analyst Signature Date[Signature] 8-25-97
Analyst Signature Date

Data Entry Comments:

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

Curve 1: TGA
 File Info: TER082301 Sat Aug 23 07:03:15 1997
 Sample Weight: 17.571 mg
 STD 103NB-A

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 128 TO 140.



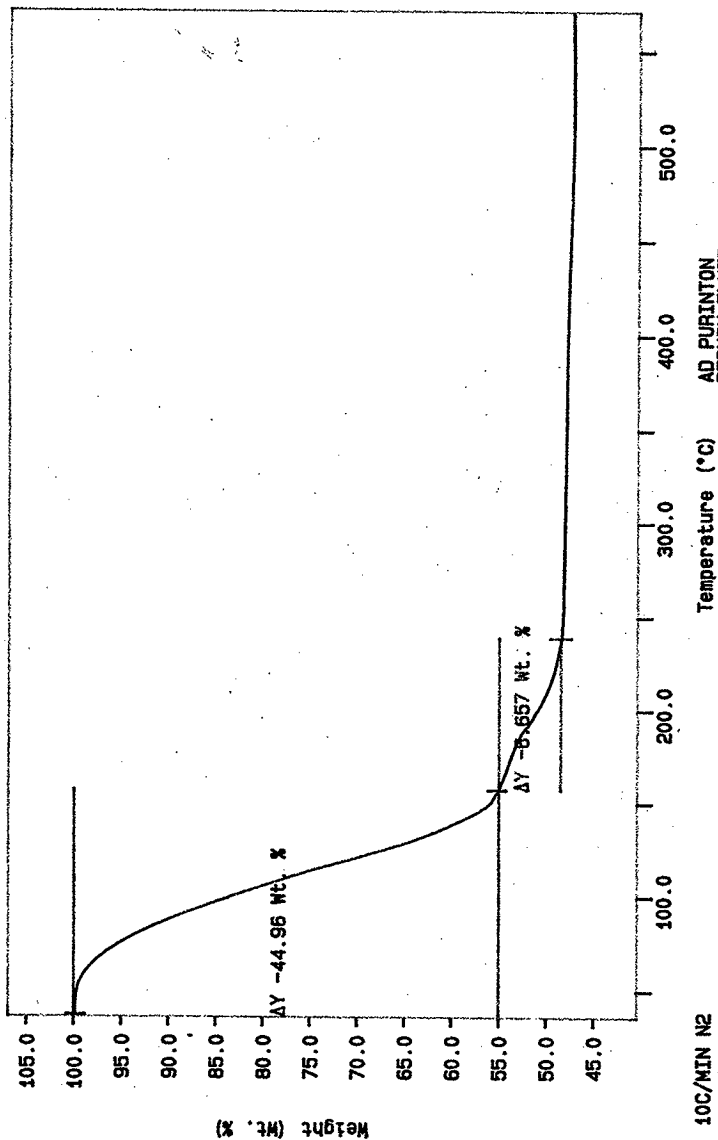
10C/MIN N2

TIME: 0.0 min RATE: 10.0 C/min

Temperature (°C)

SM FLATON
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sat Aug 23 09:22:22 1997

Curve 1: TGA
 File Info: SAM082309 Sun Aug 24 01:57:15 1997
 Sample Weight: 13.866 mg
 S97T001782 SAM



AD PURINTON
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Aug 24 07:17:28 1997

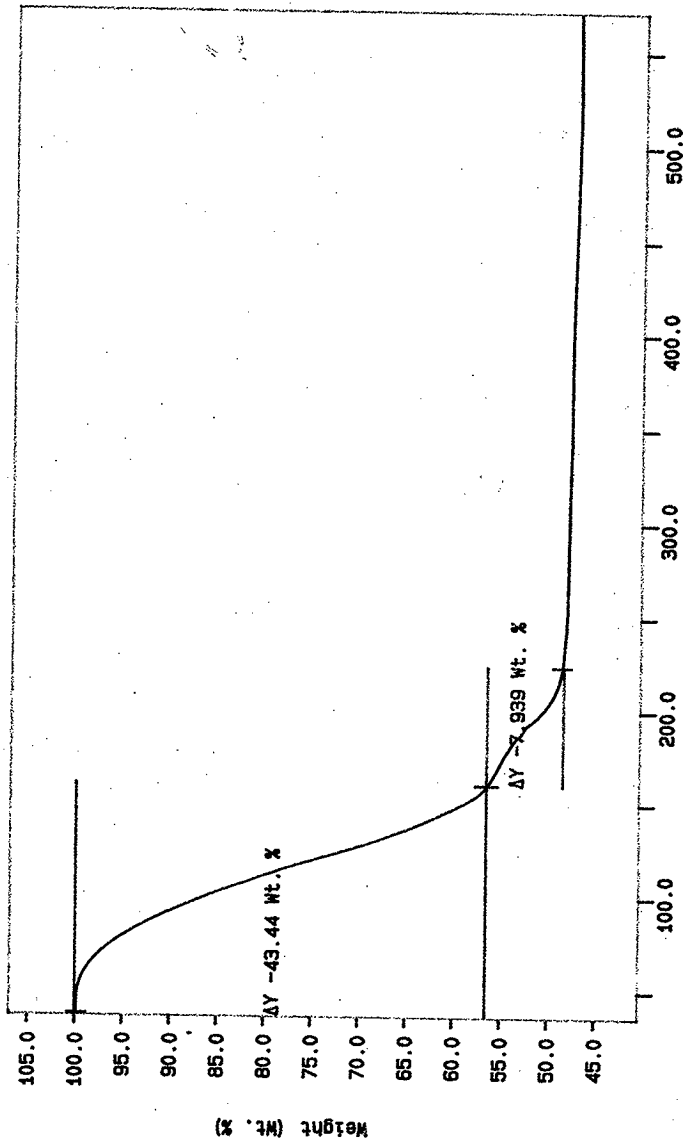
100/MIN N2
 THERM: 50.0 °C
 TIME: 0.0 min RATE: 10.0 C/min

Curve 1: T6A

File Info: SAM082310 Sun Aug 24 03:10:31 1997

Sample Weight: 16.254 mg

S97T001782 DUP



AD PURINTON
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Aug 24 07:12:54 1997

10C/MIN N2
TEMP: 35.0 °C
TIME: 00.0 g
TIME: 0.0 min RATE: 10.0 C/min

LABCORE Data Entry Template for Worklist# 19536

Analyst: RH Instrument: TGA0 3 Book # 103784

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

Worklist Comment: AP-105 TGA, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-03	LIQUID	<u>59.0</u>	<u>58.43</u>	<u>N/A</u>	%
97000478	AP-105 (P)	2 SAMPLE	S97T001761	0	TGA-03	LIQUID	<u>N/A</u>	<u>65.38</u>		%
97000478	AP-105 (P)	3 DUP	S97T001761	0	TGA-03	LIQUID	<u>65.38</u>	<u>65.43</u>	<u>N/A</u>	%
97000479	AP-105 (P)	4 SAMPLE	S97T001762	0	TGA-03	LIQUID	<u>N/A</u>	<u>53.09</u>		%
97000479	AP-105 (P)	5 DUP	S97T001762	0	TGA-03	LIQUID	<u>53.09</u>	<u>52.72</u>	<u>N/A</u>	%

Final page for worklist # 19536

Analyst Signature

Date

Analyst Signature

Date

Data Entry Comments:

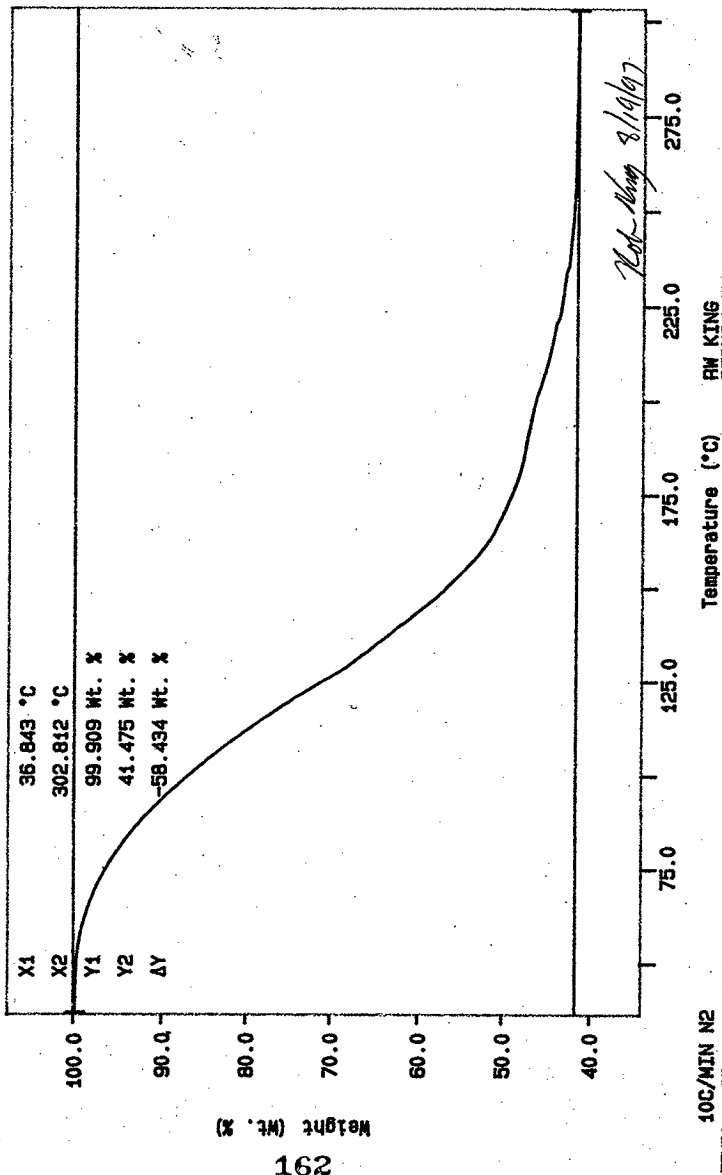
Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

Curve 1: TGA

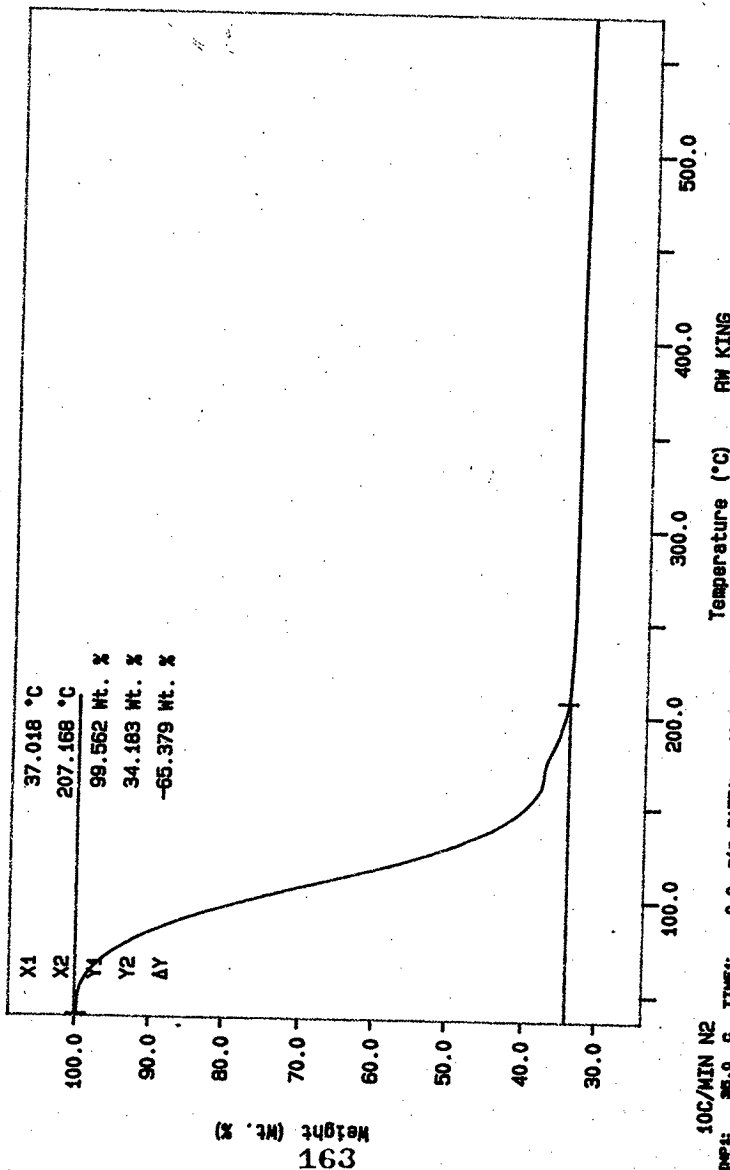
File Info: TER081901 Tue Aug 19 07:10:04 1997

Sample Weight: 22.872 mg

STD 103NB-A

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 162 TO 166

Curve 1: TGA
 File info: SAM081903 Tue Aug 19 11:40:00 1997
 Sample Weight: 12.703 mg
 S97T001761



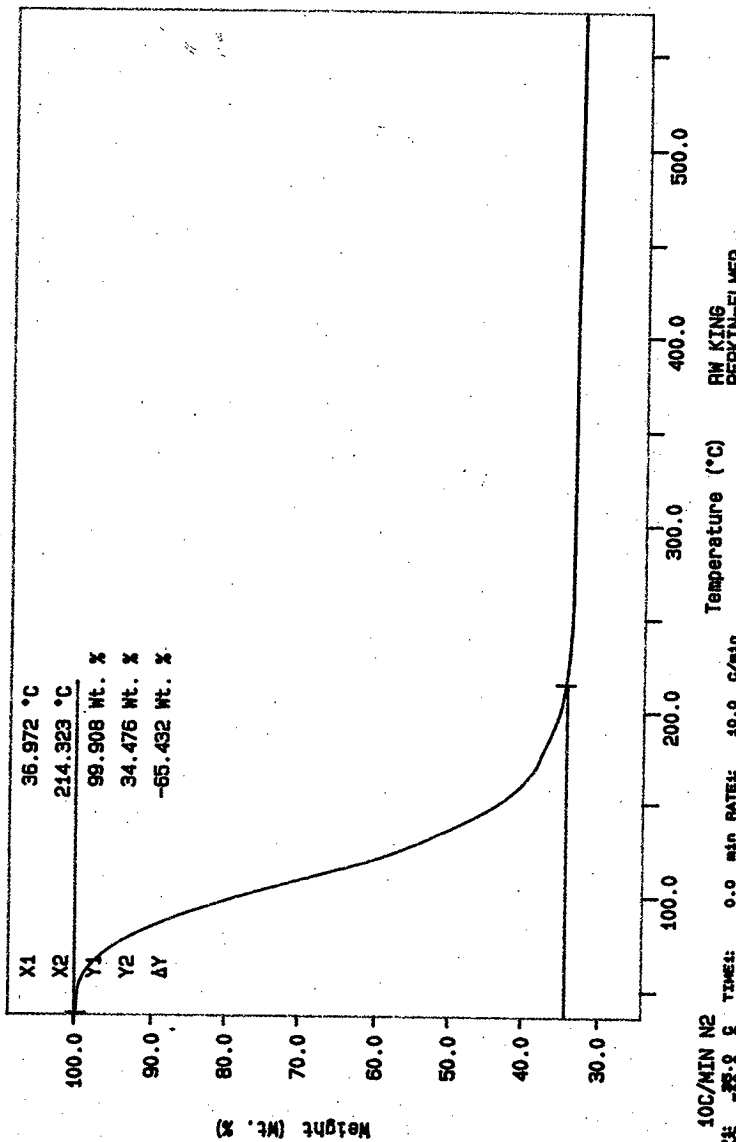
100/MIN N2
 TIME: 35.8 s
 RATE: 0.0 min RATE: 10.0 C/min
 RM KING
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Tue Aug 19 13:04:51 1997

Curve 1: TGA

File Info: SAM081904 Tue Aug 19 13:38:50 1997

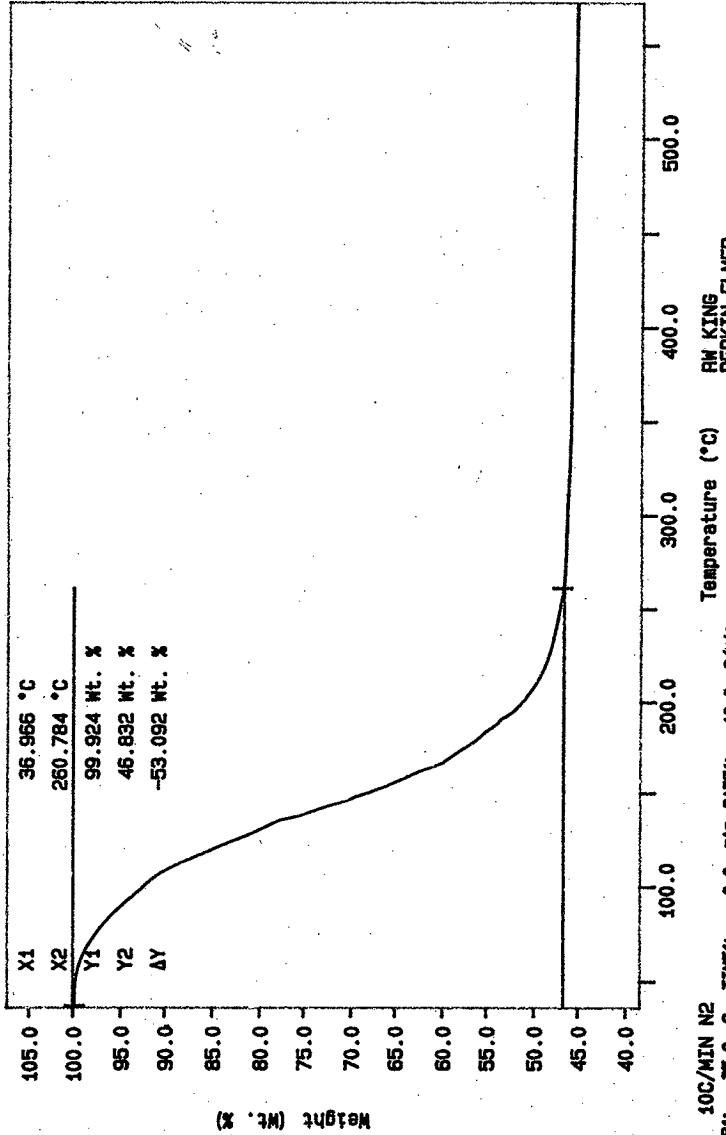
Sample Weight: 15.792 mg

S97T001761 DUP



RM KING
PERKIN-ELMER
7 Series Thermal Analysis System
Tue Aug 19 13:42:45 1997

Curve 1: TGA
 File info: SAH081901 Tue Aug 19 08:13:36 1997
 Sample Weight: 22.305 mg
 S97T001762

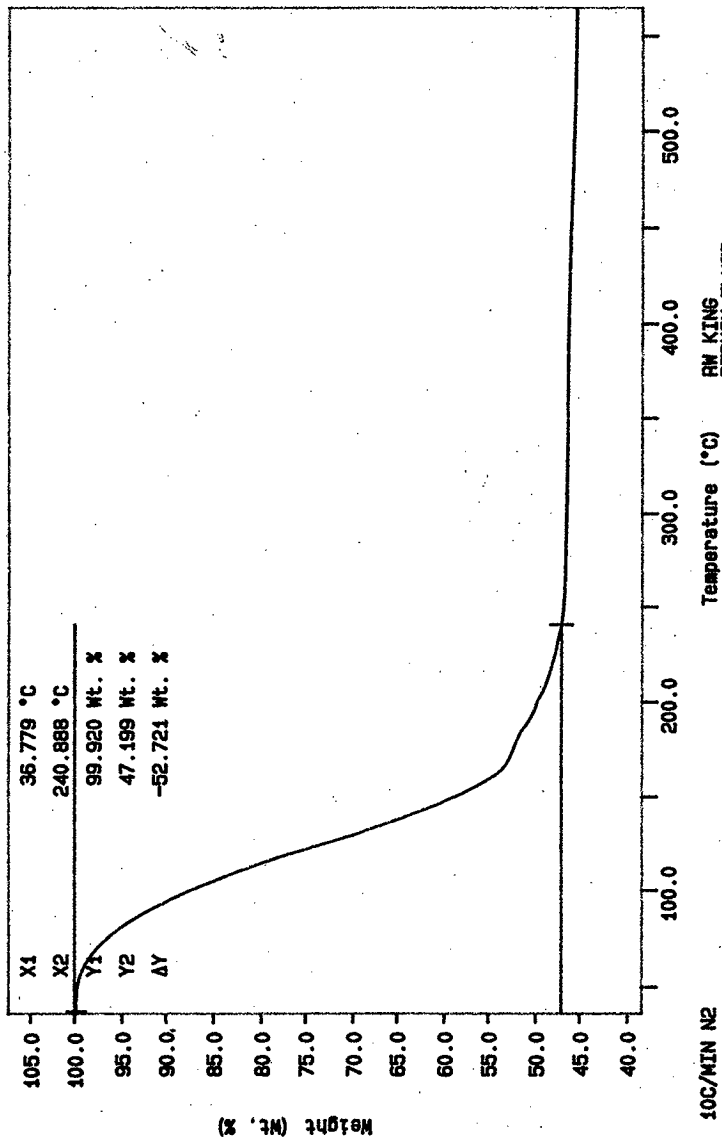


Curve 1: TGA

File Info: SAM081902 Tue Aug 19 10:32:13 1997

Sample Weight: 18.267 mg

S977001762 DUP



10C/MIN N2

TEMP 35.0 °C

TIME: 0.0 min RATE: 10.0 C/min

PERKIN-ELMER

7 Series Thermal Analysis System

Tue Aug 19 10:34:14 1997

LABCORE Data Entry Template for Worklist# 19538

Analyst: RA Instrument: TGA0 3 Book # 103178A

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

Worklist Comment: AP-105 TGA, RUN UNDER N2, RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-03	SOLID	<u>59.0</u>	<u>58.87*</u>	<u>N/A</u>	%
97000479	AP-105 (P)	2 SAMPLE	S97T001783	0	TGA-03	SOLID	<u>N/A</u>	<u>45.00</u>		%
97000479	AP-105 (P)	3 DUP	S97T001783	0	TGA-03	SOLID	<u>45.00</u>	<u>44.51</u>	<u>N/A</u>	%
97000479	AP-105 (P)	4 SAMPLE	S97T001784	0	TGA-03	SOLID	<u>N/A</u>	<u>40.77</u>		%
97000479	AP-105 (P)	5 DUP	S97T001784	0	TGA-03	SOLID	<u>40.77</u>	<u>43.64</u>	<u>N/A</u>	%

Final page for worklist # 19538

Rob King 8/20/97
Analyst Signature Date

Frank Mark 8-23-97
Analyst Signature Date

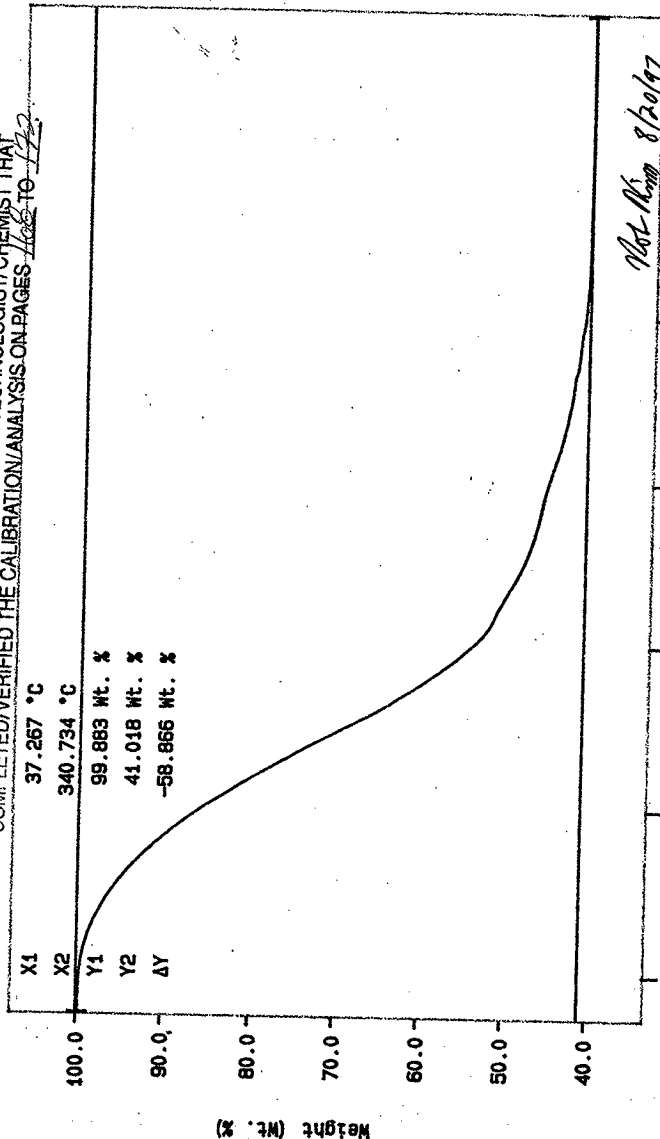
Validated 8/25/97 Anchor

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.

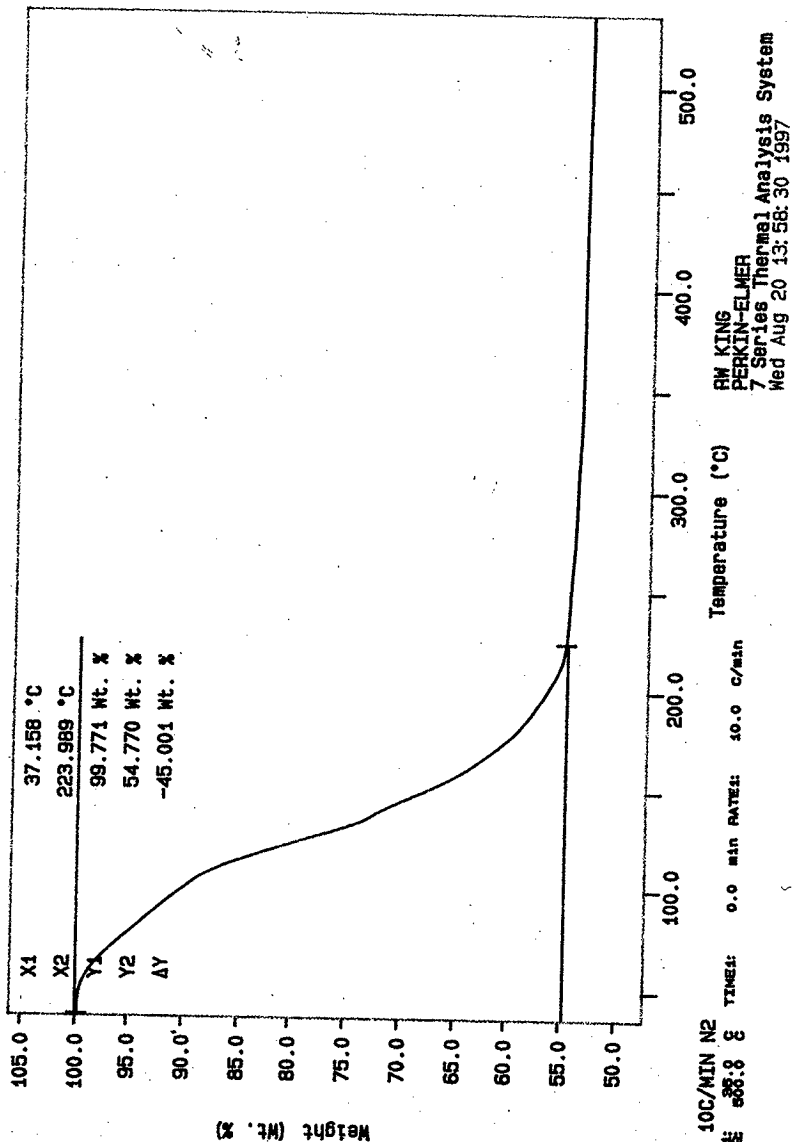
Curve 1: T6A
 File Info: TER082001 Wed Aug 20 06:48:09 1997
 Sample Weight: 19.253 mg
 STD 103N8-A

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 168 TO 172



10C/MIN N2
 TIME: 355.8 S
 RATE: 305.8 S
 0.0 min RATE: 10.0 C/min
 RW KING
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Wed Aug 20 11:41:23 1997

Curve 1: TGA
 File Info: SAM082007 Wed Aug 20 12:13:59 1997
 Sample Weight: 18.216 mg
 S977001783

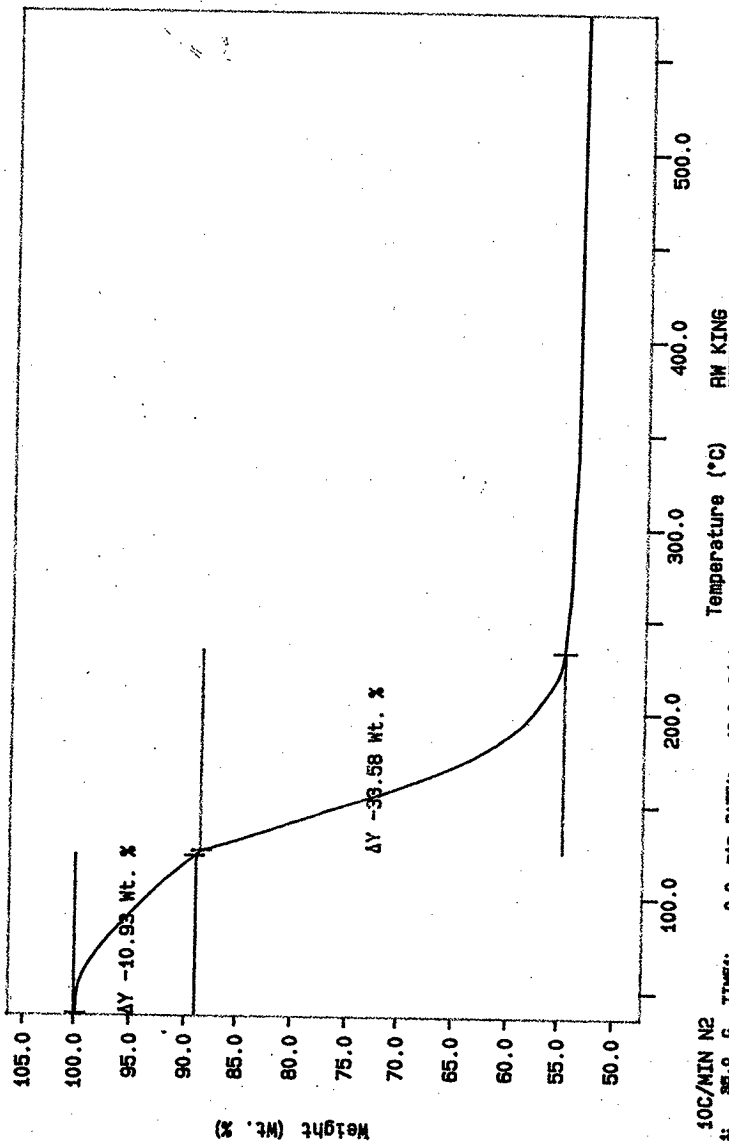


Curve 1: TGA

File Info: SA082008 Wed Aug 20 14:26:19 1997

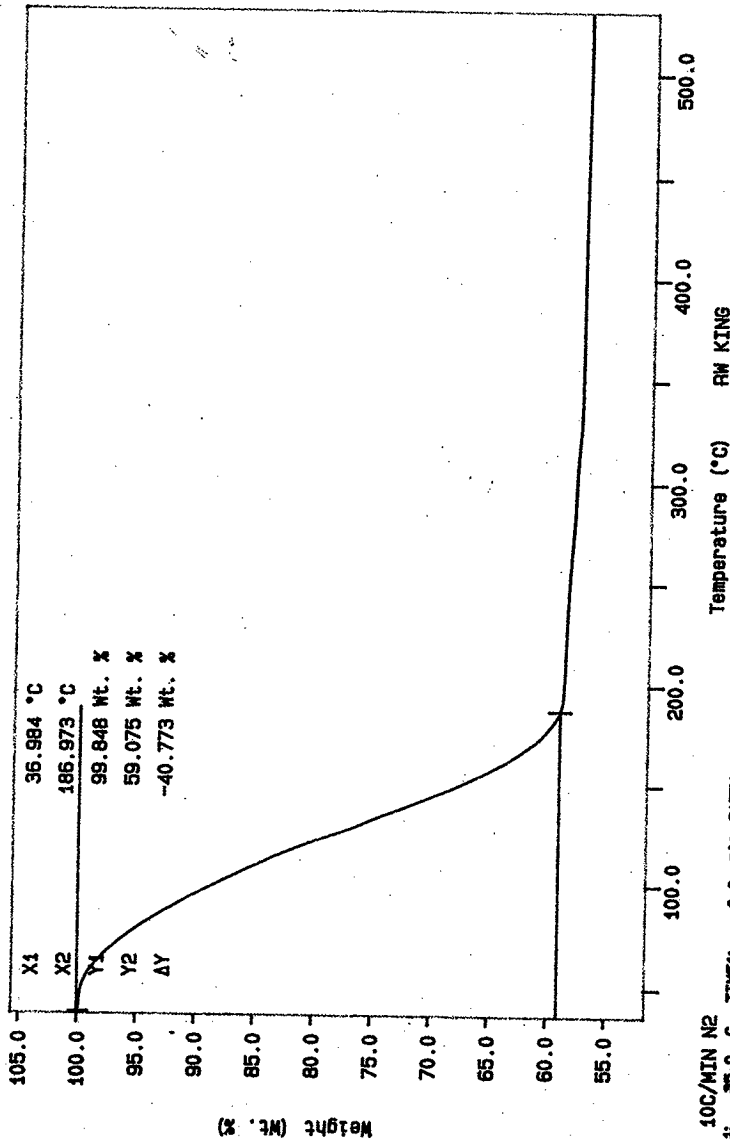
Sample Weight: 35.381 mg

S97T001783 DUP



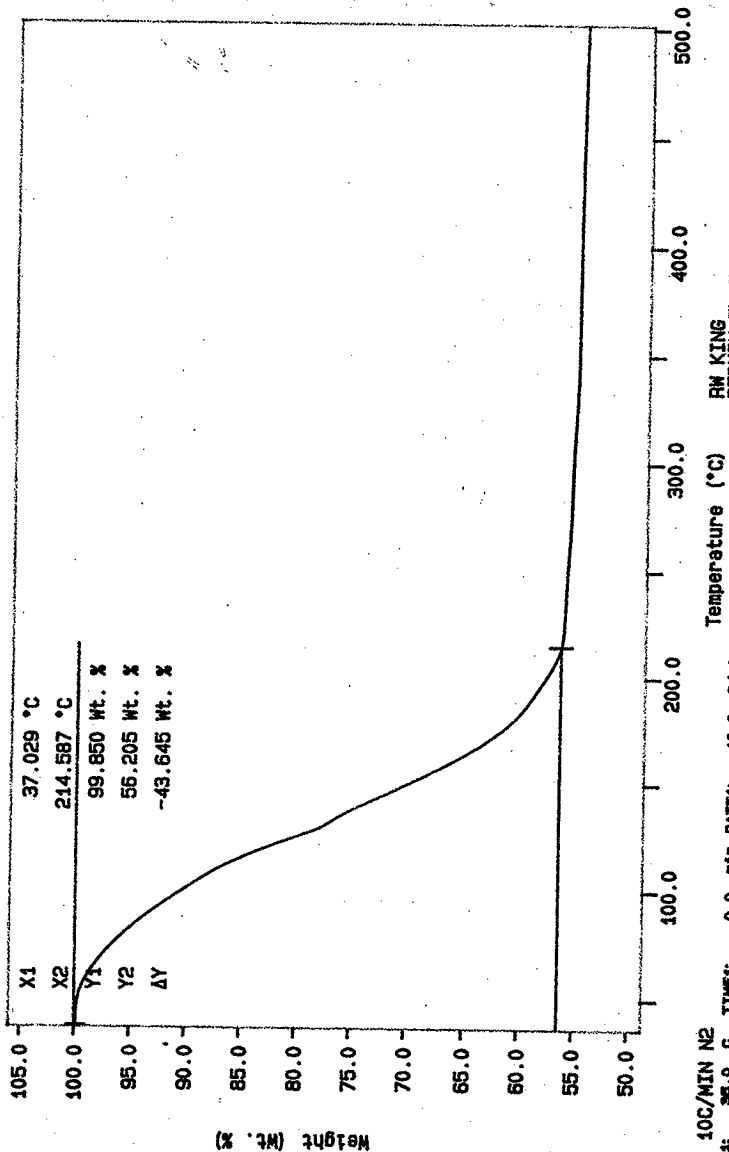
RM KING
PERKIN-ELMER
7 Series Thermal Analysis System
Wed Aug 20 14:46:45 1997

Curve 1: TGA
 File Info: SAM082009 Wed Aug 20 15:27:49 1997
 Sample Weight: 17.881 mg
 S977001784



RM KING
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Wed Aug 20 15:30:05 1997

Curve 1: TGA
 File Info: SAH082010 Wed Aug 20 16:26:14 1997
 Sample Weight: 19.760 mg
 S97T001784 DUP



RM KING
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Wed Aug 20 16:26:29 1997

LABCORE Data Entry Template for Worklist# 19562

Analyst: ds Instrument: TGA0 3 Book # 103 N84

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

Worklist Comment: AP105, TGA-03 Run under Nitrogen. skm

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-03	LIQUID	59.0	58.43X	N/A	%
97000455	AP-105 (P)	2 SAMPLE	S97T001689	0	TGA-03	LIQUID	N/A	99.56		%
97000455	AP-105 (P)	3 DUP	S97T001689	0	TGA-03	LIQUID	99.56	99.72	N/A	%

Final page for worklist # 19562

Analyst Signature

Date

8/20/97

Analyst Signature

Date

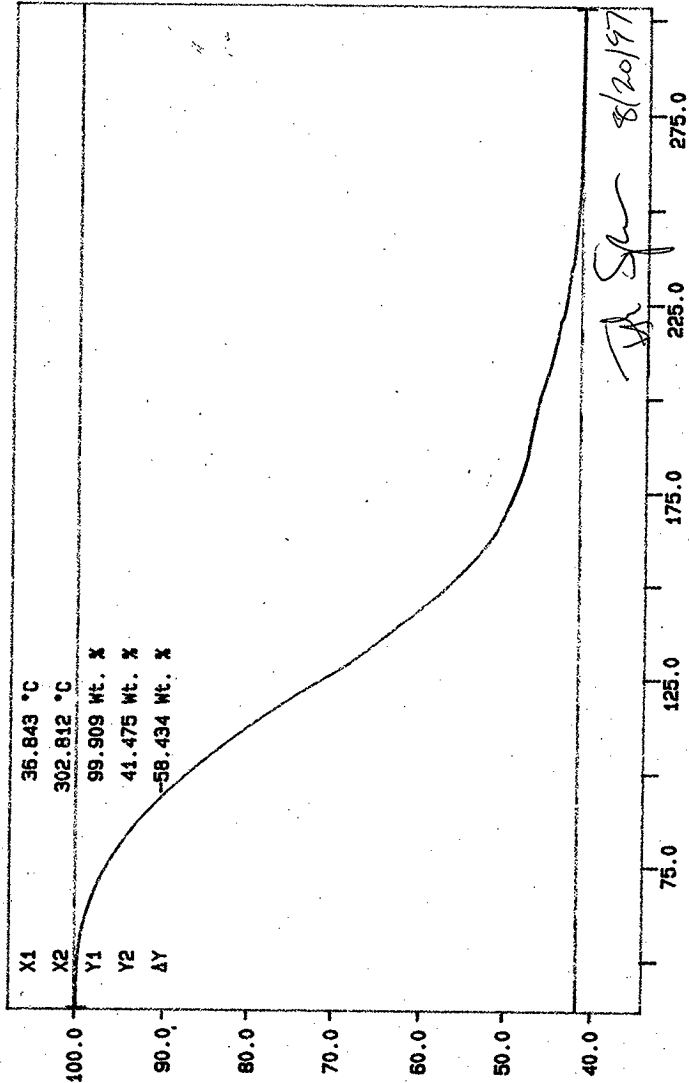
8-25-97

Data Entry Comments:

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

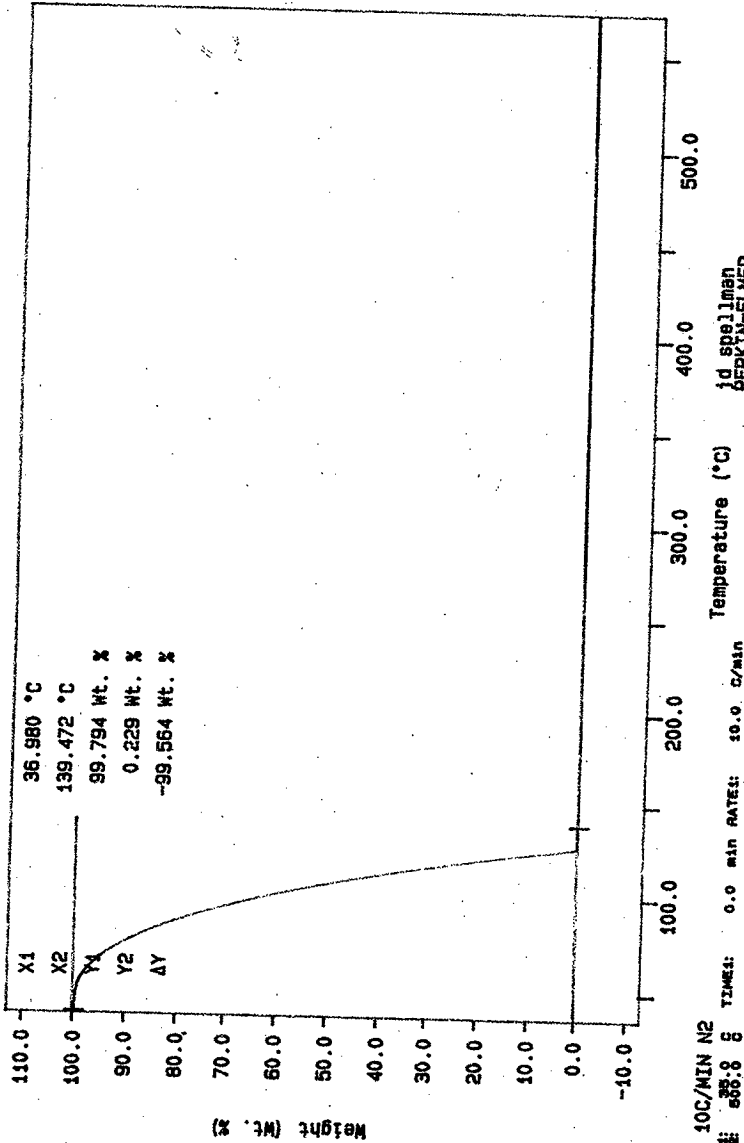
Curve 1: TGA
 File Info: TER081901 Tue Aug 19 07:10:04 1997
 Sample Weight: 22.872 mg
 STD 103N8-A

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 174 TO 176.



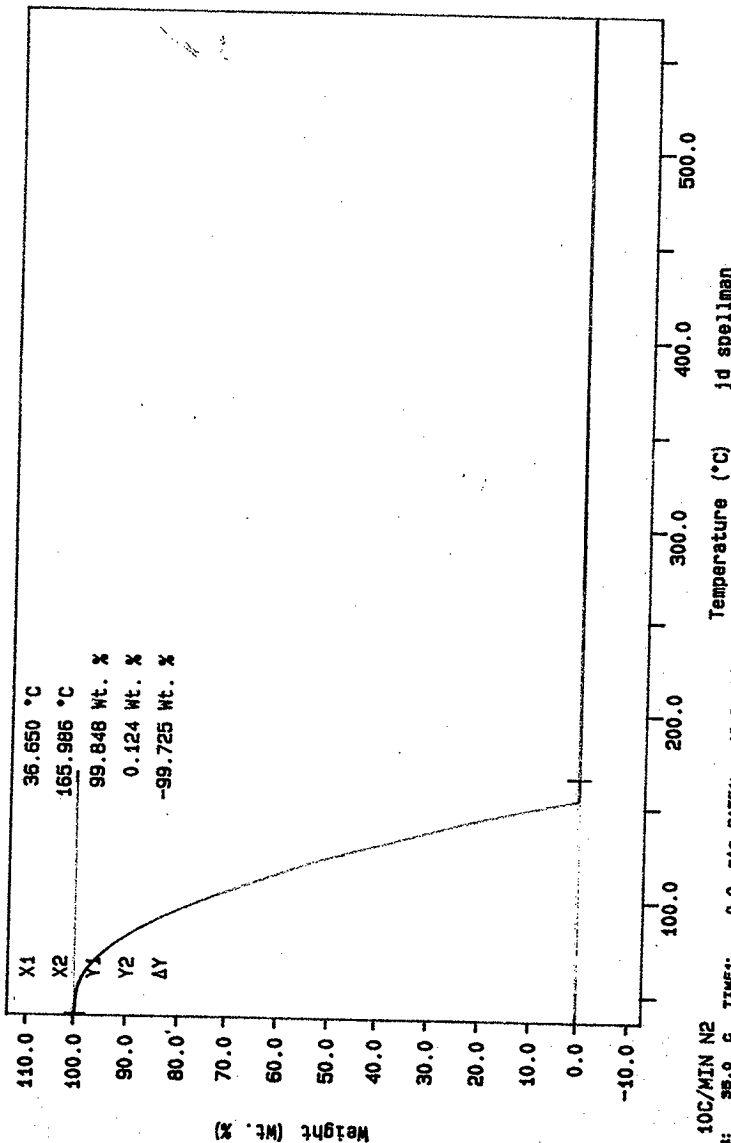
100/MIN N2
 TIME1: 25.8 S
 TIME2: 300.8 S
 0.0 MIN RATE: 10.0 C/min
 Temperature (°C)
 RW KING
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Tue Aug 19 19:01:43 1997

Curve 1: TGA
 File info: SA0081905 Tue Aug 19 19:59:55 1997
 Sample Weight: 11.465 mg
 S97T001889



id spellman
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Tue Aug 19 20:10:51 1997

Curve 1: TGA
 File Info: SAM081906 Tue Aug 19 21:10:41 1997
 Sample Weight: 27.752 mg
 S97T001689DUP



jd spellman
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Tue Aug 19 21:44:51 1997

worklistrpt Version 2.1 05/15/95
07/16/97 10:48

Page: 1

LABCORE Data Entry Template for Worklist# 19337

Analyst: RM Instrument: BA001 Book # 133N16-AMethod: LA-510-112 Rev/Mod D-1Worklist Comment: AP-105 AND AW-104 SPG. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			SPG-01	LIQUID	<u>1.397</u>	<u>1.414</u>	<u>N/A</u>	Sp.G.
97000427	AW-104	2 SAMPLE	S97T001639	0	SPG-01	LIQUID	<u>N/A</u>	<u>1.388</u>	<u>0.010</u>	Sp.G.
97000427	AW-104	3 DUP	S97T001639	0	SPG-01	LIQUID	<u>1.388</u>	<u>1.364</u>	<u>N/A</u>	Sp.G.
97000427	AW-104	4 SAMPLE	S97T001640	0	SPG-01	LIQUID	<u>N/A</u>	<u>1.467</u>	<u>0.010</u>	Sp.G.
97000427	AW-104	5 DUP	S97T001640	0	SPG-01	LIQUID	<u>1.467</u>	<u>1.494</u>	<u>N/A</u>	Sp.G.
97000427	AW-104	6 SAMPLE	S97T001641	0	SPG-01	LIQUID	<u>N/A</u>	<u>1.393</u>	<u>0.010</u>	Sp.G.
97000427	AW-104	7 DUP	S97T001641	0	SPG-01	LIQUID	<u>1.383</u>	<u>1.417</u>	<u>N/A</u>	Sp.G.
97000455	AP-105 (P)	8 SAMPLE	S97T001721	0	SPG-01	LIQUID	<u>N/A</u>	<u>1.254</u>	<u>0.010</u>	Sp.G.
97000455	AP-105 (P)	9 DUP	S97T001721	0	SPG-01	LIQUID	<u>1.254</u>	<u>1.291</u>	<u>N/A</u>	Sp.G.
97000455	AP-105 (P)	10 SAMPLE	S97T001723	0	SPG-01	LIQUID	<u>N/A</u>	<u>1.407</u>	<u>0.010</u>	Sp.G.
97000455	AP-105 (P)	11 DUP	S97T001723	0	SPG-01	LIQUID	<u>1.407</u>	<u>1.375</u>	<u>N/A</u>	Sp.G.

Final page for worklist # 19337

RaeAnn Green 07-17-97
Analyst Signature Date

Susan Bee 7/18/97
Analyst Signature Date
Approved RW Schach 7/21/97

S97T00 1639, 1641 - muddy, left residual in pipette.

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)	1.4930	1.5002
Work List	Tare Weight (W1)	1.3869	1.3947
19337	Weight of Solution (W2-W1)	0.1061	0.1055
Test Code	Volume of Solution μ L	74.8300	74.8300
SPG-01	Specific Gravity	1.4179	1.4099
Matrix	Specific Gravity (Average)	1.4139	
LIQUID			
Sample #			
STD			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
RAG	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L}/\text{mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
Date			
07/17/97	v RESULT v		
Time	Specific Gravity Average =	1.414	
04:00 PM			

Data Entry by:	Date:	07/18/97
Approved by:	Date:	7/21/97
Form 510112L1 Rev. 1.1		

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

Type		SAMPLE	REPLICATE
SAMPLE	Gross Weight (W2)	1.4294	0.0000
Work List	Tare Weight (W1)	1.3255	0.0000
19337	Weight of Solution (W2-W1)	0.1039	0
Test Code	Volume of Solution μ L	74.8300	0.0000
SPG-01	Specific Gravity	1.3885	NA
Matrix			
LIQUID			
Sample #			
S97T001639			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
RAG	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
Date			
07/17/97	v RESULT v		
Time	Specific Gravity =	1.388	
04:00 PM			

Data Entry by:	Date:	07/18/97
Approved by:	Date:	7/21/97

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)	1.4256	0.0000
Work List	Tare Weight (W1)	1.3235	0.0000
19337	Weight of Solution (W2-W1)	0.1021	0
Test Code	Volume of Solution μ L	74.8300	0.0000
SPG-01	Specific Gravity	1.3644	NA
Matrix			
LIQUID			
Sample #			
S97T001639			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
RAG	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
Date			
07/17/97	v RESULT v		
Time	Specific Gravity =	1.364	
04:00 PM			

Data Entry by:	Date: 07/18/97
Approved by: <i>RW Schmedt</i>	Date: 7/21/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

Type		SAMPLE	REPLICATE
SAMPLE	Gross Weight (W2)	1.4771	0.0000
Work List	Tare Weight (W1)	1.3673	0.0000
19337	Weight of Solution (W2-W1)	0.1098	0
Test Code	Volume of Solution μ L	74.8300	0.0000
SPG-01	Specific Gravity	1.4673	NA
Matrix			
LIQUID			
Sample #			
S97T001640			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
RAG	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
Date			
07/17/97	v RESULT v		
Time	Specific Gravity =	1.467	
04:00 PM			

Data Entry by:	Date: 07/18/97
Approved by: <i>SW Schwoedt</i>	Date: 7/21/97
Form 510112L1 Rev. 1.1	Page 1 of 1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

Type		DUP	REPLICATE
DUP	Gross Weight (W2)	1.4194	0.0000
Work List	Tare Weight (W1)	1.3076	0.0000
19337	Weight of Solution (W2-W1)	0.1118	0
Test Code	Volume of Solution μ L	74.8300	0.0000
SPG-01	Specific Gravity	1.4941	NA
Matrix			
LIQUID			
Sample #			
S97T001640			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
RAG	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L}/\text{mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
Date			
07/17/97	v RESULT v		
Time	Specific Gravity =	1.494	
04:00 PM			

Data Entry by:	Date:	07/18/97
Approved by:	Date:	7/21/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

Type		SAMPLE	REPLICATE
SAMPLE	Gross Weight (W2)	1.4518	0.0000
Work List	Tare Weight (W1)	1.3483	0.0000
19337	Weight of Solution (W2-W1)	0.1035	0
Test Code	Volume of Solution μL	74.8300	0.0000
SPG-01	Specific Gravity	1.3831	NA
Matrix			
LIQUID			
Sample #			
S97T001641			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
RA6	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
Date			
07/17/97	ν RESULT ν		
Time	Specific Gravity =	1.383	
04:00 PM			

Data Entry by:	Date:	07/18/97
Approved by:	Date:	7/21/97

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)	1.4490	0.0000
Work List	Tare Weight (W1)	1.3430	0.0000
19337	Weight of Solution (W2-W1)	0.106	0
Test Code	Volume of Solution μ L	74.8300	0.0000
SPG-01	Specific Gravity	1.4165	NA
Matrix			
LIQUID			
Sample #			
S97T001641			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
RAG	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L}/\text{mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
Date			
07/17/97	∇ RESULT ∇		
Time	Specific Gravity =	1.417	
04:00 PM			

Data Entry by:		Date:	07/18/97
Approved by:	<i>DW Schwedn</i>	Date:	7/21/97
Form 510112L1 Rev. 1.1		Page 1 of 1	

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

Type		SAMPLE	REPLICATE
SAMPLE	Gross Weight (W2)	1.4146	0.0000
Work List	Tare Weight (W1)	1.3208	0.0000
19337	Weight of Solution (W2-W1)	0.0938	0
Test Code	Volume of Solution μ L	74.8300	0.0000
SPG-01	Specific Gravity	1.2535	NA
Matrix			
LIQUID			
Sample #			
S97T001721			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
RAG	Specific Gravity = $[(W2-W1) \times 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} \times 1.000 \text{ g/mL}]$		
Date	v RESULT v		
07/17/97			
Time	Specific Gravity =	1.254	
04:00 PM			

Data Entry by:	Date: 07/18/97
Approved by: <i>R. W. Schmidt</i>	Date: 7/21/97
Form 510112L1 Rev. 1.1	Page 1 of 1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

Type		DUP	REPLICATE
DUP	Gross Weight (W2)	1.4772	0.0000
Work List	Tare Weight (W1)	1.3806	0.0000
19337	Weight of Solution (W2-W1)	0.0966	0
Test Code	Volume of Solution μL	74.8300	0.0000
SPG-01	Specific Gravity	1.2909	NA
Matrix			
LIQUID			
Sample #			
S97T001721			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
RAG	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L}/\text{mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g}/\text{mL}]$		
Date			
07/17/97	ν RESULT ν		
Time	Specific Gravity =	1.291	
04:00 PM			

Data Entry by:	Date: 07/18/97
Approved by: <i>RW Schneider</i>	Date: 7/21/97
Form 510112L1 Rev. 1.1	

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

Type		SAMPLE	REPLICATE
SAMPLE	Gross Weight (W2)	1.4740	0.0000
Work List	Tare Weight (W1)	1.3687	0.0000
19337	Weight of Solution (W2-W1)	0.1053	0
Test Code	Volume of Solution μL	74.8300	0.0000
SPG-01	Specific Gravity	1.4072	NA
Matrix			
LIQUID			
Sample #			
S97T001723			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
RAG	Specific Gravity = $[(W2-W1) \times 1000 \mu\text{L}/\text{mL}] / [\text{Vol. of Solution } \mu\text{L} \times 1.000 \text{ g/mL}]$		
Date	v RESULT v		
07/17/97	Specific Gravity =	1.407	
Time			
04:00 PM			

Data Entry by:	Date: 07/18/97
Approved by: <i>R. J. Schneider</i>	Date: 7/21/97

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)	1.4710	0.0000
Work List	Tare Weight (W1)	1.3681	0.0000
19337	Weight of Solution (W2-W1)	0.1029	0
Test Code	Volume of Solution μ L	74.8300	0.0000
SPG-01	Specific Gravity	1.3751	NA
Matrix			
LIQUID			
Sample #			
S97T001723			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
RAG	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
Date			
07/17/97	v RESULT v		
Time	Specific Gravity =	1.375	
04:00 PM			

Data Entry by:

Date: 07/18/97

Approved by:

Date: 7/21/97

LABCORE Data Entry Template for Worklist# 19548

Analyst: SLH Instrument: BA001 Book # 103A8-A ^{REV} 7-29-87
133N16A
Method: LA-510-112 Rev/Mod D-1
Worklist Comment: AP-105 SPG. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			SPG-01	LIQUID	<u>1.39755</u>	<u>1.423</u>	<u>N/A</u>	Sp.G.
97000478	AP-105 (P)	2 SAMPLE	S97T001761	0	SPG-01	LIQUID	<u>N/A</u>	<u>1.271</u>	<u>0.010</u>	Sp.G.
97000478	AP-105 (P)	3 DUP	S97T001761	0	SPG-01	LIQUID	<u>1.271</u>	<u>1.266</u>	<u>N/A</u>	Sp.G.
97000479	AP-105 (P)	4 SAMPLE	S97T001762	0	SPG-01	LIQUID	<u>N/A</u>	<u>1.356</u>	<u>0.010</u>	Sp.G.
97000479	AP-105 (P)	5 DUP	S97T001762	0	SPG-01	LIQUID	<u>1.356</u>	<u>1.348</u>	<u>N/A</u>	Sp.G.

Final page for worklist # 19548

Sandra Hord Bostrycht
Analyst Signature Date

Pat Jones 7-29-87
Analyst Signature Date

Approved RW Schneider 7/30/97

Data Entry Comments:

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

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

Type		STANDARD	STANDARD
STANDARD	Gross Weight (W2)	1.3800	1.4095
Work List	Tare Weight (W1)	1.2737	1.3028
19548	Weight of Solution (W2-W1)	0.1063	0.1067
Test Code	Volume of Solution μ L	74.8300	74.8300
SPG-01	Specific Gravity	1.4206	1.4259
Matrix	Specific Gravity (Average)	1.4232	
LIQUID			
Sample #			
103N8A			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L}/\text{mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
SLH			
Date	v RESULT v		
07/28/97	Specific Gravity Average =	1.423	
Time			
04:50 AM			

Data Entry by:	<i>[Signature]</i>	Date:	07/29/97
Approved by:	<i>[Signature]</i>	Date:	7/30/97
Form 510112L1 Rev. 1.1		Page 1 of 1	

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

Type		SAMPLE	REPLICATE
SAMPLE	Gross Weight (W2)	1.4302	
Work List	Tare Weight (W1)	1.3351	
19548	Weight of Solution (W2-W1)	0.0951	0
Test Code	Volume of Solution μ L	74.8300	
SPG-01	Specific Gravity	1.2709	NA
Matrix			
LIQUID			
Sample#			
S97T001761			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
SLH			
Date	v RESULT v		
07/28/97	Specific Gravity =	1.271	
Time			
04:50 AM			

Data Entry by:	<i>[Signature]</i>	Date:	07/29/97
Approved by:	<i>[Signature]</i>	Date:	7/30/97
Form 510112L1 Rev. 1.1		Page 1 of 1	

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

Type		DUPLICATE	REPLICATE
DUPLICATE	Gross Weight (W2)	1.4202	
Work List	Tare Weight (W1)	1.3255	
19548	Weight of Solution (W2-W1)	0.0947	0
Test Code	Volume of Solution μ L	74.8300	
SPG-01	Specific Gravity	1.2655	NA
Matrix			
LIQUID			
Sample #			
S97T001761			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
SLH			
Date	v RESULT v		
07/28/97	Specific Gravity =	1.266	
Time			
04:50 AM			

Data Entry by:

Date: 07/29/97

Approved by:

Date: 7/30/97

Form 510112L1 Rev. 1.1

Page 1 of 1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

Type		SAMPLE	REPLICATE
SAMPLE	Gross Weight (W2)	1.4439	
Work List	Tare Weight (W1)	1.3424	
19548	Weight of Solution (W2-W1)	0.1015	0
Test Code	Volume of Solution μ L	74.8300	
SPG-01	Specific Gravity	1.3564	NA
Matrix			
LIQUID			
Sample #			
S97T001762			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
SLH	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
Date	v RESULT v		
07/28/97	Specific Gravity =	1.356	
Time			
04:50 AM			

Data Entry by:

Date: 07/29/97

Approved by:

Date: 7/30/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

Type		DUPLICATE	REPLICATE
DUPLICATE	Gross Weight (W2)	1.4449	
Work List	Tare Weight (W1)	1.3440	
19548	Weight of Solution (W2-W1)	0.1009	0
Test Code	Volume of Solution μ L	74.8300	
SPG-01	Specific Gravity	1.3484	NA
Matrix			
LIQUID			
Sample #			
S97T001762			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
SLH	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L}/\text{mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
Date			
07/28/97	v RESULT v		
Time	Specific Gravity =	1.348	
04:50 AM			

Data Entry by:

Date: 07/29/97

Approved by:

Date: 7/30/97

worklistrpt Version 2.1 05/15/95
07/29/97 13:06

Page: 1

LABCORE Data Entry Template for Worklist# 19563

Analyst: 088 Instrument: BA001 Book # 133 N/16-A

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

Worklist Comment: AP105, SPG-01 Use a calibrated pipette. skm

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			SPG-01	LIQUID	<u>1.397</u>	<u>1.386</u>	<u>N/A</u>	Sp.G.
97000455	AP-105 (P)	2 SAMPLE	S97T001689	0	SPG-01	LIQUID	<u>N/A</u>	<u>1.980</u>	<u>0.010</u>	Sp.G.
97000455	AP-105 (P)	3 DUP	S97T001689	0	SPG-01	LIQUID	<u>1.980</u>	<u>1.979</u>	<u>N/A</u>	Sp.G.

Final page for worklist # 19563

088
Analyst Signature

8-3-97
Date

Susan Duv
Analyst Signature

8/03/97
Date

Data Entry Comments:

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

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

Type		STD	REPLICATE
STD	Gross Weight (W2)	1.4849	1.5120
Work List	Tare Weight (W1)	1.3807	1.4073
19563	Weight of Solution (W2-W1)	0.1042	0.1047
Test Code	Volume of Solution μL	75.3800	75.3800
SPG-01	Specific Gravity	1.3823	1.3890
Matrix	Specific Gravity (Average)	1.3856	
LIQUID			
Sample #			
STD			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
DGG			
Date			
08/03/97	v RESULT v		
Time	Specific Gravity Average =	1.386	
07:30 PM			

Data Entry by:

Date: 08/03/97

Approved by:

Date: 8/4/97

Form 510112L1 Rev. 1.1

Page 1 of 1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

Type		SAMPLE	REPLICATE
SAMPLE	Gross Weight (W2)	1.4646	0.0000
Work List	Tare Weight (W1)	1.3907	0.0000
19563	Weight of Solution (W2-W1)	0.0739	0
Test Code	Volume of Solution μ L	75.3800	0.0000
SPG-01	Specific Gravity	0.9804	NA
Matrix			
LIQUID			
Sample #			
S97T001689			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
DGG	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
Date			
08/03/97	∇ RESULT ∇		
Time	Specific Gravity =	0.980	
07:30 PM			

Data Entry by:

Date:

08/03/97

Approved by:

Date:

8/4/97

Form 510112L1 Rev. 1.1

Page 1 of 1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

Type		DUP	REPLICATE
DUP	Gross Weight (W2)	1.4868	0.0000
Work List	Tare Weight (W1)	1.4130	0.0000
19563	Weight of Solution (W2-W1)	0.0738	0
Test Code	Volume of Solution μ L	75.3800	0.0000
SPG-01	Specific Gravity	0.9790	NA
Matrix			
LIQUID			
Sample #			
S97T001689			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
DGG			
Date			
08/03/97	ν RESULT ν		
Time	Specific Gravity =	0.979	
07:30 PM			

Data Entry by:

Date:

08/03/97

Approved by:

R.W. Schneider

Date:

8/4/97

Form 510112L1 Rev. 1.1

Page 1 of 1

HNF-SD-WM-DP-263, REV. 0

LABCORE Completed Worklist Report for Worklist# 19310

Analyst: dgg

Instrument: NH301

Book# 31N19D

Method: LA631-001 Rev/Mod C-0

Worklist Comment: AP-105 AMMONIA, STD SS=1.0ML. RCI

Seq Type	Sample# R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD	0	NH3-01	LIQUID	4.02E+02	4.11E+2	102.239 % Recovery	
2 BLNK	0	NH3-01	LIQUID	1	<0.200e0		ug/mL
3 SAMPLE	S97T001721 0	NH3-01	LIQUID	N/A	3.24E+02	2.500	ug/mL
4 DUP	S97T001721 0	NH3-01	LIQUID	3.24E+2	2.89E+2	11.419 RPD	
5 SPK	S97T001721 0	NH3-01	LIQUID	4.02E+02	3.24E+02	80.597 % Recovery	
6 SAMPLE	S97T001723 0	NH3-01	LIQUID	N/A	1.00E+02	2.500	ug/mL
7 DUP	S97T001723 0	NH3-01	LIQUID	1.00E+2	9.40E+1	6.186 RPD	
8 STD	0	NH3-01	LIQUID	4.02E+02	4.18E+2	103.980 % Recovery	

Final page for worklist# 19310

Analyst Signature

Date

Analyst Signature

Date

RW Schroeder 8/5/97
Reviewer Signature Date

LABCORE Data Entry Template for Worklist# 19310

Analyst: NBS Instrument: NH301 Book # 31119-D

Method: LA-631-001 Rev/Mod C-0

Worklist Comment: AP-105 AMMONIA, STD SS=1.0ML. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			NH3-01	LIQUID			N/A	ug/mL
		2 BLNK			NH3-01	LIQUID			N/A	ug/mL
97000455	AP-105 (P)	3 SAMPLE	S97T001721	0	NH3-01	LIQUID	N/A			ug/mL
97000455	AP-105 (P)	4 DUP	S97T001721	0	NH3-01	LIQUID			N/A	ug/mL
97000455	AP-105 (P)	5 SPK	S97T001721	0	NH3-01	LIQUID			N/A	ug/mL
97000455	AP-105 (P)	6 SAMPLE	S97T001723	0	NH3-01	LIQUID	N/A			ug/mL
97000455	AP-105 (P)	7 DUP	S97T001723	0	NH3-01	LIQUID			N/A	ug/mL
		8 STD			NH3-01	LIQUID			N/A	ug/mL

Final page for worklist # 19310

NBS 8-3-97
Analyst Signature Date

Analyst Signature Date

Data Entry Comments:

Rob, I used .500ml SS., because samples
are almost used up.

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.

DOUBLE KNOWN ADDITION SELECTED
AT 01:21, 08-03-94

SAMPLE VOL= 25.000 AT 01:21, 08-03-94
ENTERED

EMF= 64.0 mV AT 01:24, 08-03-94

EMF= 63.6 mV AT 01:25, 08-03-94

EMF= 63.4 mV AT 01:25, 08-03-94

EMF= 63.4 mV AT 01:25, 08-03-94
ENTERED

STD CONC= 1000 AT 01:26, 08-03-94
ENTERED

STD VOL= .25000 AT 01:26, 08-03-94
ENTERED

EMF= 51.8 mV AT 01:26, 08-03-94

EMF= 51.6 mV AT 01:27, 08-03-94
ENTERED

STD VOL= 2.5000 AT 01:27, 08-03-94
ENTERED

EMF= 14.8 mV AT 01:28, 08-03-94

EMF= 14.3 mV AT 01:28, 08-03-94

EMF= 14.2 mV AT 01:29, 08-03-94
ENTERED

1:NH3 SLOPE=-58.7 mV/DEC
AT 01:29, 08-03-94

1:NH3 CONC= 16.5

Beginning std
std # 3/N19-D
SS = 1.0 ml

Total Vol = 25 ml

DOUBLE KNOWN ADDITION SELECTED
AT 19:20, 08-02-94

SAMPLE VOL= 25.000 AT 19:20, 08-02-94
ENTERED

EMF= 181.3 mV AT 19:39, 08-02-94

EMF= 181.9 mV AT 19:39, 08-02-94

EMF= 182.3 mV AT 19:39, 08-02-94

EMF= 182.7 mV AT 19:40, 08-02-94

EMF= 183.2 mV AT 19:40, 08-02-94

EMF= 183.3 mV AT 19:40, 08-02-94
ENTERED

STD CONC= 1000 AT 19:41, 08-02-94
ENTERED

STD VOL= .25000 AT 19:41, 08-02-94
ENTERED

EMF= 57.3 mV AT 19:44, 08-02-94

EMF= 55.9 mV AT 19:45, 08-02-94

EMF= 55.6 mV AT 19:45, 08-02-94

EMF= 55.6 mV AT 19:45, 08-02-94
ENTERED

STD VOL= 2.5000 AT 19:46, 08-02-94
ENTERED

EMF=-3.6 mV AT 19:49, 08-02-94

EMF=-3.6 mV AT 19:49, 08-02-94
ENTERED

1:NH3 SLOPE=-59.3 mV/DEC
AT 19:49, 08-02-94

1:NH3 CONC= .0703

Blank
WL #19310

25 ml
Q142

Total Vol = 25 ml

DOUBLE KNOWN ADDITION SELECTED
AT 02:02, 08-03-94

SAMPLE VOL= 25.000 AT 02:02, 08-03-94
ENTERED

EMF= 91.5 mV AT 02:05, 08-03-94

EMF= 87.7 mV AT 02:06, 08-03-94

EMF= 80.3 mV AT 02:10, 08-03-94

EMF= 79.8 mV AT 02:10, 08-03-94

EMF= 76.7 mV AT 02:12, 08-03-94

EMF= 74.3 mV AT 02:14, 08-03-94

EMF= 72.8 mV AT 02:15, 08-03-94

EMF= 71.1 mV AT 02:16, 08-03-94

EMF= 71.2 mV AT 02:17, 08-03-94
ENTERED

STD CONC= 1000 AT 02:17, 08-03-94
ENTERED

STD VOL= .25000 AT 02:17, 08-03-94
ENTERED

EMF= 47.6 mV AT 02:19, 08-03-94

EMF= 47.4 mV AT 02:19, 08-03-94
ENTERED

STD VOL= 2.5000 AT 02:19, 08-03-94
ENTERED

EMF=-0.8 mV AT 02:20, 08-03-94

EMF=-0.8 mV AT 02:21, 08-03-94
ENTERED

1:NH3 SLOPE=-59.7 mV/DEC
AT 02:21, 08-03-94

1:NH3 CONC= 6.55

S97700 1721

SS = 0.500 ml

Total Vol = 25 ml

DOUBLE KNOWN ADDITION SELECTED
AT 02:35, 08-03-94

SAMPLE VOL= 25.000 AT 02:35, 08-03-94
ENTERED

EMF= 83.0 mV AT 02:38, 08-03-94

EMF= 80.7 mV AT 02:39, 08-03-94

EMF= 79.4 mV AT 02:40, 08-03-94

EMF= 76.9 mV AT 02:41, 08-03-94

EMF= 76.1 mV AT 02:42, 08-03-94

EMF= 74.1 mV AT 02:43, 08-03-94

EMF= 73.7 mV AT 02:44, 08-03-94

EMF= 73.5 mV AT 02:44, 08-03-94

EMF= 73.2 mV AT 02:44, 08-03-94
ENTERED

STD CONC= 1000 AT 02:44, 08-03-94
ENTERED

STD VOL= .25000 AT 02:44, 08-03-94
ENTERED

EMF= 47.2 mV AT 02:46, 08-03-94

EMF= 47.1 mV AT 02:46, 08-03-94
ENTERED

STD VOL= 2.5000 AT 02:47, 08-03-94
ENTERED

EMF=-3.0 mV AT 02:48, 08-03-94

EMF=-3.0 mV AT 02:48, 08-03-94
ENTERED

1:NH3 SLOPE=-60.9 mV/DEC
AT 02:48, 08-03-94

1:NH3 CONC= 5.85

597700 1721 Dup

SS = 0.500 ml

TOTAL Vol = 25 ml

DOUBLE KNOWN ADDITION SELECTED
AT 03:37, 08-03-94

SAMPLE VOL= 25.000 AT 03:37, 08-03-94
ENTERED

EMF= 53.2 mV AT 03:39, 08-03-94

EMF= 52.6 mV AT 03:39, 08-03-94

EMF= 52.8 mV AT 03:39, 08-03-94
ENTERED

STD CONC= 1000 AT 03:40, 08-03-94
ENTERED

STD VOL= .25000 AT 03:40, 08-03-94
ENTERED

EMF= 34.1 mV AT 03:41, 08-03-94

EMF= 34.0 mV AT 03:41, 08-03-94
ENTERED

STD VOL= 2.5000 AT 03:42, 08-03-94
ENTERED

EMF=-10.6 mV AT 03:43, 08-03-94

EMF=-10.7 mV AT 03:43, 08-03-94

EMF=-10.7 mV AT 03:44, 08-03-94
ENTERED

1:NH3 SLOPE=-59.3 mV/DEC
AT 03:44, 08-03-94

1:NH3 CONC= 9.14

S977001721-Spk

SS = 0.500 ml

Spk # 31019-D

Spk Vol. = 0.200 ml

Total Vol. = 25 ml

DOUBLE KNOWN ADDITION SELECTED
AT 03:54, 08-03-94

SAMPLE VOL= 25.000 AT 03:54, 08-03-94
ENTERED

EMF= 91.2 mV AT 03:57, 08-03-94

EMF= 91.0 mV AT 03:57, 08-03-94

EMF= 90.9 mV AT 03:57, 08-03-94
ENTERED

STD CONC= 1000 AT 03:58, 08-03-94
ENTERED

STD VOL= .25000 AT 03:58, 08-03-94
ENTERED

EMF= 45.7 mV AT 03:59, 08-03-94

EMF= 45.4 mV AT 04:00, 08-03-94

EMF= 45.3 mV AT 04:00, 08-03-94
ENTERED

STD VOL= 2.5000 AT 04:01, 08-03-94
ENTERED

EMF=-10.1 mV AT 04:02, 08-03-94

EMF=-10.2 mV AT 04:02, 08-03-94
ENTERED

1:NH3 SLOPE=-59.9 mV/DEC
AT 04:02, 08-03-94

1:NH3 CONC= 2.07

5977001723

SS = 0.500 ml

Total Vol = 25 ml

DOUBLE KNOWN ADDITION SELECTED
AT 04:05, 08-03-94

SAMPLE VOL= 25.000 AT 04:06, 08-03-94
ENTERED

EMF= 103.8 mV AT 04:09, 08-03-94

EMF= 102.7 mV AT 04:10, 08-03-94

EMF= 100.3 mV AT 04:11, 08-03-94

EMF= 96.5 mV AT 04:14, 08-03-94

EMF= 95.7 mV AT 04:14, 08-03-94

EMF= 92.9 mV AT 04:17, 08-03-94

EMF= 91.1 mV AT 04:18, 08-03-94

EMF= 90.8 mV AT 04:19, 08-03-94

EMF= 90.6 mV AT 04:19, 08-03-94
ENTERED

STD CONC= 1000 AT 04:19, 08-03-94
ENTERED

STD VOL= .25000 AT 04:19, 08-03-94
ENTERED

EMF= 44.8 mV AT 04:20, 08-03-94

EMF= 44.4 mV AT 04:21, 08-03-94

EMF= 44.5 mV AT 04:21, 08-03-94

EMF= 44.3 mV AT 04:21, 08-03-94
ENTERED

STD VOL= 2.5000 AT 04:22, 08-03-94
ENTERED

EMF=-10.6 mV AT 04:23, 08-03-94

EMF=-10.7 mV AT 04:23, 08-03-94
ENTERED

1:NH3 SLOPE=-59.1 mV/DEC
AT 04:23, 08-03-94

1:NH3 CONC= 1.95

5977001723-Dup

SS = 0.500 ml

Total Vol = 25 ml

DOUBLE KNOWN ADDITION SELECTED
AT 04:43, 08-03-94

SAMPLE VOL= 25.000 AT 04:43, 08-03-94
ENTERED

EMF= 37.8 mV AT 04:43, 08-03-94

EMF= 37.7 mV AT 04:44, 08-03-94

EMF= 37.7 mV AT 04:44, 08-03-94

EMF= 37.8 mV AT 04:45, 08-03-94

EMF= 37.8 mV AT 04:45, 08-03-94

EMF= 37.9 mV AT 04:45, 08-03-94

EMF= 37.9 mV AT 04:46, 08-03-94

EMF= 37.7 mV AT 04:46, 08-03-94
ENTERED

STD CONC= 1000 AT 04:46, 08-03-94
ENTERED

STD VOL= .25000 AT 04:46, 08-03-94
ENTERED

EMF= 26.0 mV AT 04:47, 08-03-94

EMF= 25.8 mV AT 04:47, 08-03-94
ENTERED

STD VOL= 2.5000 AT 04:48, 08-03-94
ENTERED

EMF=-12.2 mV AT 04:49, 08-03-94

EMF=-12.2 mV AT 04:49, 08-03-94
ENTERED

1:NH3 SLOPE=-59.9 mV/DEC
AT 04:49, 08-03-94

1:NH3 CONC= 16.8

Ending std.

SS 21.0 ml

std # 31N19-D

Total Vol = 25 ml

WORKBOOK PAGE: STD1

AMMONIA (NH3) : LA-631-001 (C-0)

LIQUIDS/SOLIDS

		STD
Type	Instrument Data (µg/mL)	16.500
STD	Blank Result from the Instrument (µg/mL) ID	0.0703
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL) VSAM	1.0
19310	Final Vol of Dilution (mL) or Vol of Sample Direct (mL) FVOL	25.0
Test Code	LCS Standard Book Number LCS	31N19D
NH3-01	LCS Standard Concentration (µg/mL) STD VAL	4.02E+02
Matrix		
LIQUID		
Batch Number		
97003426		
Re-run		
0		
Sample Prep		
N/A	NH3 Concentration (µg/mL) NH3 CONC	4.11E+02
Sample #		
STANDARD	Method Detection Limit (µg/mL) 5.00 µg/mL	
Instrument Code		
NH301		
Prepared By		
RCJ	NH3 Concentration (µg/mL) = (ID-BR) * (FVOL / VSAM)	
Chemist		
RWS		
Analyst		
DGG	LCS Standard % Recovery = (NH3 CONC / STD VAL) * 100	
Date Complete		
08/04/97		
Analysis Date		
08/03/97		
Analysis Time	LCS Standard % Recovery	102%
05:00 AM		
Sample Point	NH3 Concentration (µg/mL)	4.11E+02
AP-105		

Analyst:	DGG Date: 08/04/97
Signature of Chemist:	RWS Date: 8/5/97
SAMPLE.WB1 REV XX	37810NML

WORKBOOK PAGE: BLANK2

AMMONIA (NH3) : LA-631-001 (C-0)

LIQUIDS/SOLIDS

		BLNK
Type	Instrument Data (µg/mL)	ID 0.070
BLNK	Blank Result from the Instrument (µg/mL)	BR 0.0703
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL)	VSAM 1.0
19310	Final Vol of Dilution (mL) or Vol of Sample Direct (mL)	FVOL 25.0
Test Code		
NH3-01		
Matrix		
LIQUID		
Batch Number		
97003426		
Rerun		
0		
Sample Prep		
N/A	NH3 Concentration (µg/mL)	NH3 CONC < 1.00E+00
Sample #		
BLANK	Method Detection Limit (µg/mL)	1.00 RWS 8/5/97 + 200µg/ml
Instrument Code		
NH301		
Prepared By		
RCJ	NH3 Concentration (µg/mL) = (BR) * (FVOL / VSAM)	
Chemist		
RWS		
Analyst		
DGG		
Date Complete		
08/04/97		
Analysis Date		
08/03/97		
Analysis Time		
05:00 AM		
Sample Point	NH3 Concentration (µg/mL)	< 1.00E+00
AP-105		

Analyst:

DGG Date: 08/04/97

Signature of Chemist:

RWS Date: 8/5/97

SAMPLE.WB1 REV XX

37810NML

WORKBOOK PAGE: SAM3

AMMONIA (NH3) : LA-631-001 (C-0)

LIQUIDS/SOLIDS

		SAMPLE
Type	Instrument Data (µg/mL)	ID 6.550
SAMPLE	Blank Result from the Instrument (µg/mL)	BR 0.0703
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL)	VSAM 0.5
19310	Final Vol of Dilution (mL) or Vol of Sample Direct (mL)	FVOL 25.0
Test Code		
NH3-01		
Matrix		
LIQUID		
Batch Number		
97003426		
Run		
0		
Sample Prep		
N/A	NH3 Concentration (µg/mL)	NH3 CONC 3.24E+02
Sample #		
S97T001721	Method Detection Limit (µg/mL)	1.00 RWS 8/5/97
Instrument Code		
NH301		
Prepared By		
RCI	NH3 Concentration (µg/mL) = (ID-BR) * (FVOL / VSAM)	
Chemist		
RWS		
Analyst		
DGC		
Date Complete		
08/04/97		
Analysis Date		
08/03/97		
Analysis Time		
05:00 AM		
Sample Point	NH3 Concentration (µg/mL)	3.24E+02
AP-105		

$5 \mu\text{g} / 1.5 \text{ ml} = 2.5$

Analyst:

DGG Date: 08/04/97

Signature of Chemist:

RWS Date: 8/5/97

SAMPLE.WB1 REV XX

37810NML

WORKBOOK PAGE: DUP4

AMMONIA (NH3) : LA-631-001 (C-0)

LIQUIDS/SOLIDS

		DUP
Type	Instrument Data (µg/mL)	ID 5.850
DUP	Blank Result from the Instrument (µg/mL)	BR 0.0703
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL)	VSAM 0.5
19310	Final Vol of Dilution (mL) or Vol of Sample Direct (mL)	FVOL 25.0
Test Code		
NH3-01		
Matrix		
LIQUID		
Batch Number	Sample Concentration (µg/mL)	SAM CONC 3.24E+02
97003426		
Rerun		
0		
Sample Prep		
N/A	NH3 Concentration (µg/mL)	NH3 CONC 2.89E+02
Sample #		
S97T001721	Method Detection Limit (µg/mL)	1.00
Instrument Code		
NH301	RPD (DUP & SAM) = Absolute Val. ((NH3 CONC - SAM CONC) / ((NH3 CONC + SAM CONC) / 2)) * 1	
Prepared By		
RCJ	NH3 Concentration (µg/mL) = (ID-BR) * (FVOL / VSAM)	
Chemist		
RWS		
Analyst		
DGG		
Date Complete		
08/04/97		
Analysis Date		
08/03/97		
Analysis Time		
05:00 AM	RPD (DUP & SAM)	11%
Sample Point	NH3 Concentration (µg/mL)	2.89E+02
AP-105		

5/5=25
RWS 8/5/97

Analyst:

DGG Date: 08/04/97

Signature of Chemist:

RWS Date: 8/5/97

SAMPLE.WB1 REV XX

37810NML

WORKBOOK PAGE: SPIKE5

AMMONIA (NH3) : LA-631-001 (C-0)

LIQUIDS/SOLIDS

		SPK
Type	Instrument Data (µg/mL)	ID
SPK	Blank Result from the Instrument (µg/mL)	BR
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL)	VSAM
19310	Final Vol of Dilution (mL) or Vol of Sample Direct (mL)	FVOL
Test Code	Spike Book Number	SPK
NH3-01	Spike Value (µg/mL)	SPK VAL
Matrix	Vol of Spike Standard Used (mL)	VOL SPK
LIQUID		
Batch Number		
97003426		
Rerun	Sample Instrument Data (µg/mL)	SAM ID
0	Sample Volume of Sample (mL)	SAM VSAM
Sample Prep	Sample Final Volume (mL)	SAM FVOL
N/A	NH3 Concentration (µg/mL)	NH3 CONC
Sample #		
S97T001721	Method Detection Limit (µg/mL)	1.00
Instrument Code		
NH301		
Prepared By		
RCJ	NH3 Concentration (µg/mL) = (ID-BR) * (FVOL / VSAM)	
Chemist		
RWS	QC ACTUAL = SPK VAL	
Analyst	QC FOUND = (((ID-BR) * FVOL) - (SAM ID - BR) * SAM FVOL * (VSAM / SAM VSAM)) / Vol Spk	
DGG	Spike % Recovery =	
Date Complete	((((ID-BR) * FVOL) - (SAM ID - BR) * SAM FVOL * (VSAM / SAM VSAM)) / (SPK VAL * VOL SPK)) * 100	
08/04/97		
Analysis Date	QC ACTUAL (µg)	4.02E+02
08/03/97	QC FOUND (µg)	3.24 6.48E+01
Analysis Time	Spike % Recovery	81%
05:00 AM		
Sample Point	NH3 Concentration (µg/mL)	4.53E+02
AP-105		

Analyst:

Signature of Chemist:

SAMPLE.WB1 REV XX

DGG Date: 08/04/97

RWS Date: 8/5/97

37810NML

WORKBOOK PAGE: SAM6

AMMONIA (NH3) : LA-631-001 (C-0)

LIQUIDS/SOLIDS

		SAMPLE
Type	Instrument Data (µg/mL)	ID 2.070
SAMPLE	Blank Result from the Instrument (µg/mL)	BR 0.0703
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL)	VSAM 0.5
19310	Final Vol of Dilution (mL) or Vol of Sample Direct (mL)	FVOL 25.0
Test Code		
NH3-01		
Matrix		
LIQUID		
Batch Number		
97003426		
Run		
0		
Sample Prep		
N/A	NH3 Concentration (µg/mL)	NH3 CONC 1.00E+02
Sample #		
S97T001723	Method Detection Limit (µg/mL)	5 / 500 = 2.5 - 1.00
Instrument Code		RWS 8/5/97
NH301		
Prepared By		
RCJ	NH3 Concentration (µg/mL) = (ID-BR) * (FVOL / VSAM)	
Chemist		
RWS		
Analyst		
DGC		
Date Complete		
08/04/97		
Analysis Date		
08/03/97		
Analysis Time		
05:00 AM		
Sample Point	NH3 Concentration (µg/mL)	1.00E+02
AP-105		

Analyst:

DGC Date: 08/04/97

Signature of Chemist:

RWS Date: 8/5/97

SAMPLE:WB1 REV XX

37810NML

WORKBOOK PAGE: DUP7

AMMONIA (NH3) : LA-631-001 (C-0)

LIQUIDS/SOLIDS

		DUP
Type	Instrument Data (µg/mL)	ID 1.950
DUP	Blank Result from the Instrument (µg/mL)	BR 0.0703
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL)	VSAM 0.5
19310	Final Vol of Dilution (mL) or Vol of Sample Direct (mL)	FVOL 25.0
Test Code		
NH3-01		
Matrix		
LIQUID		
Batch Number	Sample Concentration (µg/mL)	SAM CONC 1.00E+02
97003426		
Rerun		
0		
Sample Prep		
N/A	NH3 Concentration (µg/mL)	NH3 CONC 9.40E+01
Sample #		
S97T001723	Method Detection Limit (µg/mL)	5/5=2.5 1.00 RWS 8/5/97
Instrument Code		
NH301	RPD (DUP & SAM) = Absolute Val. ((NH3 CONC - SAM CONC) / ((NH3 CONC + SAM CONC) / 2)) * 1	
Prepared By		
RCJ	NH3 Concentration (µg/mL) = (ID-BR) * (FVOL / VSAM)	
Chemist		
RWS		
Analyst		
DGC		
Date Complete		
08/04/97		
Analysis Date		
08/03/97		
Analysis Time		
05:00 AM	RPD (DUP & SAM)	6%
Sample Point	NH3 Concentration (µg/mL)	9.40E+01
AP-105		

Analyst:

DGC Date: 08/04/97

Signature of Chemist:

RWS Date: 8/5/97

SAMPLE.WB1 REV XX

37810NML

WORKBOOK PAGE: ST_END8

AMMONIA (NH3) : LA-631-001 (C-0)

LIQUIDS/SOLIDS

		STD
Type	Instrument Data (µg/mL)	ID 16.800
STD	Blank Result from the Instrument (µg/mL)	BR 0.0703
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL)	VSAM 1.0
19310	Final Vol of Dilution (mL) or Vol of Sample Direct (mL)	FVOL 25.0
Test Code	LCS Standard Book Number	LCS 31N19D
NH3-01	LCS Standard Concentration (µg/mL)	STD VAL 4.02E+02
Matrix		
LIQUID		
Batch Number		
97003426		
Retun		
0		
Sample Prep		
N/A	NH3 Concentration (µg/mL)	NH3 CONC 4.18E+02
Sample #		
END STANDARD	Method Detection Limit (µg/mL)	5.00 1.00
Instrument Code		RWS 8/5/97
NH301		
Prepared By		
RCJ	NH3 Concentration (µg/mL) = (ID-BR) * (FVOL / VSAM)	
Chemist		
RWS		
Analyst		
DGG	LCS Standard % Recovery = (NH3 CONC / STD VAL) * 100	
Date Complete		
08/04/97		
Analysis Date		
08/03/97		
Analysis Time	LCS Standard % Recovery	104%
05:00 AM		
Sample Point	NH3 Concentration (µg/mL)	4.18E+02
AP-105		

Analyst:

DGG Date: 08/04/97

Signature of Chemist:

RWS Date: 8/5/97

SAMPLE.WB1 REV XX

37810NML

LABCORE Completed Worklist Report for Worklist# 19522

Analyst: krm

Instrument: NH301

Book# 31N19D

Method: LA631-001 Rev/Mod C-0

Worklist Comment: AP-105 AMMONIA,STD SS=1.0ML. RCJ

Seq Type	Sample# R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD	0	NH3-01	LIQUID	4.02E+02	4.20E+2	104.478 % Recovery	
2 BLNK	0	NH3-01	LIQUID	1	<1.00E+0		ug/mL
3 SAMPLE	S97T001761 0	NH3-01	LIQUID	N/A	1.69E+01	1.000	ug/mL
4 DUP	S97T001761 0	NH3-01	LIQUID	1.69E+1	1.66E+1	1.791	RPD
5 SAMPLE	S97T001762 0	NH3-01	LIQUID	N/A	5.37E+01	1.000	ug/mL
6 DUP	S97T001762 0	NH3-01	LIQUID	5.37E+1	4.84E+1	10.382	RPD
7 STD	0	NH3-01	LIQUID	4.02E+02	4.27E+2	106.213 % Recovery	

Final page for worklist# 19522

Analyst Signature

Date

Analyst Signature

Date

Reviewer Signature

Date

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

LABCORE Data Entry Template for Worklist# 19522

Analyst: KRM Instrument: NH301 Book# 31219D

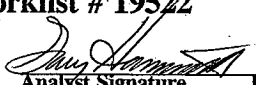
Method: LA-631-001 Rev/Mod _____

Worklist Comment: AP-105 AMMONIA,STD SS=1.0ML. RCJ

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	STD				NH3-01	LIQUID		
2	BLNK				NH3-01	LIQUID		
3	SAMPLE	S97T001761 0			NH3-01	LIQUID	97000478	AP-105 (P)
		Analytes Requested: NH3-01						
4	DUP	S97T001761 0			NH3-01	LIQUID		
5	SAMPLE	S97T001762 0			NH3-01	LIQUID	97000479	AP-105 (P)
		Analytes Requested: NH3-01						
6	DUP	S97T001762 0			NH3-01	LIQUID		
7	STD				NH3-01	LIQUID		

Final page for worklist # 19522


Analyst Signature Date


Analyst Signature Date

Data Entry Comments:

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

SAMPLE VOL= 25.000 AT 21:39, 07-30-94
ENTERED

HNF-SD-WM-DP-263, REV. 0

57D 31N19D

1.0 ml

EMF= 32.9 mV AT 21:40, 07-30-94

EMF= 32.6 mV AT 21:41, 07-30-94

EMF= 32.5 mV AT 21:41, 07-30-94

EMF= 32.5 mV AT 21:43, 07-30-94

EMF= 32.7 mV AT 21:44, 07-30-94

EMF= 32.8 mV AT 21:44, 07-30-94

EMF= 32.9 mV AT 21:45, 07-30-94

EMF= 33.0 mV AT 21:45, 07-30-94

EMF= 33.1 mV AT 21:45, 07-30-94

EMF= 33.2 mV AT 21:46, 07-30-94

EMF= 33.3 mV AT 21:46, 07-30-94

EMF= 33.6 mV AT 21:47, 07-30-94

EMF= 33.8 mV AT 21:47, 07-30-94

EMF= 33.9 mV AT 21:48, 07-30-94

EMF= 34.0 mV AT 21:48, 07-30-94

EMF= 34.1 mV AT 21:48, 07-30-94
ENTERED

STD CONC= 1000 AT 21:49, 07-30-94
ENTERED

STD VOL= .25000 AT 21:49, 07-30-94
ENTERED

EMF= 22.2 mV AT 21:50, 07-30-94

EMF= 22.2 mV AT 21:50, 07-30-94
ENTERED

STD VOL= 2.5000 AT 21:50, 07-30-94
ENTERED

EMF=-16.0 mV AT 21:51, 07-30-94

EMF=-16.0 mV AT 21:51, 07-30-94
ENTERED

1:NH3 SLOPE=-60.5 mV/DEC
AT 21:52, 07-30-94

1:NH3 CONC= 17.0

DOUBLE KNOWN ADDITION SELECTED
AT 21:52, 07-30-94

SAMPLE VOL= 25.000 AT 22:35, 07-30-94
ENTERED

EMF= 146.3 mV AT 22:40, 07-30-94

EMF= 146.5 mV AT 22:40, 07-30-94

EMF= 146.9 mV AT 22:41, 07-30-94

EMF= 147.1 mV AT 22:41, 07-30-94

EMF= 147.5 mV AT 22:42, 07-30-94

EMF= 147.4 mV AT 22:43, 07-30-94
ENTERED

STD CONC= 1000 AT 22:43, 07-30-94
ENTERED

STD VOL= .25000 AT 22:43, 07-30-94
ENTERED

EMF= 48.0 mV AT 22:44, 07-30-94

EMF= 47.7 mV AT 22:45, 07-30-94

EMF= 47.7 mV AT 22:45, 07-30-94
ENTERED

STD VOL= 2.5000 AT 22:46, 07-30-94
ENTERED

EMF=-10.5 mV AT 22:47, 07-30-94

EMF=-10.6 mV AT 22:47, 07-30-94
ENTERED

1:NH3 SLOPE=-58.7 mV/DEC
AT 22:47, 07-30-94

1:NH3 CONC= .203

BLK

1.0 ml

DOUBLE KNOWN ADDITION SELECTED
AT 22:48, 07-30-94

597T00 1761

SAMPLE VOL= 25.000 AT 22:49, 07-30-94
ENTERED

EMF= 109.7 mV AT 22:52, 07-30-94

1.0 mL

EMF= 109.7 mV AT 22:52, 07-30-94
ENTERED

STD CONC= 1000 AT 22:52, 07-30-94
ENTERED

STD VOL= .25000 AT 22:52, 07-30-94
ENTERED

EMF= 46.1 mV AT 22:53, 07-30-94

EMF= 46.0 mV AT 22:53, 07-30-94
ENTERED

STD VOL= 2.5000 AT 22:54, 07-30-94
ENTERED

EMF=-10.5 mV AT 22:54, 07-30-94

EMF=-10.6 mV AT 22:55, 07-30-94

EMF=-10.6 mV AT 22:55, 07-30-94
ENTERED

1:NH3 SLOPE=-58.5 mV/DEC
AT 22:55, 07-30-94

1:NH3 CONC= .878

DOUBLE KNOWN ADDITION SELECTED
AT 22:55, 07-30-94

SAMPLE VOL= 25.000 AT 22:58, 07-30-94
ENTERED

597T001761 Dup

EMF= 110.6 mV AT 23:00, 07-30-94

EMF= 111.0 mV AT 23:01, 07-30-94

EMF= 111.1 mV AT 23:01, 07-30-94
ENTERED

STD CONC= 1000 AT 23:01, 07-30-94
ENTERED

STD VOL= .25000 AT 23:01, 07-30-94
ENTERED

EMF= 47.2 mV AT 23:02, 07-30-94

EMF= 47.1 mV AT 23:03, 07-30-94

EMF= 47.2 mV AT 23:03, 07-30-94
ENTERED

STD VOL= 2.5000 AT 23:04, 07-30-94
ENTERED

EMF=-9.3 mV AT 23:05, 07-30-94

EMF=-9.3 mV AT 23:05, 07-30-94
ENTERED

1:NH3 SLOPE=-58.4 mV/DEC
AT 23:05, 07-30-94

1:NH3 CONC= .865

1.0 ml

DOUBLE KNOWN ADDITION SELECTED
AT 23:06, 07-30-94

597T001762

1.0 ml

SAMPLE VOL= 25.000 AT 23:07, 07-30-94
ENTERED

EMF= 84.9 mV AT 23:09, 07-30-94

EMF= 85.1 mV AT 23:09, 07-30-94
ENTERED

STD CONCN= 1000 AT 23:10, 07-30-94
ENTERED

STD VOL= .25000 AT 23:10, 07-30-94
ENTERED

EMF= 43.3 mV AT 23:11, 07-30-94

EMF= 43.4 mV AT 23:11, 07-30-94
ENTERED

STD VOL= 2.5000 AT 23:11, 07-30-94
ENTERED

EMF=-10.0 mV AT 23:12, 07-30-94

EMF=-10.0 mV AT 23:12, 07-30-94
ENTERED

1:NH3 SLOPE=-58.2 mV/DEC
AT 23:12, 07-30-94

1:NH3 CONCN= 2.35

DOUBLE KNOWN ADDITION SELECTED
AT 23:13, 07-30-94

SAMPLE VOL= 25.000 AT 23:14, 07-30-94
ENTERED

EMF= 85.9 mV AT 23:16, 07-30-94

EMF= 86.2 mV AT 23:16, 07-30-94

EMF= 86.4 mV AT 23:16, 07-30-94
ENTERED

STD CONC= 1000 AT 23:17, 07-30-94
ENTERED

STD VOL= .25000 AT 23:17, 07-30-94
ENTERED

EMF= 43.7 mV AT 23:18, 07-30-94

EMF= 43.6 mV AT 23:18, 07-30-94
ENTERED

STD VOL= 2.5000 AT 23:18, 07-30-94
ENTERED

EMF=-9.8 mV AT 23:19, 07-30-94

EMF=-9.8 mV AT 23:20, 07-30-94

EMF=-9.7 mV AT 23:20, 07-30-94

EMF=-9.6 mV AT 23:21, 07-30-94

EMF=-9.3 mV AT 23:22, 07-30-94

EMF=-9.2 mV AT 23:22, 07-30-94
ENTERED

1:NH3 SLOPE=-57.1 mV/DEC
AT 23:22, 07-30-94

1:NH3 CONC= 2.14

597T001762 Dup

1.0 mL

DOUBLE KNOWN ADDITION SELECTED
AT 23:23, 07-30-94

STD 31N190

SAMPLE VOL= 25.000 AT 23:23, 07-30-94
ENTERED

EMF= 38.8 mV AT 23:24, 07-30-94

EMF= 39.1 mV AT 23:25, 07-30-94

1.0 ml

EMF= 39.2 mV AT 23:25, 07-30-94
ENTERED

STD CONC= 1000 AT 23:25, 07-30-94
ENTERED

STD VOL= .25000 AT 23:25, 07-30-94
ENTERED

EMF= 27.4 mV AT 23:26, 07-30-94

EMF= 27.5 mV AT 23:26, 07-30-94
ENTERED

STD VOL= 2.5000 AT 23:26, 07-30-94
ENTERED

EMF=-10.5 mV AT 23:27, 07-30-94

EMF=-10.4 mV AT 23:27, 07-30-94
ENTERED

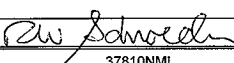
1:NH3 SLOPE=-60.4 mV/DEC
AT 23:27, 07-30-94

1:NH3 CONC= 17.3

WORKBOOK PAGE: STD1

AMMONIA (NH3) : LA-631-001 (C-0)**LIQUIDS/SOLIDS**

		STD
Type	Instrument Data (µg/mL)	ID 17.000
STD	Blank Result from the Instrument (µg/mL)	BR 0.2030
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL)	VSAM 1.0
19522	Final Vol of Dilution (mL) or Vol of Sample Direct (mL)	FVOL 25.0
Test Code	LCS Standard Book Number	LCS 31N19D
NH3-01	LCS Standard Concentration (µg/mL)	STD VAL 4.02E+02
Matrix		
LIQUID		
Batch Number		
97003648		
Rerun		
0		
Sample Prep		
N/A	NH3 Concentration (µg/mL)	NH3 CONC 4.20E+02
Sample #		
STD	Method Detection Limit (µg/mL)	1.00
Instrument Code		
NH301		
Prepared By		
GJH	NH3 Concentration (µg/mL) = (ID-BR) * (FVOL / VSAM)	
Chemist		
RWS		
Analyst		
KRM	LCS Standard % Recovery = (NH3 CONC / STD VAL) * 100	
Date Complete		
07/30/97		
Analysis Date		
07/31/97		
Analysis Time	LCS Standard % Recovery	104%
11:23 PM		
Sample Point	NH3 Concentration (µg/mL)	4.20E+02
AP-105		

Analyst:	KRM	Date:	07/30/97
Signature of Chemist:		RWS	Date: 8/1/97
SAMPLE WB1 REV XX 37810NML			

WORKBOOK PAGE: BLANK2

AMMONIA (NH3) : LA-631-001 (C-0)

LIQUIDS/SOLIDS

		BLNK
Type	Instrument Data (µg/mL)	ID 0.203
BLNK	Blank Result from the Instrument (µg/mL)	BR 0.2030
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL)	VSAM 1.0
19522	Final Vol of Dilution (mL) or Vol of Sample Direct (mL)	FVOL 25.0
Test Code		
Matrix		
LIQUID		
Batch Number		
97003648		
Rerun		
0		
Sample Prep		
N/A	NH3 Concentration (µg/mL)	NH3 CONC < 1.00E+00
Sample #		
	Method Detection Limit (µg/mL)	1.00
Instrument Code		
NH301		
Prepared By		
GJH	NH3 Concentration (µg/mL) = (BR) * (FVOL / VSAM)	
Chemist		
RWS		
Analyst		
KRM		
Date Complete		
07/30/97		
Analysis Date		
07/31/97		
Analysis Time		
11:23 PM		
Sample Point	NH3 Concentration (µg/mL)	< 1.00E+00
AP-105		

Analyst:	KRM	Date:	07/30/97
Signature of Chemist:	<i>RWS</i>	Date:	8/1/97

SAMPLE.WB1 REV XX

37810NML

WORKBOOK PAGE: SAM3

AMMONIA (NH3) : LA-631-001 (C-0)

LIQUIDS/SOLIDS

		SAMPLE
Type	Instrument Data (µg/mL)	ID 0.878
SAMPLE	Blank Result from the Instrument (µg/mL)	BR 0.2030
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL)	VSAM 1.0
19522	Final Vol of Dilution (mL) or Vol of Sample Direct (mL)	FVOL 25.0
Test Code		
Matrix		
LIQUID		
Batch Number		
97003648		
Rerun		
0		
Sample Prep		
N/A	NH3 Concentration (µg/mL)	NH3 CONC 1.69E+01
Sample #		
S97T001761	Method Detection Limit (µg/mL)	1.00
Instrument Code		
NH301		
Prepared By		
GJH	NH3 Concentration (µg/mL) = (ID-BR) * (FVOL / VSAM)	
Chemist		
RWS		
Analyst		
KRM		
Date Complete		
07/30/97		
Analysis Date		
07/31/97		
Analysis Time		
11:23 PM		
Sample Point	NH3 Concentration (µg/mL)	1.69E+01
AP-105		

Analyst:	KRM	Date:	07/30/97
Signature of Chemist:	<i>RW Schroeder</i>	RWS	Date: 8/1/97
SAMPLE.WB1 REV XX			
37810NML			

WORKBOOK PAGE: DUP4

AMMONIA (NH3) : LA-631-001 (C-0)

LIQUIDS/SOLIDS

		DUP
Type	Instrument Data (µg/mL)	ID 0.865
DUP	Blank Result from the Instrument (µg/mL)	BR 0.2030
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL)	VSAM 1.0
19522	Final Vol of Dilution (mL) or Vol of Sample Direct (mL)	FVOL 25.0
Test Code		
Matrix		
LIQUID		
Batch Number	Sample Concentration (µg/mL)	SAM CONC 1.69E+01
97003648		
Rerun		
0		
Sample Prep		
N/A	NH3 Concentration (µg/mL)	NH3 CONC 1.66E+01
Sample #		
S97T001761	Method Detection Limit (µg/mL)	1.00
Instrument Code		
NH301	RPD (DUP & SAM) = Absolute Val. ((NH3 CONC - SAM CONC) / ((NH3 CONC + SAM CONC) / 2)) * 10	
Prepared By		
GJH	NH3 Concentration (µg/mL) = (ID-BR) * (FVOL / VSAM)	
Chemist		
RWS		
Analyst		
KRM		
Date Complete		
07/30/97		
Analysis Date		
07/31/97		
Analysis Time		
11:23 PM	RPD (DUP & SAM)	2%
Sample Point	NH3 Concentration (µg/mL)	1.66E+01
AP-105		

Analyst:	KRM	Date: 07/30/97
Signature of Chemist:	<i>RWS</i>	Date: 8/1/97
SAMPLE.WB1 REV XX	37810NML	

WORKBOOK PAGE: SAM5

AMMONIA (NH3) : LA-631-001 (C-0)

LIQUIDS/SOLIDS

		SAMPLE
Type	Instrument Data (µg/mL)	ID 2.350
SAMPLE	Blank Result from the Instrument (µg/mL)	BR 0.2030
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL)	VSAM 1.0
19522	Final Vol of Dilution (mL) or Vol of Sample Direct (mL)	FVOL 25.0
Test Code		
Matrix		
LIQUID		
Batch Number		
97003648		
Rerun		
0		
Sample Prep		
N/A	NH3 Concentration (µg/mL)	NH3 CONC 5.37E+01
Sample #		
S97T001762	Method Detection Limit (µg/mL)	1.00
Instrument Code		
NH301		
Prepared By		
GJH	NH3 Concentration (µg/mL) = (ID-BR) * (FVOL / VSAM)	
Chemist		
RWS		
Analyst		
KRM		
Date Complete		
07/30/97		
Analysis Date		
07/31/97		
Analysis Time		
11:23 PM		
Sample Point	NH3 Concentration (µg/mL)	5.37E+01
AP-105		

Analyst:	KRM	Date: 07/30/97
Signature of Chemist:	<i>RWS</i>	Date: 8/1/97
SAMPLE.WB1 REV XX 37810NML		

WORKBOOK PAGE: DUP6

AMMONIA (NH3) : LA-631-001 (C-0)

LIQUIDS/SOLIDS

		DUP
Type	Instrument Data (µg/mL)	ID 2.140
DUP	Blank Result from the Instrument (µg/mL)	BR 0.2030
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL)	VSAM 1.0
19522	Final Vol of Dilution (mL) or Vol of Sample Direct (mL)	FVOL 25.0
Test Code		
Matrix		
LIQUID		
Batch Number	Sample Concentration (µg/mL)	SAM CONC 5.37E+01
97003648		
Rerun		
0		
Sample Prep		
N/A	NH3 Concentration (µg/mL)	NH3 CONC 4.84E+01
Sample #		
S97T001762	Method Detection Limit (µg/mL)	1.00
Instrument Code		
NH301	RPD (DUP & SAM) = Absolute Val. ((NH3 CONC - SAM CONC) / ((NH3 CONC + SAM CONC) / 2)) * 10	
Prepared By		
GJH	NH3 Concentration (µg/mL) = (ID-BR) * (FVOL / VSAM)	
Chemist		
RWS		
Analyst		
KRM		
Date Complete		
07/30/97		
Analysis Date		
07/31/97		
Analysis Time		
11:23 PM	RPD (DUP & SAM)	10%
Sample Point	NH3 Concentration (µg/mL)	4.84E+01
AP-105		

Analyst:

KRM Date: 07/30/97

Signature of Chemist:

RWS Date: 8/1/97

SAMPLE.WB1 REV XX

37810NML

WORKBOOK PAGE: ST_END7

AMMONIA (NH3) : LA-631-001 (C-0)

LIQUIDS/SOLIDS

		STD
Type	Instrument Data (µg/mL)	ID 17.300
STD	Blank Result from the Instrument (µg/mL)	BR 0.2030
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL)	VSAM 1.0
19522	Final Vol of Dilution (mL) or Vol of Sample Direct (mL)	FVOL 25.0
Test Code	LCS Standard Book Number	LCS 31N19D
	LCS Standard Concentration (µg/mL)	STD VAL 4.02E+02
Matrix		
Batch Number		
97003648		
Rerun		
0		
Sample Prep		
N/A	NH3 Concentration (µg/mL)	NH3 CONC 4.27E+02
Sample #		
	Method Detection Limit (µg/mL)	1.00
Instrument Code		
NH301		
Prepared By		
GJH	NH3 Concentration (µg/mL) = (ID-BR) * (FVOL / VSAM)	
Chemist		
RWS		
Analyst		
KRM	LCS Standard % Recovery = (NH3 CONC / STD VAL) * 100	
Date Complete		
07/30/97		
Analysis Date		
07/31/97		
Analysis Time	LCS Standard % Recovery	106%
11:23 PM		
Sample Point	NH3 Concentration (µg/mL)	4.27E+02
AP-105		

Analyst:	KRM	Date:	07/30/97
Signature of Chemist:	<i>RWS</i>	Date:	8/1/97
SAMPLE.WB1 REV XX	37810NML		

LABCORE Data Entry Template for Worklist# 19567

Analyst: KCH

Instrument: NH301

Book # 31119-10

Method: LA-631-001 Rev/Mod C-0

Worklist Comment: AP105, NH3-01 skm

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			NH3-01	LIQUID	$4.02e^{+2}$	$4.02e^{+2}$	N/A	ug/mL
97000455	AP-105 (P)	2 SAMPLE	S97T001689 0		NH3-01	LIQUID	N/A	$5.90e^{+1}$	1.00	ug/mL
97000455	AP-105 (P)	3 DUP	S97T001689 0		NH3-01	LIQUID	$5.90e^{+1}$	$6.37e^{+1}$	N/A	ug/mL
		4 STD			NH3-01	LIQUID	$4.02e^{+2}$	$4.02e^{+2}$	N/A	ug/mL

Final page for worklist # 19567

[Signature]
Analyst Signature

7-30-97
Date

[Signature]
Analyst Signature

7-30-97
Date

Approved RWSchneidh 8/1/97

Data Entry Comments:

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

HNF-SD-WM-DP-263, REV. 0

DOUBLE KNOWN ADDITION SELECTED
AT 09:44, 07-30-94

SAMPLE VOL= 25.000 AT 09:48, 07-30-94
ENTERED

EMF= 337.8 mV AT 09:48, 07-30-94

EMF= 337.9 mV AT 09:49, 07-30-94

EMF= 337.9 mV AT 09:50, 07-30-94

EMF= 337.8 mV AT 09:51, 07-30-94

EMF= 337.7 mV AT 09:52, 07-30-94

EMF= 337.6 mV AT 09:52, 07-30-94
ENTERED

STD CONC= 1000 AT 09:52, 07-30-94
ENTERED

STD VOL= .25000 AT 09:52, 07-30-94
ENTERED

EMF= 50.2 mV AT 09:55, 07-30-94

EMF= 49.9 mV AT 09:56, 07-30-94

EMF= 49.9 mV AT 09:56, 07-30-94
ENTERED

STD VOL= 2.5000 AT 09:56, 07-30-94
ENTERED

EMF=-10.0 mV AT 09:57, 07-30-94

EMF=-10.1 mV AT 09:58, 07-30-94

EMF=-10.1 mV AT 09:58, 07-30-94
ENTERED

1:NH3 SLOPE=-59.9 mV/DEC
AT 09:58, 07-30-94

1:NH3 CONC= .00016

DOUBLE KNOWN ADDITION SELECTED
AT 12:20, 07-30-94

SAMPLE VOL= 25.000 AT 12:23, 07-30-94
ENTERED

HNF-SD-WM-DP-263, REV. 0

EMF= 37.3 mV AT 12:24, 07-30-94

EMF= 37.1 mV AT 12:25, 07-30-94

EMF= 37.1 mV AT 12:26, 07-30-94

EMF= 37.2 mV AT 12:26, 07-30-94

EMF= 37.4 mV AT 12:28, 07-30-94

EMF= 37.4 mV AT 12:28, 07-30-94
ENTERED

STD CONC= 1000 AT 12:28, 07-30-94
ENTERED

STD VOL= .25000 AT 12:28, 07-30-94
ENTERED

EMF= 25.5 mV AT 12:29, 07-30-94

EMF= 25.5 mV AT 12:29, 07-30-94

EMF= 25.5 mV AT 12:30, 07-30-94
ENTERED

STD VOL= 2.5000 AT 12:30, 07-30-94
ENTERED

EMF=-11.5 mV AT 12:31, 07-30-94

EMF=-11.7 mV AT 12:32, 07-30-94

EMF=-11.7 mV AT 12:32, 07-30-94
ENTERED

1:NH3 SLOPE=-57.8 mV/DEC
AT 12:32, 07-30-94

1:NH3 CONC= 16.1

DOUBLE KNOWN ADDITION SELECTED
AT 12:32, 07-30-94

SAMPLE VOL= 25.000 AT 12:46, 07-30-94
ENTERED

EMF= 89.9 mV AT 12:51, 07-30-94

EMF= 88.5 mV AT 12:52, 07-30-94

EMF= 87.8 mV AT 12:53, 07-30-94

EMF= 86.7 mV AT 12:54, 07-30-94

EMF= 86.4 mV AT 12:54, 07-30-94

EMF= 85.9 mV AT 12:54, 07-30-94

EMF= 85.7 mV AT 12:55, 07-30-94
ENTERED

STD CONC= 1000 AT 12:55, 07-30-94
ENTERED

STD VOL= .25000 AT 12:55, 07-30-94
ENTERED

EMF= 44.8 mV AT 12:56, 07-30-94

EMF= 44.5 mV AT 12:56, 07-30-94

EMF= 44.4 mV AT 12:56, 07-30-94
ENTERED

STD VOL= 2.5000 AT 12:57, 07-30-94
ENTERED

EMF=-8.6 mV AT 12:58, 07-30-94

EMF=-8.6 mV AT 13:00, 07-30-94

EMF=-8.6 mV AT 13:00, 07-30-94
ENTERED

1:NH3 SLOPE=-57.8 mV/DEC
AT 13:00, 07-30-94

1:NH3 CONC= 2.36

507700
1689

HNF-SD-WM-DP-263, REV. 0

DOUBLE KNOWN ADDITION SELECTED
AT 13:00, 07-30-94

048

SAMPLE VOL= 25.000 AT 13:02, 07-30-94
ENTERED

HNF-SD-WM-DP-263, REV. 0

EMF= 85.2 mV AT 13:14, 07-30-94

EMF= 84.8 mV AT 13:14, 07-30-94

EMF= 84.4 mV AT 13:15, 07-30-94

EMF= 85.3 mV AT 13:15, 07-30-94

EMF= 85.1 mV AT 13:15, 07-30-94

EMF= 85.1 mV AT 13:15, 07-30-94
ENTERED

STD CONC= 1000 AT 13:16, 07-30-94
ENTERED

STD VOL= .25000 AT 13:16, 07-30-94
ENTERED

EMF= 45.8 mV AT 13:17, 07-30-94

EMF= 45.6 mV AT 13:17, 07-30-94

EMF= 45.5 mV AT 13:18, 07-30-94

EMF= 45.5 mV AT 13:18, 07-30-94
ENTERED

STD VOL= 2.5000 AT 13:18, 07-30-94
ENTERED

EMF=-6.7 mV AT 13:19, 07-30-94

EMF=-7.0 mV AT 13:20, 07-30-94

EMF=-7.1 mV AT 13:21, 07-30-94

EMF=-7.0 mV AT 13:21, 07-30-94

EMF=-7.0 mV AT 13:21, 07-30-94
ENTERED

1:NH3 SLOPE=-57.6 mV/DEC
AT 13:21, 07-30-94

1:NH3 CONC= 2.55

DOUBLE KNOWN ADDITION SELECTED
AT 13:39, 07-30-94

SDP

SAMPLE VOL= 25.000 AT 13:42, 07-30-94
ENTERED

EMF= 35.3 mV AT 13:43, 07-30-94

EMF= 35.2 mV AT 13:44, 07-30-94

EMF= 35.5 mV AT 13:45, 07-30-94

EMF= 35.5 mV AT 13:45, 07-30-94

EMF= 35.6 mV AT 13:46, 07-30-94

EMF= 35.7 mV AT 13:46, 07-30-94

EMF= 35.8 mV AT 13:47, 07-30-94

EMF= 35.9 mV AT 13:47, 07-30-94

ENTERED 35.9 mV AT 13:47, 07-30-94

STD CONC= 1000 AT 13:48, 07-30-94

ENTERED .25000 AT 13:48, 07-30-94

ENTERED 24.9 mV AT 13:48, 07-30-94

EMF= 24.8 mV AT 13:49, 07-30-94

EMF= 24.8 mV AT 13:49, 07-30-94

ENTERED

STD VOL= 2.5000 AT 13:50, 07-30-94

ENTERED

EMF=-10.5 mV AT 13:51, 07-30-94

EMF=-10.6 mV AT 13:51, 07-30-94

EMF=-10.5 mV AT 13:52, 07-30-94

ENTERED

1:NH3 SLOPE=-55.5 mV/DEC
AT 13:52, 07-30-94

1:NH3 CONC= 16.7

DOUBLE KNOWN ADDITION SELECTED
AT 13:52, 07-30-94

A	A	B	C	D	E
1					
2	AMMONIA (NH3) : LA-631-001 (C-0)		LIQUIDS/SOLIDS		STD
3	Type	Instrument Data (µg/mL)	ID	16.100	
4	STD	Blank Result from the Instrument (µg/mL)	BR	0.0002	
5	Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL)	VSAM	1.0	
6	19567	Final Vol of Dilution (mL) or Vol of Sample Direct (mL)	FVOL	25.0	
7	Test Code	LCS Standard Book Number	LCS	31N19D	
8	NH3-01	LCS Standard Concentration (µg/mL)	STD VAL	4.02E+02	
9	Matrix				
10	LIQUID				
11	Batch Number				
12					
13	Rerun				
14					
15	Sample Prep				
16		NH3 Concentration (µg/mL)	NH3 CONC	4.02E+02	
17	Sample #				
18	STD# 31N19D	Method Detection Limit (µg/mL)	1.00		
19	Instrument Code				
20	NH301				
21	Prepared By				
22	LCM	NH3 Concentration (µg/mL) = (BR) * (FVOL / VSAM)			
23	Chemist				
24	RWS				
25	Analyst				
26	KGH	LCS Standard % Recovery = (NH3 CONC / STD VAL) * 100			
27	Date Complete				
28	07/30/97				
29	Analysis Date				
30	07/30/97				
31	Analysis Time	LCS Standard % Recovery	100%		
32	01:30 PM				
33	Sample Point	NH3 Concentration (µg/mL)	4.02E+02		
34	AP-105				
35					
36					
37	Analyst:			KGH Date:	07/30/97
38	Signature of Chemist:	<i>RWS</i>		RWS Date:	8/1/97
39	SAMPLE.WB1 REV XX	37810NML			

A	B	C	D	E
1				
2	AMMONIA (NH3) : LA-631-001 (C-0)		LIQUIDS/SOLIDS	
3	Type	Instrument Data (µg/mL)	ID	2.360
4	SAMPLE	Blank Result from the Instrument (µg/mL)	BR	0.0002
5	Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL)	VSAM	1.0
6	19567	Final Vol of Dilution (mL) or Vol of Sample Direct (mL)	FVOL	25.0
7	Test Code			
8	NH3-01			
9	Matrix			
10	LIQUID			
11	Batch Number			
12				
13	Rerun			
14				
15	Sample Prep			
16		NH3 Concentration (µg/mL)	NH3 CONC	5.90E+01
17	Sample # 7-20-97			
18	STD# 31NH3B	Method Detection Limit (µg/mL)		1.00
19	Instrument Code			
20	NH301			
21	Prepared By			
22	LCM	NH3 Concentration (µg/mL) = $(ID - BR) * (FVOL / VSAM)$		
23	Chemist	JW 10/21/97		
24	RWS			
25	Analyst			
26	KGH			
27	Date Complete			
28	07/30/97			
29	Analysis Date			
30	07/30/97			
31	Analysis Time			
32	01:30 PM			
33	Sample Point	NH3 Concentration (µg/mL)		5.90E+01
34	AP-105			
35				
36				
37	Analyst:	KGH Date: 07/30/97		
38	Signature of Chemist:	RWS Date: 8/1/97		
39	SAMPLE.WB1 REV XX		37810NML	

A	B	C	D	E
1				
2	AMMONIA (NH3) : LA-631-001 (C-0)		LIQUIDS/SOLIDS	
3	Type	Instrument Data (µg/mL)	ID	2.550
4	DUPLICATE	Blank Result from the Instrument (µg/mL)	BR	0.0002
5	Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL)	VSAM	1.0
6	19567	Final Vol of Dilution (mL) or Vol of Sample Direct (mL)	FVOL	25.0
7	Test Code			
8	NH3-01			
9	Matrix			
10	LIQUID			
11	Batch Number			
12				
13	Rerun			
14				
15	Sample Prep			
16		NH3 Concentration (µg/mL)	NH3 CONC	6.37E+01
17	Sample #			
18	STD# 34N105	Method Detection Limit (µg/mL)	1.00	
19	Instrument Code			
20	NH301			
21	Prepared By			
22	LCM	NH3 Concentration (µg/mL) = $\frac{(ID - BR)}{FVOL / VSAM}$		
23	Chemist			
24	RWS			
25	Analyst			
26	KGH			
27	Date Complete			
28	07/30/97			
29	Analysis Date			
30	07/30/97			
31	Analysis Time			
32	01:30 PM			
33	Sample Point	NH3 Concentration (µg/mL)		6.37E+01
34	AP-105			
35				
36				
37	Analyst:	KGH Date: 07/30/97		
38	Signature of Chemist:	RWS Date: 8/1/97		
39	SAMPLE.WB1 REV XX		37810NML	

A	A	B	C	D	E
1					
2	AMMONIA (NH3) : LA-631-001 (C-0)			LIQUIDS/SOLIDS	
3	Type	Instrument Data (µg/mL)	ID	STD	
4	STD	Blank Result from the Instrument (µg/mL)	BR	16.700	
5	Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL)	VSAM	1.0	
6	19567	Final Vol of Dilution (mL) or Vol of Sample Direct (mL)	FVOL	25.0	
7	Test Code	LCS Standard Book Number	LCS	31N19D	
8	NH3-01	LCS Standard Concentration (µg/mL)	STD VAL	4.02E+02	
9	Matrix				
10	LIQUID				
11	Batch Number				
12					
13	Rerun				
14					
15	Sample Prep				
16		NH3 Concentration (µg/mL)	NH3 CONC	4.17E+02	
17	Sample #				
18	STD# 31N19D	Method Detection Limit (µg/mL)	1.00		
19	Instrument Code				
20	NH301				
21	Prepared By	(ID - BR)			
22	LCM	NH3 Concentration (µg/mL) = $\frac{(ID - BR)}{FVOL} * (FVOL / VSAM)$			
23	Chemist	RWS			
24	RWS				
25	Analyst				
26	KGH	LCS Standard % Recovery = (NH3 CONC / STD VAL) * 100			
27	Date Complete				
28	07/30/97				
29	Analysis Date				
30	07/30/97				
31	Analysis Time	LCS Standard % Recovery	104%		
32	01:30 PM				
33	Sample Point	NH3 Concentration (µg/mL)	4.17E+02		
34	AP-105				
35					
36					
37	Analyst:	KGH Date: 07/30/97			
38	Signature of Chemist:	<i>RWS</i>		RWS Date: 8/1/97	
39	SAMPLE.WB1 REV XX	37810NML			

LABCORE Completed Worklist Report for Worklist# 19319

Analyst: eal

Instrument: IC01

Book# 95N20A

Method: 14-533-1 05 Rev/Mod D-1

Worklist Comment: AP-105 IC. RCJ

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 CCB	0	0	01C-QC	F	QC	1	<1.20e-2	ug/mL
1 CCB	0	0	01C-QC	CL	QC	1	<1.70e-2	ug/mL
1 CCB	0	0	01C-QC	NO2	QC	1	<1.08e-1	ug/mL
1 CCB	0	0	01C-QC	BR	QC	1	<1.25e-1	ug/mL
1 CCB	0	0	01C-QC	NO3	QC	1	<1.39e-1	ug/mL
1 CCB	0	0	01C-QC	PO4	QC	1	<1.20e-1	ug/mL
1 CCB	0	0	01C-QC	SO4	QC	1	<1.38e-1	ug/mL
1 CCB	0	0	01C-QC	OXALATE2	QC	1	<1.05e-1	ug/mL
2 CCV	0	0	01C-QC	F	QC	5.90e01	5.88e+01	99.661 % Recovery
2 CCV	0	0	01C-QC	CL	QC	8.00e01	7.57e+01	94.625 % Recovery
2 CCV	0	0	01C-QC	NO2	QC	5.43e02	5.51e+02	101.473 % Recovery
2 CCV	0	0	01C-QC	BR	QC	5.89e02	6.07e+02	103.056 % Recovery
2 CCV	0	0	01C-QC	NO3	QC	5.94e02	6.00e+02	101.010 % Recovery
2 CCV	0	0	01C-QC	PO4	QC	5.45e02	5.78e+02	106.055 % Recovery
2 CCV	0	0	01C-QC	SO4	QC	6.32e02	6.40e+02	101.266 % Recovery
2 CCV	0	0	01C-QC	OXALATE2	QC	5.33e02	5.47e+02	102.627 % Recovery
3 SAMPLE	S97T001721	0	01C-01	F-02	LIQUID	N/A	1.384e+03	49.590 ug/mL
3 SAMPLE	S97T001721	0	01C-01	CL-02	LIQUID	N/A	2.685e+03	70.400 ug/mL
3 SAMPLE	S97T001721	0	01C-01	NO2-02	LIQUID	N/A	4.894e+04	447.200 ug/mL
3 SAMPLE	S97T001721	0	01C-01	BR-02	LIQUID	N/A	5.176e+02	517.600 ug/mL
3 SAMPLE	S97T001721	0	01C-01	NO3-02	LIQUID	N/A	1.166e+05	575.600 ug/mL
3 SAMPLE	S97T001721	0	01C-01	PO4-02	LIQUID	N/A	1.215e+03	496.900 ug/mL
3 SAMPLE	S97T001721	0	01C-01	SO4-02	LIQUID	N/A	1.823e+03	571.500 ug/mL
3 SAMPLE	S97T001721	0	01C-01	OXALATE2	LIQUID	N/A	4.348e+02	434.800 ug/mL
4 DUP	S97T001721	0	01C-01	F-02	LIQUID	1.384e+03	1.384e+03	0.000 RPD
4 DUP	S97T001721	0	01C-01	CL-02	LIQUID	2.685e+03	2.677e+03	0.374 RPD
4 DUP	S97T001721	0	01C-01	NO2-02	LIQUID	4.894e+04	4.834e+04	1.235 RPD
4 DUP	S97T001721	0	01C-01	BR-02	LIQUID	<5.18e2	<5.18e2	RPD
4 DUP	S97T001721	0	01C-01	NO3-02	LIQUID	1.177e+05	1.177e+05	0.000 RPD
4 DUP	S97T001721	0	01C-01	PO4-02	LIQUID	1.224e+03	1.080e+03	12.174 RPD
4 DUP	S97T001721	0	01C-01	SO4-02	LIQUID	1.834e+03	1.791e+03	2.210 RPD
4 DUP	S97T001721	0	01C-01	OXALATE2	LIQUID	<4.35e2	<4.35e2	RPD
5 SPK	S97T001721	0	01C-01	F-02	LIQUID	5.90e01	7.57e+01	128.205 % Recovery
5 SPK	S97T001721	0	01C-01	CL-02	LIQUID	8.00e01	7.91e+01	98.875 % Recovery
5 SPK	S97T001721	0	01C-01	NO2-02	LIQUID	5.43e02	5.94e+02	109.392 % Recovery
5 SPK	S97T001721	0	01C-01	BR-02	LIQUID	5.89e02	5.85e+02	99.321 % Recovery
5 SPK	S97T001721	0	01C-01	NO3-02	LIQUID	5.94e02	6.20e+02	104.377 % Recovery
5 SPK	S97T001721	0	01C-01	PO4-02	LIQUID	5.45e02	5.68e+02	104.220 % Recovery
5 SPK	S97T001721	0	01C-01	SO4-02	LIQUID	6.32e02	6.54e+02	103.481 % Recovery
5 SPK	S97T001721	0	01C-01	OXALATE2	LIQUID	5.33e02	5.40e+02	101.313 % Recovery
6 SAMPLE	S97T001723	0	01C-01	F-02	LIQUID	N/A	8.206e+02	49.690 ug/mL

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

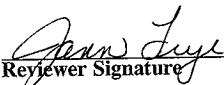
LABCORE Completed Worklist Report for Worklist# 19319

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
6 SAMPLE	S97T001723	0	@IC-01 CL-02	LIQUID	N/A	3.177e+03	70.400	ug/mL
6 SAMPLE	S97T001723	0	@IC-01 NO2-02	LIQUID	N/A	6.441e+04	447.200	ug/mL
6 SAMPLE	S97T001723	0	@IC-01 BR-02	LIQUID	N/A	5.176e+02	517.600	ug/mL
6 SAMPLE	S97T001723	0	@IC-01 NO3-02	LIQUID	N/A	2.536e+05	575.600	ug/mL
6 SAMPLE	S97T001723	0	@IC-01 PO4-02	LIQUID	N/A	6.769e+02	486.300	ug/mL
6 SAMPLE	S97T001723	0	@IC-01 SO4-02	LIQUID	N/A	2.442e+03	571.500	ug/mL
6 SAMPLE	S97T001723	0	@IC-01 OXALATE2	LIQUID	N/A	5.004e+02	434.800	ug/mL
7 DUP	S97T001723	0	@IC-01 F-02	LIQUID	8.21e+02	1.22e+03	39.098	RPD
7 DUP	S97T001723	0	@IC-01 CL-02	LIQUID	3.18e+03	3.11e+03	2.226	RPD
7 DUP	S97T001723	0	@IC-01 NO2-02	LIQUID	6.44e+04	6.38e+04	0.936	RPD
7 DUP	S97T001723	0	@IC-01 BR-02	LIQUID	<5.18e2	<5.18e2		RPD
7 DUP	S97T001723	0	@IC-01 NO3-02	LIQUID	2.53e5	2.53e+05	0.000	RPD
7 DUP	S97T001723	0	@IC-01 PO4-02	LIQUID	6.77e+02	7.32e+02	7.807	RPD
7 DUP	S97T001723	0	@IC-01 SO4-02	LIQUID	2.44e+03	2.31e+03	5.474	RPD
7 DUP	S97T001723	0	@IC-01 OXALATE2	LIQUID	5.00e+02	6.29e+02	24.407	RPD

Final page for worklist# 19319

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

 9/29/97
Reviewer Signature _____ Date _____

07/16/97 10:31
A-0004-1

Page: 1

LABCORE Data Entry Template for Worklist# 19319

Analyst: EAL Instrument: IC0 1Book# 95N20-AMethod: LA-533-105 Rev/Mod D-1

Worklist Comment: AP-105 IC. RCJ

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC-QC	QC		
2 CCV			@IC-QC	QC		
3 SAMPLE	S97T001721 0		@IC-01	LIQUID	97000455	AP-105 (P)
	Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02					
4 DUP	S97T001721 0		@IC-01	LIQUID		
5 SPK	S97T001721 0		@IC-01	LIQUID		
6 SAMPLE	S97T001723 0		@IC-01	LIQUID	97000455	AP-105 (P)
	Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02					
7 DUP	S97T001723 0		@IC-01	LIQUID		

Final page for worklist # 19319

Analyst Signature J. Lambert Date 09-02-97

Analyst Signature _____ Date _____

uploaded 9-16-97
JH Wonnell
19319SEP.CSV
Validated 9/18/97

Data Entry Comments:

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

=====

Sample Name:	INST. BLANK	Date:	09/02/1997 22:13:35
Data File :	C:\DX\DATA\97090211.D01		
Method :	C:\DX\METHOD\KIT.MET		
ACI Address:	1	System:	1
Inject#:	1	Detector:	CDM-1
Analyst :	<i>John J. [Signature]</i>	Column:	AG4A/AS4A anion column

=====

=====

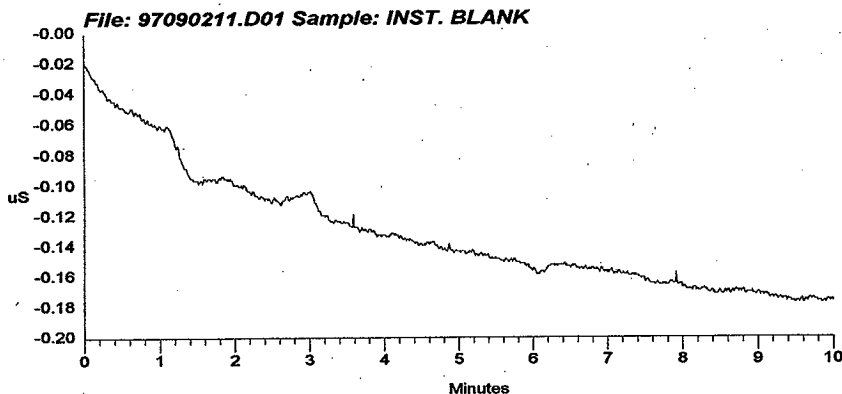
Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	3000	5Hz	0.00	10.00		30

=====

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
Totals			0.000	0	0		

=====



SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 246 TO 252

Data Reprocessed On 09/16/1997 14:57:07

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=====
Sample Name: 95N20-A STD                      Date: 09/02/1997 23:11:57
Data File  : F:\DATA\97090211.D03
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 3           Detector: CDM-1
Analyst    :                               Column: AG4A/AS4A anion column
=====

```

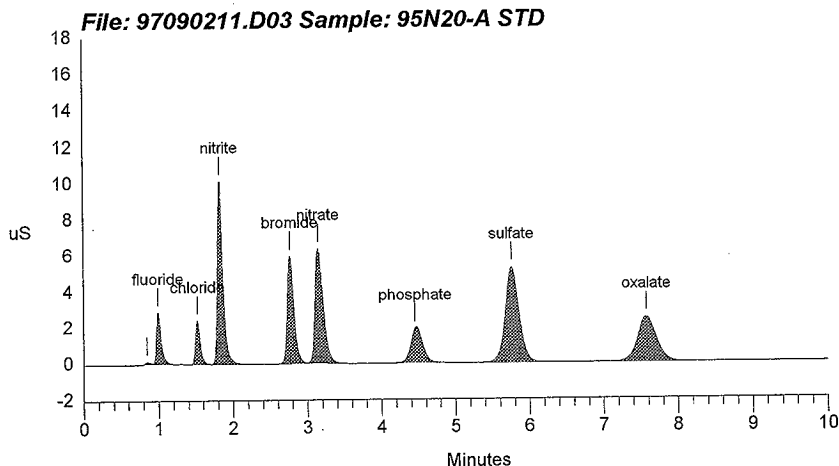
```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          101    3000  5Hz   0.00 10.00          30
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.85		0.000	86	328	2	
2	0.99	fluoride	58.814	2823	11845	2	-5.40
3	1.52	chloride	75.720	2417	10504	1	-6.17
4	1.83	nitrite	551.291	10107	50325	1	-6.80
5	2.77	bromide	606.976	5945	36198	1	-2.92
6	3.15	nitrate	600.075	6365	47834	1	-3.18
7	4.45	phosphate	577.726	1903	21542	1	-9.73
8	5.76	sulfate	639.568	5283	66937	1	-10.00
9	7.57	oxalate	546.805	2482	42966	1	0.04
Totals			3656.976	37411	288479		



Data Reprocessed On 09/03/1997 14:39:06

```

=====
Sample Name: S97T001721          Date: 09/02/1997 23:27:43
Data File  : F:\DATA\97090211.D04
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 4      Detector: CDM-1
Analyst    :                      Column: AG4A/AS4A anion column
=====

```

```

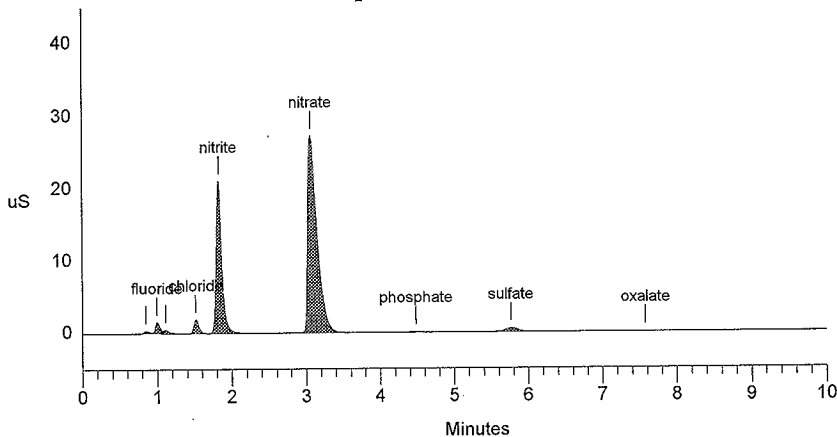
=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          4141    3000  5Hz   0.00 10.00          30
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.85		0.000	318	1663	2	
2	0.99	fluoride	1384.293	1541	6674	2	-5.40
3	1.11		0.000	541	3039	2	
4	1.51	chloride	2685.450	1943	9125	1	-6.58
5	1.83	nitrite	48939.464	21080	109066	1	-6.80
6	3.06	nitrate	116641.454	27246	236673	1	0.00
7	4.48	phosphate	1214.681	89	1008	1	-9.19
8	5.76	sulfate	1829.019	546	7282	1	-10.00
9	7.57	oxalate	342.172	46	857	1	0.04
Totals			173036.534	53350	375388		

File: 97090211.D04 Sample: S97T001721



Data Reprocessed On 09/03/1997 14:40:53

```

=====
Sample Name: S97T001721 DUP                      Date: 09/02/1997 23:39:57
Data File  : F:\DATA\97090211.D05
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 5                Detector: CDM-1
Analyst    :                      Column: AG4A/AS4A anion column
=====

```

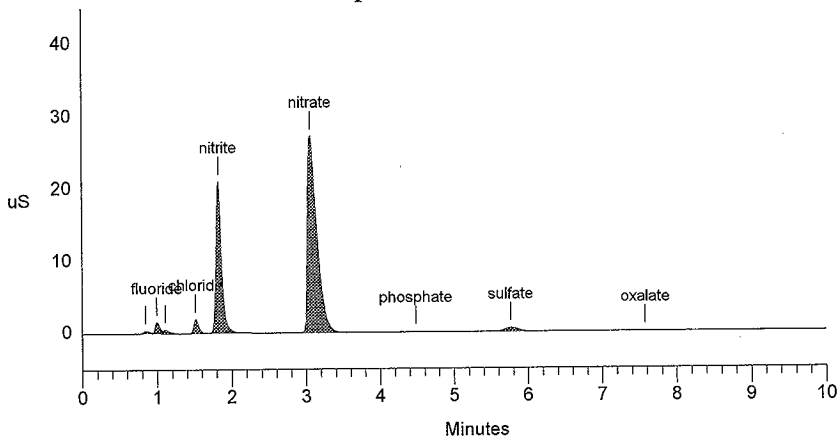
```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          4141    3000   5Hz   0.00 10.00          30
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.85		0.000	307	1537	2	
2	0.99	fluoride	1375.729	1527	6631	2	-5.40
3	1.11		0.000	529	2992	2	
4	1.51	chloride	2671.989	1953	9081	1	-6.58
5	1.83	nitrite	48325.268	21011	107700	1	-6.80
6	3.06	nitrate	117239.286	27204	237969	1	0.00
7	4.48	phosphate	1076.902	84	885	1	-9.19
8	5.76	sulfate	1793.728	543	7198	1	-10.00
9	7.57	oxalate	308.130	46	793	1	0.04
Totals			172791.033	53203	374788		

File: 97090211.D05 Sample: S97T001721 DUP

Data Reprocessed On 09/03/1997 14:54:44

```

=====
Sample Name: S97T001721 SPIKE                      Date: 09/02/1997 23:55:04
Data File  : F:\DATA\97090211.D06
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 6                 Detector: CDM-1
Analyst    :                      Column: AG4A/AS4A anion column
=====

```

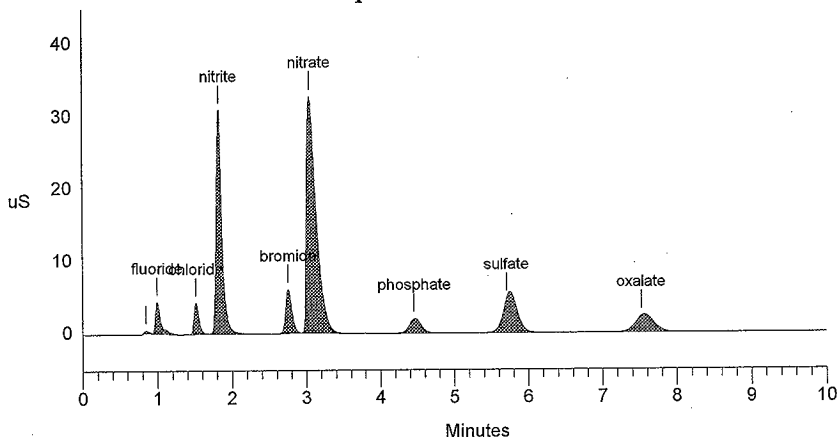
```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          4141    3000  5Hz   0.00 10.00          30
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.85		0.000	386	1834	2	
2	0.99	fluoride	4438.242	4342	22053	2	-5.40
3	1.51	chloride	5874.901	4312	19744	1	-6.58
4	1.83	nitrite	72900.305	30930	162152	1	-6.80
5	2.75	bromide	23593.024	5988	34271	1	-3.39
6	3.05	nitrate	141630.045	32719	291725	1	-0.11
7	4.45	phosphate	24126.281	1954	21953	1	-9.73
8	5.71	sulfate	28184.384	4721	71876	1	-0.06
9	7.52	oxalate	21763.325	2245	41689	1	0.00
Totals			322510.506	87597	667299		

File: 97090211.D06 Sample: S97T001721 SPIKE

Data Reprocessed On 09/18/1997 15:34:09

```

=====
Sample Name: S97T001723                      Date: 09/03/1997 01:33:31
Data File  : F:\DATA\97090211.D07
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 7           Detector: CDM-1
Analyst    :                               Column: AG4A/AS4A anion column
=====

```

```

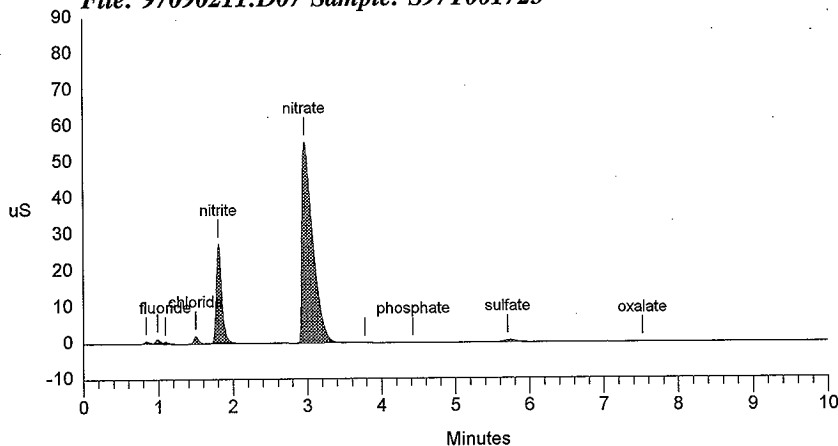
=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          4141  3000  5Hz   0.00 10.00          30
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.84		0.000	543	2596	2	
2	0.99		0.000	1310	5979	2	
3	1.09	fluoride	820.608	635	3838	2	4.13
4	1.50	chloride	3176.585	2182	10741	1	0.00
5	1.81	nitrite	64406.626	27290	143372	1	-0.18
6	2.97	nitrate	253563.095	55363	565559	1	-0.11
7	3.77		0.000	24	159	1	
8	4.43	phosphate	676.905	49	529	1	-0.08
9	5.71	sulfate	2442.034	618	8744	1	-0.06
10	7.52	oxalate	500.365	61	1153	1	0.00
Totals			325586.219	88074	742668		

File: 97090211.D07 Sample: S97T001723



Data Reprocessed On 09/16/1997 13:24:00

```

=====
Sample Name: S97T001723 DUP                      Date: 09/03/1997 01:50:08
Data File  : F:\DATA\97090211.D08
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 8                Detector: CDM-1
Analyst    :                               Column: AG4A/AS4A anion column
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          4141  3000  5Hz   0.00 10.00          30
=====

```

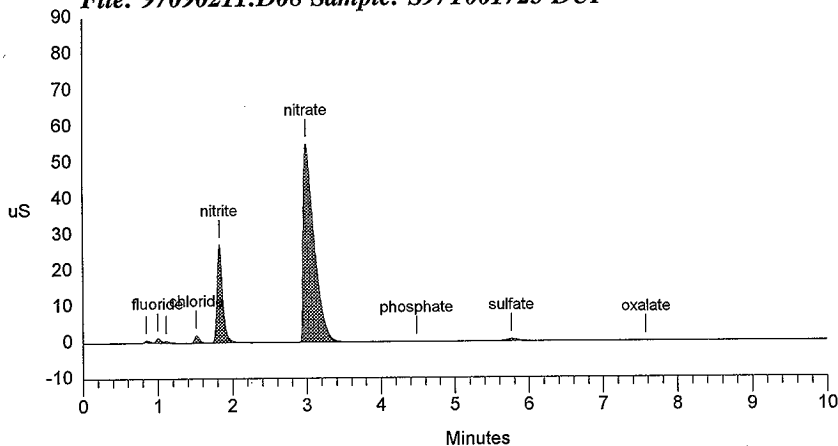
```

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

```

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.85		0.000	521	2563	2	
2	0.99	fluoride	1220.445	1267	5850	2	-5.40
3	1.11		0.000	604	3778	2	
4	1.51	chloride	3108.517	2145	10517	1	-6.58
5	1.83	nitrite	63833.414	27155	142103	1	-6.80
6	2.99	nitrate	253079.968	54956	564258	1	-0.22
7	4.48	phosphate	731.505	55	577	1	-9.19
8	5.76	sulfate	2311.847	635	8433	1	-10.00
9	7.57	oxalate	638.773	63	1411	1	0.04
Totals			324924.468	87401	739491		

File: 97090211.D08 Sample: S97T001723 DUP



LABCORE Completed Worklist Report for Worklist# 19529

Analyst: pjm

Instrument: IC01

Book# 95N204

Method: LA-533-105 Rev/Mod D-1

Worklist Comment: AP-105 IC. RCJ

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 CCB	0	0	0IC-QC	F	QC	1	<1.20e-2	ug/mL
1 CCB	0	0	0IC-QC	CL	QC	1	<1.70e-2	ug/mL
1 CCB	0	0	0IC-QC	NO2	QC	1	<1.08e-1	ug/mL
1 CCB	0	0	0IC-QC	BR	QC	1	<1.25e-1	ug/mL
1 CCB	0	0	0IC-QC	NO3	QC	1	<1.39e-1	ug/mL
1 CCB	0	0	0IC-QC	P04	QC	1	<1.20e-1	ug/mL
1 CCB	0	0	0IC-QC	SO4	QC	1	<1.38e-1	ug/mL
1 CCB	0	0	0IC-QC	OXALATE2	QC	1	<1.05e-1	ug/mL
2 CCV	0	0	0IC-QC	F	QC	5.90e01	5.80e+01	98.305 % Recovery
2 CCV	0	0	0IC-QC	CL	QC	8.00e01	7.42e+01	92.750 % Recovery
2 CCV	0	0	0IC-QC	NO2	QC	5.43e02	5.40e+02	99.448 % Recovery
2 CCV	0	0	0IC-QC	BR	QC	5.89e02	5.95e+02	101.019 % Recovery
2 CCV	0	0	0IC-QC	NO3	QC	5.94e02	5.91e+02	99.495 % Recovery
2 CCV	0	0	0IC-QC	P04	QC	5.45e02	5.64e+02	103.486 % Recovery
2 CCV	0	0	0IC-QC	SO4	QC	6.32e02	6.37e+02	100.791 % Recovery
2 CCV	0	0	0IC-QC	OXALATE2	QC	5.33e02	5.30e+02	99.437 % Recovery
3 SAMPLE	S97T001761	0	0IC-01	F-02	LIQUID	N/A	8.537e+02	49.690 ug/mL
3 SAMPLE	S97T001761	0	0IC-01	CL-02	LIQUID	N/A	3.113e+03	70.400 ug/mL
3 SAMPLE	S97T001761	0	0IC-01	NO2-02	LIQUID	N/A	5.610e+04	447.200 ug/mL
3 SAMPLE	S97T001761	0	0IC-01	BR-02	LIQUID	N/A	5.176e+02	517.600 ug/mL
3 SAMPLE	S97T001761	0	0IC-01	NO3-02	LIQUID	N/A	1.224e+05	575.600 ug/mL
3 SAMPLE	S97T001761	0	0IC-01	P04-02	LIQUID	N/A	1.183e+03	496.900 ug/mL
3 SAMPLE	S97T001761	0	0IC-01	SO4-02	LIQUID	N/A	2.785e+03	571.500 ug/mL
3 SAMPLE	S97T001761	0	0IC-01	OXALATE2	LIQUID	N/A	7.253e+02	434.800 ug/mL
4 DUP	S97T001761	0	0IC-01	F-02	LIQUID	8.54e+02	1.82e+03	72.251 RPD
4 DUP	S97T001761	0	0IC-01	CL-02	LIQUID	3.11e+03	3.24e+03	4.094 RPD
4 DUP	S97T001761	0	0IC-01	NO2-02	LIQUID	5.61e+04	5.76e+04	2.629 RPD
4 DUP	S97T001761	0	0IC-01	BR-02	LIQUID	<5.18e2	<5.18e2	RPD
4 DUP	S97T001761	0	0IC-01	NO3-02	LIQUID	1.22e+05	1.72e+05	0.000 RPD
4 DUP	S97T001761	0	0IC-01	P04-02	LIQUID	1.18e+03	1.17e+03	0.851 RPD
4 DUP	S97T001761	0	0IC-01	SO4-02	LIQUID	2.78e+03	2.54e+03	9.023 RPD
4 DUP	S97T001761	0	0IC-01	OXALATE2	LIQUID	7.25e+02	7.69e+02	5.890 RPD
5 SAMPLE	S97T001762	0	0IC-01	F-02	LIQUID	N/A	9.182e+02	61.810 ug/mL
5 SAMPLE	S97T001762	0	0IC-01	CL-02	LIQUID	N/A	3.266e+03	87.570 ug/mL
5 SAMPLE	S97T001762	0	0IC-01	NO2-02	LIQUID	N/A	6.879e+04	556.300 ug/mL
5 SAMPLE	S97T001762	0	0IC-01	BR-02	LIQUID	N/A	6.439e+02	643.900 ug/mL
5 SAMPLE	S97T001762	0	0IC-01	NO3-02	LIQUID	N/A	2.506e+05	716.000 ug/mL
5 SAMPLE	S97T001762	0	0IC-01	P04-02	LIQUID	N/A	6.675e+02	618.100 ug/mL
5 SAMPLE	S97T001762	0	0IC-01	SO4-02	LIQUID	N/A	1.037e+03	710.800 ug/mL
5 SAMPLE	S97T001762	0	0IC-01	OXALATE2	LIQUID	N/A	5.409e+02	540.900 ug/mL
6 DUP	S97T001762	0	0IC-01	F-02	LIQUID	9.18e+02	9.02e+02	1.758 RPD

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

LABCORE Completed Worklist Report for Worklist# 19529

Seq Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
6 DUP	S97T001762	0	@IC-01	CL-02	LIQUID	3.27e+03	3.17e+03	3.106	RPD
6 DUP	S97T001762	0	@IC-01	NO2-02	LIQUID	6.88e+04	6.72e+04	2.353	RPD
6 DUP	S97T001762	0	@IC-01	BR-02	LIQUID	<6.43e+02	<6.44e2		RPD
6 DUP	S97T001762	0	@IC-01	NO3-02	LIQUID	2.506e+05	2.44e+05	2.669	RPD
6 DUP	S97T001762	0	@IC-01	PO4-02	LIQUID	6.68e+02	<6.18e2		RPD
6 DUP	S97T001762	0	@IC-01	SO4-02	LIQUID	1.04e+03	8.79e+02	16.780	RPD
6 DUP	S97T001762	0	@IC-01	OXALATE2	LIQUID	<5.41e2	<5.41e2		RPD

Final page for worklist# 19529

Analyst Signature Date

Analyst Signature Date



Reviewer Signature Date 9/29/97

LABCORE Data Entry Template for Worklist# 19529

Analyst: RW Instrument: IC0 1 Book# 95N20AMethod: LA-533-105 Rev/Mod D-1

Worklist Comment: AP-105 IC. RCJ

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC-QC	QC		
2 CCV			@IC-QC	QC		
3 SAMPLE	S97T001761 0		@IC-01	LIQUID	97000478	AP-105 (P)
	Analytes Requested:	BR-02	CL-02	F-02	NO2-02	NO3-02
		OXALATE2,	PO4-02	SO4-02		
4 DUP	S97T001761 0		@IC-01	LIQUID		
5 SAMPLE	S97T001762 0		@IC-01	LIQUID	97000479	AP-105 (P)
	Analytes Requested:	BR-02	CL-02	F-02	NO2-02	NO3-02
		OXALATE2,	PO4-02	SO4-02		
6 DUP	S97T001762 0		@IC-01	LIQUID		

Final page for worklist # 19529

Analyst Signature R. McCune Date 9/1/97

Analyst Signature _____ Date _____

uploaded 9-16-97John W. Howell19529SEPSVValidated 9/23/97 M. Fuge

Data Entry Comments:

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

Sample Name: CCB ELUENT BLNK Date: 09/01/1997 22:29:50
 Data File: C:\DX\DATA\97090101.D07
 Method: C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 7 Detector: CDM-1
 Analyst: *Jerry Lutz* Column: AG4A/AS4A anion column
for RMT 9/5/97

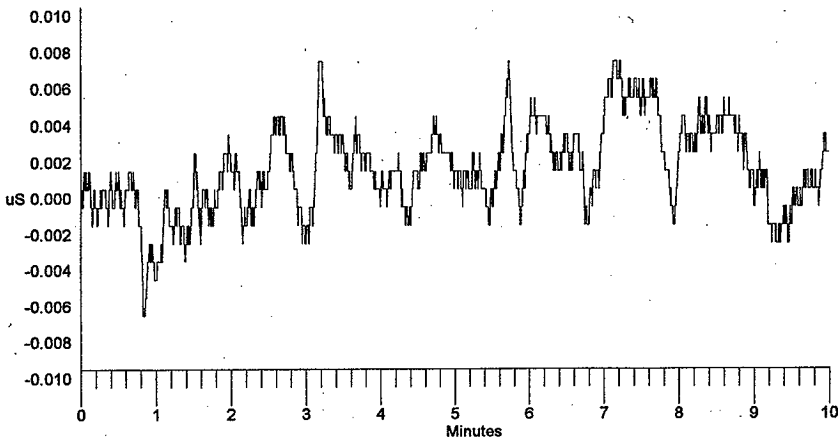
Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	3000	5Hz	0.00	10.00		30

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
---------	----------	----------------	---------------------	--------	------	----------	--------

Totals 0.000 0 0

File: 97090101.D07 Sample: CCB ELUENT BLNK



SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 259 TO 261

Data Reprocessed On 09/03/1997 15:18:34

```

=====
Sample Name: CCV 95N20A                      Date: 09/01/1997 22:41:56
Data File  : F:\DATA\97090101.D08
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 8           Detector: CDM-1
Analyst    :                               Column: AG4A/AS4A anion column
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          101  3000  5Hz  0.00 10.00          30
=====

```

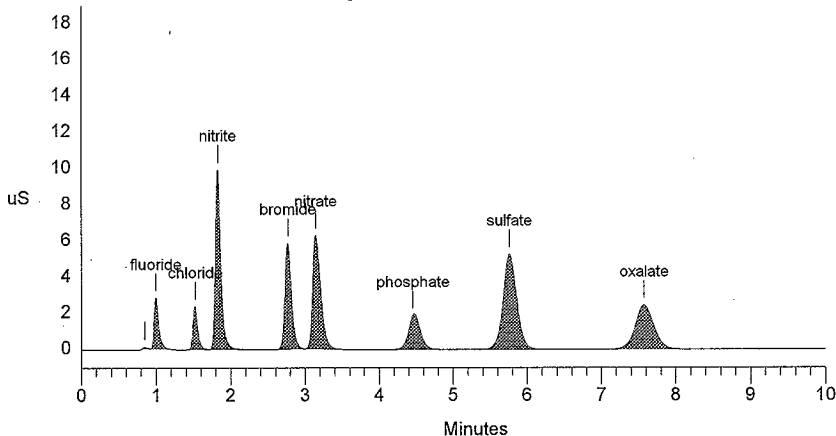
```

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

```

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.85		0.000	91	365	2	
2	0.99	fluoride	57.961	2781	11668	2	-5.40
3	1.52	chloride	74.249	2374	10305	1	-6.17
4	1.83	nitrite	540.413	9908	49327	1	-6.80
5	2.77	bromide	594.941	5867	35462	1	-2.92
6	3.14	nitrate	591.367	6295	47139	1	-3.38
7	4.45	phosphate	564.066	1852	21018	1	-9.73
8	5.76	sulfate	637.017	5266	66675	1	-10.00
9	7.57	oxalate	529.941	2436	41620	1	0.04
Totals			3589.954	36872	283579		

File: 97090101.D08 Sample: CCV 95N20A



Data Reprocessed On 09/03/1997 15:21:09

```

=====
Sample Name: S97T001761 SMPL                      Date: 09/01/1997 23:19:20
Data File  : F:\DATA\97090101.D10
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 10                Detector: CDM-1
Analyst    :                      Column: AG4A/AS4A anion column
=====

```

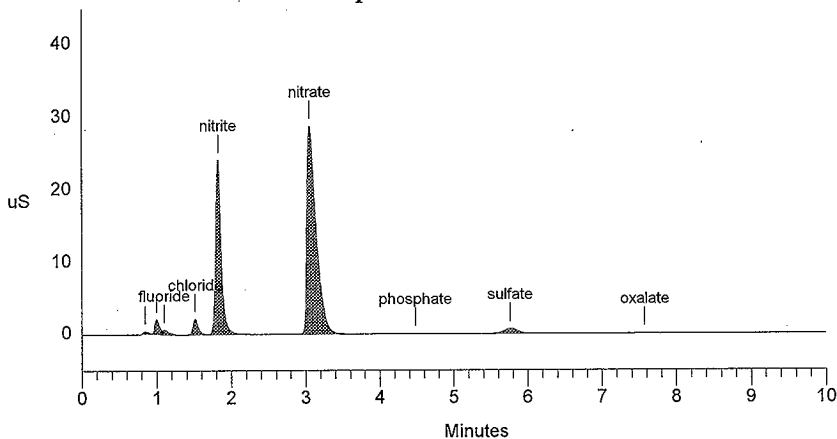
```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          4141   3000  5Hz   0.00 10.00          30
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.85		0.000	361	1894	2	
2	0.99		0.000	2058	8970	2	
3	1.10	fluoride	853.733	673	4004	2	4.76
4	1.51	chloride	3112.916	2183	10531	1	-6.58
5	1.83	nitrite	56097.138	24153	124959	1	-6.80
6	3.05	nitrate	122447.483	28723	249303	1	0.11
7	4.48	phosphate	1183.320	90	980	1	-9.19
8	5.76	sulfate	2785.026	718	9563	1	-10.00
9	7.57	oxalate	725.267	88	1573	1	0.04
Totals			187204.883	59046	411777		

File: 97090101.D10 Sample: S97T001761 SMPL

Data Reprocessed On 09/03/1997 15:22:51

```

=====
Sample Name: S97T001761 DUP                      Date: 09/01/1997 23:29:57
Data File  : F:\DATA\97090101.D11
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 11              Detector: CDM-1
Analyst    :                      Column: AG4A/AS4A anion column
=====

```

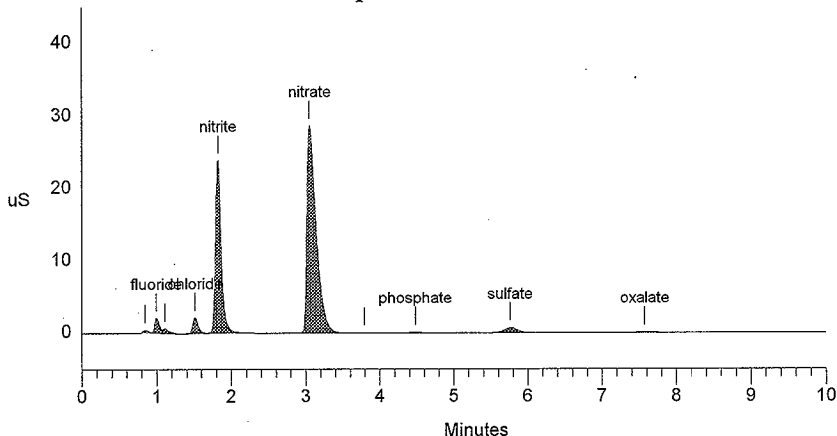
```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1         4141   3000  5Hz   0.00 10.00        30
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.85		0.000	343	1689	2	
2	0.99	fluoride	1816.153	2048	8848	2	-5.40
3	1.11		0.000	668	3927	2	
4	1.51	chloride	3244.402	2202	10965	1	-6.58
5	1.83	nitrite	57599.360	23930	128291	1	-6.80
6	3.05	nitrate	121982.379	28661	248287	1	0.11
7	3.79		0.000	22	150	1	
8	4.48	phosphate	1166.071	90	965	1	-9.19
9	5.76	sulfate	2535.902	681	8968	1	-10.00
10	7.57	oxalate	768.696	85	1654	1	0.04
Totals			189112.963	58731	413743		

File: 97090101.D11 Sample: S97T001761 DUP

Data Reprocessed On 09/23/1997 08:46:09

```

=====
Sample Name: S97T001762 SMPL                      Date: 09/02/1997 02:22:43
Data File  : F:\DATA\97090101.D18
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 18                Detector: CDM-1
Analyst    :                      Column: AG4A/AS4A anion column
=====

```

```

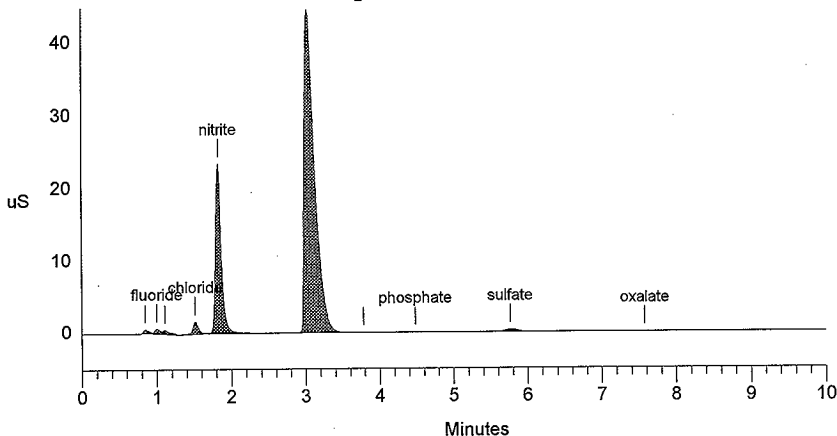
=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          5151   3000  5Hz   0.00 10.00          30
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.85		0.000	470	2414	2	
2	1.00	fluoride	918.185	663	3423	2	-4.76
3	1.11		0.000	583	3842	2	
4	1.51	chloride	3265.645	1718	8928	1	-6.58
5	1.83	nitrite	68793.703	23454	123201	1	-6.80
6	3.02	nitrate	250623.238	44369	431854	1	0.00
7	3.78		0.000	26	198	1	
8	4.48	phosphate	667.507	38	403	1	-9.19
9	5.76	sulfate	1037.385	357	4913	1	-10.00
10	7.57	oxalate	227.197	31	559	1	0.04
Totals			325532.860	71709	579734		

File: 97090101.D18 Sample: S97T001762 SMPL



Data Reprocessed On 09/16/1997 13:31:17

```

=====
Sample Name: S97T001762 DUP                      Date: 09/02/1997 02:33:35
Data File  : F:\DATA\97090101.D19
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 19              Detector: CDM-1
Analyst    :                               Column: AG4A/AS4A anion column
=====

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=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          5151   3000  5Hz   0.00 10.00          30
=====

```

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

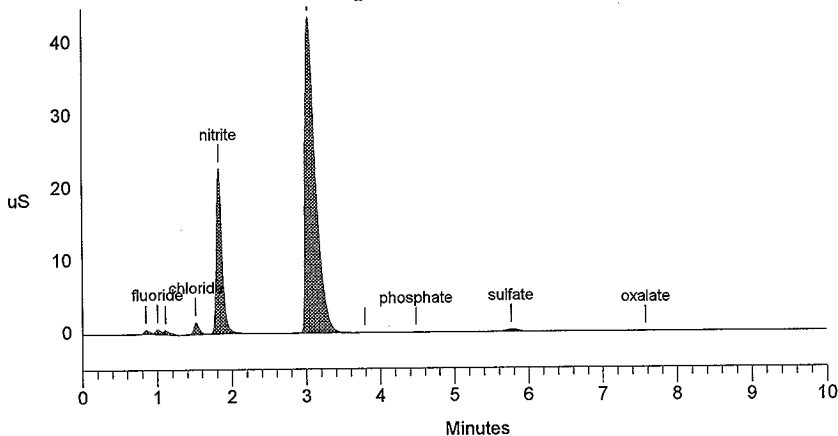
Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.85		0.000	441	2331	2	
2	1.00	fluoride	901.928	644	3357	2	-4.76
3	1.11		0.000	574	3849	2	
4	1.51	chloride	3166.924	1657	8667	1	-6.58
5	1.83	nitrite	67217.238	22770	120388	1	-6.80
6	3.03	nitrate	243986.164	43436	418830	1	-0.11
7	3.79		0.000	23	165	1	
8	4.48	phosphate	546.405	32	317	1	-9.19
9	5.76	sulfate	878.993	334	4610	1	-10.00
10	7.57	oxalate	215.210	31	541	1	0.04

```

-----
Totals          316912.862          69941          563055
-----

```

File: 97090101.D19 Sample: S97T001762 DUP



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

Document number: SD-WM-DP-263

Section 2 of 2

Title: Bank 241-AP-105, Cores 208, 209 and
210, Analytical Results for the final
Report

Date: 10/24/97 Revision: 0

Originator: Nuzzum, J. L.

Co: WMH

Recipient: _____

Co: _____

References: EDT-623129

LABCORE Data Entry Template for Worklist# 19630

Analyst: SH Instrument: IC0 2 Book# 83N20-B

Method: LA-533-105 Rev/Mod D-1

Worklist Comment: AP-105 IC. RCJ

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	S97T001808 0 W			@IC-01	SOLID	97000478	AP-105 (P)
		Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
5	DUP	S97T001808 0 W			@IC-01	SOLID		
6	SAMPLE	S97T001811 0 W			@IC-01	SOLID	97000478	AP-105 (P)
		Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
7	DUP	S97T001811 0 W			@IC-01	SOLID		
8	SPK	S97T001811 0 W			@IC-01	SOLID		
9	SAMPLE	S97T001815 0 W			@IC-01	SOLID	97000478	AP-105 (P)
		Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
10	DUP	S97T001815 0 W			@IC-01	SOLID		

Final page for worklist # 19630

Sandra H. Hord
Analyst Signature Date 8-25-97

Analyst Signature Date

uploaded 8-27-97
JH Worell
19630AUG.CSV

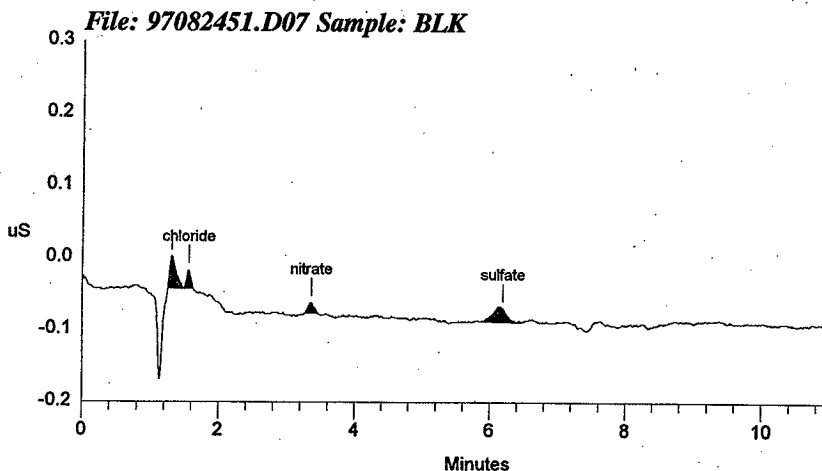
S97T 001811 rejected, Rest validated. S97 8/29/97 med
Data Entry Comments: Reason on WKL# 20114.

Sample Name: BLK Date: 08/24/1997 22:24:49
 Data File : C:\DX\DATA\97082451.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 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	1.30		0.000	44	289	2	
2	1.55	chloride	-0.030	26	106	2	-4.12
3	3.35	nitrate	-0.001	14	86	1	2.65
4	6.19	sulfate	-0.002	19	299	1	-4.92
Totals			-0.033	103	780		



SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 265 TO 274

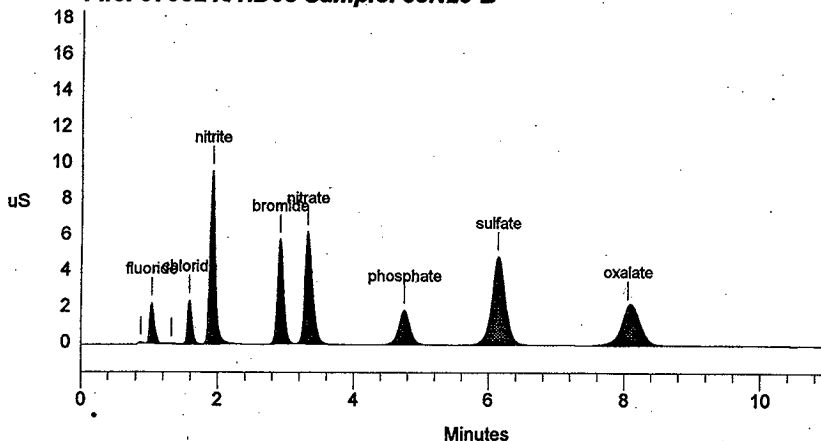
Sample Name: 83N20-B Date: 08/24/1997 22:48:43
 Data File: C:\DX\DATA\97082451.D08
 Method: C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 8 Detector: CDM-1
 Analyst: Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	101	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	0.88		0.000	82	341	2	
2	1.03	fluoride	55.000	2247	10574	2	0.00
3	1.32		0.000	31	319	2	
4	1.58	chloride	75.724	2410	11219	1	-2.47
5	1.91	nitrite	547.467	9608	52584	1	-4.01
6	2.91	bromide	555.237	5799	36837	1	-1.13
7	3.31	nitrate	571.075	6217	48962	1	1.43
8	4.75	phosphate	541.427	1933	23003	1	-2.20
9	6.13	sulfate	606.444	4892	68158	1	-5.74
10	8.05	oxalate	534.856	2191	44845	1	-6.21
Totals			3487.231	35411	296841		

File: 97082451.D08 Sample: 83N20-B



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=====
Sample Name: BLK PREP      Date: 08/24/1997 23:05:00
Data File : C:\DX\DATA\97082451.D09
Method : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 9      Detector: CDM-1
Analyst :      Column: AG4A/AS4A anion column
=====

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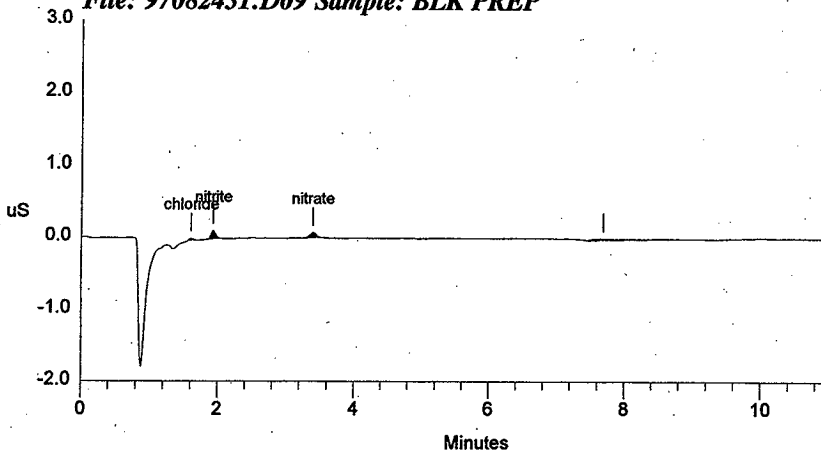
=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          1 3300 5Hz 0.00 11.00          50
=====

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.60	chloride	-0.032	23	70	1	-1.23
2	1.92	nitrite	0.128	115	527	1	-3.68
3	3.39	nitrate	0.039	67	426	1	3.67
4	7.68		0.000	17	655	1	
Totals			0.135	222	1678		

File: 97082451.D09 Sample: BLK PREP



=====

Sample Name: S97T01808 Date: 08/24/1997 23:17:34

Data File: C:\DX\DATA\97082451.D10

Method: C:\DX\METHOD\ANIONS.MET

ACT Address: 1 System: 1 Inject#: 10 Detector: CDM-1

Analyst: Column: AG4A/AS4A anion column

=====

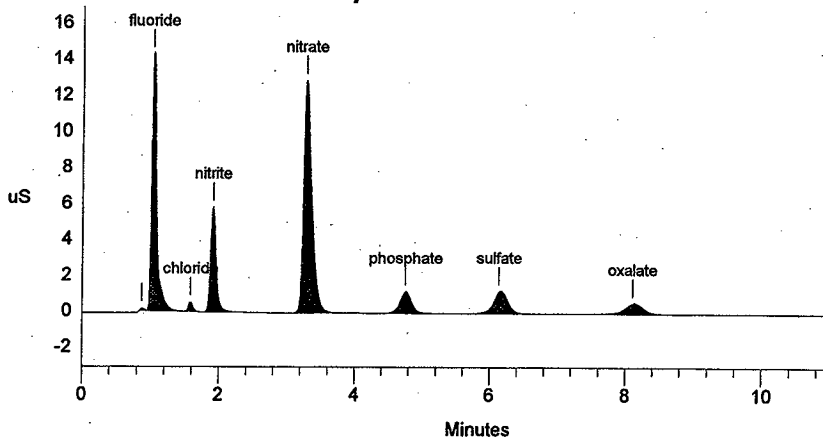
Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 41 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	0.87		0.000	138	582	2	
2	1.03	fluoride	133.759	14248	69502	2	-0.65
3	1.58	chloride	5.279	513	2336	1	-2.47
4	1.91	nitrite	135.361	5842	31617	1	-4.35
5	3.27	nitrate	489.328	12901	105226	1	0.20
6	4.75	phosphate	138.390	1192	14337	1	-2.20
7	6.13	sulfate	66.469	1207	18395	1	-5.74
8	8.11	oxalate	51.952	580	11649	1	-5.59
Totals			1020.537	36621	253645		

File: 97082451.D10 Sample: S97T01808



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Sample Name: S97T01808 DUP Date: 08/24/1997 23:32:01

Data File : C:\DX\DATA\97082451.D11

Method : C:\DX\METHOD\ANIONS.MET

ACI Address: 1 System: 1 Inject#: 11 Detector: CDM-1

Analyst : Column: AG4A/AS4A anion column

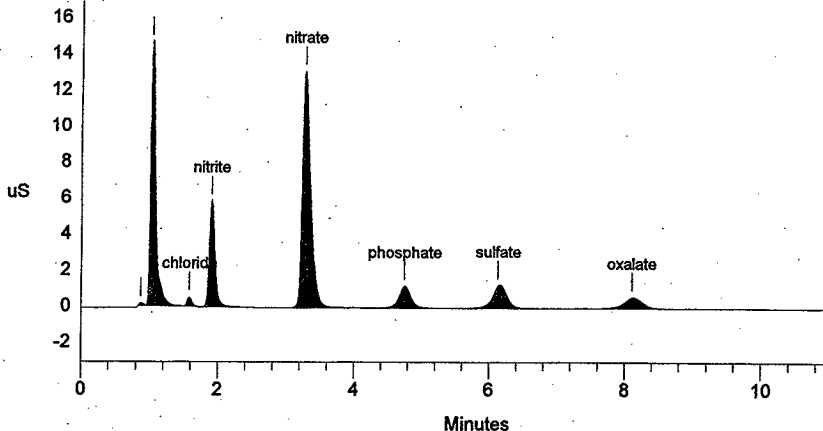
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Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	3300	5Hz	0.00	11.00		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.87		0.000	138	571	2	
2	1.03	fluoride	139.317	14647	72793	2	-0.65
3	1.58	chloride	5.369	517	2367	1	-2.47
4	1.90	nitrite	140.509	5884	32855	1	-4.68
5	3.27	nitrate	494.716	13102	106427	1	0.00
6	4.75	phosphate	139.784	1206	14484	1	-2.20
7	6.13	sulfate	68.115	1232	18845	1	-5.74
8	8.11	oxalate	52.202	594	11699	1	-5.59
Totals			1040.012	37320	260041		

File: 97082451.D11 Sample: S97T01808 DUP



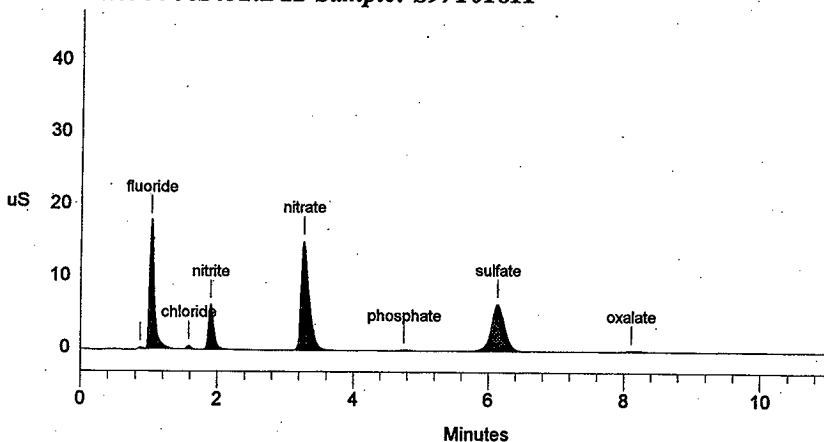
Sample Name: S97T01811 Date: 08/25/1997 00:40:52
 Data File : C:\DX\DATA\97082451.D12
 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 12 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	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	0.87		0.000	174	719	2	
2	1.03	fluoride	162.883	17765	87235	2	-0.65
3	1.58	chloride	5.095	495	2273	1	-2.47
4	1.90	nitrite	146.333	6204	34255	1	-4.68
5	3.26	nitrate	575.538	15094	124571	1	-0.20
6	4.75	phosphate	20.503	161	2013	1	-2.20
7	6.13	sulfate	327.744	6531	91204	1	-5.74
8	8.11	oxalate	15.143	202	4319	1	-5.59
Totals			1253.239	46627	346590		

File: 97082451.D12 Sample: S97T01811



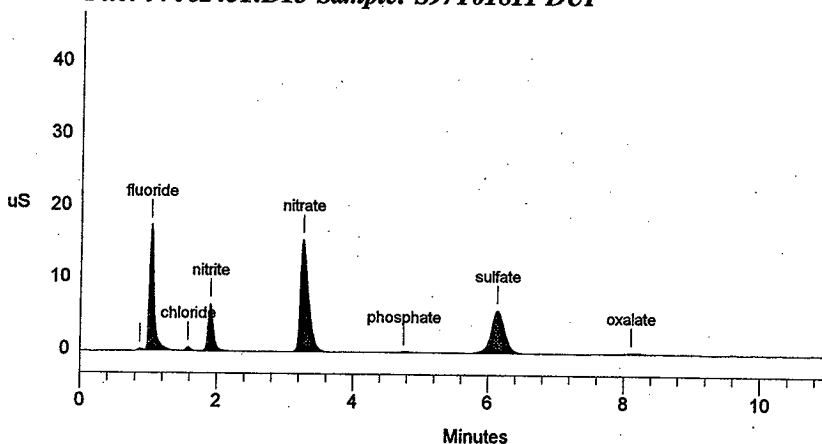
Sample Name: S97T01811 DUP Date: 08/25/1997 00:58:33
 Data File : C:\DX\DATA\97082451.D13
 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 13 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	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	0.87		0.000	195	862	2	
2	1.03	fluoride	156.913	17400	83497	2	-0.65
3	1.57	chloride	5.250	502	2326	1	-2.88
4	1.90	nitrite	149.880	6492	35109	1	-4.68
5	3.25	nitrate	595.844	15586	129166	1	-0.41
6	4.75	phosphate	21.935	167	2161	1	-2.20
7	6.13	sulfate	300.349	5918	83430	1	-5.74
8	8.11	oxalate	13.864	205	4065	1	-5.59
Totals			1244.035	46465	340617		

File: 97082451.D13 Sample: S97T01811 DUP



Sample Name: S97T01811 SPK Date: 08/25/1997 01:14:20
 Data File : C:\DX\DATA\97082451.D14
 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 14 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

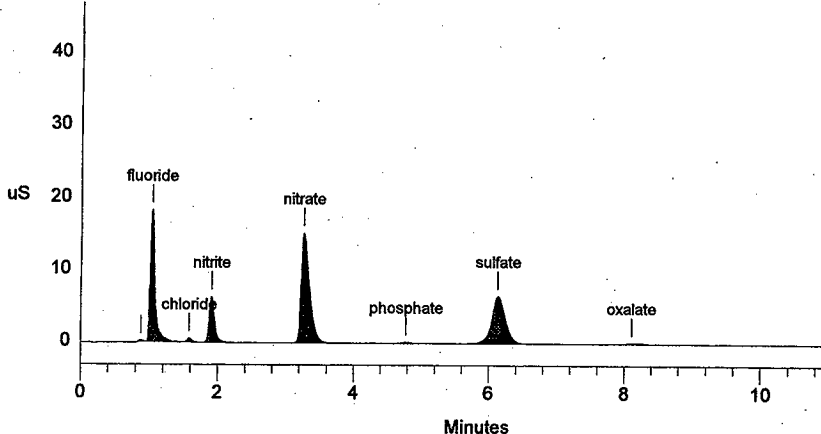
Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 41 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	0.88		0.000	172	729	2	
2	1.03	fluoride	162.244	18262	86833	2	0.00
3	1.58	chloride	5.127	496	2284	1	-2.47
4	1.91	nitrite	146.660	6333	34334	1	-4.35
5	3.26	nitrate	587.603	15260	127299	1	-0.20
6	4.77	phosphate	20.766	172	2041	1	-1.65
7	6.13	sulfate	327.775	6555	91213	1	-5.74
8	8.11	oxalate	16.481	204	4585	1	-5.59
Totals			1266.655	47453	349317		

File: 97082451.D14 Sample: S97T01811 SPK



18/5

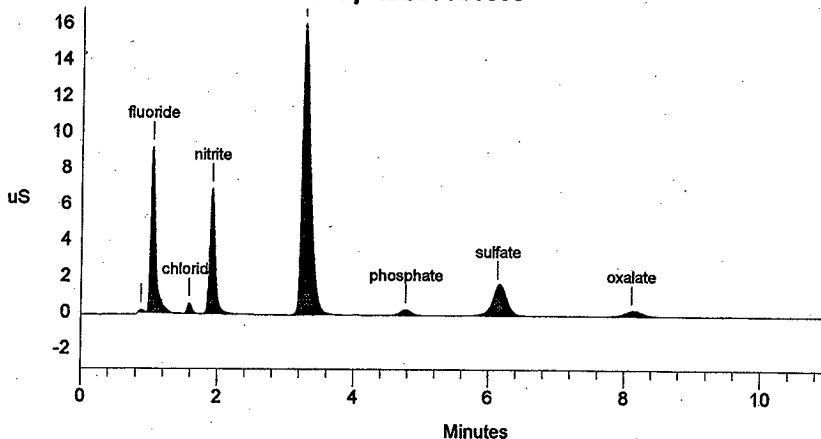
Sample Name: S97T01815 Date: 08/25/1997 01:27:19
 Data File : C:\DX\DATA\97082451.D15
 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 15 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	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	0.88		0.000	148	641	2	
2	1.03	fluoride	90.084	9196	44958	2	0.00
3	1.58	chloride	6.199	564	2653	1	-2.47
4	1.91	nitrite	161.524	6965	37913	1	-4.35
5	3.26	nitrate	625.968	16146	136012	1	-0.20
6	4.77	phosphate	38.360	325	3863	1	-1.65
7	6.13	sulfate	90.440	1639	24955	1	-5.74
8	8.11	oxalate	22.567	296	5795	1	-5.59
Totals			1035.142	35279	256791		

File: 97082451.D15 Sample: S97T01818



1815 DUP

Sample Name: S97T01818 DUP

Date: 08/25/1997 01:42:03

Data File : C:\DX\DATA\97082451.D16

Method : C:\DX\METHOD\ANIONS.MET

ACI Address: 1 System: 1 Inject#: 16

Detector: CDM-1

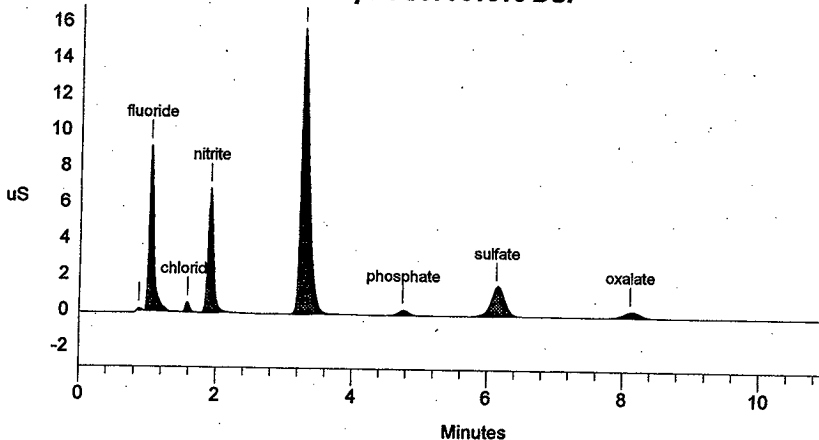
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	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	0.87		0.000	144	605	2	
2	1.03	fluoride	91.748	9170	45855	2	-0.65
3	1.58	chloride	6.066	559	2607	1	-2.47
4	1.90	nitrite	162.543	6901	38159	1	-4.68
5	3.25	nitrate	607.737	15827	131865	1	-0.41
6	4.75	phosphate	36.140	297	3633	1	-2.20
7	6.13	sulfate	87.379	1617	24117	1	-5.74
8	8.11	oxalate	29.607	352	7196	1	-5.59
Totals			1021.220	34866	254036		

File: 97082451.D16 Sample: S97T01818 DUP



LABCORE Completed Worklist Report for Worklist# 19564

Analyst: rdm Instrument: IC01 Book# _____

Method: _____ Rev/Mod _____

Worklist Comment: AP105, @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 P04	QC	1	<1.20e-1		ug/mL
1	CCB	0	⊖IC-QC S04	QC	1	<1.38e-1		ug/mL
1	CCB	0	⊖IC-QC OXALATE2	QC	1	<1.05e-1		ug/mL
2	CCV	0	⊖IC-QC F	QC	5.90e01	5.84e+01	98.983 %	Recovery
2	CCV	0	⊖IC-QC CL	QC	8.00e01	7.39e+01	92.375 %	Recovery
2	CCV	0	⊖IC-QC NO2	QC	5.43e02	5.40e+02	99.448 %	Recovery
2	CCV	0	⊖IC-QC BR	QC	5.89e02	5.98e+02	101.528 %	Recovery
2	CCV	0	⊖IC-QC NO3	QC	5.94e02	5.83e+02	98.148 %	Recovery
2	CCV	0	⊖IC-QC P04	QC	5.45e02	5.64e+02	103.486 %	Recovery
2	CCV	0	⊖IC-QC S04	QC	6.33e02	6.33e+02	100.158 %	Recovery
2	CCV	0	⊖IC-QC OXALATE2	QC	5.33e02	5.36e+02	100.563 %	Recovery
3	SAMPLE	S97T001689	⊖IC-01 F-02	LIQUID	N/A	< 1.200e-02	1.20e-002	ug/mL
3	SAMPLE	S97T001689	⊖IC-01 CL-02	LIQUID	N/A	< 5.800e-02	1.70e-002	ug/mL
3	SAMPLE	S97T001689	⊖IC-01 NO2-02	LIQUID	N/A	< 1.080e-01	0.108	ug/mL
3	SAMPLE	S97T001689	⊖IC-01 BR-02	LIQUID	N/A	< 1.250e-01	0.125	ug/mL
3	SAMPLE	S97T001689	⊖IC-01 NO3-02	LIQUID	N/A	< 1.390e-01	0.139	ug/mL
3	SAMPLE	S97T001689	⊖IC-01 P04-02	LIQUID	N/A	< 1.200e-01	0.120	ug/mL
3	SAMPLE	S97T001689	⊖IC-01 S04-02	LIQUID	N/A	< 1.380e-01	0.138	ug/mL
3	SAMPLE	S97T001689	⊖IC-01 OXALATE2	LIQUID	N/A	< 1.050e-01	0.105	ug/mL
4	DUP	S97T001689	⊖IC-01 F-02	LIQUID	<1.20e-2	<1.20e-2		RPD
4	DUP	S97T001689	⊖IC-01 CL-02	LIQUID	5.80e-02	8.40e-02	36.620	RPD
4	DUP	S97T001689	⊖IC-01 NO2-02	LIQUID	<1.08e-1	<1.08e-1		RPD
4	DUP	S97T001689	⊖IC-01 BR-02	LIQUID	<1.25e-1	<1.25e-1		RPD
4	DUP	S97T001689	⊖IC-01 NO3-02	LIQUID	<1.39e-1	<1.39e-1		RPD
4	DUP	S97T001689	⊖IC-01 P04-02	LIQUID	<1.20e-1	<1.20e-1		RPD
4	DUP	S97T001689	⊖IC-01 S04-02	LIQUID	<1.38e-1	<1.38e-1		RPD
4	DUP	S97T001689	⊖IC-01 OXALATE2	LIQUID	<1.05e-1	<1.05e-1		RPD

Final page for worklist# 19564

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

B. Nichols *9/9/97*

LABCORE Completed Worklist Report for Worklist# 19564

Seq	Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
				Reviewer Signature	Date				

LABCORE Data Entry Template for Worklist# 19564

Analyst: RM Instrument: IC0 / Book# 95N20A

Method: LA-533-105 Rev/Mod D-1

Worklist Comment: AP105, @IC-01 skm

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC-QC	QC		
2 CCV			@IC-QC	QC		
3 SAMPLE	S97T001689 0	@IC-01	LIQUID		97000455	AP-105 (P)
	Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02					
4 DUP	S97T001689 0	@IC-01	LIQUID			

Final page for worklist # 19564

RM 9/1/97
Analyst Signature Date

Analyst Signature Date

uploaded 9-9-97
JL Warrill
195645EP.CSV

Validated 9/9/97 Anchor

Data Entry Comments:

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

=====

Sample Name: CCB ELUENT BLANK	Date: 09/01/1997 21:18:52
Data File : C:\DX\DATA\97090101.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

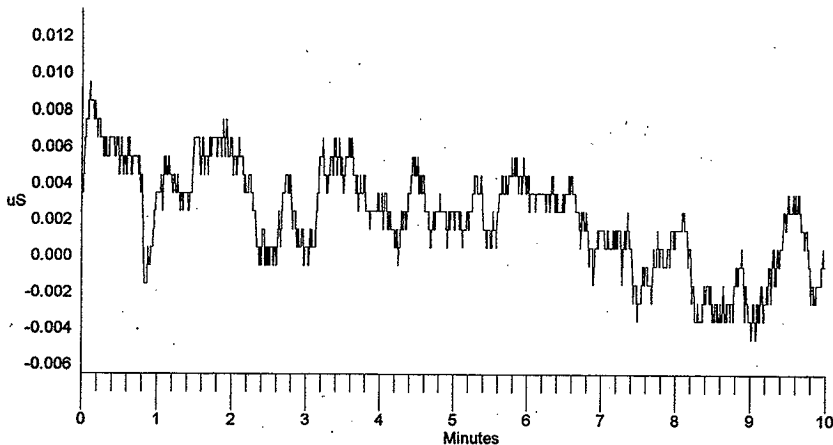
***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
---------	----------	----------------	---------------------	--------	------	----------	--------

Totals 0.000 0 0

DIRECT BLM

File: 97090101.D03 Sample: CCB ELUENT BLANK



SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 278 TO 281

Data Reprocessed On 09/04/1997 10:02:53

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=====
Sample Name: CCV 95N20A                      Date: 09/01/1997 21:31:13
Data File  : F:\DATA\97090101.D04
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 4           Detector: CDM-1
Analyst    :                               Column: AG4A/AS4A anion column
=====

```

```

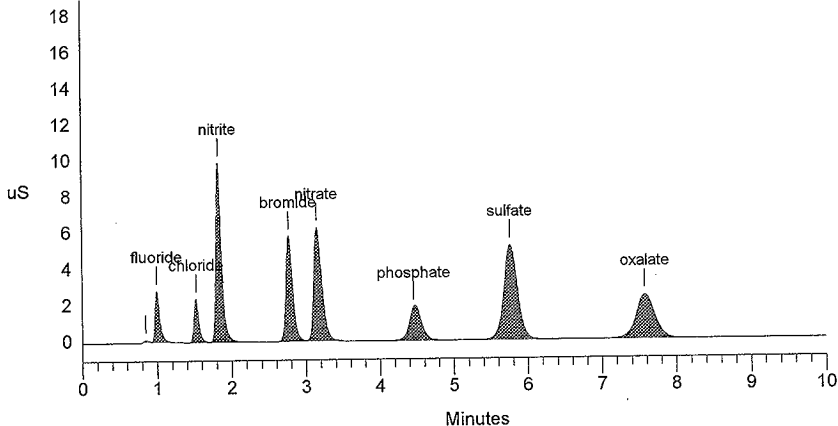
=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          101 3000 5Hz 0.00 10.00          30
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.85		0.000	92	363	2	
2	0.99	fluoride	58.354	2777	11750	2	-5.40
3	1.52	chloride	73.854	2370	10252	1	-6.17
4	1.83	nitrite	539.911	9873	49281	1	-6.80
5	2.77	bromide	598.390	5782	35673	1	-2.92
6	3.15	nitrate	582.583	6221	46438	1	-3.18
7	4.45	phosphate	563.844	1836	21010	1	-9.73
8	5.76	sulfate	633.305	5202	66293	1	-10.00
9	7.57	oxalate	536.394	2423	42135	1	0.04
Totals			3586.636	36577	283192		

File: 97090101.D04 Sample: CCV 95N20A



Sample Name: S97T001689 Date: 09/01/1997 22:01:49
 Data File: C:\DX\DATA\97090101.D05
 Method: C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 5 Detector: CDM-1
 Analyst: Column: AG4A/AS4A anion column

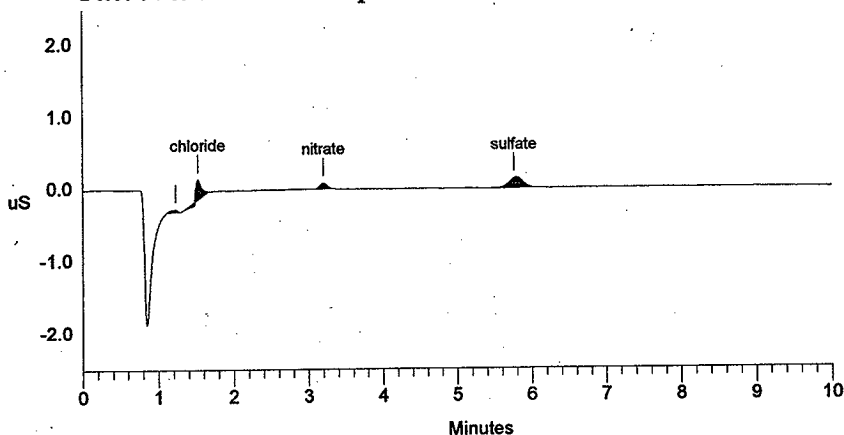
Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	3000	5Hz	0.00	10.00		30

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.23		0.000	35	220	1	
2	1.52	chloride	0.058	277	1174	1	-6.17
3	3.20	nitrate	0.004	83	537	1	-1.54
4	5.76	sulfate	-0.101	136	1937	1	-10.00
Totals			-0.039	531	3867		

DIRECT RUN

File: 97090101.D05 Sample: S97T001689



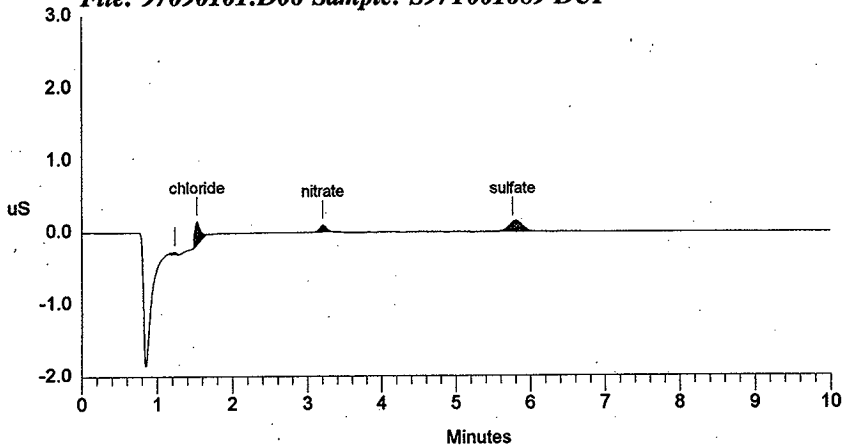
Sample Name: S97T001689 DUP Date: 09/01/1997 22:12:33
Data File: C:\DX\DATA\97090101.D06
Method: C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 6 Detector: CDM-1
Analyst: Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	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	1.23		0.000	31	186	1	
2	1.53	chloride	0.084	314	1524	1	-5.76
3	3.21	nitrate	0.010	93	582	1	-1.33
4	5.76	sulfate	-0.105	130	1896	1	-10.00
Totals			-0.011	569	4188		

DIRECT RM
File: 97090101.D06 Sample: S97T001689 DUP



LABCORE Completed Worklist Report for Worklist# 19631

Analyst: jds

Instrument: IC02

Book# 83N20B

Method: LA-533-105 Rev/Mod D-1

Worklist Comment: AP-105 IC. RCJ

Seq Type	Sample# R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 CCB	0	④IC-QC F	QC	1	<1.20e-2		ug/mL
1 CCB	0	④IC-QC CL	QC	1	<1.70e-2		ug/mL
1 CCB	0	④IC-QC NO2	QC	1	5.96e-01	0.596	ug/mL
1 CCB	0	④IC-QC BR	QC	1	1.99e-01	0.199	ug/mL
1 CCB	0	④IC-QC NO3	QC	1	6.71e-01	0.671	ug/mL
1 CCB	0	④IC-QC PO4	QC	1	<1.20e-1		ug/mL
1 CCB	0	④IC-QC SO4	QC	1	1.93e-01	0.193	ug/mL
1 CCB	0	④IC-QC OXALATE2	QC	1	<1.05e-1		ug/mL
2 CCV	0	④IC-QC F	QC	5.90e01	5.58e+01	94.576 % Recovery	
2 CCV	0	④IC-QC CL	QC	7.90e01	7.73e+01	97.848 % Recovery	
2 CCV	0	④IC-QC NO2	QC	5.44e02	5.45e+02	100.184 % Recovery	
2 CCV	0	④IC-QC BR	QC	5.89e02	5.54e+02	94.058 % Recovery	
2 CCV	0	④IC-QC NO3	QC	5.94e02	5.71e+02	96.128 % Recovery	
2 CCV	0	④IC-QC PO4	QC	5.45e02	5.34e+02	97.982 % Recovery	
2 CCV	0	④IC-QC SO4	QC	6.32e02	6.38e+02	97.785 % Recovery	
2 CCV	0	④IC-QC OXALATE2	QC	5.33e02	5.23e+02	98.124 % Recovery	
3 BLNK-PREP	0	④IC-01 F-02	SOLID	1	<1.20e-2		ug/g
3 BLNK-PREP	0	④IC-01 CL-02	SOLID	1	<1.70e-2		ug/g
3 BLNK-PREP	0	④IC-01 NO2-02	SOLID	1	1.22e-01	0.122	ug/g
3 BLNK-PREP	0	④IC-01 BR-02	SOLID	1	<1.25e-1		ug/g
3 BLNK-PREP	0	④IC-01 NO3-02	SOLID	1	<1.35e-1		ug/g
3 BLNK-PREP	0	④IC-01 PO4-02	SOLID	1	<1.20e-1		ug/g
3 BLNK-PREP	0	④IC-01 SO4-02	SOLID	1	<1.38e-1		ug/g
3 BLNK-PREP	0	④IC-01 OXALATE2	SOLID	1	<1.05e-1		ug/g
4 SAMPLE	S97T001812	0 W ④IC-01 F-02	SOLID	N/A	2.127e+04	92.620	ug/g
4 SAMPLE	S97T001812	0 W ④IC-01 CL-02	SOLID	N/A	1.101e+03	131.200	ug/g
4 SAMPLE	S97T001812	0 W ④IC-01 NO2-02	SOLID	N/A	2.822e+04	633.500	ug/g
4 SAMPLE	S97T001812	0 W ④IC-01 BR-02	SOLID	N/A	9.646e+02	964.700	ug/g
4 SAMPLE	S97T001812	0 W ④IC-01 NO3-02	SOLID	N/A	1.031e+05	1073.000	ug/g
4 SAMPLE	S97T001812	0 W ④IC-01 PO4-02	SOLID	N/A	2.835e+03	926.200	ug/g
4 SAMPLE	S97T001812	0 W ④IC-01 SO4-02	SOLID	N/A	2.104e+04	1065.000	ug/g
4 SAMPLE	S97T001812	0 W ④IC-01 OXALATE2	SOLID	N/A	5.810e+03	810.200	ug/g
5 DUP	S97T001812	0 W ④IC-01 F-02	SOLID	2.13e+04	2.36e+04	10.245 RPD	
5 DUP	S97T001812	0 W ④IC-01 CL-02	SOLID	1.10e+03	1.14e+03	3.571 RPD	
5 DUP	S97T001812	0 W ④IC-01 NO2-02	SOLID	2.82e+04	3.14e+04	10.738 RPD	
5 DUP	S97T001812	0 W ④IC-01 BR-02	SOLID	<9.65e2	<9.96e2	RPD	
5 DUP	S97T001812	0 W ④IC-01 NO3-02	SOLID	1.03e+05	1.12e+05	8.372 RPD	
5 DUP	S97T001812	0 W ④IC-01 PO4-02	SOLID	2.84e+03	3.22e+03	12.541 RPD	
5 DUP	S97T001812	0 W ④IC-01 SO4-02	SOLID	2.10e+04	2.21e+04	5.104 RPD	
5 DUP	S97T001812	0 W ④IC-01 OXALATE2	SOLID	5.81e+03	6.02e+03	3.550 RPD	
6 SAMPLE	S97T001816	0 W ④IC-01 F-02	SOLID	N/A	1.231e+04	90.690	ug/g

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

LABCORE Completed Worklist Report for Worklist# 19631

Seq Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
6 SAMPLE	S97T001816	0	W	@IC-01	CL-02	SOLID	N/A	1.264e+03	128.500 ug/g
6 SAMPLE	S97T001816	0	W	@IC-01	NO2-02	SOLID	N/A	3.229e+04	816.300 ug/g
6 SAMPLE	S97T001816	0	W	@IC-01	BR-02	SOLID	N/A	9.449e+02	945.100 ug/g
6 SAMPLE	S97T001816	0	W	@IC-01	NO3-02	SOLID	N/A	1.245e+05	1051.000 ug/g
6 SAMPLE	S97T001816	0	W	@IC-01	PO4-02	SOLID	N/A	3.784e+03	306.900 ug/g
6 SAMPLE	S97T001816	0	W	@IC-01	SO4-02	SOLID	N/A	2.054e+04	1043.000 ug/g
6 SAMPLE	S97T001816	0	W	@IC-01	OXALATE2	SOLID	N/A	4.695e+03	793.800 ug/g
7 DUP	S97T001816	0	W	@IC-01	F-02	SOLID	1.93e+04	1.88e+04	2.625 RPD
7 DUP	S97T001816	0	W	@IC-01	CL-02	SOLID	1.26e+03	1.25e+03	0.797 RPD
7 DUP	S97T001816	0	W	@IC-01	NO2-02	SOLID	3.23e+04	3.17e+04	1.875 RPD
7 DUP	S97T001816	0	W	@IC-01	BR-02	SOLID	<9.45e2	<9.90e2	RPD
7 DUP	S97T001816	0	W	@IC-01	NO3-02	SOLID	1.24e+05	1.18e+05	4.959 RPD
7 DUP	S97T001816	0	W	@IC-01	PO4-02	SOLID	3.78e+03	3.42e+03	10.000 RPD
7 DUP	S97T001816	0	W	@IC-01	SO4-02	SOLID	2.05e+04	1.99e+04	2.970 RPD
7 DUP	S97T001816	0	W	@IC-01	OXALATE2	SOLID	4.70e+03	4.88e+03	3.758 RPD

Final page for worklist# 19631

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

James M. Lutz 9/3/97
Reviewer Signature Date

08/04/97 08:53
A-0004-1

Page: 1

LABCORE Data Entry Template for Worklist# 19631

Analyst: SJS Instrument: IC0 2 Book# 83N20BMethod: LA-533-105 Rev/Mod D-1

Worklist Comment: AP-105 IC. RCJ

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	S97T001812 0 W		@IC-01	SOLID	97000478	AP-105 (P)
	Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02					
5 DUP	S97T001812 0 W		@IC-01	SOLID		
6 SAMPLE	S97T001816 0 W		@IC-01	SOLID	97000478	AP-105 (P)
	Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02					
7 DUP	S97T001816 0 W		@IC-01	SOLID		

Final page for worklist # 19631

Analyst Signature

Date

8/25/97

Analyst Signature

Date

uploaded 8-27-97

John Worell
19631AUG.LSV

Validated 8/29/97 JML

Data Entry Comments:

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

Sample Name: BLANK

Date: 08/25/1997 08:03:37

Data File : C:\DX\DATA\97082501.D05

Method : C:\DX\METHOD\ANIONS.MET

ACI Address: 1 System: 1 Inject#: 5

Detector: CDM-1

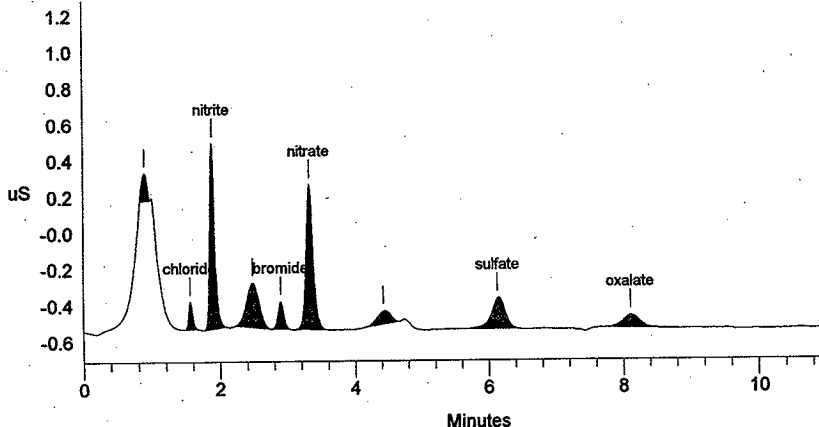
Analyst : *Sealsu Duan for JDS* Column: AG4A/AS4A anion column

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	0.90		0.000	151	806	1	
2	1.56	chloride	0.006	151	611	1	-3.70
3	1.89	nitrite	0.596	1025	5093	1	-5.35
4	2.49		0.000	246	3177	1	
5	2.90	bromide	0.199	149	867	1	-1.36
6	3.33	nitrate	0.671	798	5808	1	1.84
7	4.43		0.000	72	991	1	
8	6.13	sulfate	0.193	170	2468	1	-5.74
9	8.11	oxalate	-0.008	69	1249	1	-5.59
Totals			1.657	2831	21071		

File: 97082501.D05 Sample: BLANK



SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 285 TO 291


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=====
Sample Name: STD                      Date: 08/25/1997 08:36:09
Data File : C:\DX\DATA\97082501.D06
Method    : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 6      Detector: CDM-1
Analyst   :                          Column: AG4A/AS4A anion column
=====

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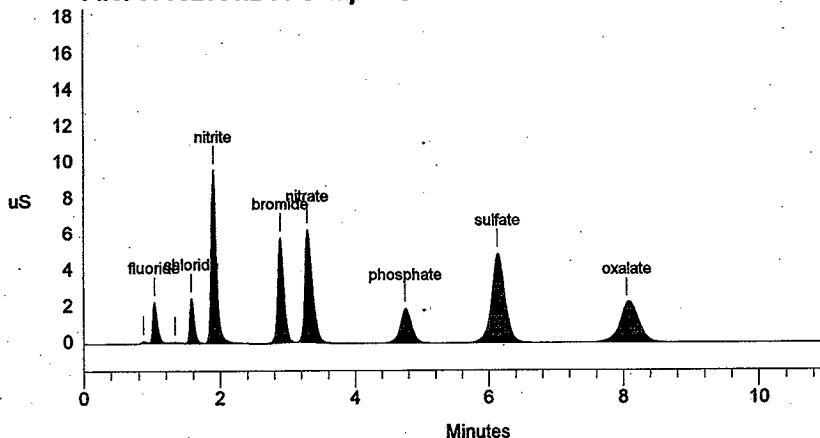
=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External 1 101 3300 5Hz 0.00 11.00 50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.87		0.000	81	341	2	
2	1.03	fluoride	55.756	2247	10721	3	0.00
3	1.33		0.000	50	332	4	
4	1.57	chloride	77.312	2449	11447	1	-2.88
5	1.90	nitrite	544.927	9553	52334	1	-4.68
6	2.89	bromide	553.827	5819	36740	1	-1.59
7	3.29	nitrate	571.069	6258	48961	1	0.82
8	4.75	phosphate	534.495	1895	22701	1	-2.20
9	6.13	sulfate	617.889	4942	69463	1	-5.74
10	8.05	oxalate	523.155	2209	43883	1	-6.21
Totals			3478.431	35505	296925		

File: 97082501.D06 Sample: STD



```

=====
Sample Name: PREP BLK                      Date: 08/25/1997 14:01:44
Data File  : C:\DX\DATA\97082501.D09
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 9        Detector: CDM-1
Analyst    :                            Column: AG4A/AS4A anion column
=====

```

```

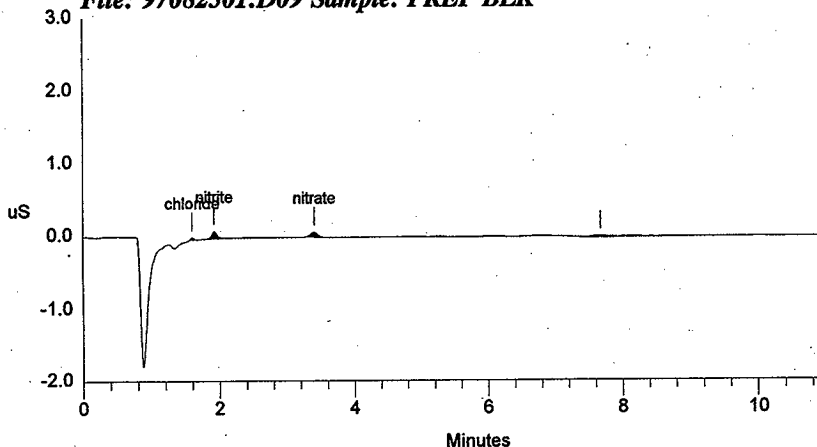
=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          1 3300 5Hz 0.00 11.00          50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.60	chloride	-0.031	27	84	1	-1.23
2	1.92	nitrite	0.122	96	474	1	-3.68
3	3.41	nitrate	0.039	64	424	1	4.29
4	7.68		0.000	16	449	1	
Totals			0.130	205	1430		

File: 97082501.D09 Sample: PREP BLK



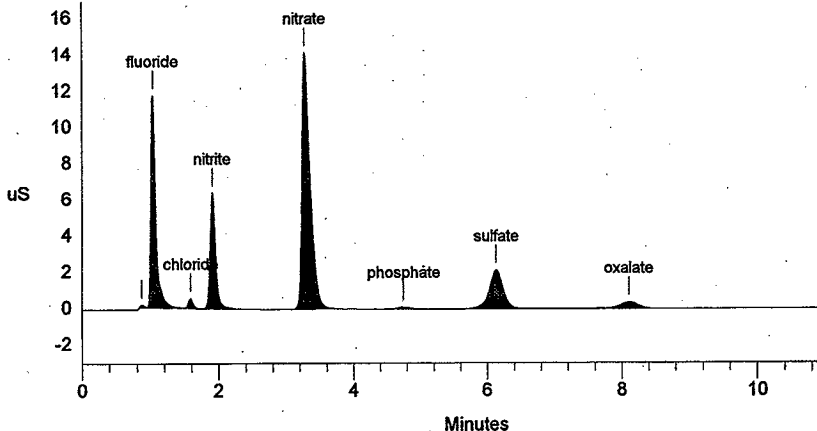
Sample Name: S97T001812 Date: 08/25/1997 14:23:05
 Data File : C:\DX\DATA\97082501.D10
 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 10 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	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	0.87		0.000	143	585	2	
2	1.03	fluoride	113.031	11700	57580	2	0.00
3	1.59	chloride	5.849	550	2532	1	-2.06
4	1.91	nitrite	149.948	6395	35125	1	-4.35
5	3.27	nitrate	547.705	14159	118296	1	0.20
6	4.75	phosphate	15.065	121	1451	1	-2.20
7	6.13	sulfate	111.762	2148	30810	1	-5.74
8	8.11	oxalate	30.866	365	7447	1	-5.59
Totals			974.225	35581	253826		

File: 97082501.D10 Sample: S97T001812



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=====
Sample Name: S97T001812DUP          Date: 08/25/1997 14:42:55
Data File  : C:\DX\DATA\97082501.D11
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 11      Detector: CDM-1
Analyst    :                          Column: AG4A/AS4A anion column
=====

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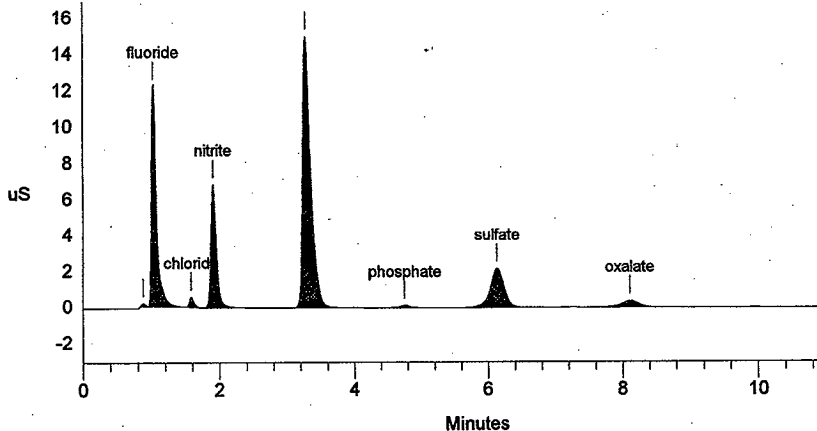
=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          41    3300  5Hz    0.00  11.00          50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	166	699	2	
2	1.03	fluoride	121.353	12196	62303	2	-0.65
3	1.58	chloride	5.853	551	2534	1	-2.47
4	1.91	nitrite	161.489	6864	37905	1	-4.35
5	3.27	nitrate	578.601	15032	125263	1	0.20
6	4.75	phosphate	16.575	129	1607	1	-2.20
7	6.13	sulfate	113.846	2180	31383	1	-5.74
8	8.11	oxalate	30.961	379	7466	1	-5.59
Totals			1028.678	37498	269160		

File: 97082501.D11 Sample: S97T001812DUP



Sample Name: S97T001816 Date: 08/25/1997 14:55:03
 Data File : C:\DX\DATA\97082501.D12
 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 12 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

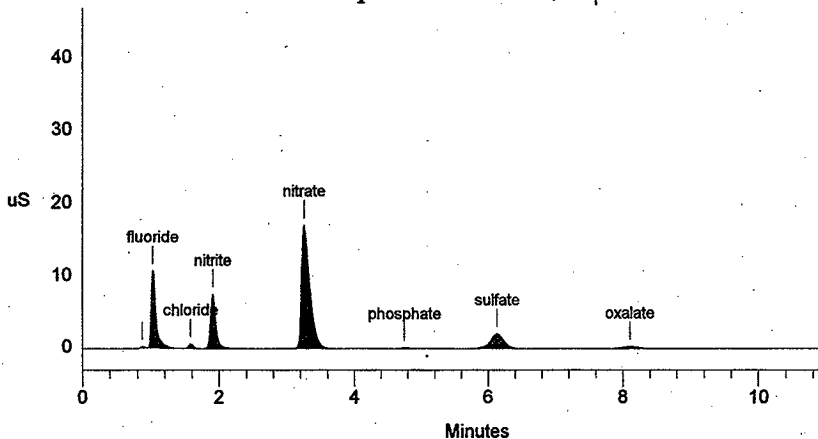
Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 41 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	0.87		0.000	170	764	2	
2	1.03	fluoride	104.752	10735	52960	2	-0.65
3	1.58	chloride	6.857	619	2879	1	-2.47
4	1.91	nitrite	175.146	7569	41197	1	-4.35
5	3.25	nitrate	675.268	17119	147289	1	-0.41
6	4.75	phosphate	20.525	162	2016	1	-2.20
7	6.13	sulfate	111.386	2098	30707	1	-5.74
8	8.11	oxalate	25.463	320	6371	1	-5.59
Totals			1119.398	38792	284184		

File: 97082501.D12 Sample: S97T001816 Dup



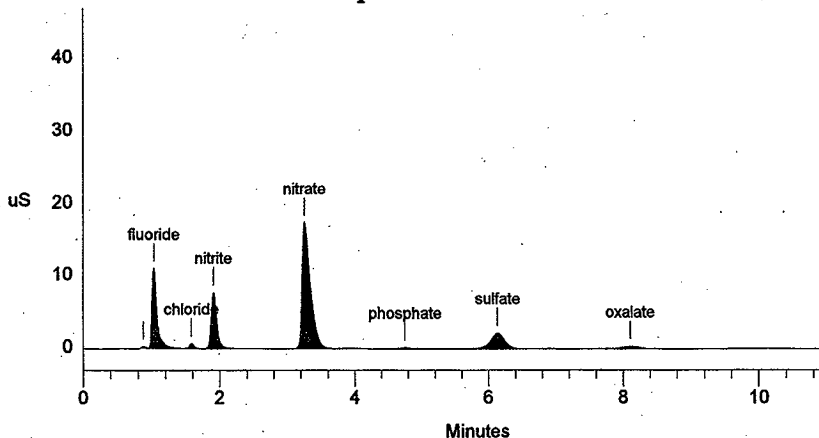
Sample Name: S97T001816 *DUP* Date: 08/25/1997 16:21:55
 Data File : C:\DX\DATA\97082501.D13
 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 13 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	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	0.88		0.000	178	753	2	
2	1.03	fluoride	108.074	10978	54804	2	0.00
3	1.58	chloride	7.210	636	3001	1	-2.47
4	1.91	nitrite	182.458	7732	42962	1	-4.35
5	3.25	nitrate	681.631	17411	148751	1	-0.41
6	4.75	phosphate	19.673	161	1927	1	-2.20
7	6.13	sulfate	114.780	2158	31640	1	-5.74
8	8.11	oxalate	28.094	335	6895	1	-5.59
Totals			1141.919	39589	290734		

File: 97082501.D13 Sample: S97T001816



LABCORE Completed Worklist Report for Worklist# 19632

Analyst: eal

Instrument: IC02

Book# 83N20BMethod: 1A-533-105 Rev/Mod D-1

Worklist Comment: AP-105 IC. RCJ

Seq Type	Sample# R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 CCB	0	@IC-QC F	QC	1	<1.20e-2		ug/mL
1 CCB	0	@IC-QC CL	QC	1	<1.70e-2		ug/mL
1 CCB	0	@IC-QC NO2	QC	1	<1.08e-1		ug/mL
1 CCB	0	@IC-QC BR	QC	1	<1.25e-1		ug/mL
1 CCB	0	@IC-QC NO3	QC	1	<1.39e-1		ug/mL
1 CCB	0	@IC-QC P04	QC	1	<1.20e-1		ug/mL
1 CCB	0	@IC-QC S04	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	5.30e01	5.39e+01	101.525 % Recovery	
2 CCV	0	@IC-QC CL	QC	7.90e01	8.55e+01	108.228 % Recovery	
2 CCV	0	@IC-QC NO2	QC	5.44e02	5.63e+02	103.493 % Recovery	
2 CCV	0	@IC-QC BR	QC	5.89e02	5.70e+02	96.774 % Recovery	
2 CCV	0	@IC-QC NO3	QC	5.94e02	5.98e+02	100.673 % Recovery	
2 CCV	0	@IC-QC P04	QC	5.45e02	5.49e+02	100.734 % Recovery	
2 CCV	0	@IC-QC S04	QC	6.32e02	6.42e+02	101.582 % Recovery	
2 CCV	0	@IC-QC OXALATE2	QC	5.33e02	5.42e+02	101.689 % 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 P04-02	SOLID	1	<1.20e-1		ug/g
3 BLNK-PREP	0	@IC-01 S04-02	SOLID	1	<1.38e-1		ug/g
3 BLNK-PREP	0	@IC-01 OXALATE2	SOLID	1	<1.05e-1		ug/g
4 SAMPLE	S97T001818 0 W	@IC-01 F-02	SOLID	N/A	1.428e+04	91.630	ug/g
4 SAMPLE	S97T001818 0 W	@IC-01 CL-02	SOLID	N/A	1.642e+03	129.800	ug/g
4 SAMPLE	S97T001818 0 W	@IC-01 NO2-02	SOLID	N/A	3.468e+04	824.500	ug/g
4 SAMPLE	S97T001818 0 W	@IC-01 BR-02	SOLID	N/A	9.544e+02	954.500	ug/g
4 SAMPLE	S97T001818 0 W	@IC-01 NO3-02	SOLID	N/A	1.412e+05	1061.000	ug/g
4 SAMPLE	S97T001818 0 W	@IC-01 P04-02	SOLID	N/A	7.212e+03	916.400	ug/g
4 SAMPLE	S97T001818 0 W	@IC-01 S04-02	SOLID	N/A	7.069e+03	1054.000	ug/g
5 DUP	S97T001818 0 W	@IC-01 F-02	SOLID	1.43e+04	1.37e+04	4.286	RPD
5 DUP	S97T001818 0 W	@IC-01 CL-02	SOLID	1.64e+03	1.66e+03	1.212	RPD
5 DUP	S97T001818 0 W	@IC-01 NO2-02	SOLID	3.47e+04	3.35e+04	3.519	RPD
5 DUP	S97T001818 0 W	@IC-01 BR-02	SOLID	9.54e+02	9.16e+02		RPD
5 DUP	S97T001818 0 W	@IC-01 NO3-02	SOLID	1.41e+05	1.34e+05	5.091	RPD
5 DUP	S97T001818 0 W	@IC-01 P04-02	SOLID	7.21e+03	6.61e+03	8.683	RPD
5 DUP	S97T001818 0 W	@IC-01 S04-02	SOLID	7.07e+03	7.00e+03	0.995	RPD
5 DUP	S97T001818 0 W	@IC-01 OXALATE2	SOLID	5.00e+03	1.15e+04	78.789	RPD
6 SAMPLE	S97T001820 0 W	@IC-01 F-02	SOLID	N/A	1.975e+04	91.060	ug/g
6 SAMPLE	S97T001820 0 W	@IC-01 CL-02	SOLID	N/A	1.514e+03	129.000	ug/g

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

LABCORE Completed Worklist Report for Worklist# 19632

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
6 SAMPLE	S97T001820	0 W	@IC-01	NO2-02	SOLID	N/A	3.247e+04	819.600 ug/g
6 SAMPLE	S97T001820	0 W	@IC-01	BR-02	SOLID	N/A	9.484e+02	948.300 ug/g
6 SAMPLE	S97T001820	0 W	@IC-01	NO3-02	SOLID	N/A	1.211e+05	1055.000 ug/g
6 SAMPLE	S97T001820	0 W	@IC-01	PO4-02	SOLID	N/A	4.590e+03	910.600 ug/g
6 SAMPLE	S97T001820	0 W	@IC-01	SO4-02	SOLID	N/A	1.152e+04	1047.000 ug/g
7 DUP	S97T001820	0 W	@IC-01	F-02	SOLID	1.98e+04	1.98e+04	0.000 RPD
7 DUP	S97T001820	0 W	@IC-01	CL-02	SOLID	1.51e+03	1.45e+03	4.054 RPD
7 DUP	S97T001820	0 W	@IC-01	NO2-02	SOLID	3.25e+04	3.19e+04	1.863 RPD
7 DUP	S97T001820	0 W	@IC-01	BR-02	SOLID	<9.48e2	<9.23e2	RPD
7 DUP	S97T001820	0 W	@IC-01	NO3-02	SOLID	1.21e+05	1.17e+05	3.361 RPD
7 DUP	S97T001820	0 W	@IC-01	PO4-02	SOLID	4.59e+03	4.15e+03	10.063 RPD
7 DUP	S97T001820	0 W	@IC-01	SO4-02	SOLID	1.15e+04	1.15e+04	0.000 RPD
7 DUP	S97T001820	0 W	@IC-01	OXALATE2	SOLID	7.20e+03	5.84e+03	20.859 RPD

Final page for worklist# 19632

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____


Reviewer Signature _____ Date 8/29/97

LABCORE Data Entry Template for Worklist# 19632

Analyst: JAL Instrument: IC0 2 Book# 83N20.B

Method: LA-533-105 Rev/Mod D.1

Worklist Comment: AP-105 IC. RCJ

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	S97T001818 0 W	@IC-01	SOLID		97000479	AP-105 (P)
	Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02					
5 DUP	S97T001818 0 W	@IC-01	SOLID			
6 SAMPLE	S97T001820 0 W	@IC-01	SOLID		97000479	AP-105 (P)
	Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02					
7 DUP	S97T001820 0 W	@IC-01	SOLID			

Final page for worklist # 19632

Al Sembel 08/26/97
Analyst Signature Date
uploaded 8-29-97
John Worell
19632 AUG.CSV

Analyst Signature Date

Oxalate will be re-run on WKL# 2015 not validated
8/29/97
JME

Data Entry Comments:

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

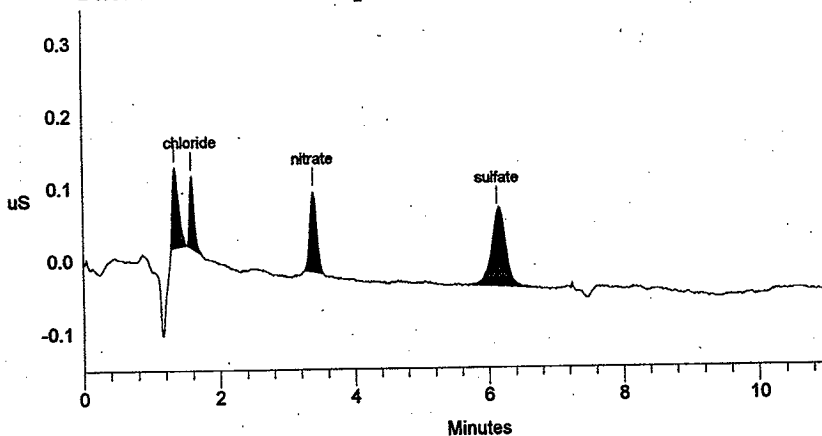
Sample Name: INST. BLANK Date: 08/26/1997 02:01:20
 Data File : C:\DX\DATA\97082601.D10
 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 10 Detector: CDM-1
 Analyst : *John F. J...* Column: AG4A/AS4A anion column

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	1.34		0.000	109	690	1	
2	1.59	chloride	-0.006	99	444	1	-2.06
3	3.39	nitrate	0.080	109	775	1	3.67
4	6.13	sulfate	0.115	103	1602	1	-5.74
Totals			0.190	420	3512		

File: 97082601.D10 Sample: INST. BLANK



SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 26 TO 30.

Sample Name: 83N20-B STD.

Date: 08/26/1997 02:15:40

Data File : C:\DX\DATA\97082601.D11

Method : C:\DX\METHOD\ANIONS.MET

ACI Address: 1 System: 1 Inject#: 11

Detector: CDM-1

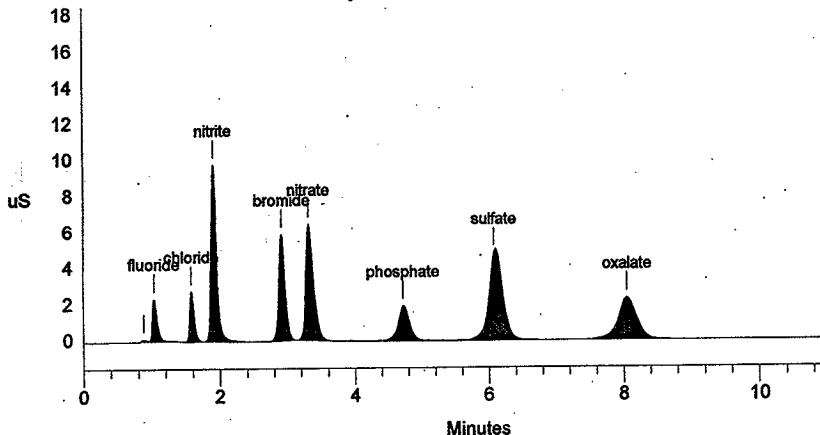
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	101	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	0.88		0.000	92	384	2	
2	1.03	fluoride	59.933	2315	11537	2	0.00
3	1.58	chloride	85.481	2758	12624	1	-2.47
4	1.91	nitrite	563.460	9773	54158	1	-4.35
5	2.91	bromide	569.739	5902	37830	1	-0.91
6	3.31	nitrate	598.467	6448	51347	1	1.43
7	4.72	phosphate	549.340	1927	23348	1	-2.75
8	6.08	sulfate	642.489	4863	72271	1	-6.56
9	8.05	oxalate	541.962	2342	45429	1	-6.21
Totals			3610.871	36419	308928		

File: 97082601.D11 Sample: 83N20-B STD.



Sample Name: PREP. BLANK

Date: 08/26/1997 02:29:46

Data File : C:\DX\DATA\97082601.D12

Method : C:\DX\METHOD\ANIONS.MET

ACI Address: 1 System: 1 Inject#: 12

Detector: CDM-1

Analyst :

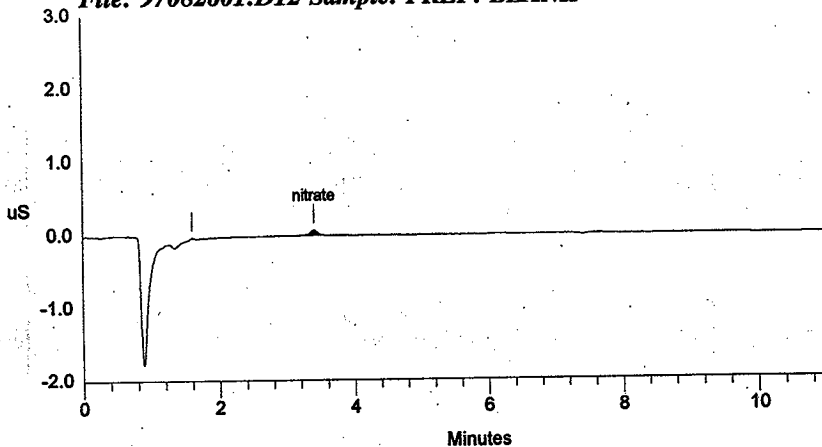
Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	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
2	3.40	nitrate	0.042	68	450	1	4.08
Totals			0.042	68	450		

File: 97082601.D12 Sample: PREP. BLANK



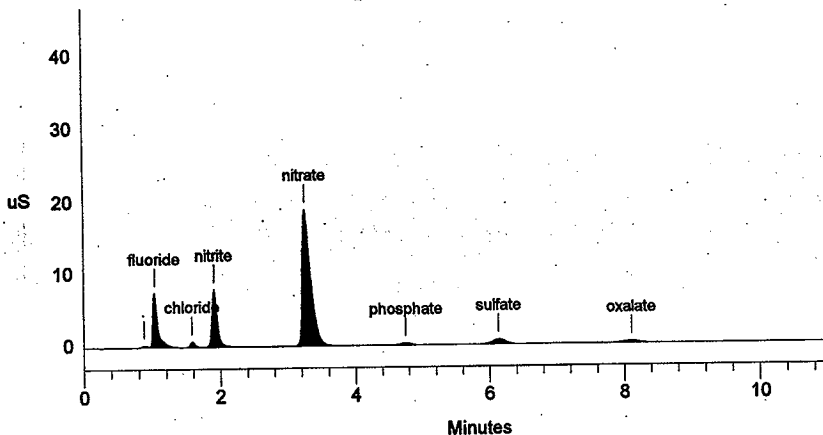
Sample Name: S97T001818 Date: 08/26/1997 02:45:13
 Data File : C:\DX\DATA\97082601.D13
 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 13 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	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	0.88		0.000	153	664	2	
2	1.03	fluoride	76.666	7463	37829	2	0.00
3	1.58	chloride	8.816	754	3555	1	-2.47
4	1.91	nitrite	186.212	7951	43868	1	-4.35
5	3.25	nitrate	758.380	18997	166514	1	-0.41
6	4.75	phosphate	38.731	306	3902	1	-2.20
7	6.13	sulfate	37.960	724	10624	1	-5.74
8	8.11	oxalate	26.845	324	6646	1	-5.59
Totals			1133.609	36672	273603		

File: 97082601.D13 Sample: S97T001818



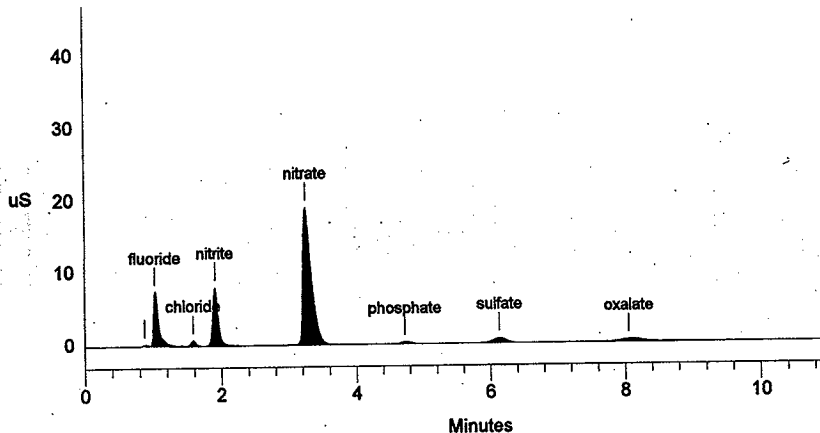
Sample Name: S97T001818 DUP Date: 08/26/1997 02:59:03
 Data File : C:\DX\DATA\97082601.D14
 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 14 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	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	0.87		0.000	152	642	2	
2	1.03	fluoride	76.798	7328	37899	1	-0.65
3	1.58	chloride	9.290	775	3719	1	-2.47
4	1.91	nitrite	187.636	8028	44212	1	-4.35
5	3.25	nitrate	751.731	19042	164966	1	-0.61
6	4.72	phosphate	37.001	291	3722	1	-2.75
7	6.13	sulfate	39.141	745	10945	1	-5.74
8	8.05	oxalate	64.248	440	14103	1	-6.21
Totals			1165.844	36802	280207		

File: 97082601.D14 Sample: S97T001818 DUP



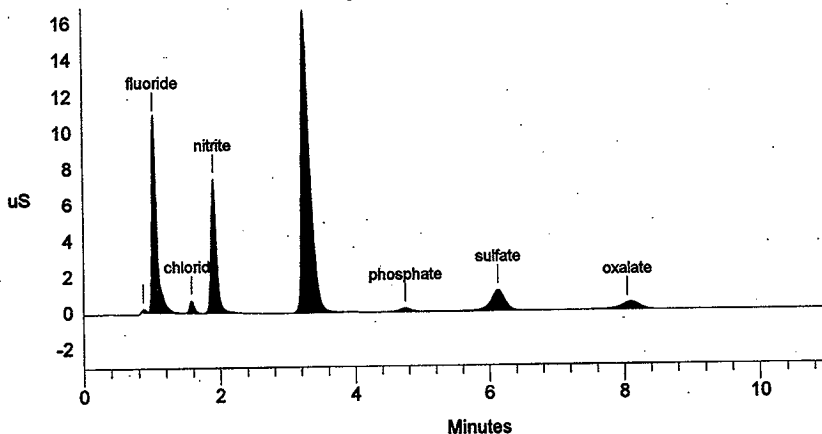
Sample Name: S97T001820 Date: 08/26/1997 03:11:54
 Data File : C:\DX\DATA\97082601.D15
 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 15 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	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	0.87		0.000	159	663	2	
2	1.03	fluoride	106.745	10815	54065	2	-0.65
3	1.58	chloride	8.183	682	3337	1	-2.47
4	1.91	nitrite	175.474	7451	41277	1	-4.35
5	3.25	nitrate	654.380	16724	142500	1	-0.41
6	4.75	phosphate	24.803	200	2458	1	-2.20
7	6.13	sulfate	62.261	1166	17246	1	-5.74
8	8.05	oxalate	38.882	406	9043	1	-6.21
Totals			1070.727	37603	270588		

File: 97082601.D15 Sample: S97T001820



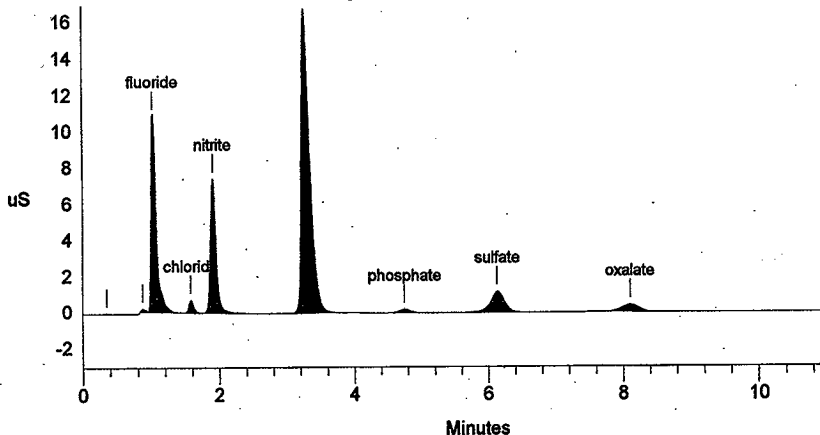
Sample Name: S97T001820 DUP. Date: 08/26/1997 03:26:22
 Data File : C:\DX\DATA\97082601.D16
 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 16 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	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	0.35		0.000	22	138	1	
2	0.88		0.000	160	652	2	
3	1.03	fluoride	109.846	10821	55794	2	-0.65
4	1.58	chloride	8.059	692	3294	1	-2.47
5	1.91	nitrite	177.369	7432	41734	1	-4.35
6	3.26	nitrate	652.309	16764	142026	1	-0.20
7	4.75	phosphate	23.036	193	2275	1	-2.20
8	6.13	sulfate	64.060	1175	17737	1	-5.74
9	8.11	oxalate	32.411	423	7754	1	-5.59
Totals			1067.092	37683	271405		

File: 97082601.D16 Sample: S97T001820 DUP.



LABCORE Completed Worklist Report for Worklist# 20114

Analyst: eal

Instrument: IC02

Book# 95N20A

Method: LA-533-105 Rev/Mod D-1

Worklist Comment: Rerun AP-105 IC. Use 41 DF. jmf

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit	
1	CCB	0	@IC-QC	F	QC	1	<1.20e-2	ug/mL	
1	CCB	0	@IC-QC	CL	QC	1	<1.70e-2	ug/mL	
1	CCB	0	@IC-QC	NO2	QC	1	<1.08e-1	ug/mL	
1	CCB	0	@IC-QC	BR	QC	1	<1.25e-1	ug/mL	
1	CCB	0	@IC-QC	NO3	QC	1	1.70e+01	0.170 ug/mL	
1	CCB	0	@IC-QC	PO4	QC	1	<1.20e-1	ug/mL	
1	CCB	0	@IC-QC	SO4	QC	1	<1.38e-1	ug/mL	
1	CCB	0	@IC-QC	OXALATE2	QC	1	<1.05e-1	ug/mL	
2	CCV	0	@IC-QC	F	QC	5.90e01	5.67e+01	96.102 % Recovery	
2	CCV	0	@IC-QC	CL	QC	8.00e01	7.69e+01	96.125 % Recovery	
2	CCV	0	@IC-QC	NO2	QC	5.43e02	5.10e+02	93.923 % Recovery	
2	CCV	0	@IC-QC	BR	QC	5.89e02	5.61e+02	95.246 % Recovery	
2	CCV	0	@IC-QC	NO3	QC	5.94e02	5.49e+02	92.424 % Recovery	
2	CCV	0	@IC-QC	PO4	QC	5.45e02	5.26e+02	96.514 % Recovery	
2	CCV	0	@IC-QC	SO4	QC	6.32e02	6.02e+02	95.253 % Recovery	
2	CCV	0	@IC-QC	OXALATE2	QC	5.33e02	5.11e+02	95.872 % 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	1.92e-01	0.192 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	2.19e-01	0.219 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	2.43e-01	0.243 ug/g	
3	BLNK-PREP	0	@IC-01	OXALATE2	SOLID	1	<1.05e-1	ug/g	
4	SAMPLE	S97T001811	0 W	@IC-01	F-02	SOLID	N/A	3.001e+04	93.230 ug/g
4	SAMPLE	S97T001811	0 W	@IC-01	CL-02	SOLID	N/A	1.302e+03	132.100 ug/g
4	SAMPLE	S97T001811	0 W	@IC-01	NO2-02	SOLID	N/A	2.740e+04	839.300 ug/g
4	SAMPLE	S97T001811	0 W	@IC-01	BR-02	SOLID	N/A	9.714e+02	971.300 ug/g
4	SAMPLE	S97T001811	0 W	@IC-01	NO3-02	SOLID	N/A	1.071e+05	1080.000 ug/g
4	SAMPLE	S97T001811	0 W	@IC-01	PO4-02	SOLID	N/A	3.526e+03	932.300 ug/g
4	SAMPLE	S97T001811	0 W	@IC-01	SO4-02	SOLID	N/A	6.002e+04	1073.000 ug/g
4	SAMPLE	S97T001811	0 W	@IC-01	OXALATE2	SOLID	N/A	3.776e+03	815.900 ug/g
5	DUP	S97T001811	0 W	@IC-01	F-02	SOLID	3.00e+04	2.93e+04	2.361 RPD
5	DUP	S97T001811	0 W	@IC-01	CL-02	SOLID	1.30e+03	1.29e+03	0.772 RPD
5	DUP	S97T001811	0 W	@IC-01	NO2-02	SOLID	2.74e+04	2.65e+04	3.340 RPD
5	DUP	S97T001811	0 W	@IC-01	BR-02	SOLID	<9.71e2	<9.57e2	RPD
5	DUP	S97T001811	0 W	@IC-01	NO3-02	SOLID	1.07e+05	1.07e+05	0.000 RPD
5	DUP	S97T001811	0 W	@IC-01	PO4-02	SOLID	3.53e+03	4.07e+03	14.211 RPD
5	DUP	S97T001811	0 W	@IC-01	SO4-02	SOLID	6.00e+04	5.93e+04	1.174 RPD
5	DUP	S97T001811	0 W	@IC-01	OXALATE2	SOLID	3.78e+03	3.75e+03	0.797 RPD
6	SPK	S97T001811	0 W	@IC-01	F-02	SOLID	5.90e01	5.01e+01	84.915 % Recovery

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

LABCORE Completed Worklist Report for Worklist# 20114

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
6 SPK	S97T001811	0 W	01C-01	CL-02	SOLID	8.00e01	7.64e+01	95.500 % Recovery
6 SPK	S97T001811	0 W	01C-01	NO2-02	SOLID	5.43e02	5.33e+02	98.158 % Recovery
6 SPK	S97T001811	0 W	01C-01	BR-02	SOLID	5.89e02	5.49e+02	93.209 % Recovery
6 SPK	S97T001811	0 W	01C-01	NO3-02	SOLID	5.94e02	6.47e+02	108.923 % Recovery
6 SPK	S97T001811	0 W	01C-01	PO4-02	SOLID	5.45e02	5.27e+02	96.697 % Recovery
6 SPK	S97T001811	0 W	01C-01	SO4-02	SOLID	6.32e02	6.43e+02	101.741 % Recovery
6 SPK	S97T001811	0 W	01C-01	OXALATE2	SOLID	5.33e02	5.15e+02	96.623 % Recovery

Final page for worklist# 20114

Analyst Signature

Date _____

Analyst Signature

Date _____

[Signature]
Reviewer Signature

9/25/97
Date

LABCORE Data Entry Template for Worklist# 20114

Analyst: EAL Instrument: IC0 2 Book# 95N20-A

Method: LA-533-105 Rev/Mod D-1

Worklist Comment: Rerun AP-105 IC. Use 41 DF. jmf

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC-QC	QC		
2 CCV			@IC-QC	QC		
3 BLNK-PREP			@IC-01	SOLID		
4 SAMPLE	S97T001811 0 W		@IC-01	SOLID	97000478	AP-105 (P)
	Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02					
5 DUP	S97T001811 0 W		@IC-01	SOLID		
6 SPK	S97T001811 0 W		@IC-01	SOLID		

Final page for worklist # 20114

R. Lumbel 0904-97
Analyst Signature Date

Analyst Signature Date

uploaded 9-25-97

JH Warrall

20114SEP.CSV

Validated 9/25/97 J. M. Lumbel

Data Entry Comments:

```

=====
Sample Name: INST. BLANK                      Date: 09/04/1997 02:07:35
Data File  : C:\DX\DATA\97090401.D24
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 24          Detector: CDM-1
Analyst    :                               Column: AG4A/AS4A anion column
=====

```

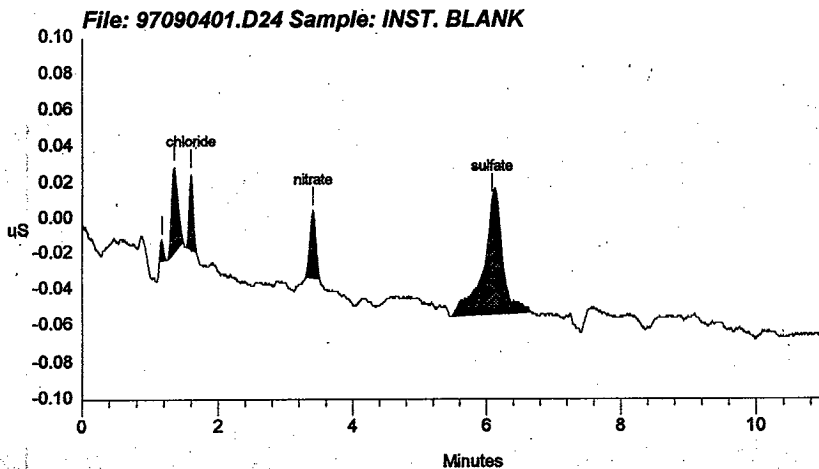
```

=====
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
2	1.35		0.000	47	306	1	
3	1.59	chloride	0.013	41	168	1	0.84
4	3.40	nitrate	0.170	37	231	1	3.98
5	6.08	sulfate	0.056	64	1375	1	3.64
Totals			0.240	189	2080		



SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 305 TO 310

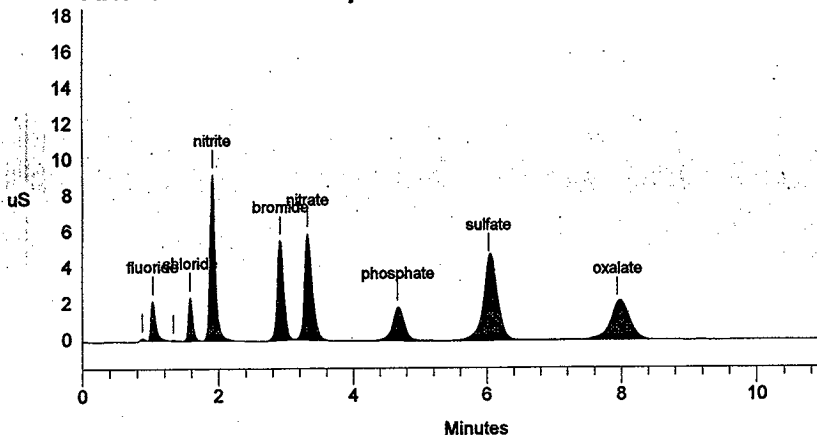
Sample Name: 95N20-A STD Date: 09/04/1997 02:19:55
 Data File : C:\DX\DATA\97090401.D25
 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 25 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	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	0.88		0.000	91	379	2	
2	1.03	fluoride	56.660	2158	10726	3	0.32
3	1.33		0.000	49	309	4	
4	1.58	chloride	76.867	2362	10715	1	0.00
5	1.91	nitrite	510.476	9207	50126	1	-0.69
6	2.91	bromide	561.193	5494	36992	1	3.31
7	3.32	nitrate	548.512	5864	46896	1	1.53
8	4.67	phosphate	525.562	1837	22776	1	2.34
9	6.03	sulfate	601.978	4538	69591	1	2.73
10	7.95	oxalate	510.680	2081	43703	1	2.76
Totals			3391.928	33682	292212		

File: 97090401.D25 Sample: 95N20-A STD



Sample Name: PREP. BLANK

Date: 09/04/1997 02:31:43

Data File : C:\DX\DATA\97090401.D26

Method : C:\DX\METHOD\ANIONS.MET

ACI Address: 1 System: 1 Inject#: 26

Detector: CDM-1

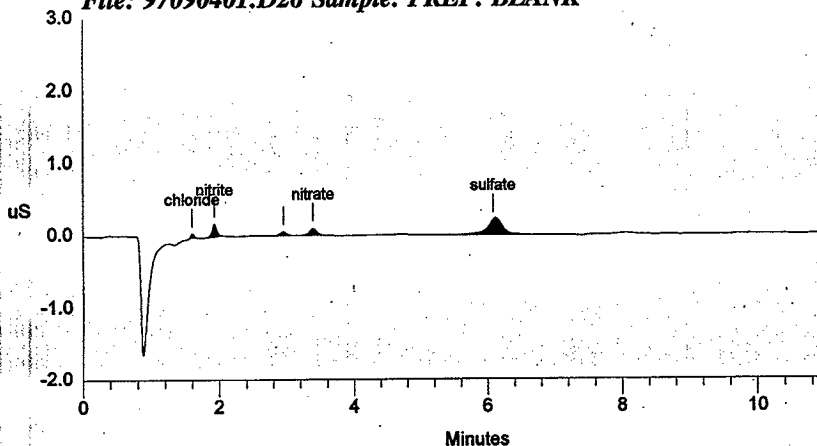
Analyst : Column: AG4A/AS4A anion column

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	1.59	chloride	0.015	56	186	1	0.84
2	1.92	nitrite	0.192	174	792	1	0.00
3	2.95		0.000	49	285	1	
4	3.39	nitrate	0.219	93	654	1	3.57
5	6.08	sulfate	0.243	211	3496	1	3.64
Totals			0.668	582	5414		

File: 97090401.D26 Sample: PREP. BLANK



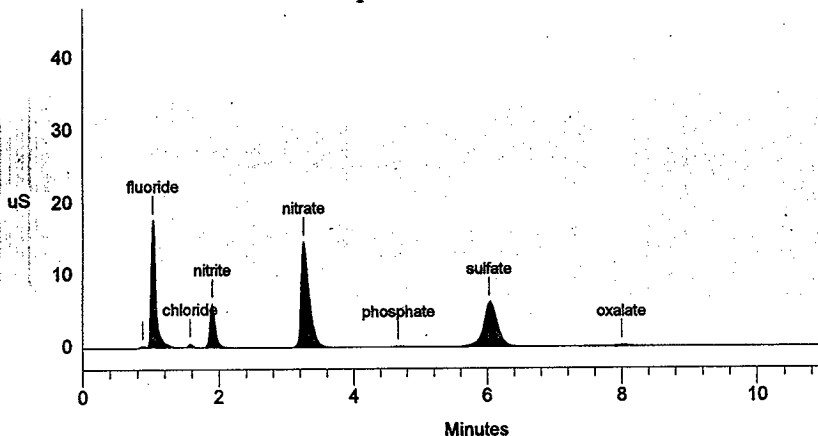
Sample Name: S97T001811 Date: 09/04/1997 02:43:36
 Data File : C:\DX\DATA\97090401.D27
 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 27 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	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	0.88		0.000	158	622	2	
2	1.03	fluoride	158.320	17525	86348	2	-0.32
3	1.57	chloride	6.867	483	2315	1	-0.42
4	1.90	nitrite	144.538	5987	34550	1	-1.04
5	3.25	nitrate	565.069	14615	123847	1	-0.51
6	4.67	phosphate	18.605	144	1684	1	2.34
7	6.03	sulfate	316.685	6089	90453	1	2.73
8	8.00	oxalate	19.920	198	4424	1	3.45
Totals			1230.004	45198	344243		

File: 97090401.D27 Sample: S97T001811



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=====
Sample Name: S97T001811 DUP      Date: 09/04/1997 02:55:47
Data File  : C:\DX\DATA\97090401.D28
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 28      Detector: CDM-1
Analyst    :      Column: AG4A/AS4A anion column
=====

```

```

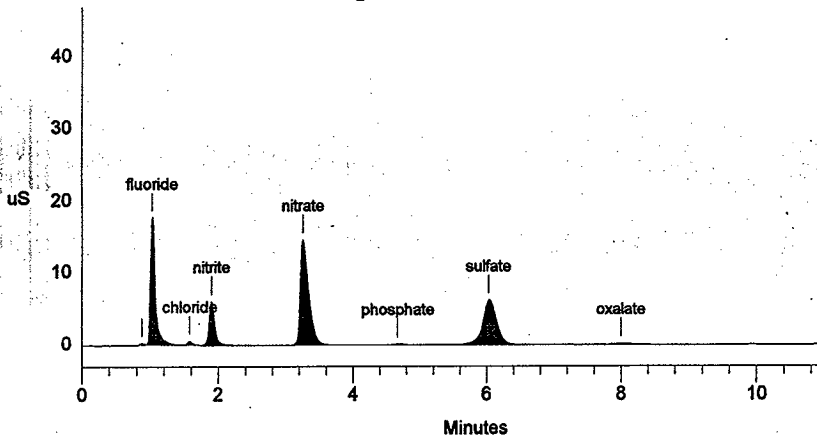
=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          41  3300 5Hz  0.00 11.00      50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	154	601	2	
2	1.03	fluoride	156.997	17609	85486	2	-0.32
3	1.58	chloride	6.883	499	2320	1	0.00
4	1.90	nitrite	141.686	6023	33843	1	-1.04
5	3.25	nitrate	572.537	14643	125567	1	-0.51
6	4.67	phosphate	21.780	157	2023	1	2.34
7	6.03	sulfate	317.525	6137	90697	1	2.73
8	8.00	oxalate	20.062	203	4454	1	3.45
Totals			1237.470	45426	344991		

File: 97090401.D28 Sample: S97T001811 DUP



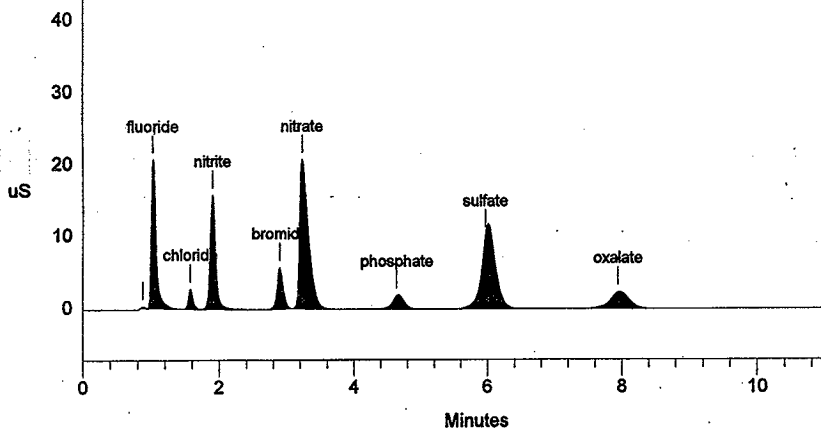
Sample Name: S97T001811 SPIKE Date: 09/04/1997 03:07:46
 Data File : C:\DX\DATA\97090401.D29
 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 29 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	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	0.88		0.000	224	904	2	
2	1.03	fluoride	178.366	20579	99827	2	-0.32
3	1.57	chloride	37.413	2719	12892	1	-0.42
4	1.90	nitrite	357.859	15763	87802	1	-1.04
5	2.90	bromide	219.687	5678	35625	1	2.84
6	3.23	nitrate	823.930	20666	184648	1	-1.12
7	4.64	phosphate	229.393	1897	24545	1	1.75
8	5.97	sulfate	573.937	10289	166632	1	1.82
9	7.95	oxalate	226.023	2344	47664	1	2.76
Totals			2646.609	80157	660539		

File: 97090401.D29 Sample: S97T001811 SPIKE



LABCORE Completed Worklist Report for Worklist# 20115

Analyst: eal

Instrument: IC02

Book# _____

Method: _____ Rev/Mod _____

Worklist Comment: Rerun AP-105 oxalate only. Use 41 df.jmf

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	CCB	0	@IC-QC	F	QC	1	<1.20e-2	ug/mL
1	CCB	0	@IC-QC	CL	QC	1	<1.70e-2	ug/mL
1	CCB	0	@IC-QC	NO2	QC	1	<1.08e-1	ug/mL
1	CCB	0	@IC-QC	BR	QC	1	<1.25e-1	ug/mL
1	CCB	0	@IC-QC	NO3	QC	1	<1.39e-1	ug/mL
1	CCB	0	@IC-QC	P04	QC	1	<1.20e-1	ug/mL
1	CCB	0	@IC-QC	S04	QC	1	<1.38e-1	ug/mL
1	CCB	0	@IC-QC	OXALATE2	QC	1	<1.05e-1	ug/mL
2	CCV	0	@IC-QC	F	QC	5.90e01	5.75e+01	97.458 % Recovery
2	CCV	0	@IC-QC	CL	QC	8.00e01	7.15e+01	89.375 % Recovery
2	CCV	0	@IC-QC	NO2	QC	5.43e02	5.23e+02	96.317 % Recovery
2	CCV	0	@IC-QC	BR	QC	5.89e02	5.47e+02	92.869 % Recovery
2	CCV	0	@IC-QC	NO3	QC	5.94e02	5.57e+02	93.771 % Recovery
2	CCV	0	@IC-QC	P04	QC	5.45e02	5.33e+02	97.798 % Recovery
2	CCV	0	@IC-QC	S04	QC	6.32e02	6.15e+02	97.310 % Recovery
2	CCV	0	@IC-QC	OXALATE2	QC	5.33e02	5.28e+02	99.062 % 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	P04-02	SOLID	1	<1.20e-1	ug/g
3	BLNK-PREP	0	@IC-01	S04-02	SOLID	1	<1.38e-1	ug/g
3	BLNK-PREP	0	@IC-01	OXALATE2	SOLID	1	<1.05e-1	ug/g
4	SAMPLE	S97T001818	0 W	@IC-01	OXALATE2 SOLID	N/A	4.985e+03	801.600 ug/g
5	DUP	S97T001818	0 W	@IC-01	F-02 SOLID	?	1.40e+04	RPD
5	DUP	S97T001818	0 W	@IC-01	CL-02 SOLID	?	1.33e+03	RPD
5	DUP	S97T001818	0 W	@IC-01	NO2-02 SOLID	?	3.38e+04	RPD
5	DUP	S97T001818	0 W	@IC-01	BR-02 SOLID	?	<9.16e2	RPD
5	DUP	S97T001818	0 W	@IC-01	NO3-02 SOLID	?	1.35e+05	RPD
5	DUP	S97T001818	0 W	@IC-01	P04-02 SOLID	?	6.94e+03	RPD
5	DUP	S97T001818	0 W	@IC-01	S04-02 SOLID	?	6.43e+03	RPD
5	DUP	S97T001818	0 W	@IC-01	OXALATE2 SOLID	4.98e+03	4.60e+03	7.933 RPD
6	SAMPLE	S97T001820	0 W	@IC-01	OXALATE2 SOLID	N/A	6.897e+03	796.600 ug/g
7	DUP	S97T001820	0 W	@IC-01	F-02 SOLID	?	1.85e+04	RPD
7	DUP	S97T001820	0 W	@IC-01	CL-02 SOLID	?	1.13e+03	RPD
7	DUP	S97T001820	0 W	@IC-01	NO2-02 SOLID	?	3.00e+04	RPD
7	DUP	S97T001820	0 W	@IC-01	BR-02 SOLID	?	<9.23e2	RPD
7	DUP	S97T001820	0 W	@IC-01	NO3-02 SOLID	?	1.14e+05	RPD
7	DUP	S97T001820	0 W	@IC-01	P04-02 SOLID	?	4.01e+03	RPD
7	DUP	S97T001820	0 W	@IC-01	S04-02 SOLID	?	1.08e+04	RPD

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

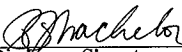
LABCORE Completed Worklist Report for Worklist# 20115

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
7	DUP	S97T001820	0	W	@IC-01	OXALATE2 SOLID	6.90e+03	6.51e+03	5.817	RPD

Final page for worklist# 20115

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____



Reviewer Signature

9/9/97

Date

LABCORE Data Entry Template for Worklist# 20115

Analyst: EAL Instrument: IC0 2 Book# 95N20A

Method: LA-533-105 Rev/Mod D.1

Worklist Comment: Rerun AP-105 oxalate only. Use 41 df.jmf

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC-QC	QC		
2 CCV			@IC-QC	QC		
3 BLNK-PREP			@IC-01	SOLID		
4 SAMPLE	S97T001818 0 W		@IC-01	SOLID	97000479	AP-105 (P)
Analytes Requested: OXALATE2						
5 DUP	S97T001818 0 W		@IC-01	SOLID		
6 SAMPLE	S97T001820 0 W		@IC-01	SOLID	97000479	AP-105 (P)
Analytes Requested: OXALATE2						
7 DUP	S97T001820 0 W		@IC-01	SOLID		

Final page for worklist # 20115

A. Lambel 09-03-97
Analyst Signature Date
uploaded 9-8-97
John Warrall
20115SEP.CSV
Validated 9/9/97 Amacher

Analyst Signature Date

Data Entry Comments:

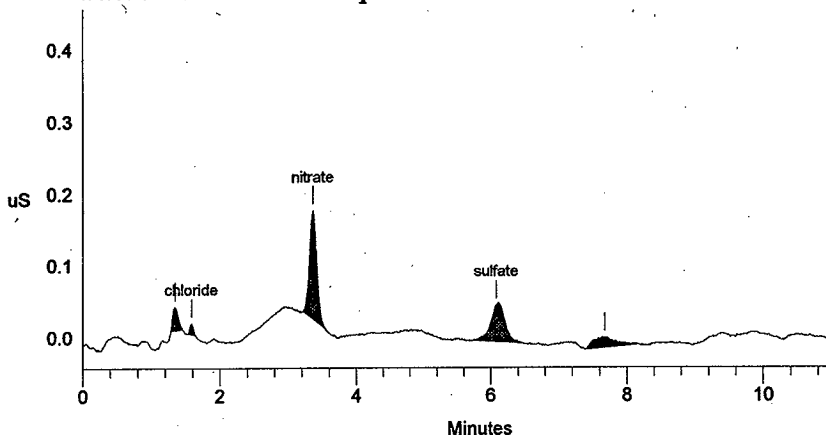
Sample Name: INST. BLANK Date: 09/02/1997 23:55:23
 Data File : C:\DX\DATA\97090201.D18
 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 18 Detector: CDM-1
 Analyst : *John Lyle* Column: AG4A/AS4A anion column

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	1.35		0.000	32	175	1	
2	1.59	chloride	-0.034	15	53	1	-2.06
3	3.36	nitrate	0.118	151	1097	1	2.86
4	6.08	sulfate	0.040	51	767	1	-6.56
5	7.68		0.000	13	323	1	
Totals			0.124	262	2416		

File: 97090201.D18 Sample: INST. BLANK



SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 314 TO 320

Data Reprocessed On 09/08/1997 12:29:16

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=====
Sample Name: 95N20-A STD                      Date: 09/03/1997 00:08:18
Data File  : E:\DATA\97090201.D19
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 19           Detector: CDM-1
Analyst    :                               Column: AG4A/AS4A anion column
=====

```

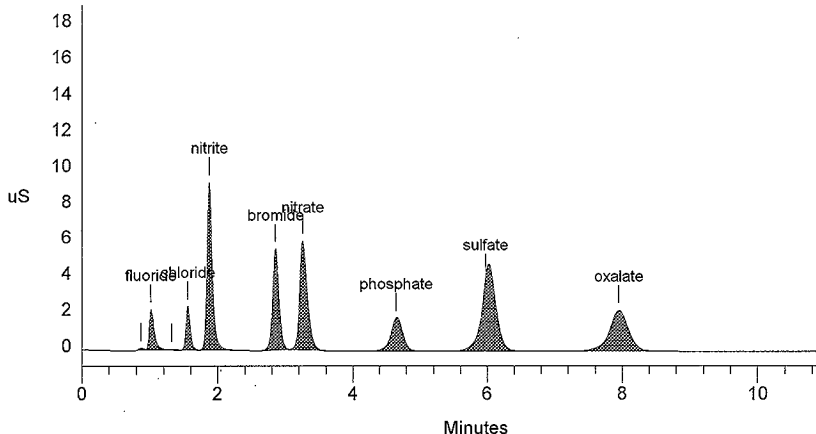
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=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          101    3300   5Hz   0.00 11.00          50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.87		0.000	86	359	2	
2	1.01	fluoride	57.489	2194	11059	3	-1.94
3	1.31		0.000	46	271	4	
4	1.55	chloride	71.544	2371	10619	1	-4.12
5	1.87	nitrite	522.530	9315	50132	1	-6.02
6	2.85	bromide	547.022	5594	36275	1	-2.95
7	3.25	nitrate	557.159	6021	47752	1	-0.41
8	4.64	phosphate	532.680	1811	22622	1	-4.40
9	5.97	sulfate	615.404	3989	69180	1	0.06
10	7.95	oxalate	528.165	2238	44295	1	-0.04
Totals			3431.994	33665	292563		

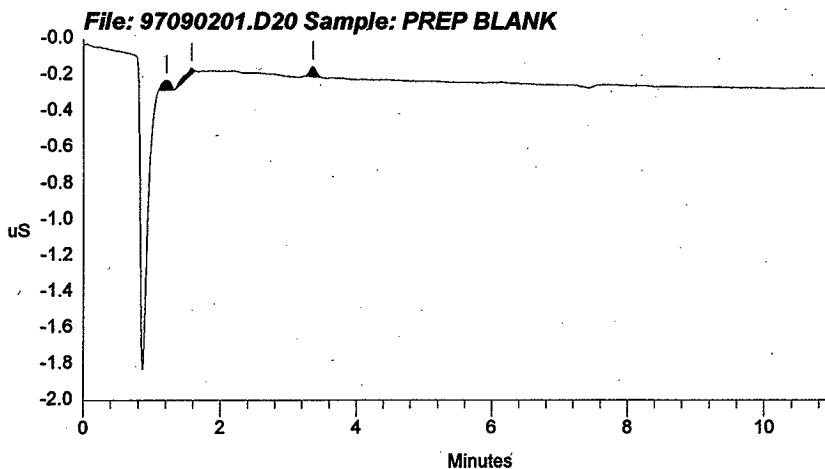
File: 97090201.D19 Sample: 95N20-A STD

Sample Name: PREP BLANK Date: 09/03/1997 01:33:54
 Data File: C:\DX\DATA\97090201.D20
 Method: C:\DX\METHOD\ANIONS.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	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	1.21		0.000	54	486	1	
2	1.57	chloride	-0.009	32	395	1	-2.88
3	3.35	nitrate	0.031	56	359	1	2.65
Totals			0.022	143	1240		



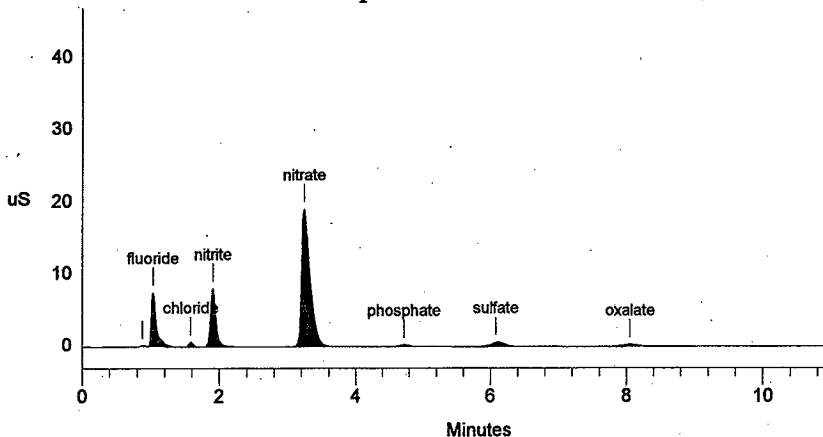
Sample Name: S97T001818 Date: 09/03/1997 01:50:15
 Data File: C:\DX\DATA\97090201.D21
 Method: C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 21 Detector: CDM-1
 Analyst: Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	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	0.88		0.000	135	558	2	
2	1.03	fluoride	78.095	7486	38580	2	0.00
3	1.58	chloride	7.312	650	3036	1	-2.47
4	1.91	nitrite	189.280	8090	44609	1	-4.35
5	3.24	nitrate	760.533	19126	167016	1	-0.82
6	4.72	phosphate	38.329	302	3860	1	-2.75
7	6.08	sulfate	35.271	625	9892	1	-6.56
8	8.05	oxalate	26.770	324	6632	1	-6.21
Totals			1135.590	36738	274184		

File: 97090201.D21 Sample: S97T001818



Data Reprocessed On 09/08/1997 12:30:39

```

=====
Sample Name: S97T001818 DUP                      Date: 09/03/1997 02:03:15
Data File  : E:\DATA\97090201.D22
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 22              Detector: CDM-1
Analyst    :                      Column: AG4A/AS4A anion column
=====

```

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=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          41  3300  5Hz  0.00 11.00          50
=====

```

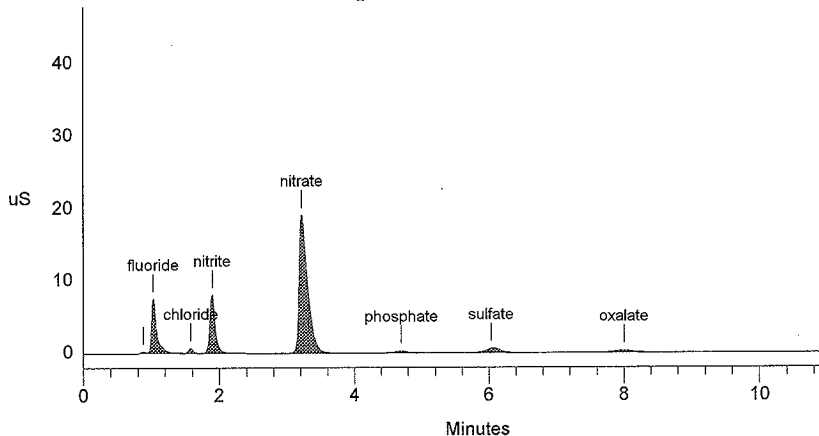
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***** Peak Report: All Peaks *****

```

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	144	587	2	
2	1.03	fluoride	78.240	7481	38657	2	-0.65
3	1.57	chloride	7.421	667	3074	1	-2.88
4	1.89	nitrite	189.121	8047	44571	1	-5.02
5	3.22	nitrate	753.830	19159	165455	1	-1.43
6	4.69	phosphate	38.806	305	3910	1	-3.30
7	6.03	sulfate	35.942	605	10075	1	-0.06
8	8.00	oxalate	25.720	325	6423	1	-6.83
Totals			1129.080	36733	272751		

File: 97090201.D22 Sample: S97T001818 DUP



Data Reprocessed On 09/08/1997 12:32:40

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=====
Sample Name: S97T001820                      Date: 09/03/1997 02:15:22
Data File  : E:\DATA\97090201.D23
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 23          Detector: CDM-1
Analyst    :                               Column: AG4A/AS4A anion column
=====

```

```

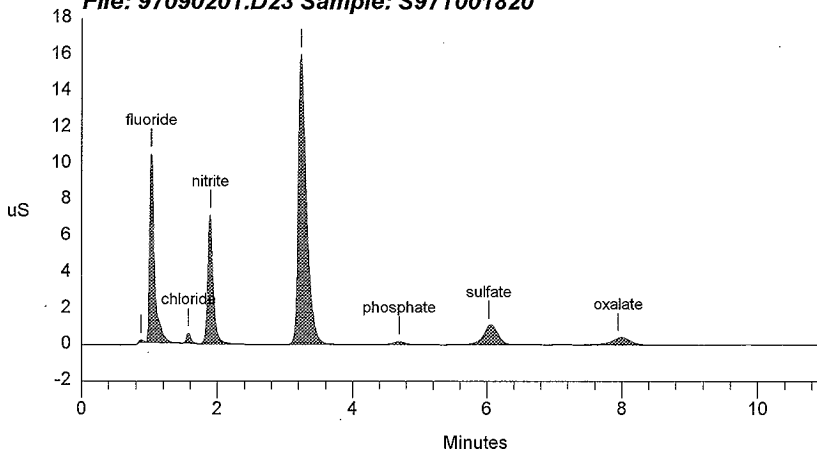
=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          41  3300  5Hz   0.00 11.00          50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.87		0.000	137	559	2	
2	1.03	fluoride	105.363	10425	53299	2	-0.65
3	1.57	chloride	6.253	578	2671	1	-2.88
4	1.89	nitrite	169.467	7119	39828	1	-5.02
5	3.23	nitrate	622.544	16032	135232	1	-1.02
6	4.69	phosphate	23.292	186	2302	1	-3.30
7	6.03	sulfate	60.796	1049	16846	1	-0.06
8	7.95	oxalate	37.270	386	8722	1	-0.04
Totals			1024.986	35911	259459		

File: 97090201.D23 Sample: S97T001820



Data Reprocessed On 09/08/1997 12:36:06

```

=====
Sample Name: S97T001820 DUP                      Date: 09/03/1997 02:27:37
Data File  : E:\DATA\97090301.D24
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 24              Detector: CDM-1
Analyst    :                               Column: AG4A/AS4A anion column
=====

```

```

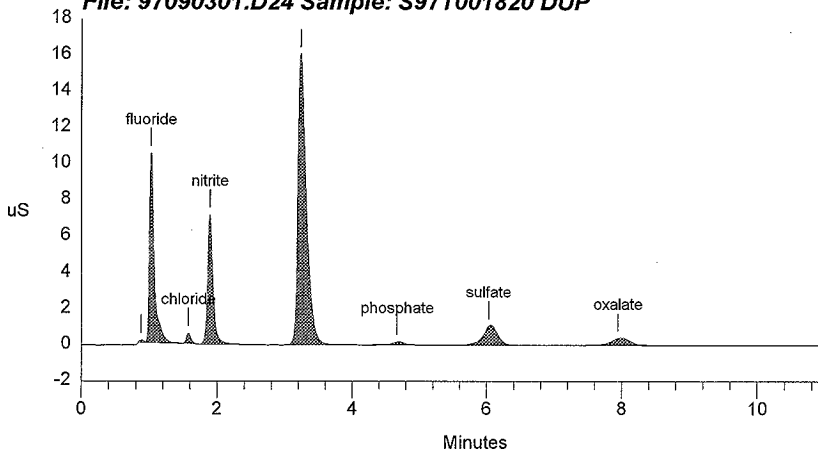
=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          41 3300 5Hz 0.00 11.00          50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	147	618	2	
2	1.03	fluoride	102.834	10449	51901	2	-0.65
3	1.57	chloride	6.256	584	2672	1	-2.88
4	1.89	nitrite	166.867	7139	39201	1	-5.02
5	3.23	nitrate	635.309	16035	138141	1	-1.22
6	4.67	phosphate	22.262	175	2195	1	-3.85
7	6.03	sulfate	60.205	1041	16685	1	-0.06
8	7.95	oxalate	36.143	392	8498	1	-0.04
Totals			1029.876	35962	259911		

File: 97090301.D24 Sample: S97T001820 DUP



LABCORE Data Entry Template for Worklist# 19565

Analyst: JKS Instrument: ICP01 7-15-97 Book# 678488Method: LA-505-151/161 Rev/Mod C-2Worklist Comment: 7-15-97 ICP AP-105 (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	S97T001721 0 D	@ICP-D01	LIQUID		
7	SAMPLE	S97T001721 0 D	@ICP-D01	LIQUID	97000455	AP-105 (P)
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	S97T001721 0 D	@ICP-D01	LIQUID		
9	SPK	S97T001721 0 D	@ICP-D01	LIQUID		
10	CCV	<u>Sample 1</u> <u>Spoke 1 of 10 ppm</u> <u>7-15-97</u>	@ICP-QC	QC		
11	CCB		@ICP-QC	QC		
12	SAMPLE	S97T001723 0 D	@ICP-D01	LIQUID	97000455	AP-105 (P)
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:

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

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A-0004-1

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LABCORE Data Entry Template for Worklist# 19565

S Type	Sample#	R	A	Test	Matrix	Group#	Project
13 DUP	S97T001723	0	D	@ICP-D01	LIQUID		
14 SAMPLE	S97T001761	0	D	@ICP-D01	LIQUID	97000478	AP-105 (P)
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	S97T001761	0	D	@ICP-D01	LIQUID		
16 SAMPLE	S97T001762	0	D	@ICP-D01	LIQUID	97000479	AP-105 (P)
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	S97T001762	0	D	@ICP-D01	LIQUID		
18 SAMPLE	S97T001689	0	D	@ICP-D01	LIQUID	97000455	AP-105 (P)
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							
19 DUP	S97T001689	0	D	@ICP-D01	LIQUID		
20 ICSA				@ICP-QC	QC		
21 ICSAB				@ICP-QC	QC		
22 CCV				@ICP-QC	QC		
23 CCB				@ICP-QC	QC		

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 19565

S Type	Sample#	R	A	Test	Matrix	Group#	Project
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Final page for worklist # 19565

Analyst Signature	Date
JK [Signature]	07-29-97
5977001711_1	, 025-10-28, DF 2005
5977001711	, 025-10 401
5977001711_D	, 025-10 401
5977001711_Q	, 025-10 401, 025 ml sample + 2 ml SST3 + 8 ml H ₂ O
5977001711_X	, 025-10-1-9 4010
5977001711_QX	, 025-10-1-9 4010, 1 ml sample + 1 ml each K ₂ HC 28+35+7 ml H ₂ O
5977001713	, 025-10, DF 401
5977001713_D	, 025-10 401
5977001761	, 025-10, DF 401
5977001761_D	, 025-10 401
5977001762	, 025-15, DF 601
5977001762_D	, 025-15 601
5977001689	Direct, DF 1
5977001689_D	Direct 1

Reviewed & Validated by:
[Signature] 7/29/97
Analyst Signature Date

Data Entry Comments:

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

HNF-SD-WM-DP-263, REV. 0

Analysis Report

Summary

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#	Sample Name	File	Method	Date	Time	OpID	Type	Mode
1	ICV	970729B	ICP2	07/29/97	12:07	DKS	Q	CONC
2	ICB	970729B	ICP2	07/29/97	12:10	DKS	Q	CONC
3	LLS	970729B	ICP2	07/29/97	12:13	DKS	Q	CONC
4	ICSA	970729B	ICP2	07/29/97	12:17	DKS	Q	CONC
5	ICSAB	970729B	ICP2	07/29/97	12:20	DKS	Q	CONC
6	S97T001721_L	970729B	ICP2	07/29/97	12:24	DKS	S	CONC
7	S97T001721_	970729B	ICP2	07/29/97	12:27	DKS	S	CONC
8	S97T001721_D	970729B	ICP2	07/29/97	12:30	DKS	S	CONC
9	S97T001721_A	970729B	ICP2	07/29/97	12:34	DKS	S	CONC
10	S97T001721_X	970729B	ICP2	07/29/97	12:38	DKS	S	CONC
11	S97T001721_AX	970729B	ICP2	07/29/97	12:42	DKS	S	CONC
12	CCV	970729B	ICP2	07/29/97	12:49	DKS	Q	CONC
13	CCB	970729B	ICP2	07/29/97	12:57	DKS	Q	CONC
14	S97T001723	970729B	ICP2	07/29/97	13:04	DKS	S	CONC
15	S97T001723_D	970729B	ICP2	07/29/97	13:07	DKS	S	CONC
16	S97T001761	970729B	ICP2	07/29/97	13:10	DKS	S	CONC
17	S97T001761_D	970729B	ICP2	07/29/97	13:14	DKS	S	CONC
18	S97T001762	970729B	ICP2	07/29/97	13:18	DKS	S	CONC
19	S97T001762_D	970729B	ICP2	07/29/97	13:21	DKS	S	CONC
20	S97T001689	970729B	ICP2	07/29/97	13:32	DKS	S	CONC
21	S97T001689_D	970729B	ICP2	07/29/97	13:35	DKS	S	CONC
22	ICSA	970729B	ICP2	07/29/97	13:39	DKS	Q	CONC
23	ICSAB	970729B	ICP2	07/29/97	13:43	DKS	Q	CONC
24	CCV_1	970729B	ICP2	07/29/97	13:47	DKS	Q	CONC
25	CCB_1	970729B	ICP2	07/29/97	13:52	DKS	Q	CONC

JK
 07-29-97
 Cp. 105
 577T001721
 577T001723
 577T001741
 577T001762
 577T001689

Post Spike :

$$Na = \frac{\left(\frac{175800}{4010}\right) - \left(\frac{137600}{4010}\right)}{10} \times 100 = 95.3\%$$

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 224 TO 228.

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Analysis Report

Averages

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#	Sample Name	Ag	Al	As	B	Ba	Be
1	ICV	5.056	4.975	5.245	5.124	5.096	5.220
2	ICB	.0023	-.0038	-.0070	.0072	.0001	-.0001
3	LLS	.0215	.1104	Q.0539	.1103	.1015	.0107
4	ICSA	.0041	241.6	-.0518	-.0041	.0006	-.0001
5	ICSAB	.9629	242.1	-.0272	-.0018	.4682	.4817
6	S97T001721_L	12.39	19430.	-62.36	10.35	.1608	-.0918
7	S97T001721_	9.924	19430.	-25.71	14.88	.1061	.2498
8	S97T001721_D	9.998	19660.	-21.61	15.29	.0459	.3382
9	S97T001721_A	275.9	19830.	410.9	422.0	400.2	416.4
10	S97T001721_X	17.11	19940.	-72.53	20.68	-.1504	.0007
11	S97T001721_AX	35450.	58540.	40240.	40080.	40180.	39960.
12	CCV	5.076	4.975	5.252	5.119	5.101	5.228
13	CCB	.0080	-.0017	-.0138	.0010	.0001	.0000
14	S97T001723	13.44	16290.	-18.06	17.57	.1089	1.048
15	S97T001723_D	13.69	16170.	-21.81	18.61	.2017	1.028
16	S97T001761_	10.75	19740.	-25.75	13.02	.1247	.3731
17	S97T001761_D	10.97	19760.	-28.69	13.43	.1363	.4622
18	S97T001762_	19.2	18350.	-24.23	23.53	.3417	2.204
19	S97T001762_D	17.75	17020.	-14.62	18.60	.2989	2.4619
20	S97T001689_	-.0003	.0160	-1.500	.0912	.0004	.0001
21	S97T001689_D	-.0010	.0047	-.5793	.0860	.0002	-.0001
22	ICSA	.0032	243.5	-.0537	-.0065	.0002	.0001
23	ICSAB	.9622	242.8	-.0664	.0003	.4729	.4846
24	CCV_1	5.081	4.989	5.266	5.124	5.141	5.273
25	CCB_1	.0014	-.0033	-.0120	.0031	.0001	-.0001

#	Sample Name	Bi	Ca	Cd	Ce	Co	Cr
1	ICV	5.140	5.123	5.113	5.102	5.084	5.134
2	ICB	.0109	.0013	.0014	-.0011	-.0018	-.0001
3	LLS	Q.1479	.2171	.0111	.1928	.0426	.0217
4	ICSA	.0225	248.9	.0036	.0240	-.0019	-.0039
5	ICSAB	-.0013	251.3	.9404	.0179	.4701	.4702
6	S97T001721_L	37.07	56.77	8.518	20.34	-4.039	240.2
7	S97T001721_	4.049	17.17	.5055	1.824	-.0532	240.3
8	S97T001721_D	-4.843	15.33	.8283	3.089	.7610	244.9
9	S97T001721_A	419.2	430.7	408.1	405.2	405.1	652.1
10	S97T001721_X	75.30	32.13	-1.954	-6.935	-7.001	246.0
11	S97T001721_AX	40570.	40520.	39910.	40220.	40010.	40130.
12	CCV	5.188	5.186	5.119	5.081	5.103	5.158
13	CCB	-.0120	.0027	.0000	.0014	-.0008	-.0016
14	S97T001723	3.229	12.79	1.485	-1.235	.7611	235.3
15	S97T001723_D	-2.149	12.79	1.162	4.249	-.0426	236.5
16	S97T001761_	2.822	14.50	.5351	2.547	-.4266	250.1
17	S97T001761_D	7.249	13.77	.4783	3.370	.4353	248.1
18	S97T001762_	.8465	29.93	3.241	1.549	-.0649	290.0
19	S97T001762_D	17.97	32.28	3.192	-.3403	-1.202	268.8
20	S97T001689_	-.0158	.3871	-.0057	.0221	.0019	.0090
21	S97T001689_D	-.0262	.2466	-.0023	.0074	.0002	.0032
22	ICSA	-.0088	250.6	.0018	.0126	.0006	-.0034
23	ICSAB	-.0039	251.0	.9410	.0185	.4724	.4682
24	CCV_1	5.164	5.202	5.141	5.132	5.115	5.175

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Analysis Report

Averages

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#	Sample Name	Bi	Ca	Cd	Ce	Co	Cr
25	CCB_1	.0030	.0085	.0008	.0060	-.0028	-.0001
#	Sample Name	Cu	Eu	Fe	K	La	Li
1	ICV	4.953	.0025	4.772	5.082	5.171	5.185
2	ICB	.0004	-.0005	.0005	-.1083	-.0004	-.0002
3	LLS	.0179	.0005	.0933	.4647	.0999	.0220
4	ICSA	-.0096	-.0135	92.60	.2993	-.0007	.0031
5	ICSAB	.4394	-.0150	92.90	.2458	-.0020	.9934
6	S97T001721_L	-1.338	1.079	7.826	17020.	2.449	1.671
7	S97T001721_	.0200	.0193	7.432	17040.	.2883	.0951
8	S97T001721_D	.0204	.0481	7.304	17220.	.2909	.3337
9	S97T001721_A	391.0	.3069	385.3	17390.	414.1	416.6
10	S97T001721_X	1.517	.0508	5.542	17360.	-.7745	1.432
11	S97T001721_AX	36740.	17.32	37220.	56900.	40170.	40050.
12	CCV	4.936	.0026	4.790	5.144	5.153	5.171
13	CCB	.0001	-.0000	.0001	.0187	.0006	-.0002
14	S97T001723	1.625	.1303	6.727	47710.	-.3139	.3335
15	S97T001723_D	1.652	.1717	6.796	48070.	.7850	.5228
16	S97T001761_	.1766	.1153	8.095	1500.	.3154	.4286
17	S97T001761_D	.2101	-.0507	8.324	10430.	.3983	.1902
18	S97T001762_	3.843	.0455	8.900	50940.	.1796	.2810
19	S97T001762_D	3.357	.1758	8.028	47200.	.0420	.4249
20	S97T001689_	.0004	.0014	-.0034	-.0180	.0011	.0037
21	S97T001689_D	-.0003	.0016	-.0029	-.0425	-.0005	.0045
22	ICSA	-.0097	-.0151	93.28	.1865	-.0034	.0051
23	ICSAB	.4453	-.0142	93.22	.1432	-.0026	1.008
24	CCV_1	4.987	.0025	4.816	5.345	5.211	5.225
25	CCB_1	-.0002	.0004	.0006	.0792	.0011	.0006

#	Sample Name	Mg	Mn	Mo	Na	Nd	Ni
1	ICV	5.226	5.004	5.106	4.977	5.191	5.099
2	ICB	.0037	-.0002	.0137	.0033	-.0003	-.0041
3	LLS	.2105	.0202	.1066	.1734	.1865	.0329
4	ICSA	250.7	-.0061	-.0063	193.6	.0051	-.0119
5	ICSAB	251.4	.4445	-.0086	194.8	.0030	.9277
6	S97T001721_L	10.57	-.5492	33.19	134400.	1.511	-13.01
7	S97T001721_	3.766	-.1810	35.27	134200.	.2086	1.572
8	S97T001721_D	4.595	-.0518	35.58	135200.	.0802	-1.834
9	S97T001721_A	406.7	390.2	444.1	134100.	414.7	402.9
10	S97T001721_X	8.860	-.3564	28.57	137600.	.6494	-48.90
11	S97T001721_AX	41310.	39700.	40150.	175800.	39170.	39660.
12	CCV	5.209	5.014	5.099	4.950	5.172	5.099
13	CCB	.0075	-.0002	.0027	-.0021	.0023	-.0096
14	S97T001723	1.809	2.039	29.95	186900.	.2713	3.297
15	S97T001723_D	5.712	2.234	28.89	185000.	.6900	1.719
16	S97T001761_	.2098	.1344	34.97	143500.	.5336	1.927
17	S97T001761_D	3.501	.1380	35.58	144200.	.1611	.7069
18	S97T001762_	3.088	2.223	31.40	262800.	.8528	4.313
19	S97T001762_D	.6064	2.135	29.42	243400.	.7875	8.885
20	S97T001689_	.0865	.0021	-.0046	1.176	.0024	-.0139

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Analysis Report

Averages

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#	Sample Name	Mg	Mn	Mo	Na	Nd	Ni
21	S97T001689_D	.0609	.0011	-.0021	1.100	-.0001	-.0033
22	ICSA	252.9	-.0062	-.0105	196.4	.0030	-.0188
23	ICSAB	251.9	.4442	-.0082	196.9	.0026	.9180
24	CCV_1	5.200	5.026	5.124	4.985	5.235	5.108
25	CCB_1	.0037	.0001	.0046	-.0041	-.0011	-.0112

#	Sample Name	P	Pb	S	Sb	Se	Si
1	ICV	5.244	5.130	5.016	4.869	4.918	4.886
2	ICB	-.0052	.0022	.0025	-.0167	-.0054	.0002
3	LLS	.4158	.2042	.1958	.1028	.1949	.1693
4	ICSA	.0276	.0224	-.0350	-.0072	.0101	.0034
5	ICSAB	.0208	.9940	-.0342	-.0091	.0173	.0089
6	S97T001721_L	709.8	26.59	1045.	-20.32	-3.624	194.2
7	S97T001721_	711.0	36.26	1066.	-2.363	4.060	144.9
8	S97T001721_D	698.0	39.57	1078.	-3.080	1.725	172.7
9	S97T001721_A	1115.	452.5	1470.	398.3	409.1	556.9
10	S97T001721_X	735.8	-15.03	1065.	-43.09	34.27	323.0
11	S97T001721_AX	40910.	40220.	40160.	40570.	39030.	42340.
12	CCV	5.135	5.160	5.041	4.886	4.929	4.897
13	CCB	.0051	.0027	-.0032	.0003	.0080	.0055
14	S97T001723	709.0	27.51	995.2	-4.801	17.77	353.7
15	S97T001723_D	679.3	25.01	995.1	.3895	18.59	324.1
16	S97T001761_	713.5	37.05	1160.	-.9759	10.51	364.1
17	S97T001761_D	703.0	40.58	1157.	-2.963	4.929	314.5
18	S97T001762_	6075.	30.00	861.3	-1.743	26.23	312.0
19	S97T001762_D	5561.	27.28	786.7	3.252	18.56	280.7
20	S97T001689_	.0841	-.0125	.0344	-.0027	.0524	1.695
21	S97T001689_D	.0229	.0049	.0306	-.0027	.0215	1.648
22	ICSA	.0324	.0419	-.0390	-.0095	.0040	.0167
23	ICSAB	-.0016	1.011	-.0380	-.0031	.0111	.0156
24	CCV_1	5.079	5.155	5.009	4.874	5.005	4.930
25	CCB_1	.0187	.0030	-.0038	.0033	.0054	.0164

#	Sample Name	Sm	Sr	Th	Ti	Tl	U
1	ICV	4.997	5.027	.0863	4.983	4.926	9.788
2	ICB	-.0047	-.0000	-.0003	-.0002	.0079	-.0207
3	LLS	.1885	.0207	.0012	.0207	.4361	.5118
4	ICSA	.0044	.0020	-.0128	.0009	.0761	.1427
5	ICSAB	.0052	.0020	-.0132	.0009	.0518	.1313
6	S97T001721_L	5.775	.2790	-3.621	-1.000	46.94	33.61
7	S97T001721_	-.3188	.0554	.8473	-.1973	2.750	8.832
8	S97T001721_D	.1205	.0548	.3317	.0910	-.2242	15.94
9	S97T001721_A	399.3	401.5	4.818	397.5	377.7	798.3
10	S97T001721_X	1.245	.1845	-14.19	-2.028	115.0	41.22
11	S97T001721_AX	38990.	39880.	802.8	40280.	39090.	76980.
12	CCV	4.979	5.022	.0891	4.981	4.976	9.771
13	CCB	.0035	.0000	.0014	-.0002	-.0017	.0011
14	S97T001723	1.591	.0925	-2.396	-.0168	3.282	19.54
15	S97T001723_D	2.540	.1083	-2.312	.0646	-5.998	54.85
16	S97T001761_	1.986	.0916	-.3484	-.0130	-3.893	28.53

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Analysis Report

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#	Sample Name	Sm	Sr	Th	Ti	Tl	U
17	S97T001761_D	.5285	.0547	-.2158	-.0109	.1121	18.21
18	S97T001762	.4291	.1602	-4.646	-.0704	6.430	101.8
19	S97T001762_D	1.552	.1611	-4.350	-.3538	9.054	90.86
20	S97T001689	.0149	.0053	.0086	-.0002	-.0323	.0602
21	S97T001689_D	.0175	.0036	-.0060	-.0005	-.0031	.0688
22	ICSA	-.0043	.0021	-.0177	.0006	.0497	.1275
23	ICSAB	-.0062	.0020	-.0137	.0009	.0769	.1154
24	CCV_1	5.027	5.082	.0914	5.015	4.925	9.855
25	CCB_1	.0054	.0001	-.0013	.0002	.0104	.0241

#	Sample Name	V	Y	Zn	Zr
1	ICV	5.013	.0072	4.876	5.008
2	ICB	-.0011	-.0002	-.0014	-.0007
3	LLS	.1049	.0005	.0194	.0214
4	ICSA	.0009	.0070	.0055	-.0019
5	ICSAB	.4683	.0075	.9429	-.0009
6	S97T001721_L	1.029	.2999	5.254	1.608
7	S97T001721	.0086	-.0352	8.058	.6069
8	S97T001721_D	.2223	.0246	8.931	.7787
9	S97T001721_A	399.3	.6347	403.2	401.5
10	S97T001721_X	2.180	.2967	3.432	2.401
11	S97T001721_AX	39910.	47.72	37810.	39960.
12	CCV	5.021	.0072	4.908	5.002
13	CCB	.0004	.0000	-.0013	-.0001
14	S97T001723	.3057	.0545	11.96	2.243
15	S97T001723_D	.5436	.0709	12.05	2.486
16	S97T001761	.4280	.0507	8.505	1.238
17	S97T001761_D	.1441	-.0392	8.617	1.099
18	S97T001762	.1225	-.0433	13.07	4.441
19	S97T001762_D	.5956	.1027	12.54	4.218
20	S97T001689	.0038	.0007	-.0069	.0007
21	S97T001689_D	.0038	.0009	-.0034	.0021
22	ICSA	-.0003	.0069	.0050	-.0008
23	ICSAB	.4695	.0069	.9436	-.0016
24	CCV_1	5.054	.0071	4.904	5.047
25	CCB_1	.0020	.0004	-.0008	.0008

07-29-97

LABCORE Data Entry Template for Worklist# 19682

Analyst: JKS Instrument: ICP01 84-97 Book# 678488Method: LA-505-151/161 Rev/Mod C-2Worklist Comment: 84-97
ICP AP-105 (FUSION)

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	ICV				@ICP-QC	QC		
2	ICB				@ICP-QC	QC		
3	LLS				@ICP-QC	QC		
4	ICSA				@ICP-QC	QC		
5	ICSAB				@ICP-QC	QC		
6	PREPBLKTJA				@ICP-F01	SOLID		
7	SAMPLE	S97T001817	0	F	@ICP-F01	SOLID	97000479	AP-105 (P)
		Analytes Requested: AG-F-01 , AL-F-01 , AS-F-01 , B-F-01 , BA-F-01 , BE-F-01 , BI-F-01 , CA-F-01 , CD-F-01 , CE-F-01 , CO-F-01 , CR-F-01 , CU-F-01 , FE-F-01 , LA-F-01 , LI-F-01 , MG-F-01 , MN-F-01 , MO-F-01 , NA-F-01 , ND-F-01 , P-F-01 , PB-F-01 , S-F-01 , SB-F-01 , SE-F-01 , SI-F-01 , SM-F-01 , SR-F-01 , TI-F-01 , TL-F-01 , U-F-01 , V-F-01 , ZN-F-01 , ZR-F-01						
8	DUP	S97T001817	0	F	@ICP-F01	SOLID		
9	SAMPLE	S97T001819	0	F	@ICP-F01	SOLID	97000479	AP-105 (P)
		Analytes Requested: AG-F-01 , AL-F-01 , AS-F-01 , B-F-01 , BA-F-01 , BE-F-01 , BI-F-01 , CA-F-01 , CD-F-01 , CE-F-01 , CO-F-01 , CR-F-01 , CU-F-01 , FE-F-01 , LA-F-01 , LI-F-01 , MG-F-01 , MN-F-01 , MO-F-01 , NA-F-01 , ND-F-01 , P-F-01 , PB-F-01 , S-F-01 , SB-F-01 , SE-F-01 , SI-F-01 , SM-F-01 , SR-F-01 , TI-F-01 , TL-F-01 , U-F-01 , V-F-01 , ZN-F-01 , ZR-F-01						
10	DUP	S97T001819	0	F	@ICP-F01	SOLID		
11	CCV				@ICP-QC	QC		
12	CCB				@ICP-QC	QC		
13	PREPBLKTJA				@ICP-F01	SOLID		

Data Entry Comments:

LABCORE Data Entry Template for Worklist# 19682

S Type	Sample#	R A	Test	Matrix	Group#	Project
14 SAMPLE	S97T001810	0 F	@ICP-F01	SOLID	97000478	AP-105 (P)
Analytes Requested: AG-F-01 , AL-F-01 , AS-F-01 , B-F-01 , BA-F-01 , BE-F-01 , BI-F-01 , CA-F-01 , CD-F-01 , CE-F-01 , CO-F-01 , CR-F-01 , CU-F-01 , FE-F-01 , LA-F-01 , LI-F-01 , MG-F-01 , MN-F-01 , MO-F-01 , NA-F-01 , ND-F-01 , P-F-01 , PB-F-01 , S-F-01 , SB-F-01 , SE-F-01 , SI-F-01 , SM-F-01 , SR-F-01 , TI-F-01 , TL-F-01 , U-F-01 , V-F-01 , ZN-F-01 , ZR-F-01						
15 DUP	S97T001810	0 F	@ICP-F01	SOLID		
16 SAMPLE	S97T001814	0 F	@ICP-F01	SOLID	97000478	AP-105 (P)
Analytes Requested: AG-F-01 , AL-F-01 , AS-F-01 , B-F-01 , BA-F-01 , BE-F-01 , BI-F-01 , CA-F-01 , CD-F-01 , CE-F-01 , CO-F-01 , CR-F-01 , CU-F-01 , FE-F-01 , LA-F-01 , LI-F-01 , MG-F-01 , MN-F-01 , MO-F-01 , NA-F-01 , ND-F-01 , P-F-01 , PB-F-01 , S-F-01 , SB-F-01 , SE-F-01 , SI-F-01 , SM-F-01 , SR-F-01 , TI-F-01 , TL-F-01 , U-F-01 , V-F-01 , ZN-F-01 , ZR-F-01						
17 DUP	S97T001814	0 F	@ICP-F01	SOLID		
18 ICSA			@ICP-QC	QC		
19 ICSAB			@ICP-QC	QC		
20 CCV			@ICP-QC	QC		
21 CCB			@ICP-QC	QC		

Final page for worklist # 19682

Analyst Signature	Date	Analyst Signature	Date
<i>PK Lido</i>	08-06-97	<i>Remind + Validated by:</i>	
<i>Prepbk JJA</i>	8/5/10	<i>Sal R. Pang</i>	8/12/97
<i>S97T001817</i>	8/5/10		
<i>S97T001817D</i>	8/5/10		
<i>S97T001819</i>	8/5/10		
<i>S97T001819D</i>	8/5/10		

Data Entry Comments:

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Analysis Report

Summary

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#	Sample Name	File	Method	Date	Time	OpID	Type	Mode
1	ICV	970806A	ICP2	08/06/97	08:57	DKS	Q	CONC
2	ICB	970806A	ICP2	08/06/97	09:01	DKS	Q	CONC
3	LLS	970806A	ICP2	08/06/97	09:04	DKS	Q	CONC
4	ICSA	970806A	ICP2	08/06/97	09:07	DKS	Q	CONC
5	ICSAB	970806A	ICP2	08/06/97	09:10	DKS	Q	CONC
6	PREPBLKTJA	970806A	ICP2	08/06/97	09:16	DKS	Q	CONC
7	S97T001615	970806A	ICP2	08/06/97	09:20	DKS	S	CONC
8	S97T001615_D	970806A	ICP2	08/06/97	09:23	DKS	S	CONC
9	S97T001659	970806A	ICP2	08/06/97	09:27	DKS	S	CONC
10	S97T001659_D	970806A	ICP2	08/06/97	09:30	DKS	S	CONC
11	CCV	970806A	ICP2	08/06/97	09:43	DKS	Q	CONC
12	CCB	970806A	ICP2	08/06/97	09:52	DKS	Q	CONC
13	PREPBLKTJA	970806A	ICP2	08/06/97	09:56	DKS	Q	CONC
14	S97T001660	970806A	ICP2	08/06/97	09:59	DKS	S	CONC
15	S97T001660_D	970806A	ICP2	08/06/97	10:02	DKS	S	CONC
16	S97T001661	970806A	ICP2	08/06/97	10:06	DKS	S	CONC
17	S97T001661_D	970806A	ICP2	08/06/97	10:09	DKS	S	CONC
18	PREPBLKTJA	970806A	ICP2	08/06/97	10:12	DKS	Q	CONC
19	S97T001817	970806A	ICP2	08/06/97	10:16	DKS	S	CONC
20	S97T001817_D	970806A	ICP2	08/06/97	10:19	DKS	S	CONC
21	S97T001819	970806A	ICP2	08/06/97	10:22	DKS	S	CONC
22	S97T001819_D	970806A	ICP2	08/06/97	10:25	DKS	S	CONC
23	CCV_1	970806A	ICP2	08/06/97	10:33	DKS	Q	CONC
24	CCB_1	970806A	ICP2	08/06/97	10:37	DKS	Q	CONC
25	PREPBLKTJA	970806A	ICP2	08/06/97	10:40	DKS	Q	CONC
26	S97T001810	970806A	ICP2	08/06/97	10:43	DKS	S	CONC
27	S97T001810_D	970806A	ICP2	08/06/97	10:46	DKS	S	CONC
28	S97T001814	970806A	ICP2	08/06/97	10:49	DKS	S	CONC
29	S97T001814_D	970806A	ICP2	08/06/97	10:52	DKS	S	CONC
30	ICSA	970806A	ICP2	08/06/97	10:59	DKS	Q	CONC
31	ICSAB	970806A	ICP2	08/06/97	11:02	DKS	Q	CONC
32	CCV_2	970806A	ICP2	08/06/97	11:05	DKS	Q	CONC
33	CCB_2	970806A	ICP2	08/06/97	11:12	DKS	Q	CONC

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08.06-97

QW-104 S97T001615

S97T001617

S97T001660

S97T001661

Op-105 S97T001817

S97T001819

S97T001810

S97T001814

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 331 TO 336.

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Analysis Report

Averages

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#	Sample Name	Ag	Al	As	B	Ba	Be
1	ICV	5.106	4.964	5.266	5.049	5.111	5.229
2	ICB	-.0001	.0073	-.0081	-.0010	-.0000	.0000
3	LLS	.0227	.1110	.2020	.1003	.1027	.0107
4	ICSA	.0025	242.4	-.0883	.0012	.0002	-.0001
5	ICSA	.9835	244.0	-.0613	-.0016	.4777	.4872
6	PREPBLKTJA	.0002	.0145	.0039	.0005	.0001	.0000
7	S97T001615	.0483	8.899	-.0529	.0963	.0275	-.0017
8	S97T001615_D	.0424	8.713	-.2034	-.0047	.0260	.0018
9	S97T001659	.2087	12.93	-.3287	-.0832	.0372	.0006
10	S97T001659_D	.1564	13.26	-.4257	.0199	.0400	.0075
11	CCV	5.033	5.005	5.282	5.153	5.110	5.326
12	CCB	-.0000	.0046	-.0089	-.0010	-.0001	.0000
13	PREPBLKTJA	-.0002	.0240	-.0116	.0010	.0002	.0003
14	S97T001660	.1037	32.09	-.5715	-.0386	.0615	-.0035
15	S97T001660_D	.0528	33.55	-.2712	.0018	.0557	.0036
16	S97T001661	.0703	30.03	-1.140	.2630	.0484	-.0105
17	S97T001661_D	.0414	30.51	-.7634	.0815	.0391	.0053
18	PREPBLKTJA	-.0005	.0131	-.0121	-.0044	.0001	.0000
19	S97T001817	.0497	18.96	-.5903	-.1011	.0076	.0142
20	S97T001817_D	.0617	18.87	-.7237	.0402	.0076	.0071
21	S97T001819	.0420	17.69	-.2963	.0402	.0078	.0053
22	S97T001819_D	.0185	16.83	-.3582	-.1412	.0048	.0089
23	CCV 1	5.000	4.999	5.296	5.131	5.079	5.308
24	CCB 1	.0001	.0069	.0069	-.0005	.0000	.0002
25	PREPBLKTJA	-.0006	.0101	-.0073	.0015	-.0000	.0002
26	S97T001810	-.0039	16.14	-.5085	.0201	.0060	.0019
27	S97T001810_D	.0136	15.96	-.7717	.0403	.0047	.0124
28	S97T001814	.0223	16.41	-.2489	-.1210	.0090	.0124
29	S97T001814_D	-.0278	16.67	-.3908	-.1011	.0014	.0125
30	ICSA	.0024	241.2	-.0523	-.0065	.0002	-.0001
31	ICSA	.9588	242.2	-.0567	-.0067	.4667	.4860
32	CCV 2	5.067	5.022	5.284	5.150	5.119	5.337
33	CCB 2	.0000	.0060	-.0206	-.0025	.0000	-.0000

#	Sample Name	Bi	Ca	Cd	Ce	Co	Cr
1	ICV	5.172	5.185	5.161	5.076	5.099	5.185
2	ICB	-.0416	-.0032	-.0021	.0060	-.0026	-.0006
3	LLS	Q.1127	.2069	.0091	.2124	.0411	.0201
4	ICSA	-.0379	251.3	.0000	.0177	-.0030	-.0025
5	ICSA	-.0551	252.4	.9419	.0074	.4688	.4713
6	PREPBLKTJA	-.0129	-.0019	-.0003	-.0018	-.0023	-.0006
7	S97T001615	-.2512	5.257	.1870	.0395	-.0737	.3908
8	S97T001615_D	-.8810	5.302	.2215	-.1788	-.0512	.3938
9	S97T001659	-.5360	9.443	.1839	.1591	-.1448	.4718
10	S97T001659_D	-1.435	9.608	.2161	-.0048	-.0879	.5086
11	CCV	5.143	5.114	5.093	5.086	5.047	5.134
12	CCB	-.0156	-.0036	-.0022	.0026	-.0042	-.0008
13	PREPBLKTJA	-.0104	-.0072	-.0013	.0038	-.0013	.0002
14	S97T001660	-1.753	1.394	-.0765	.2885	.0200	2.888
15	S97T001660_D	-.9155	1.133	-.0215	.0976	-.0233	2.731
16	S97T001661	-.7503	1.032	-.0042	.3165	-.1613	6.609

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#	Sample Name	Bi	Ca	Cd	Ce	Co	Cr
17	S97T001661_D	-.8896	.6958	.0333	.1507	-.0762	6.382
18	PREPBLKTJA	-.0407	-.0011	-.0010	.0043	-.0023	.0006
19	S97T001817	-.6544	-.0149	-.0446	.2576	-.1025	.3236
20	S97T001817_D	-1.419	.0872	-.0612	.2592	-.0754	.3254
21	S97T001819	-.7792	.1968	-.0035	.3562	-.0220	.3495
22	S97T001819_D	-.5769	.0018	-.0660	.0959	-.0057	.3220
23	CCV 1	5.151	5.078	5.074	5.074	5.017	5.114
24	CCB 1	-.0422	.0019	-.0005	.0030	-.0018	.0005
25	PREPBLKTJA	-.0236	-.0025	-.0022	-.0007	-.0010	-.0005
26	S97T001810	-1.133	.1556	-.0613	.1356	-.1616	.2639
27	S97T001810_D	-1.367	.1011	-.0489	.1356	-.1396	.2486
28	S97T001814	-.6372	-.0035	-.0564	.3268	-.1027	.2828
29	S97T001814_D	-.9555	-.1246	-.0818	-.1119	-.0819	.3160
30	ICSA	-.0293	.249.4	-.0005	.0116	-.0051	-.0035
31	ICSAB	-.0489	.252.2	.9326	.0118	.4633	.4670
32	CCV 2	5.129	5.174	5.106	5.103	5.063	5.162
33	CCB 2	-.0449	.0034	-.0018	.0023	-.0034	-.0006

#	Sample Name	Cu	Eu	Fe	K	La	Li
1	ICV	4.872	.0050	4.804	5.116	5.156	5.097
2	ICB	.0004	-.0000	.0017	-.0011	.0000	-.0003
3	LLS	.0185	.0003	.0927	.3992	.1047	.0208
4	ICSA	-.0086	.0004	93.07	.1561	-.0037	.0025
5	ICSAB	.4464	.0020	93.26	.0964	-.0044	1.015
6	PREPBLKTJA	.0009	-.0004	.0034	Q379.1	-.0005	-.0006
7	S97T001615	.0360	-.0347	10.95	14110.	.0900	-.0172
8	S97T001615_D	.0939	-.0465	10.80	13260.	.0659	-.0587
9	S97T001659	.0931	.0116	20.43	13720.	.0775	.0110
10	S97T001659_D	.1037	-.0078	26.14	13250.	.0680	-.0122
11	CCV	4.971	.0040	4.794	4.928	5.164	5.318
12	CCB	.0012	-.0007	.0012	-.0399	-.0006	-.0006
13	PREPBLKTJA	.0017	-.0007	.0038	Q479.9	-.0009	-.0007
14	S97T001660	.0570	.0235	4.834	10520.	.1773	.0185
15	S97T001660_D	.0523	.0304	4.687	9916.	.1384	.0277
16	S97T001661	.0524	.0443	2.298	12980.	.1227	.0462
17	S97T001661_D	.0289	.0251	2.143	9115.	.0732	.0185
18	PREPBLKTJA	.0008	.0007	.0010	Q249.6	.0003	.0006
19	S97T001817	.0438	-.0018	.0869	12170.	.0055	-.0091
20	S97T001817_D	.0404	.0233	.1575	10110.	.0348	.0185
21	S97T001819	.0605	.0304	.0532	10590.	.0179	.0185
22	S97T001819_D	.0682	.0177	.2983	10260.	.0007	.0324
23	CCV 1	4.948	.0037	4.769	4.969	5.143	5.276
24	CCB 1	.0006	.0004	.0002	.0830	.0002	.0001
25	PREPBLKTJA	.0005	.0005	-.0007	Q265.0	-.0013	.0005
26	S97T001810	.0394	.0203	.0808	11080.	-.0141	.0186
27	S97T001810_D	.0123	.0255	.1866	11620.	-.0382	.0139
28	S97T001814	.0347	.0191	.0932	11530.	.0210	.0093
29	S97T001814_D	.0422	.0052	.0836	11450.	-.0330	-.0229
30	ICSA	-.0085	-.0007	92.32	.2161	-.0043	-.0028
31	ICSAB	.4398	-.0017	92.68	.1599	-.0039	1.004
32	CCV 2	4.961	.0050	4.797	5.035	5.179	5.305
33	CCB 2	.0011	-.0001	.0010	-.0377	.0002	.0000

HNF-SD-WM-DP-263, REV. 0

Analysis Report

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#	Sample Name	Mg	Mn	Mo	Na	Nd	Ni
1	ICV	5.200	5.052	5.098	4.948	5.167	5.155
2	ICB	.0003	.0001	-.0024	.0008	.0000	-.0046
3	LLS	.2118	.0199	.0993	.2161	.2038	.0352
4	ICSA	251.4	-.0059	-.0116	195.8	.0006	-.0093
5	ICSAB	252.7	.4468	-.0100	198.2	.0002	.9203
6	PREPBLKTJA	-.0058	.0008	-.0021	Q.1160	-.0025	Q.1231
7	S97T001615	.6499	4.340	.0902	126.0	-.0606	9.564
8	S97T001615_D	3.790	4.340	-.0851	123.5	.0918	6.576
9	S97T001659	1.117	3.049	-.0449	170.0	.1304	10.11
10	S97T001659_D	1.185	3.146	-.1274	172.6	.0694	15.36
11	CCV	5.265	4.989	5.049	5.072	5.188	5.084
12	CCB	-.0017	-.0003	-.0037	.0114	-.0002	-.0012
13	PREPBLKTJA	-.0028	-.0026	-.0027	Q.1834	-.0005	Q.1050
14	S97T001660	.3795	1.314	-.0158	348.1	.2060	3.502
15	S97T001660_D	.2097	1.228	.0452	349.7	.1753	5.140
16	S97T001661	.1104	.7962	.1435	409.3	.1487	2.248
17	S97T001661_D	.0829	.6795	.2731	416.3	-.0020	3.166
18	PREPBLKTJA	.0006	.0017	-.0043	.0686	.0010	Q.0783
19	S97T001817	-.0873	.0460	-.0777	359.2	-.0052	.6669
20	S97T001817_D	.1676	.0550	-.0315	373.3	.0642	.7109
21	S97T001819	.1242	.0602	-.0083	409.5	.0996	1.527
22	S97T001819_D	-.1120	.0495	-.0010	398.1	.1043	.8023
23	CCV 1	5.228	4.963	5.030	5.046	5.152	5.033
24	CCB 1	-.0061	.0001	.0006	-.0067	.0006	.0014
25	PREPBLKTJA	-.0071	.0022	-.0032	.0745	-.0019	Q.1012
26	S97T001810	-.0058	.0539	-.0163	402.2	-.0034	1.807
27	S97T001810_D	-.2549	.0607	.0293	408.3	-.0436	.5443
28	S97T001814	.1487	.0539	-.1074	372.4	-.0377	1.585
29	S97T001814_D	-.2303	.0392	-.1535	385.1	-.0496	2.458
30	ICSA	252.0	-.0061	-.0148	195.0	-.0002	-.0171
31	ICSAB	252.3	.4430	.0133	195.7	.0010	.9123
32	CCV 2	5.280	5.016	5.067	5.342	5.183	5.111
33	CCB 2	.0010	-.0004	-.0057	Q.1082	.0017	-.0002

#	Sample Name	P	Pb	S	Sb	Se	Si
1	ICV	5.145	5.167	5.043	4.808	4.949	4.850
2	ICB	-.0032	-.0219	.0034	.0063	-.0123	.0062
3	LLS	.4024	.2066	.2010	.1064	.1858	.1505
4	ICSA	.0163	-.0048	-.0295	-.0054	.0066	.0024
5	ICSAB	.0090	.9980	-.0373	.0145	.0047	.0001
6	PREPBLKTJA	-.0097	-.0169	-.0091	.0059	-.0034	.0167
7	S97T001615	2.060	-.6322	.7697	.1840	-.6047	1.810
8	S97T001615_D	1.978	-.9816	.3800	.0404	-.3004	1.512
9	S97T001659	4.338	-.7970	1.266	-.0663	.0406	3.884
10	S97T001659_D	5.043	-.4123	.9874	.0757	.2460	4.428
11	CCV	5.096	5.066	4.959	4.809	4.977	4.808
12	CCB	.0029	-.0303	-.0035	-.0016	-.0060	-.0012
13	PREPBLKTJA	-.0001	-.0167	-.0134	-.0003	.0026	.0112
14	S97T001660	2.256	-.4283	22.42	.0168	.1132	1.858
15	S97T001660_D	2.960	-.6083	20.94	.0256	.6098	1.934
16	S97T001661	10.32	-1.261	18.04	.2224	.4892	2.153

HNF-SD-WM-DP-263, REV. 0

Analysis Report

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#	Sample Name	P	Pb	S	Sb	Se	Si
17	S97T001661_D	13.14	-.7243	16.89	.0585	1.040	2.111
18	PREPBLKTJA	.0007	-.0157	-.0171	.0051	.0188	.0166
19	S97T001817	4.845	-1.273	3.428	.1674	.2246	1.848
20	S97T001817_D	6.502	-.6483	4.118	-.0655	.4389	2.268
21	S97T001819	5.780	-.3414	8.024	.3817	.8588	1.729
22	S97T001819_D	5.551	-.5572	7.924	.2348	.1099	1.501
23	CCV 1	4.981	5.038	4.908	4.788	4.951	4.784
24	CCB_1	-.0026	-.0165	-.0025	.0010	.0126	.0037
25	PREPBLKTJA	.0071	-.0286	-.0035	.0030	.0151	.0178
26	S97T001810	3.805	-1.006	16.32	.0696	.8182	2.771
27	S97T001810_D	4.417	-.8646	16.52	.0246	.6010	1.887
28	S97T001814	3.643	-1.476	13.11	.2122	.8173	1.386
29	S97T001814_D	3.766	-1.290	11.83	.0329	.6850	1.295
30	ICSA	.0189	-.0245	-.0539	-.0124	.0129	.0012
31	ICSAB	.0009	.9696	-.0333	.0056	.0012	.0035
32	CCV 2	5.166	5.101	5.038	4.830	4.958	4.834
33	CCB_2	-.0042	-.0265	-.0008	.0032	-.0069	-.0010

#	Sample Name	Sm	Sr	Th	Ti	Tl	U
1	ICV	4.981	5.020	.1187	4.929	4.905	9.677
2	ICB	-.0031	-.0000	.0001	-.0005	-.0160	-.0020
3	LLS	.2049	.0208	.0033	.0210	.3983	.5028
4	ICSA	-.0085	.0019	-.0116	.0015	.0456	.0547
5	ICSAB	-.0104	.0020	-.0107	.0011	.0345	.0570
6	PREPBLKTJA	-.0102	.0000	.0059	.0001	-.0282	-.1337
7	S97T001615	-.5694	.0184	.8509	.0468	-1.135	62.54
8	S97T001615_D	-.5822	.0147	.8050	.0851	-1.496	62.05
9	S97T001659	-.0781	.0431	.7510	.1379	-1.7121	53.11
10	S97T001659_D	-.2365	.0448	.7890	.1179	-1.094	54.73
11	CCV	5.010	5.055	.1339	4.968	4.848	9.780
12	CCB	-.0124	-.0001	.0010	.0002	-.0194	-.0361
13	PREPBLKTJA	-.0090	.0001	.0095	.0001	-.0337	-.1643
14	S97T001660	.1950	.0296	.3223	.0494	-1.482	-31.38
15	S97T001660_D	.2736	.0277	.1010	.0198	-.9966	-1064
16	S97T001661	.4253	.0241	-.1547	.0195	-.1234	-7217
17	S97T001661_D	.1478	.0185	-.0565	.0098	-1.130	-4413
18	PREPBLKTJA	.0050	.0003	.0019	.0000	-.0181	-.0400
19	S97T001817	.0686	.0095	.2558	.0313	-2.133	-2.984
20	S97T001817_D	.0951	.0094	.1678	.0016	-2.236	-1.665
21	S97T001819	.2466	.0130	.1219	.0395	-.3642	-.8398
22	S97T001819_D	.2195	.0112	.1035	.0205	-.4506	-1.321
23	CCV 1	5.015	5.028	.1427	4.936	4.863	9.737
24	CCB_1	.0014	.0000	-.0034	-.0000	-.0144	.0104
25	PREPBLKTJA	.0047	.0003	-.0014	.0000	-.0300	-.0462
26	S97T001810	.0508	.0113	.0314	.0012	-.5871	-1.883
27	S97T001810_D	.1286	.0150	.0302	.0013	-1.264	-1.858
28	S97T001814	.0496	.0113	.0521	.0108	-1.491	-1.974
29	S97T001814_D	-.0679	.0095	.0234	-.0081	-1.784	-2.796
30	ICSA	-.0044	.0018	-.0125	.0011	.0094	.0599
31	ICSAB	-.0054	.0019	-.0116	.0016	.0317	.0537
32	CCV 2	5.042	5.063	.1349	4.974	4.864	9.803
33	CCB_2	-.0019	-.0000	-.0005	.0002	-.0088	-.0027

HNF-SD-WM-DP-263, REV. 0

Analysis Report

Averages

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#	Sample Name	V	Y	Zn	Zr
1	ICV	5.000	.0078	4.902	4.974
2	ICB	-.0005	-.0001	.0000	-.0003
3	LLS	.1029	.0003	.0195	.0199
4	ICSA	-.0006	.0072	.0041	-.0023
5	ICSAB	.4661	.0073	.9337	-.0025
6	PREPBLKTJA	-.0019	-.0003	.0000	-.0013
7	S97T001615	-.1021	-.0234	.1179	.5424
8	S97T001615_D	-.1231	-.0296	.1459	.5051
9	S97T001659	.0239	.0063	.1036	1.981
10	S97T001659_D	-.0395	-.0040	.1107	2.059
11	CCV	4.984	.0071	4.823	4.950
12	CCB	-.0023	-.0003	-.0007	-.0020
13	PREPBLKTJA	-.0019	-.0003	.0005	-.0019
14	S97T001660	.0429	.0226	-.0410	.7290
15	S97T001660_D	.0574	.0289	.0455	1.005
16	S97T001661	.0823	.0324	-.0289	.2029
17	S97T001661_D	.0370	.0227	.0126	.2780
18	PREPBLKTJA	.0013	.0004	-.0017	.0006
19	S97T001817	-.0248	.0013	-.0248	-.0302
20	S97T001817_D	.0248	.0136	-.0355	.0024
21	S97T001819	.0678	.0132	.0038	.0460
22	S97T001819_D	.0465	.0102	-.0296	.0341
23	CCV 1	4.962	.0071	4.794	4.925
24	CCB-1	-.0000	.0002	-.0010	.0002
25	PREPBLKTJA	.0014	.0005	-.0009	.0005
26	S97T001810	.0329	.0169	-.0303	.0402
27	S97T001810_D	.0402	.0104	-.0330	.0265
28	S97T001814	.0331	.0137	-.0027	.0251
29	S97T001814_D	.0052	.0044	-.0653	-.0129
30	ICSA	.0001	.0074	.0020	-.0021
31	ICSAB	.4645	.0073	.9315	-.0017
32	CCV 2	5.007	.0075	4.854	4.966
33	CCB-2	-.0009	-.0001	-.0026	-.0013


 0806-97

LABCORE Data Entry Template for Worklist# 19767

Analyst: JK Seto Instrument: ICP01 Book# 67848BMethod: LA-505-151/161 Rev/Mod L-1Worklist Comment: JK Seto 8-12-97
ICP AP-105 (FUSION)

S Type	Sample#	R A	Test	Matrix	Group#	Project
1	ICV		@ICP-QC	QC		
2	ICB		@ICP-QC	QC		
3	LLS		@ICP-QC	QC		
4	ICSA		@ICP-QC	QC		
5	ICSAB		@ICP-QC	QC		
6	PREPBLKARL		@ICP-F01	SOLID		
7	SAMPLE	S97T001807 0 F	@ICP-F01	SOLID	97000478	AP-105 (P)
	Analytes Requested: AG-F-01 , AL-F-01 , AS-F-01 , B-F-01 , BA-F-01 , BE-F-01 , BI-F-01 , CA-F-01 , CD-F-01 , CE-F-01 , CO-F-01 , CR-F-01 , CU-F-01 , FE-F-01 , LA-F-01 , LI-F-01 , MG-F-01 , MN-F-01 , MO-F-01 , NA-F-01 , ND-F-01 , P-F-01 , PB-F-01 , S-F-01 , SB-F-01 , SE-F-01 , SI-F-01 , SM-F-01 , SR-F-01 , TI-F-01 , TL-F-01 , U-F-01 , V-F-01 , ZN-F-01 , ZR-F-01					
8	DUP	S97T001807 0 F	@ICP-F01	SOLID		
9	CCV		@ICP-QC	QC		
10	CCB		@ICP-QC	QC		
11	SERDIL	S97T001809 0 F	@ICP-F01	SOLID		
12	SAMPLE	S97T001809 0 F	@ICP-F01	SOLID	97000478	AP-105 (P)
	Analytes Requested: AG-F-01 , AL-F-01 , AS-F-01 , B-F-01 , BA-F-01 , BE-F-01 , BI-F-01 , CA-F-01 , CD-F-01 , CE-F-01 , CO-F-01 , CR-F-01 , CU-F-01 , FE-F-01 , LA-F-01 , LI-F-01 , MG-F-01 , MN-F-01 , MO-F-01 , NA-F-01 , ND-F-01 , P-F-01 , PB-F-01 , S-F-01 , SB-F-01 , SE-F-01 , SI-F-01 , SM-F-01 , SR-F-01 , TI-F-01 , TL-F-01 , U-F-01 , V-F-01 , ZN-F-01 , ZR-F-01					
13	DUP	S97T001809 0 F	@ICP-F01	SOLID		

Data Entry Comments:

LABCORE Data Entry Template for Worklist# 19767

S Type	Sample#	R A	Test	Matrix	Group#	Project
14 SPK sample X Spike ex	S97T001809	0 F	@ICP-F01	SOLID		
15 SAMPLE	S97T001813	0 F	@ICP-F01	SOLID	97000478	AP-105 (P)
Analytes Requested: AG-F-01, AL-F-01, AS-F-01, B-F-01, BA-F-01, BE-F-01, BI-F-01, CA-F-01, CD-F-01, CE-F-01, CO-F-01, CR-F-01, CU-F-01, FE-F-01, LA-F-01, LI-F-01, MG-F-01, MN-F-01, MO-F-01, NA-F-01, ND-F-01, P-F-01, PB-F-01, S-F-01, SB-F-01, SE-F-01, SI-F-01, SM-F-01, SR-F-01, TI-F-01, TL-F-01, U-F-01, V-F-01, ZN-F-01, ZR-F-01						
16 DUP	S97T001813	0 F	@ICP-F01	SOLID		
17 ICSA			@ICP-QC	QC		
18 ICSAB			@ICP-QC	QC		
19 CCV			@ICP-QC	QC		
20 CCB			@ICP-QC	QC		

Final page for worklist # 19767

Revised & Validated by:

Saul M. Pang 8/15/97

Analyst Signature	Date
Prep bl RRL	08-12-97
S97T001809	DF 1
S97T001807-D	41
S97T001809-L	41
S97T001809	205
S97T001807-D	41
S97T001809-Q	41
S97T001809-X	41
S97T001809-QX	41
S97T001813	41
S97T001813-D	41

Analyst Signature Date

$$S97T001809 \quad al = 18.989 \mu g \quad \frac{1}{2.020 g} \times \frac{16}{100 ml} = 8.622 + 3. \mu g$$

Data Entry Comments:

Sgt. M.

$$Li = \frac{(36.079)}{41} - 0 \times 100 = 87.9 \%$$

File #: 970812.B.DAT

HNF-SD-WM-DP-263, REV. 0

Identity 1: ICV Identity 2: Quality Control 12:52 PM August 12, 1997
 Task name : OPTIMA
 Sample Weight : 1.0000 Solution Volume : 1.00
 On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	4.903	4.917	5.033	4.769	4.921	5.154	5.165	4.758
S.D.	0.008	0.018	0.038	0.011	0.005	0.017	0.027	0.055
% R.S.D.	0.153	0.371	0.747	0.227	0.110	0.323	0.531	1.159
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.262	4.992	4.955	4.968	4.742	4.944	5.123	9.705
S.D.	0.006	0.007	0.004	0.019	0.014	0.009	0.005	0.010
% R.S.D.	0.106	0.131	0.086	0.379	0.291	0.187	0.095	0.101
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	4.839	4.945	4.879	5.101	4.903	4.886	5.109	4.963
S.D.	0.010	0.018	0.022	0.021	0.031	0.004	0.008	0.053
% R.S.D.	0.200	0.366	0.455	0.421	0.635	0.079	0.156	1.073
	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	5.076	5.138	4.901	4.839	5.004	5.061	5.059	5.017
S.D.	0.003	0.004	0.041	0.008	0.008	0.009	0.018	0.004
% R.S.D.	0.050	0.069	0.842	0.158	0.169	0.176	0.362	0.077
	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)				
Mean	4.757	5.100	5.046	5.052				
S.D.	0.029	0.004	0.013	0.020				
% R.S.D.	0.613	0.088	0.257	0.386				


 08-12-97
 Cp-105
 597700 1807
 597700 1809
 597700 1813

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 229 TO 260

Identity 1: ICB Identity 2: Quality Control 12:56 PM August 12, 1997

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.001	-0.000	0.026	0.001	-0.020	-0.001	-0.001	-0.000
S.D.	0.001	0.000	0.007	0.002	0.005	0.000	0.000	0.000
% R.S.D.	88.817	15.746	29.513	380.428	24.344	0.254	38.083	17.320

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	-0.000	-0.000	0.006	-0.003	0.000	0.003	-0.003	0.041
S.D.	0.000	0.001	0.001	0.001	0.000	0.001	0.007	0.015
% R.S.D.	87.019	676.840	14.418	51.266	173.205	31.129	262.912	36.926

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.028	0.002	-0.001	0.019	0.003	-0.000	0.001	-0.007
S.D.	0.002	0.002	0.000	0.006	0.004	0.000	0.003	0.001
% R.S.D.	8.556	91.063	19.667	31.257	101.119	57.717	240.142	17.317

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.002	-0.003	0.010	0.001	-0.001	-0.002	0.063	0.000
S.D.	0.001	0.000	0.007	0.000	0.000	0.001	0.004	0.000
% R.S.D.	26.067	14.941	66.334	22.718	28.965	43.866	6.640	180.075

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.065	-0.004	0.000	-0.030
S.D.	0.008	0.001	0.000	0.009
% R.S.D.	11.681	23.061	1956.871	28.471

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Identity 1: LLS Identity 2: Quality Control 12:59 PM August 12, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.021	0.020	0.200	0.120	0.095	0.042	0.023	0.021
S.D.	0.003	0.000	0.012	0.008	0.014	0.002	0.001	0.000
% R.S.D.	15.865	0.835	6.181	6.636	15.010	5.083	5.341	2.342

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Cn (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.021	0.039	0.105	0.099	0.191	0.023	0.223	0.475
S.D.	0.001	0.004	0.002	0.006	0.001	0.001	0.013	0.145
% R.S.D.	2.422	9.591	2.088	6.459	0.754	3.104	6.029	30.581

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.225	0.184	0.100	0.398	0.203	0.203	0.195	0.200
S.D.	0.040	0.028	0.000	0.007	0.002	0.000	0.008	0.007
% R.S.D.	17.758	15.285	0.226	1.790	1.023	0.196	3.973	3.358

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.097	0.026	0.229	0.020	0.012	0.103	0.632	0.020
S.D.	0.001	0.003	0.019	0.001	0.000	0.002	0.014	0.000
% R.S.D.	1.507	10.721	8.370	5.421	3.844	1.810	2.262	1.742

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.179	0.102	0.011	0.450
S.D.	0.030	0.002	0.000	0.078
% R.S.D.	16.618	2.179	3.055	17.367

Identity 1: ICSA Identity 2: Quality Control 1:02 PM August 12, 1997

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr	Sr	Bi	Si	Al	Co	Cu	Li
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	-0.001	0.003	-0.010	0.015	197.226	-0.000	0.001	0.001
S.D.	0.001	0.000	0.008	0.002	0.991	0.003	0.000	0.000
% R.S.D.	104.261	1.546	80.641	9.976	0.502	970.597	28.475	29.322

	Zn	Ni	La	Fe	Ce	Cr	Nd	U
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	0.007	0.002	0.002	97.218	100.407	0.004	0.043	-0.077
S.D.	0.000	0.000	0.001	0.250	0.356	0.001	0.008	0.026
% R.S.D.	3.629	22.507	73.580	0.257	0.355	28.898	17.992	34.580

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.053	-0.007	0.002	0.035	-0.034	93.065	-0.021	184.136
S.D.	0.009	0.006	0.000	0.009	0.009	0.177	0.002	0.959
% R.S.D.	16.099	80.467	10.806	24.795	24.877	0.190	11.812	0.521

	Mo	Ag	Pb	Ti	Cd	B	K	Mn.
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	-0.001	0.002	0.029	-0.000	0.003	0.013	0.180	0.011
S.D.	0.002	0.001	0.010	0.000	0.000	0.001	0.009	0.001
% R.S.D.	224.182	30.028	36.373	256.048	12.149	6.455	4.920	6.727

	Sb	V	Be	Tl
	(ppm)	(ppm)	(ppm)	(ppm)
Mean	0.035	0.000	0.003	0.009
S.D.	0.046	0.000	0.000	0.025
% R.S.D.	132.183	16.177	5.104	289.547

Identity 1: PREPBLK Identity 2: Quality Control

1:11 PM August 12, 1997

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.001	-0.000	0.023	0.008	-0.017	-0.001	-0.000	-0.000
S.D.	0.001	0.000	0.003	0.002	0.001	0.000	0.000	0.000
% R.S.D.	57.142	69.282	14.538	27.951	8.237	0.911	98.805	33.335

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.000	0.167	0.004	-0.001	0.001	-0.003	-0.013	0.014
S.D.	0.000	0.001	0.002	0.001	0.000	0.001	0.016	0.052
% R.S.D.	453.036	0.887	51.355	63.515	5.769	48.599	128.519	358.574

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.017	0.004	-0.000	-0.000	-0.003	0.002	0.003	0.113
S.D.	0.011	0.009	0.000	0.013	0.004	0.000	0.003	0.004
% R.S.D.	62.661	216.634	77.051	120897.230	144.259	5.412	125.708	3.441

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.000	-0.004	0.015	0.001	0.000	-0.001	320.514	0.002
S.D.	0.000	0.001	0.006	0.000	0.001	0.001	1.302	0.000
% R.S.D.	99.923	27.642	37.895	74.807	376.256	99.095	0.406	8.942

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.057	-0.002	-0.000	-0.040
S.D.	0.009	0.001	0.000	0.034
% R.S.D.	16.628	31.198	133.653	84.593

1

Identity 1: S97T001807 Identity 2: Fusion, .25-10 ml

1:14 PM August 12, 1997

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 41.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.101	0.008	0.730	2.537	21.750	0.220	0.037	-0.006
S.D.	0.070	0.006	0.021	0.100	0.125	0.001	0.029	0.011
% R.S.D.	69.759	66.667	2.849	3.957	0.572	0.470	78.527	179.154

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.035	3.078	0.175	0.832	0.272	0.417	0.373	6.812
S.D.	0.003	0.282	0.088	0.072	0.003	0.104	0.407	2.080
% R.S.D.	7.683	9.160	50.164	8.648	1.107	24.928	109.163	30.535

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.153	-0.457	0.007	26.802	11.616	0.120	0.180	482.881
S.D.	0.634	0.327	0.012	0.246	0.241	0.005	0.073	5.574
% R.S.D.	413.714	71.604	158.406	0.917	2.074	3.937	40.211	1.154

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.042	-0.055	-0.031	0.046	0.026	-0.062	14579.320	0.113
S.D.	0.062	0.040	0.390	0.018	0.032	0.016	105.780	0.008
% R.S.D.	148.080	71.581	1246.847	38.578	126.013	26.413	0.726	7.417

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.764	-0.090	-0.013	1.125
S.D.	0.615	0.049	0.011	1.695
% R.S.D.	80.488	54.998	83.759	150.631

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Identity 1: S97T001807_D Identity 2: Fusion, .25-10 ml

1:17 PM August 12, 1997

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 41.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.023	0.011	0.741	2.290	21.945	0.469	0.043	-0.013
S.D.	0.030	0.003	0.153	0.125	0.001	0.087	0.009	0.006
% R.S.D.	133.247	25.000	20.617	5.464	0.006	18.521	21.720	47.898

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.080	2.978	0.325	0.642	0.351	0.407	0.415	2.055
S.D.	0.014	0.549	0.099	0.068	0.005	0.042	0.331	1.432
% R.S.D.	17.095	18.421	30.586	10.630	1.309	10.199	79.910	69.667

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.407	-1.221	0.011	26.585	11.392	0.106	0.464	479.000
S.D.	0.285	0.296	0.008	0.735	0.239	0.005	0.183	0.918
% R.S.D.	70.079	24.252	73.981	2.765	2.102	4.440	39.381	0.192

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.023	-0.072	0.635	0.012	0.115	0.028	13987.813	0.148
S.D.	0.048	0.029	0.305	0.008	0.020	0.039	26.116	0.015
% R.S.D.	204.059	40.403	48.118	67.351	16.993	135.703	0.187	9.952

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.242	-0.062	0.008	1.593
S.D.	0.484	0.019	0.000	0.868
% R.S.D.	199.852	30.411	3.515	54.477

1

Identity 1: CCV Identity 2: Quality Control 1:22 PM August 12, 1997

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	4.822	4.763	4.928	4.722	4.797	5.114	5.000	4.530
S.D.	0.008	0.008	0.023	0.009	0.003	0.012	0.007	0.010
% R.S.D.	0.169	0.172	0.467	0.199	0.053	0.231	0.148	0.214
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.296	5.005	4.896	5.009	4.645	4.966	5.084	9.393
S.D.	0.009	0.008	0.020	0.016	0.012	0.009	0.011	0.013
% R.S.D.	0.176	0.167	0.415	0.315	0.260	0.173	0.225	0.135
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	4.637	4.785	4.710	4.936	4.761	4.884	5.045	4.760
S.D.	0.006	0.013	0.010	0.013	0.015	0.008	0.010	0.015
% R.S.D.	0.137	0.275	0.215	0.254	0.321	0.167	0.201	0.306
	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	S (ppm)	K (ppm)	Mn (ppm)
Mean	5.004	5.160	4.931	4.746	5.008	5.033	5.199	5.044
S.D.	0.021	0.010	0.040	0.009	0.016	0.011	0.002	0.010
% R.S.D.	0.423	0.192	0.818	0.198	0.321	0.212	0.031	0.196
	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)				
Mean	4.674	5.079	4.995	5.063				
S.D.	0.058	0.012	0.013	0.018				
% R.S.D.	1.234	0.244	0.256	0.361				

1

Identity 1: CCB Identity 2: Quality Control 1:25 PM August 12, 1997

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.003	0.000	0.018	0.006	-0.012	0.000	0.001	-0.000
S.D.	0.001	0.000	0.011	0.003	0.004	0.002	0.000	0.000
% R.S.D.	27.508	114.564	59.529	52.852	29.995	11087.174	43.563	770.059
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	-0.000	-0.003	0.003	0.002	0.000	0.002	0.018	0.108
S.D.	0.000	0.002	0.001	0.002	0.000	0.001	0.010	0.058
% R.S.D.	1575.581	68.495	24.997	89.625	28.868	50.843	55.673	53.326
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.013	0.023	0.000	-0.016	0.004	-0.000	0.009	0.008
S.D.	0.011	0.011	0.000	0.011	0.005	0.000	0.004	0.001
% R.S.D.	81.025	48.430	170.318	69.156	126.206	149.886	47.576	15.744
	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.001	-0.000	0.015	0.001	0.001	0.001	0.264	0.001
S.D.	0.001	0.001	0.014	0.000	0.000	0.002	0.002	0.001
% R.S.D.	97.605	669.542	95.131	41.539	34.355	123.340	0.602	66.904
	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)				
Mean	-0.000	-0.001	0.000	-0.020				
S.D.	0.025	0.001	0.000	0.031				
% R.S.D.	5458.022	83.601	58.912	150.221				

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Identity 1: S97T001809_L Identity 2: Fusion, .25-10-2-8ml

1:29 PM August 12, 1997

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 205.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.726	0.042	2.637	4.287	16.883	0.151	0.210	-0.035
S.D.	0.421	0.037	2.277	0.908	1.278	0.435	0.150	0.061
% R.S.D.	58.059	88.192	86.352	21.172	7.571	288.705	71.387	173.054

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.010	5.073	0.588	-0.678	0.908	0.962	3.517	35.705
S.D.	0.050	0.452	0.160	0.547	0.026	0.074	2.406	17.859
% R.S.D.	514.734	8.913	27.274	80.695	2.871	7.691	68.423	50.019

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	2.182	6.464	0.004	5.722	61.678	0.381	0.637	587.482
S.D.	3.887	3.082	0.071	3.040	1.110	0.041	1.035	6.804
% R.S.D.	178.173	47.672	1729.884	53.135	1.800	10.711	162.471	1.158

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.304	0.008	0.310	0.321	0.577	-0.291	14507.245	0.168
S.D.	0.054	0.275	1.149	0.170	0.074	0.208	147.460	0.085
% R.S.D.	17.628	3351.487	370.268	53.114	12.771	71.543	1.016	50.512

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-6.146	-0.407	0.007	9.390
S.D.	3.262	0.152	0.030	7.555
% R.S.D.	53.074	37.457	451.084	80.456

Identity 1: S971001809 Identity 2: Fusion, 25-10 ml

1:32 PM August 12, 1997

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 41.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr	Sr	Bi	Si	Al	Co	Cu	Li
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	0.092	0.025	-0.303	1.813	18.989	0.240	0.086	0.017
S.D.	0.097	0.006	0.204	0.134	0.313	0.001	0.022	0.014
% R.S.D.	105.871	22.222	67.460	7.371	1.649	0.254	25.460	83.557

	Zn	Ni	La	Fe	Ca	Cr	Nd	U
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	0.049	4.303	0.078	-0.414	1.105	0.542	0.971	3.400
S.D.	0.005	0.338	0.086	0.079	0.006	0.072	0.178	2.647
% R.S.D.	11.158	7.861	110.869	19.111	0.545	13.317	18.342	77.854

	Ce	Sm	Ba	P	S	Mg	As	Na
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	1.419	-0.925	0.028	6.858	62.099	0.111	0.089	570.033
S.D.	0.628	0.582	0.015	0.192	0.144	0.005	0.141	4.786
% R.S.D.	44.289	62.924	52.014	2.802	0.231	4.226	157.999	0.840

	Mo	Ag	Pb	Ti	Cd	B	K	Mn
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	0.122	0.057	0.836	0.028	0.026	0.035	13821.165	0.093
S.D.	0.052	0.060	0.254	0.014	0.041	0.104	111.865	0.009
% R.S.D.	42.516	104.131	30.437	49.814	159.440	297.721	0.809	9.376

	Sb	V	Be	Tl
	(ppm)	(ppm)	(ppm)	(ppm)
Mean	1.117	0.060	0.019	3.115
S.D.	0.763	0.010	0.011	1.555
% R.S.D.	68.252	16.028	60.573	49.920

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Identity 1: S97T001809_D Identity 2: Fusion, .25-10 ml

1:36 PM August 12, 1997

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 41.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.048	0.019	0.586	1.855	18.654	0.032	0.075	0.017
S.D.	0.038	0.003	0.116	0.089	0.108	0.174	0.007	0.012
% R.S.D.	80.188	14.286	19.877	4.798	0.579	544.138	9.847	66.937
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.034	3.125	0.038	-0.373	0.141	0.385	1.308	-0.140
S.D.	0.015	0.063	0.114	0.045	0.003	0.030	0.370	1.804
% R.S.D.	42.875	2.006	298.997	12.056	2.457	7.692	28.312	1287.112
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Hg (ppm)	As (ppm)	Na (ppm)
Mean	1.466	-0.357	0.025	5.613	53.344	0.082	0.062	543.570
S.D.	0.327	0.323	0.009	0.805	0.623	0.005	0.088	0.884
% R.S.D.	22.310	90.417	35.578	14.339	1.169	5.774	142.535	0.163
	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.035	0.002	1.127	0.032	0.094	0.150	13584.885	0.109
S.D.	0.012	0.015	0.319	0.011	0.051	0.009	65.367	0.009
% R.S.D.	34.627	740.290	28.335	35.447	54.540	5.915	0.481	7.950
	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)				
Mean	0.782	0.089	0.033	3.272				
S.D.	0.434	0.018	0.013	0.624				
% R.S.D.	55.482	20.114	38.916	19.074				

1

Identity 1: S97T001809_A Identity 2: Fusion,,25-10 ml

1:39 PM August 12, 1997

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 41.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	40.136	39.721	41.964	41.428	58.539	42.905	41.518	36.039
S.D.	0.163	0.224	0.441	0.112	0.195	0.087	0.303	0.292
% R.S.D.	0.407	0.564	1.050	0.269	0.333	0.204	0.731	0.809

	Zn	Ni	La	Fe	Ca	Cr	Nd	U
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	43.385	44.988	40.496	40.193	38.482	41.561	40.853	81.162
S.D.	0.087	0.197	0.152	0.463	0.237	0.030	0.444	2.835
% R.S.D.	0.200	0.438	0.374	1.153	0.615	0.071	1.088	3.493

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	37.922	40.164	39.020	47.158	102.809	40.251	41.524	597.279
S.D.	0.796	0.469	0.248	0.196	0.441	0.118	0.563	4.668
% R.S.D.	2.099	1.167	0.635	0.416	0.429	0.294	1.355	0.782

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	41.546	36.894	41.289	39.527	40.964	40.155	13379.827	41.513
S.D.	0.200	0.076	0.513	0.168	0.206	0.200	123.860	0.067
% R.S.D.	0.482	0.206	1.243	0.426	0.503	0.497	0.926	0.162

	Sb	V	Be	Tl
	(ppm)	(ppm)	(ppm)	(ppm)
Mean	37.357	41.946	39.849	40.420
S.D.	1.189	0.035	0.171	1.615
% R.S.D.	3.183	0.084	0.430	3.997

Identity 1: S971001809_X Identity 2: Fusion, -25-10-1-9ml

1:44 PM August 12, 1997

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 410.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	1.104	0.018	5.686	7.647	13.318	-0.346	0.138	-0.061
S.D.	0.609	0.064	6.852	2.305	3.174	1.504	0.217	0.139
% R.S.D.	55.166	346.410	120.519	30.137	23.833	434.652	157.448	229.032

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	-0.133	4.019	2.122	-2.167	0.391	0.764	-4.917	56.833
S.D.	0.148	0.880	0.013	0.454	0.035	0.103	4.205	28.783
% R.S.D.	111.136	21.892	0.628	20.959	8.882	13.449	85.521	50.645

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-1.400	5.898	-0.107	4.728	64.002	0.272	1.735	591.302
S.D.	8.229	5.304	0.105	3.628	2.621	0.000	0.571	5.372
% R.S.D.	587.855	89.920	98.133	76.734	4.096	0.020	32.930	0.908

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.304	-0.600	1.305	0.550	0.728	-0.899	14602.230	0.439
S.D.	0.637	0.484	0.573	0.248	0.195	0.392	132.273	0.256
% R.S.D.	209.417	80.737	43.934	45.109	26.761	43.579	0.906	58.318

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	9.870	-0.820	0.011	-1.883
S.D.	4.218	0.215	0.058	19.529
% R.S.D.	42.735	26.222	538.823	1036.893

1

Identity 1: S97T001809_AX Identity 2: Fusion, .25-10-1-9ml

1:47 PM August 12, 1997

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 410.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr	Sr	Bi	Si	Al	Co	Cu	Li
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	3932.936	3898.784	3987.991	3916.618	3942.541	4007.603	3787.083	3731.913
S.D.	11.397	17.845	14.717	4.949	11.892	8.556	12.792	14.955
% R.S.D.	0.290	0.458	0.369	0.126	0.302	0.213	0.338	0.401

	Zn	Ni	La	Fe	Ca	Cr	Nd	U
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	3995.664	3991.774	3981.069	3972.690	3890.116	3958.819	4013.044	7518.907
S.D.	1.119	7.468	6.276	2.407	9.213	1.994	23.752	19.322
% R.S.D.	0.028	0.187	0.158	0.061	0.237	0.050	0.592	0.257

	Ce	Sm	Ba	P	S	Mg	As	Na
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	3888.361	3890.026	3860.805	3969.853	3865.415	3997.958	3919.101	4335.961
S.D.	29.450	10.145	12.572	33.193	18.829	8.073	8.500	19.455
% R.S.D.	0.757	0.261	0.326	0.836	0.487	0.202	0.217	0.449

	Mo	Ag	Pb	Ti	Cd	B	K	Mn
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	3962.783	3175.004	3967.155	3913.301	3975.060	3961.294	17875.440	3999.401
S.D.	16.243	12.080	17.348	14.468	4.999	4.744	90.987	3.267
% R.S.D.	0.410	0.380	0.437	0.370	0.126	0.120	0.509	0.082

	Sb	V	Be	Tl
	(ppm)	(ppm)	(ppm)	(ppm)
Mean	3917.310	3995.349	3922.164	4146.011
S.D.	21.645	5.189	5.644	7.978
% R.S.D.	0.553	0.130	0.144	0.192

1

Identity 1: S97T001813 Identity 2: Fusion,.25-10 ml 1:52 PM August 12, 1997
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 41.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.437	0.033	1.408	2.565	22.992	0.266	0.121	0.040
S.D.	0.190	0.014	0.768	0.404	1.032	0.088	0.056	0.038
% R.S.D.	43.596	41.667	54.548	15.753	4.491	32.934	46.504	94.464

	Zn	Ni	La	Fe	Ca	Cr	Nd	U
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	0.058	6.099	0.408	-0.342	0.348	0.505	0.748	16.138
S.D.	0.012	0.332	0.121	0.130	0.017	0.058	0.659	6.077
% R.S.D.	19.839	5.449	29.739	38.065	4.762	11.492	88.128	37.654

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	2.338	1.065	0.049	8.157	18.311	0.117	0.134	454.859
S.D.	1.614	1.203	0.030	0.365	0.647	0.000	0.259	4.680
% R.S.D.	69.046	113.015	60.017	4.479	3.533	0.004	192.723	1.029

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.040	0.786	0.197	0.151	0.120	0.189	13228.754	0.122
S.D.	0.078	0.205	0.412	0.050	0.046	0.070	95.503	0.022
% R.S.D.	195.088	26.110	208.859	32.876	38.571	36.972	0.707	18.093

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.223	0.058	0.010	2.585
S.D.	1.102	0.129	0.020	3.274
% R.S.D.	493.288	221.687	192.787	126.657

Identity 1: S97T001813_D Identity 2: Fusion, .25-10 ml

1:55 PM August 12, 1997

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 41.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.010	-0.003	0.131	1.170	21.663	0.264	-0.008	-0.020
S.D.	0.086	0.007	0.309	0.250	0.114	0.087	0.026	0.009
% R.S.D.	874.058	264.575	236.568	21.392	0.526	33.150	315.439	45.739

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.015	1.991	0.095	0.001	0.092	0.451	0.165	-1.280
S.D.	0.014	0.215	0.058	0.020	0.002	0.057	0.276	2.733
% R.S.D.	92.163	10.789	60.766	2783.825	1.883	12.654	167.129	213.457

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.667	-0.089	-0.012	7.192	14.677	0.084	-0.085	461.185
S.D.	0.701	0.537	0.012	0.447	0.299	0.000	0.057	4.454
% R.S.D.	105.108	603.417	100.474	6.211	2.036	0.002	67.403	0.966

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.009	0.205	0.180	0.032	0.004	0.195	13335.214	0.065
S.D.	0.057	0.130	0.390	0.032	0.013	0.042	139.213	0.009
% R.S.D.	607.390	63.526	216.249	100.938	301.251	21.491	1.044	13.202

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	1.043	-0.062	0.011	0.464
S.D.	1.307	0.071	0.006	1.821
% R.S.D.	125.293	115.889	60.502	392.502

1

Identity 1: ICSA Identity 2: Quality Control 2:05 PM August 12, 1997

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.003	0.003	-0.022	0.022	191.214	0.008	0.001	0.001
S.D.	0.000	0.000	0.014	0.003	0.413	0.002	0.000	0.000
% R.S.D.	7.467	1.533	62.772	14.581	0.216	24.859	26.839	15.789

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ce (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.007	0.006	0.004	95.752	97.733	0.006	0.061	0.079
S.D.	0.001	0.001	0.002	0.237	0.131	0.002	0.006	0.024
% R.S.D.	9.991	13.448	38.133	0.247	0.134	37.320	9.648	30.250

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.060	0.003	0.002	0.014	-0.046	92.948	-0.023	175.137
S.D.	0.004	0.004	0.000	0.006	0.002	0.108	0.003	0.160
% R.S.D.	5.866	146.333	6.306	45.142	4.792	0.116	12.006	0.091

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.001	0.008	0.015	0.002	0.003	0.015	0.470	0.011
S.D.	0.001	0.000	0.008	0.000	0.000	0.002	0.013	0.001
% R.S.D.	143.764	3.950	52.861	8.165	4.970	10.501	2.685	8.021

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.042	0.001	0.003	0.063
S.D.	0.010	0.001	0.000	0.013
% R.S.D.	23.336	82.194	4.921	20.035

1

Identity 1: ICSAB Identity 2: Quality Control

2:08 PM August 12, 1997

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.000	0.002	0.001	0.015	191.866	0.493	0.457	0.856
S.D.	0.002	0.000	0.011	0.001	1.722	0.004	0.002	0.002
% R.S.D.	315.577	1.665	1114.298	4.926	0.898	0.741	0.470	0.229
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	1.001	0.979	0.004	96.489	96.717	0.502	0.052	0.043
S.D.	0.002	0.001	0.002	0.433	0.556	0.002	0.016	0.056
% R.S.D.	0.201	0.109	54.015	0.449	0.575	0.483	31.218	130.778
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.049	0.023	0.467	0.015	-0.039	94.363	-0.018	171.929
S.D.	0.010	0.010	0.002	0.014	0.006	0.272	0.011	0.438
% R.S.D.	20.528	41.651	0.414	92.837	14.484	0.289	59.770	0.255
	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.001	1.039	0.959	0.001	0.978	0.018	0.563	0.508
S.D.	0.001	0.003	0.017	0.000	0.003	0.000	0.008	0.002
% R.S.D.	72.531	0.287	1.823	19.055	0.300	1.991	1.412	0.434
	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)				
Mean	0.060	0.485	0.484	0.080				
S.D.	0.035	0.002	0.001	0.019				
% R.S.D.	59.233	0.396	0.275	23.460				

1

Identity 1: CCB Identity 2: Quality Control 2:17 PM August 12, 1997

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.000	-0.000	0.015	-0.000	-0.037	-0.002	-0.001	-0.001
S.D.	0.000	0.000	0.006	0.002	0.001	0.006	0.000	0.000
% R.S.D.	132.653	45.826	41.264	2943.759	4.019	229.107	11.566	42.248
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Hd (ppm)	U (ppm)
Mean	-0.000	0.000	0.002	-0.002	0.000	-0.002	-0.000	0.017
S.D.	0.000	0.001	0.001	0.003	0.000	0.003	0.009	0.026
% R.S.D.	58.473	198.617	59.764	135.626	86.603	124.223	3665.043	147.848
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.042	-0.009	-0.001	-0.000	0.005	-0.000	-0.004	-0.006
S.D.	0.009	0.008	0.000	0.008	0.003	0.000	0.003	0.002
% R.S.D.	21.816	85.640	15.384	60293.997	58.840	173.204	72.480	37.509
	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.001	-0.004	0.001	0.001	0.001	0.004	0.231	-0.000
S.D.	0.000	0.001	0.003	0.000	0.001	0.000	0.016	0.000
% R.S.D.	24.735	13.980	271.565	19.890	69.234	10.410	6.975	147.936
	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)				
Mean	-0.034	-0.004	0.001	-0.016				
S.D.	0.017	0.001	0.000	0.024				
% R.S.D.	50.013	25.452	57.745	152.646				


 08-12-97

LABCORE Data Entry Template for Worklist# 19804

Analyst: JKS Instrument: ICP01 2 JK 8-14-97 Book# 686486Method: LA-505-151/161 Rev/Mod C-2Worklist Comment: ICP AP-105 (FUSION)
JK 8-14-97

S Type	Sample#	R A	Test	Matrix	Group#	Project
1	ICV		@ICP-QC	QC		
2	ICB		@ICP-QC	QC		
3	LLS		@ICP-QC	QC		
4	ICSA		@ICP-QC	QC		
5	ICSAB		@ICP-QC	QC		
6	PREPBLKTJA		@ICP-F01	SOLID		
7	SERDIL	S97T001727 0 F	@ICP-F01	SOLID		
8	SAMPLE	S97T001727 0 F	@ICP-F01	SOLID	97000455	AP-105 (P)
	Analytes Requested:		AG-F-01 , AL-F-01 , AS-F-01 , B-F-01 , BA-F-01 , BE-F-01 , BI-F-01 , CA-F-01 , CD-F-01 , CE-F-01 , CO-F-01 , CR-F-01 , CU-F-01 , FE-F-01 , LA-F-01 , LI-F-01 , MG-F-01 , MN-F-01 , MO-F-01 , NA-F-01 , ND-F-01 , P-F-01 , PB-F-01 , S-F-01 , SB-F-01 , SE-F-01 , SI-F-01 , SM-F-01 , SR-F-01 , TI-F-01 , TL-F-01 , U-F-01 , V-F-01 , ZN-F-01 , ZR-F-01			
9	DUP	S97T001727 0 F	@ICP-F01	SOLID		
10	SPK	S97T001727 0 F	@ICP-F01	SOLID		
11	CCV		@ICP-QC	QC		
12	CCB		@ICP-QC	QC		
13	SAMPLE	S97T001732 0 F	@ICP-F01	SOLID	97000455	AP-105 (P)
	Analytes Requested:		AG-F-01 , AL-F-01 , AS-F-01 , B-F-01 , BA-F-01 , BE-F-01 , BI-F-01 , CA-F-01 , CD-F-01 , CE-F-01 , CO-F-01 , CR-F-01 , CU-F-01 , FE-F-01 , LA-F-01 , LI-F-01 , MG-F-01 , MN-F-01 , MO-F-01 , NA-F-01 , ND-F-01 , P-F-01 , PB-F-01 , S-F-01 , SB-F-01 , SE-F-01 , SI-F-01 , SM-F-01 , SR-F-01 , TI-F-01 , TL-F-01 , U-F-01 , V-F-01 , ZN-F-01 , ZR-F-01			

Data Entry Comments:

08/14/97 14:24

Page: 2

A-0004-I

LABCORE Data Entry Template for Worklist# 19804

S Type	Sample#	R	A	Test	Matrix	Group#	Project
14 DUP	S97T001732	0	F	@ICP-F01	SOLID		
15 ICSA				@ICP-QC	QC		
16 ICSAB				@ICP-QC	QC		
17 CCV				@ICP-QC	QC		
18 CCB				@ICP-QC	QC		

Final page for worklist # 19804

JX L 08-14-97
 Analyst Signature Date

Reviewed + Val. dated by:
Paul Z. Peng 8/14/97
 Analyst Signature Date

Prep blk TJA, .25-10, JF 1
 S97T001727-L, .25-10-28, 205
 S97T001727, .25-10, 41
 S97T001727-D, .25-10, 41
 S97T001727-Q, .25-10, 41, .25 mL sample + 2.05 mL STS + 7.95 mL HNO₃
 S97T001727-X, .25-10-19, 410
 S97T001727-QX, .25-10-19, 410, 1 mL sample + 1 mL each K₂H₄ 28 + 35 + 7 mL HNO₃
 S97T001732, .25-10, 41
 S97T001732-D, .25-10, 41

S97T001727

$$al = 17.22 \frac{\mu\text{g}}{\text{mL}} \times \frac{1}{2.174 \frac{\text{g}}{\text{L}} \times \frac{1\text{L}}{1000\text{mL}}} = 7.92 \text{ e} + 3 \frac{\mu\text{g}}{\text{g}}$$

Spike:

$$Na = \frac{\left(\frac{460.9}{41}\right) - \left(\frac{412.5}{41}\right)}{1} \times 100 = 118.0\%$$

Post Spike:

$$Na = \frac{\left(\frac{4450}{410}\right) - \left(\frac{426.7}{410}\right)}{10} \times 100 = 98.1\%$$

Data Entry Comments:

HNF-SD-WM-DP-263, REV. 0

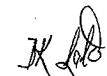
Analysis Report

Summary

Thu 08-14-97 02:21:28 PM

page 1

#	Sample Name	File	Method	Date	Time	OpID	Type	Mode
1	ICV	970814A	ICP2	08/14/97	12:45	DKS	Q	CONC
2	ICB	970814A	ICP2	08/14/97	12:49	DKS	Q	CONC
3	LLS	970814A	ICP2	08/14/97	12:52	DKS	Q	CONC
4	ICSA	970814A	ICP2	08/14/97	12:54	DKS	Q	CONC
5	ICSAB	970814A	ICP2	08/14/97	12:58	DKS	Q	CONC
6	PREPBLKTJA	970814A	ICP2	08/14/97	13:01	DKS	Q	CONC
7	S97T001727 L	970814A	ICP2	08/14/97	13:06	DKS	S	CONC
8	S97T001727	970814A	ICP2	08/14/97	13:10	DKS	S	CONC
9	S97T001727 D	970814A	ICP2	08/14/97	13:13	DKS	S	CONC
10	S97T001727 A	970814A	ICP2	08/14/97	13:17	DKS	S	CONC
11	S97T001727 X	970814A	ICP2	08/14/97	13:21	DKS	S	CONC
12	S97T001727 AX	970814A	ICP2	08/14/97	13:25	DKS	S	CONC
13	CCV	970814A	ICP2	08/14/97	13:48	DKS	Q	CONC
14	CCB	970814A	ICP2	08/14/97	13:52	DKS	Q	CONC
15	S97T001732	970814A	ICP2	08/14/97	13:55	DKS	S	CONC
16	S97T001732 D	970814A	ICP2	08/14/97	13:59	DKS	S	CONC
17	ICSA	970814A	ICP2	08/14/97	14:07	DKS	Q	CONC
18	ICSAB	970814A	ICP2	08/14/97	14:10	DKS	Q	CONC
19	CCV 1	970814A	ICP2	08/14/97	14:13	DKS	Q	CONC
20	CCB 1	970814A	ICP2	08/14/97	14:17	DKS	Q	CONC



08-14-97

Qp-105

5977001737

5977001832

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 302 TO 307

HNF-SD-WM-DP-263, REV. 0

Analysis Report

Averages

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#	Sample Name	Ag	Al	As	B	Ba	Be
1	ICV	4.927	4.880	5.195	5.029	4.933	5.065
2	ICB	.0018	.0074	.0051	.0034	.0001	-.0001
3	LLS	.0246	.1085	.2090	.1053	.1006	.0106
4	ICSA	.0047	241.0	-.0423	-.0055	.0002	.0003
5	ICSAB	.9602	239.6	-.0313	.0039	.4661	.4794
6	PREPBLKTJA	.0016	.0066	-.0094	-.0005	.0003	-.0000
7	S97T001727_L	.4066	18.28	1.731	.1001	.0312	.0086
8	S97T001727_	.0940	17.22	.5648	.1001	.0134	.0090
9	S97T001727_D	.1397	17.11	.5427	.0799	.0118	.0125
10	S97T001727_A	36.40	57.35	42.62	40.61	39.31	40.70
11	S97T001727_X	1.235	21.37	.5510	-1.615	-.0025	.1236
12	S97T001727_AX	3763.	3997.	4097.	4048.	4070.	4051.
13	CCV	4.836	4.858	5.109	5.033	4.922	5.017
14	CCB	.0041	.0228	.0064	.0025	.0001	.0004
15	S97T001732	.0726	16.17	.6006	.0803	.0120	.0160
16	S97T001732_D	.1383	17.63	.5275	.1005	.0161	.0142
17	ICSA	.0058	241.9	-.0511	-.0018	.0002	.0005
18	ICSAB	.9586	240.3	-.0578	-.0027	.4673	.4893
19	CCV_1	4.902	4.915	5.173	5.074	4.998	5.093
20	CCB_1	.0013	.0065	.0079	.0020	.0000	.0001

#	Sample Name	Bi	Ca	Gd	Ce	Co	Cr
1	ICV	5.249	4.993	5.020	4.893	5.132	4.993
2	ICB	.0272	.0041	.0008	.0077	.0004	.0002
3	LLS	Q.1291	.2178	.0115	.2116	.0440	.0210
4	ICSA	-.0096	249.5	.0035	.0146	-.0007	-.0019
5	ICSAB	.0128	250.4	.9394	.0149	.4663	.4653
6	PREPBLKTJA	.0149	.0094	.0001	.0026	.0028	-.0003
7	S97T001727_L	4.244	2.210	.1407	2.395	.5477	.5112
8	S97T001727_	.4812	.7763	.0384	.2839	.1127	.2957
9	S97T001727_D	.6109	.5362	.0867	.3116	.1069	.3582
10	S97T001727_A	41.47	41.42	40.63	40.26	41.57	40.72
11	S97T001727_X	4.297	2.861	.1467	.3945	.5441	.2657
12	S97T001727_AX	4247.	4134.	4039.	4065.	4033.	4057.
13	CCV	5.101	4.852	4.888	4.856	5.011	4.863
14	CCB	.0060	.0027	.0016	.0036	.0009	.0002
15	S97T001732	.2460	.3855	.0364	.1077	.1190	.3126
16	S97T001732_D	.0896	.5041	.0538	.2701	.0259	.3583
17	ICSA	-.0127	246.4	.0040	.0163	.0014	-.0020
18	ICSAB	-.0058	247.8	.9294	.0134	.4596	.4629
19	CCV_1	5.233	4.985	4.960	4.940	5.087	4.957
20	CCB_1	.0101	.0048	.0014	.0040	.0000	.0008

#	Sample Name	Cu	Eu	Fe	K	La	Li
1	ICV	5.015	.0046	4.670	4.905	4.964	4.851
2	ICB	.0006	.0007	-.0001	.0655	.0017	.0003
3	LLS	.0182	.0010	.0928	.5754	.1042	.0209
4	ICSA	-.0082	-.0043	92.36	.1986	-.0021	.0020
5	ICSAB	.4446	-.0051	92.15	.0921	-.0023	.9777

HNF-SD-WM-DP-263, REV. 0

Analysis Report

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#	Sample Name	Cu	Eu	Fe	K	La	Li
6	PREPBLKTJA	.0005	.0007	.0021	Q260.1	.0014	.0001
7	S97T001727 L	.0878	.1111	-.0819	11350.	.3854	-.0001
8	S97T001727	.0200	.0088	.1045	11290.	.0557	.0047
9	S97T001727 D	.0622	.0005	.0914	11220.	.0635	-.0089
10	S97T001727 A	40.78	.0354	37.77	11480.	40.21	38.83
11	S97T001727 X	-.0283	-.1118	.0125	11680.	.1547	-.1352
12	S97T001727 AX	3763.	3.395	3787.	15620.	4045.	4034.
13	CCV	5.059	.0034	4.580	4.954	4.937	4.940
14	CCB	.0006	-.0005	.0018	.0011	.0007	-.0008
15	S97T001732	.0271	.0078	.6920	10340.	.0302	-.0089
16	S97T001732 D	.0248	.0038	.5085	11510.	.0692	-.0089
17	ICSA	-.0081	.0012	91.85	.1179	-.0025	.0013
18	ICSAB	.4502	-.0005	91.66	.1202	-.0022	.9912
19	CCV 1	5.097	.0041	4.646	5.009	5.014	4.970
20	CCB 1	.0008	-.0000	.0014	.0437	.0010	-.0004

#	Sample Name	Mg	Mn	Mo	Na	Nd	Ni
1	ICV	4.982	4.926	5.068	5.048	4.952	5.010
2	ICB	.0159	.0003	.0066	-.0058	.0002	-.0070
3	LLS	.2231	.0202	.1078	.2007	.1985	.0416
4	ICSA	249.8	-.0057	-.0102	194.2	.0024	-.0017
5	ICSAB	248.3	.4436	-.0049	191.8	-.0005	.9143
6	PREPBLKTJA	.0128	.0009	.0039	.0823	-.0014	Q.0930
7	S97T001727 L	3.158	.1031	.9280	417.6	-.0026	1.528
8	S97T001727	.4193	.0566	.2071	412.5	-.1049	4.124
9	S97T001727 D	.5917	.0496	.2610	411.6	-.0219	4.724
10	S97T001727 A	40.08	38.97	41.27	460.9	39.99	44.08
11	S97T001727 X	3.465	.1003	2.777	426.7	-.4459	.5760
12	S97T001727 AX	4221.	4042.	4025.	4450.	3942.	4033.
13	CCV	4.987	4.794	4.970	5.178	4.921	4.842
14	CCB	.0099	-.0001	.0041	.0093	-.0014	-.0062
15	S97T001732	.3297	.0674	.2847	360.9	.0020	2.580
16	S97T001732 D	.5762	.0620	.2614	399.9	-.1094	2.041
17	ICSA	250.8	-.0061	-.0053	196.6	.0008	-.0024
18	ICSAB	249.5	.4389	-.0119	193.6	-.0010	.9035
19	CCV 1	5.021	4.882	5.048	5.329	4.996	4.929
20	CCB 1	.0080	.0000	.0036	.0031	-.0006	-.0056

#	Sample Name	P	Pb	S	Sb	Se	Si
1	ICV	5.059	4.996	5.006	4.822	4.725	4.969
2	ICB	-.0026	.0163	.0031	.0052	.0192	.0083
3	LLS	.4013	.2294	.2189	.1104	.2077	.1561
4	ICSA	.0269	.0418	-.0304	.0141	.0311	.0079
5	ICSAB	.0235	.9986	-.0431	.0066	.0183	.0085
6	PREPBLKTJA	.0104	.0068	-.0080	-.0074	.0095	.0096
7	S97T001727 L	7.931	2.063	5.143	1.340	1.266	2.532
8	S97T001727	5.438	.3686	5.740	1.742	1.020	1.546
9	S97T001727 D	6.622	.4645	5.351	.4168	.4313	1.416
10	S97T001727 A	46.88	41.15	47.19	39.30	38.68	42.22
11	S97T001727 X	10.74	7.737	5.060	1.451	2.970	2.735

Analysis Report

Averages

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#	Sample Name	P	Pb	S	Sb	Se	Si
12	S97T001727_AX	4074.	4077.	4014.	4088.	3952.	4086.
13	CCV	5.045	4.820	4.908	4.780	4.658	4.869
14	CCB	.0140	.0124	.0049	.0071	.0152	-.0027
15	S97T001732	12.94	4.954	4.630	2.875	1.542	1.808
16	S97T001732_D	14.67	.7344	5.403	2.840	.7650	1.881
17	ICSA	.0170	.0334	-.0207	.0127	-.0081	.0009
18	ICSAB	.0489	.9701	-.0444	-.0084	.0195	.0054
19	CCV_1	5.037	4.929	4.960	4.822	4.681	4.937
20	CCB_1	.0145	-.0027	-.0087	.0038	.0140	-.0015

#	Sample Name	Sm	Sr	Th	Ti	Tl	U
1	ICV	4.857	4.903	.1316	4.897	4.772	9.546
2	ICB	.0073	.0001	.0048	.0000	-.0005	.0300
3	LLS	.2071	.0204	.0080	.0201	.4225	.5125
4	ICSA	-.0091	.0018	.0008	.0007	.0440	.0298
5	ICSAB	-.0075	.0018	.0056	.0009	.0180	.0126
6	PREPLKTJA	.0039	.0002	.0046	-.0002	-.0212	-.0568
7	S97T001727_L	.8942	.0183	1.635	.0065	-.1943	2.065
8	S97T001727_D	.0064	.0058	.5007	-.0062	-.8325	-2.924
9	S97T001727_A	-.0716	.0039	.4829	.0223	.0886	-2.846
10	S97T001727_X	39.14	39.58	1.487	39.85	38.19	74.28
11	S97T001727_X	-1.671	-.0179	2.085	-.1816	-5.845	-8.459
12	S97T001727_AX	3928.	4032.	110.4	4029.	3980.	7658.
13	CCV	4.853	4.887	.1356	4.857	4.756	9.561
14	CCB	-.0078	-.0001	.0088	-.0002	-.0065	-.0294
15	S97T001732	.0198	.0057	.3564	.0024	-.3735	-1.920
16	S97T001732_D	-.2104	.0058	.3617	-.0168	.4955	-2.521
17	ICSA	-.0181	.0019	-.0019	.0004	.0499	.0004
18	ICSAB	-.0131	.0019	-.0027	.0004	.0472	.0102
19	CCV_1	4.924	4.963	.1416	4.935	4.773	9.697
20	CCB_1	-.0041	.0000	.0026	-.0002	.0052	-.0141

#	Sample Name	V	Y	Zn	Zr
1	ICV	5.065	.0067	4.959	4.929
2	ICB	.0012	.0001	.0000	.0010
3	LLS	.1034	.0008	.0211	.0213
4	ICSA	-.0018	.0070	.0060	-.0024
5	ICSAB	.4599	.0069	.9358	-.0028
6	PREPLKTJA	.0004	.0001	-.0013	.0004
7	S97T001727_L	.1026	.0152	-.0280	.0113
8	S97T001727_D	-.0262	-.0052	.0092	-.0210
9	S97T001727_A	-.0264	-.0084	-.0337	-.0474
10	S97T001727_X	40.92	.0455	40.39	39.68
11	S97T001727_X	-.5168	-.0928	2.420	-.2854
12	S97T001727_AX	4009.	5.065	3828.	3997.
13	CCV	4.975	.0058	4.818	4.859.
14	CCB	-.0020	-.0008	.0003	-.0016
15	S97T001732	-.0204	-.0056	.0059	.0025
16	S97T001732_D	-.0343	-.0118	.0520	-.0385
17	ICSA	-.0038	.0063	.0058	-.0041

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Analysis Report

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#	Sample Name	V	Y	Zn	Zr
18	IGSAB	.4559	.0067	.9216	-.0031
19	CCV 1	5.058	.0063	4.893	4.934
20	CCB 1	-.0014	-.0003	.0001	-.0009



08-14-97

LABCORE Completed Worklist Report for Worklist# 20055

Analyst: slh

Instrument: CARB2

Book# 25N12B TIC
26N12B TOC

Method: LA342-100 Rev/Mod E-0

Worklist Comment: AP-105 TICTOC. RCJ

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 BLNK	0	0	0TICTOC1 TIC-02	SOLID	1	1.10e0	1.100	ug/g
1 BLNK	0	0	0TICTOC1 TOC-02	SOLID	1	1.20e0	1.200	ug/g
2 STD	0	0	0TICTOC1 TIC-02	SOLID	6.02e02	5.76e2	95.681 % Recovery	
2 STD	0	0	0TICTOC1 TOC-02	SOLID	3.00e03	2.78e3	92.667 % Recovery	
3 SAMPLE	S97T001726	0	0TICTOC1 TIC-02	SOLID	N/A	2.02e4	5.000	ug/g
3 SAMPLE	S97T001726	0	0TICTOC1 TOC-02	SOLID	N/A	4.31e3	40.000	ug/g
4 DUP	S97T001726	0	0TICTOC1 TIC-02	SOLID	2.02e4	1.79e4	12.073	RPD
4 DUP	S97T001726	0	0TICTOC1 TOC-02	SOLID	4.31e3	5.49e3	24.082	RPD
5 TRIPL	S97T001726	0	0TICTOC1 TIC-02	SOLID	2.02e4	1.58e4	24.444	RPD
5 TRIPL	S97T001726	0	0TICTOC1 TOC-02	SOLID	4.31e3	4.29e3	0.465	RPD
6 SPK	S97T001726	0	0TICTOC1 TIC-02	SOLID	100	75.7	75.700 % Recovery	
6 SPK	S97T001726	0	0TICTOC1 TOC-02	SOLID	100	119.4	119.400 % Recovery	
7 SAMPLE	S97T001730	0	0TICTOC1 TIC-02	SOLID	N/A	1.45e4	5.000	ug/g
7 SAMPLE	S97T001730	0	0TICTOC1 TOC-02	SOLID	N/A	6.00e3	40.000	ug/g
8 DUP	S97T001730	0	0TICTOC1 TIC-02	SOLID	1.45e4	1.48e4	2.048	RPD
8 DUP	S97T001730	0	0TICTOC1 TOC-02	SOLID	6.00e3	6.78e3	12.207	RPD
9 SAMPLE	S97T001778	0	0TICTOC1 TIC-02	SOLID	N/A	1.23e4	5.000	ug/g
9 SAMPLE	S97T001778	0	0TICTOC1 TOC-02	SOLID	N/A	5.96e3	40.000	ug/g
10 DUP	S97T001778	0	0TICTOC1 TIC-02	SOLID	1.23e4	1.32e4	7.059	RPD
10 DUP	S97T001778	0	0TICTOC1 TOC-02	SOLID	5.96e3	6.50e3	8.668	RPD

Final page for worklist# 20055

Analyst Signature

Date

Analyst Signature

Date

RW Schroeder 9/3/97
Reviewer Signature Date

LABCORE Data Entry Template for Worklist# 20055

Analyst: SLH Instrument: CARB2 Book# PS 25N12-B
 Method: LA-342-100 Rev/Mod TOC 26N12-B
 Worklist Comment: AP-105 TICTOC. RCJ

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 BLNK			@TICTOC1	SOLID		
2 STD			@TICTOC1	SOLID		
3 SAMPLE	S97T001726 0		@TICTOC1	SOLID	97000455	AP-105 (P)
	Analytes Requested: TIC-02 , TOC-02					
4 DUP	S97T001726 0		@TICTOC1	SOLID		
5 SPK	S97T001726 0		@TICTOC1	SOLID		
6 SAMPLE	S97T001730 0		@TICTOC1	SOLID	97000455	AP-105 (P)
	Analytes Requested: TIC-02 , TOC-02					
7 DUP	S97T001730 0		@TICTOC1	SOLID		
8 SAMPLE	S97T001778 0		@TICTOC1	SOLID	97000478	AP-105 (P)
	Analytes Requested: TIC-02 , TOC-02					
9 DUP	S97T001778 0		@TICTOC1	SOLID		

Final page for worklist # 20055

Sandra L. Hord
 Analyst Signature Date
8-31-97

Analyst Signature Date

SAKE dup not necessary
 RWS 9/3/97

Data Entry Comments: Added S97T001726 TRIP ~~SPIKE~~ DUP

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

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: STD 1

Date: 08/31/97

Time: 10:33:51

Sample Size = 1000 uL

Analyst : SL HOOD

Dil Factor = 1

Min Readings = 22

Blank ID # =

Max Readings = 22

Blank Value = .8 ug/minute C

% Difference = 10

== Reading ==	Analysis Time	==== Coulometer ==	% Difference ==
1	0.51	0.30	0.00
2	1.01	31.50	99.05
3	1.51	169.60	81.43
4	2.00	328.60	48.39
5	2.50	442.00	25.66
6	3.00	515.10	14.19
7	3.50	553.30	6.90
8	4.00	570.50	3.01
9	4.50	577.50	1.21
10	5.00	580.00	0.43
11	5.50	580.90	0.15
12	6.00	581.40	0.09
13	6.50	581.90	0.09
14	7.00	582.30	0.07
15	7.50	582.70	0.07
16	8.00	583.00	0.05
17	8.50	583.30	0.05
18	9.00	583.70	0.07
19	9.50	584.00	0.05
20	10.00	584.20	0.03
21	10.50	584.60	0.07
22	11.00	584.80	0.03

USER INPUT BLANK VALUE

BLANK VALUE = 8.799072 micrograms carbon

BLANK FACTOR = 8.799072 / 10.99884 = +8.0E-01 ug/min Carbon

SAMPLE RESULTS:

(584.8 - 8.799853) (1)/(1000) =	+5.760E-01	g/L Carbon
(584.8 - 8.799853) (1)/(1000) (12) =	+4.800E-02	Molar Carbon

Sample Run By:

SL HOOD

00001

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
(SIGNED) VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 270 TO 401.

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: STD

Date: 08/31/97

Time: 10:53:59

Sample Size = 200 uL

Dil Factor = 1

Blank ID # =

Blank Value = 2.65 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	4.70	95.74
3	1.50	42.20	88.86
4	2.00	103.30	59.15
5	2.50	178.00	41.97
6	3.00	266.70	33.26
7	3.50	356.40	25.17
8	4.00	430.10	17.14
9	4.50	486.80	11.65
10	5.00	525.00	7.28
11	5.50	548.10	4.21
12	6.00	562.10	2.49
13	6.50	569.80	1.35
14	7.00	574.80	0.87
15	7.50	578.20	0.59
16	8.00	580.60	0.41
17	8.50	582.50	0.33
18	9.00	583.40	0.15
19	9.50	584.20	0.14
20	10.00	585.00	0.14
21	10.50	585.50	0.09
22	11.00	586.00	0.09

USER INPUT BLANK VALUE

BLANK VALUE = 29.14693 micrograms carbon

BLANK FACTOR = 29.14693 / 10.99884 = +2.7E+00 ug/min Carbon

SAMPLE RESULTS:

(586 - 29.14434) (1) / (200) = +2.784E+00 g/L Carbon
 (586 - 29.14434) (1) / (200) (12) = +2.320E-01 Molar Carbon
 <<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

SL Hood
 SL HOOD

00001

SS - 200 uL

26N12-B

371

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT

TICTOC REV 2.0

<<< BLANK ANALYSIS >>>

Sample: BASE 1

Date: 08/31/97

Time: 07:47:42

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	0.70	0.00
2	1.01	1.20	41.67
3	1.50	1.70	29.41
4	2.00	2.40	29.17
5	2.50	2.80	14.29
6	3.00	3.30	15.15
7	3.50	3.60	8.33
8	4.00	4.00	10.00
9	4.50	4.40	9.09
10	5.00	4.70	6.38
11	5.50	5.00	6.00
12	6.00	5.40	7.41
13	6.50	5.70	5.26
14	7.00	6.00	5.00
15	7.50	6.40	6.25
16	8.00	6.70	4.48
17	8.50	7.10	5.63
18	9.00	7.40	4.05
19	9.50	7.70	3.90
20	10.00	8.10	4.94
21	10.50	8.40	3.57
22	11.00	8.80	4.55

BLANK VALUE = 8.8 micrograms carbon

BLANK FACTOR = $8.8 / 10.99695 =$

+8.0E-01

ug/min Carbon

Sample Run By:

SL HOOD

00001

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT

TICTOC REV 2.0

<<< BLANK ANALYSIS >>>

Sample: BASE 1

Date: 08/31/97

Time: 10:11:12

Sample Size = 1 uL

Analyst : SL HOOD

Dil Factor = 1

Min Readings = 22

Blank ID # = BASE 1

Max Readings = 22

Blank Value = N/A

% Difference = 10

== Reading ==== Analysis Time ==== Coulometer ==== % Difference ==

1	0.51	0.20	0.00
2	1.01	1.70	88.24
3	1.50	6.60	74.24
4	2.00	11.00	40.00
5	2.50	14.50	24.14
6	3.00	17.80	18.54
7	3.50	20.50	13.17
8	4.00	22.30	8.07
9	4.50	23.60	5.51
10	5.00	24.50	3.67
11	5.50	25.10	2.39
12	6.00	25.80	2.71
13	6.50	26.30	1.90
14	7.00	26.60	1.13
15	7.50	27.00	1.48
16	8.00	27.40	1.46
17	8.50	27.70	1.08
18	9.00	28.10	1.42
19	9.50	28.40	1.06
20	10.00	28.60	0.70
21	10.50	29.00	1.38
22	11.00	29.20	0.68

BLANK VALUE = 29.2 micrograms carbon

BLANK FACTOR = 29.2 / 10.99884 =

+2.65E+00 ug/min Carbon

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

Sample Run By:

SL HOOD

00001

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLK

Date: 08/31/97

Time: 11:08:32

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = .8 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	0.90	77.78
3	1.50	2.20	59.09
4	2.00	2.90	24.14
5	2.50	3.20	9.37
6	3.00	3.70	13.51
7	3.50	3.90	5.13
8	4.00	4.20	7.14
9	4.50	4.40	4.55
10	5.00	4.70	6.38
11	5.50	5.10	7.84
12	6.00	5.20	1.92
13	6.50	5.40	3.70
14	7.00	5.70	5.26
15	7.50	5.90	3.39
16	8.00	6.30	6.35
17	8.50	6.40	1.56
18	9.00	6.80	5.88
19	9.50	7.00	2.86
20	10.00	7.20	2.78
21	10.50	7.40	2.70
22	11.00	7.70	3.90

USER INPUT BLANK VALUE

BLANK VALUE = 8.799072 micrograms carbon

BLANK FACTOR = 8.799072 / 10.99884 = +8.0E-01 ug/min Carbon

SAMPLE RESULTS:

(7.7 - 8.797607) (1)/(1) = < 5.00 E-3 g/L Carbon
 (7.7 - 8.797607) (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

Sample: BLK

Date: 08/31/97

Time: 11:25:19

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 2.65 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	3.70	94.59
3	1.50	10.10	63.37
4	2.00	14.20	28.87
5	2.50	17.40	18.39
6	3.00	19.20	9.38
7	3.50	21.00	8.57
8	4.00	21.80	3.67
9	4.50	22.90	4.80
10	5.00	23.60	2.97
11	5.50	24.20	2.48
12	6.00	24.70	2.02
13	6.50	25.10	1.59
14	7.00	25.50	1.57
15	7.50	25.90	1.54
16	8.00	26.20	1.15
17	8.50	26.50	1.13
18	9.00	26.80	1.12
19	9.50	27.20	1.47
20	10.00	27.40	0.73
21	10.50	27.80	1.44
22	11.00	28.00	0.71

USER INPUT BLANK VALUE

BLANK VALUE = 29.14693 micrograms carbon

BLANK FACTOR = 29.14693 / 10.99884 = +2.7E+00 ug/min Carbon

SAMPLE RESULTS:

(28 - 29.13981) (1)/(1) = < 5.00 E-3 g/L Carbon
 (28 - 29.13981) (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: S97T01726

Date: 08/31/97

Time: 11:37:48

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = .8 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	1.00	3.20	93.75
3	1.50	413.20	99.23
4	2.00	1158.90	64.35
5	2.50	1884.40	38.50
6	3.00	2027.50	7.06
7	3.50	2084.90	2.75
8	4.00	2118.00	1.56
9	4.50	2137.70	0.92
10	5.00	2146.40	0.41
11	5.50	2149.90	0.16
12	6.00	2151.90	0.09
13	6.50	2153.30	0.07
14	7.00	2154.30	0.05
15	7.50	2155.20	0.04
16	8.00	2156.00	0.04
17	8.50	2156.50	0.02
18	9.00	2157.10	0.03
19	9.50	2157.80	0.03
20	10.00	2158.20	0.02
21	10.50	2158.60	0.02
22	11.00	2159.10	0.02

USER INPUT BLANK VALUE

BLANK VALUE = 8.799072 micrograms carbon

BLANK FACTOR = 8.799072 / 10.99884 = +8.0E-01 ug/min Carbon

SAMPLE RESULTS:

(2159.1 - 8.796094) (1)/(1) =

+2.1503E+03 g/L Carbon

(2159.1 - 8.796094) (1)/(1) (12) =

+1.7919E+02 Molar Carbon

Sample Run By:

SL HOOD

00001

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T01726

Date: 08/31/97

Time: 13:12:48

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 2.65 ug/minute C

Analyst : SL HOOD

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==	==== Analysis Time ==	==== Coulometer ==	==== % Difference ==
1	0.51	0.30	0.00
2	1.01	11.60	97.41
3	1.50	123.40	90.60
4	2.00	225.90	45.37
5	2.50	286.10	21.04
6	3.00	325.10	12.00
7	3.50	357.50	9.06
8	4.00	388.10	7.88
9	4.50	417.10	6.95
10	5.00	441.40	5.51
11	5.50	458.50	3.73
12	6.00	470.20	2.49
13	6.50	476.70	1.36
14	7.00	480.60	0.81
15	7.50	483.10	0.52
16	8.00	484.40	0.27
17	8.50	485.30	0.19
18	9.00	486.10	0.16
19	9.50	486.70	0.12
20	10.00	487.20	0.10
21	10.50	487.60	0.08
22	11.00	488.00	0.08

USER INPUT BLANK VALUE

BLANK VALUE = 29.14693 micrograms carbon

BLANK FACTOR = 29.14693 / 10.99884 = +2.7E+00 ug/min Carbon

SAMPLE RESULTS:

(488 - 29.14466) (1)/(1) = +4.589E+02 g/L Carbon
 (488 - 29.14466) (1)/(1)(12) = +3.824E+01 Molar Carbon
 <<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

SL HOOD

00001

55 .1064g

377

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T01726 DUP

Date: 08/31/97

Time: 13:27:52

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = .8 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	2.40	91.67
3	1.50	271.70	99.12
4	2.00	829.50	67.25
5	2.50	1061.10	21.83
6	3.00	1154.80	8.11
7	3.50	1211.40	4.67
8	4.00	1240.40	2.34
9	4.50	1252.40	0.96
10	5.00	1256.40	0.32
11	5.50	1258.30	0.15
12	6.00	1259.70	0.11
13	6.50	1260.60	0.07
14	7.00	1261.30	0.06
15	7.50	1261.90	0.05
16	8.00	1262.40	0.04
17	8.50	1263.10	0.06
18	9.00	1263.50	0.03
19	9.50	1264.00	0.04
20	10.00	1264.40	0.03
21	10.50	1264.90	0.04
22	11.00	1265.20	0.02

USER INPUT BLANK VALUE

BLANK VALUE = 8.799072 micrograms carbon

BLANK FACTOR = 8.799072 / 10.99884 = +8.0E-01 ug/min Carbon

SAMPLE RESULTS:

(1265.2 - 8.797607) (1)/(1) =

+1.2564E+03 g/L Carbon

(1265.2 - 8.797607) (1)/(1) (12) =

+1.0470E+02 Molar Carbon

Sample Run By:

SL HOOD

00001

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T01726 DUP

Date: 08/31/97

Time: 13:42:23

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 2.65 ug/minute C

Analyst : SL HOOD

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading == Analysis Time == Coulometer == % Difference ==

1	0.51	0.40	0.00
2	1.01	5.60	92.86
3	1.51	67.90	91.75
4	2.00	132.90	48.91
5	2.50	177.50	25.13
6	3.00	219.70	19.21
7	3.50	262.80	16.40
8	4.00	304.80	13.78
9	4.50	338.00	9.82
10	5.00	364.60	7.30
11	5.50	383.70	4.98
12	6.00	395.30	2.93
13	6.50	402.30	1.74
14	7.00	406.80	1.11
15	7.50	409.20	0.59
16	8.00	410.70	0.37
17	8.50	411.50	0.19
18	9.00	412.10	0.15
19	9.50	412.70	0.15
20	10.00	413.00	0.07
21	10.50	413.40	0.10
22	11.00	413.80	0.10

USER INPUT BLANK VALUE

BLANK VALUE = 29.14693 micrograms carbon

BLANK FACTOR = 29.14693 / 10.99884 = +2.7E+00 ug/min Carbon

SAMPLE RESULTS:

(413.8 - 29.14191) (1)/(1) = +3.847E+02 g/L Carbon
 (413.8 - 29.14191) (1)/(1) (12) = +3.205E+01 Molar Carbon
 <<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

SL HOOD

00001

SS .0701g

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T01726 TRP Date: 08/31/97 Time: 14:01:47

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .8 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	1.70	88.24
3	1.51	246.30	99.31
4	2.00	842.70	70.77
5	2.50	1111.50	24.18
6	3.00	1223.20	9.13
7	3.50	1287.90	5.02
8	4.00	1329.70	3.14
9	4.50	1350.70	1.55
10	5.00	1358.40	0.57
11	5.50	1361.60	0.24
12	6.00	1363.30	0.12
13	6.50	1364.40	0.08
14	7.00	1365.30	0.07
15	7.50	1366.10	0.06
16	8.00	1366.70	0.04
17	8.50	1367.30	0.04
18	9.00	1367.90	0.04
19	9.50	1368.40	0.04
20	10.00	1369.00	0.04
21	10.50	1369.40	0.03
22	11.00	1369.90	0.04

USER INPUT BLANK VALUE

BLANK VALUE = 8.799072 micrograms carbon

BLANK FACTOR = 8.799072 / 10.99884 = +8.0E-01 ug/min Carbon

SAMPLE RESULTS:

(1369.9 - 8.799072) (1) / (1) =

+1.3611E+03 g/L Carbon

(1369.9 - 8.799072) (1) / (1) (12) =

+1.1343E+02 Molar Carbon

Sample Run By:

SL HOOD

00001

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T01726 TRP

Date: 08/31/97

Time: 14:17:10

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 2.65 ug/minute C

Analyst : SL HOOD

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==== Analysis Time ==== Coulometer ==== % Difference ==

1	0.51	0.40	0.00
2	1.01	3.50	88.57
3	1.51	49.30	92.90
4	2.00	111.40	55.75
5	2.50	159.20	30.03
6	3.00	197.10	19.23
7	3.50	233.30	15.52
8	4.00	271.20	13.97
9	4.50	307.00	11.66
10	5.00	337.00	8.90
11	5.50	359.50	6.26
12	6.00	375.50	4.26
13	6.50	384.90	2.44
14	7.00	390.70	1.48
15	7.50	393.90	0.81
16	8.00	395.90	0.51
17	8.50	397.00	0.28
18	9.00	397.80	0.20
19	9.50	398.30	0.13
20	10.00	398.90	0.15
21	10.50	399.30	0.10
22	11.00	399.70	0.10

USER INPUT BLANK VALUE

BLANK VALUE = 29.14693 micrograms carbon

BLANK FACTOR = 29.14693 / 10.99884 = +2.7E+00 ug/min Carbon

SAMPLE RESULTS:

(399.7 - 29.14208) (1)/(1) = +3.706E+02 g/L Carbon
 (399.7 - 29.14208) (1)/(1) (12) = +3.088E+01 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: S97T01726 SPK

Date: 08/31/97

Time: 14:34:02

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = .8 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	1.00	2.70	88.89
3	1.50	198.80	98.64
4	2.00	632.10	68.55
5	2.50	899.80	29.75
6	3.00	1054.00	14.63
7	3.50	1146.10	8.04
8	4.00	1202.90	4.72
9	4.50	1235.30	2.62
10	5.00	1251.30	1.28
11	5.50	1257.20	0.47
12	6.00	1259.80	0.21
13	6.50	1261.10	0.10
14	7.00	1262.10	0.08
15	7.50	1263.00	0.07
16	8.00	1263.60	0.05
17	8.50	1264.20	0.05
18	9.00	1264.80	0.05
19	9.50	1265.30	0.04
20	10.00	1265.80	0.04
21	10.50	1266.30	0.04
22	11.00	1266.80	0.04

USER INPUT BLANK VALUE

BLANK VALUE = 8.799072 micrograms carbon

BLANK FACTOR = 8.799072 / 10.99884 = +8.0E-01 ug/min Carbon

SAMPLE RESULTS:

(1266.8 - 8.796924) (1)/(1) =

+1.2580E+03 g/L Carbon

(1266.8 - 8.796924) (1)/(1) (12) =

+1.0483E+02 Molar Carbon

Sample Run By:

SL HOOD

00001

05129

+ .500 ml spk

25N12-B

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: *S9770172L SPK* Date: 08/31/97 Time: 14:47:14

Sample Size = 1 uL	Analyst : SL HOOD
Dil Factor = 1	Min Readings = 22
Blank ID # =	Max Readings = 22
Blank Value = 2.65 ug/minute C	% Difference = 10

== Reading ==	==== Analysis Time ==	==== Coulometer ==	==== % Difference ==
1	0.51	1.30	0.00
2	1.01	36.90	96.48
3	1.50	102.80	64.11
4	2.00	154.00	33.25
5	2.50	207.20	25.68
6	3.00	269.80	23.20
7	3.50	338.50	20.30
8	4.00	401.90	15.78
9	4.50	455.50	11.77
10	5.00	497.80	8.50
11	5.50	529.50	5.99
12	6.00	551.90	4.06
13	6.50	567.10	2.68
14	7.00	576.20	1.58
15	7.50	582.20	1.03
16	8.00	586.00	0.65
17	8.50	588.50	0.42
18	9.00	590.10	0.27
19	9.50	591.20	0.19
20	10.00	591.90	0.12
21	10.50	592.50	0.10
22	11.00	593.00	0.08

USER INPUT BLANK VALUE

BLANK VALUE = 29.14693 micrograms carbon

BLANK FACTOR = 29.14693 / 10.99884 = +2.7E+00 ug/min Carbon

SAMPLE RESULTS:

(593 - 29.13933) (1)/(1) = +5.639E+02 g/L Carbon
 (593 - 29.13933) (1)/(1) (12) = +4.699E+01 Molar Carbon
 <<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

SL HOOD

00001

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TIC/TOC REV 2.0

Sample: S97T01730

Date: 08/31/97

Time: 15:00:25

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = .8 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	1.51	140.40	99.07
4	2.00	520.60	73.03
5	2.50	696.30	25.23
6	3.00	768.20	9.36
7	3.50	815.10	5.75
8	4.00	844.40	3.47
9	4.50	860.20	1.84
10	5.00	865.90	0.66
11	5.50	868.00	0.24
12	6.00	869.00	0.12
13	6.50	870.00	0.11
14	7.00	870.60	0.07
15	7.50	871.20	0.07
16	8.00	871.70	0.06
17	8.50	872.30	0.07
18	9.00	872.70	0.05
19	9.50	873.20	0.06
20	10.00	873.70	0.06
21	10.50	874.10	0.05
22	11.00	874.60	0.06

USER INPUT BLANK VALUE

BLANK VALUE = 8.799072 micrograms carbon

BLANK FACTOR = 8.799072 / 10.99884 = +8.0E-01 ug/min Carbon

SAMPLE RESULTS:

(874.6 - 8.799024) (1)/(1) =

+8.658E+02 g/L Carbon

(874.6 - 8.799024) (1)/(1) (12) =

+7.215E+01 Molar Carbon

Sample Run By:

SL HOOD

00001

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T01730

Date: 08/31/97

Time: 15:16:28

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 2.65 ug/minute C

Analyst : SL HOOD

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading == Analysis Time == Coulometer == % Difference ==

1	0.51	0.40	0.00
2	1.01	3.00	86.67
3	1.50	44.40	93.24
4	2.00	103.60	57.14
5	2.50	150.60	31.21
6	3.00	189.30	20.44
7	3.50	226.50	16.42
8	4.00	261.50	13.38
9	4.50	294.40	11.18
10	5.00	323.20	8.91
11	5.50	345.50	6.45
12	6.00	361.80	4.51
13	6.50	371.40	2.58
14	7.00	377.50	1.62
15	7.50	381.00	0.92
16	8.00	383.00	0.52
17	8.50	384.40	0.36
18	9.00	385.10	0.18
19	9.50	385.80	0.18
20	10.00	386.30	0.13
21	10.50	386.70	0.10
22	11.00	387.00	0.08

USER INPUT BLANK VALUE

BLANK VALUE = 29.14693 micrograms carbon

BLANK FACTOR = 29.14693 / 10.99884 = +2.7E+00 ug/min Carbon

SAMPLE RESULTS:

(387 - 29.14191) (1)/(1) = +3.579E+02 g/L Carbon
 (387 - 29.14191) (1)/(1)(12) = +2.982E+01 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: S97T01730 DUP

Date: 08/31/97

Time: 15:30:13

Sample Size = 1 uL

Analyst : SL HOOD

Dil Factor = 1

Min Readings = 22

Blank ID # =

Max Readings = 22

Blank Value = .8 ug/minute C

% Difference = 10

== Reading ==== Analysis Time ==== Coulometer ==== % Difference ==

1	0.51	0.30	0.00
2	1.01	3.70	91.89
3	1.50	193.30	98.09
4	2.00	498.80	61.25
5	2.50	614.30	18.80
6	3.00	663.00	7.35
7	3.50	689.90	3.90
8	4.00	707.60	2.50
9	4.50	715.60	1.12
10	5.00	718.60	0.42
11	5.50	720.00	0.19
12	6.00	721.00	0.14
13	6.50	721.70	0.10
14	7.00	722.20	0.07
15	7.50	722.80	0.08
16	8.00	723.30	0.07
17	8.50	723.90	0.08
18	9.00	724.30	0.06
19	9.50	724.70	0.06
20	10.00	725.20	0.07
21	10.50	725.60	0.06
22	11.00	726.00	0.06

USER INPUT BLANK VALUE

BLANK VALUE = 8.799072 micrograms carbon

BLANK FACTOR = 8.799072 / 10.99884 = +8.0E-01 ug/min Carbon

SAMPLE RESULTS:

(726 - 8.799072) (1)/(1) =

+7.172E+02 g/L Carbon

(726 - 8.799072) (1)/(1) (12) =

+5.977E+01 Molar Carbon

Sample Run By:

SL HOOD

00001

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: ~~00~~ ^{SLH 8-31-97} 8-31-97 Date: 08/31/97 Time: 15:42:57
S97TD1730 dup

Sample Size = 1 uL Analyst : SL HOOD
Dil Factor = 1 Min Readings = 22
Blank ID # = Max Readings = 22
Blank Value = 2.65 ug/minute C % Difference = 10

== Reading ==== Analysis Time ==== Coulometer ==== % Difference ==

1	0.51	2.40	0.00
2	1.01	46.30	94.82
3	1.51	104.40	55.65
4	2.01	142.00	26.48
5	2.51	174.30	18.53
6	3.01	207.50	16.00
7	3.50	239.00	13.18
8	4.00	268.50	10.99
9	4.50	293.40	8.49
10	5.00	313.30	6.35
11	5.50	327.60	4.37
12	6.00	337.60	2.96
13	6.50	344.00	1.86
14	7.00	348.50	1.29
15	7.50	351.30	0.80
16	8.00	353.10	0.51
17	8.50	354.20	0.31
18	9.00	355.10	0.25
19	9.50	355.60	0.14
20	10.00	356.10	0.14
21	10.50	356.50	0.11
22	11.00	356.90	0.11

USER INPUT BLANK VALUE

BLANK VALUE = 29.14693 micrograms carbon

BLANK FACTOR = 29.14693 / 10.99884 = +2.7E+00 ug/min Carbon

SAMPLE RESULTS:

(356.9 - 29.14677) (1)/(1) = +3.278E+02 g/L Carbon
(356.9 - 29.14677) (1)/(1) (12) = +2.731E+01 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: S97T01778

Date: 08/31/97

Time: 15:56:56

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = .8 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	2.80	92.86
3	1.50	243.50	98.85
4	2.00	732.30	66.75
5	2.50	923.00	20.66
6	3.00	989.90	6.76
7	3.50	1021.10	3.06
8	4.00	1034.70	1.31
9	4.50	1039.10	0.42
10	5.00	1040.90	0.17
11	5.50	1042.10	0.12
12	6.00	1043.10	0.10
13	6.50	1043.90	0.08
14	7.00	1044.50	0.06
15	7.50	1045.10	0.06
16	8.00	1045.80	0.07
17	8.50	1046.30	0.05
18	9.00	1046.80	0.05
19	9.50	1047.30	0.05
20	10.00	1047.80	0.05
21	10.50	1048.30	0.05
22	11.00	1048.60	0.03

USER INPUT BLANK VALUE

BLANK VALUE = 8.799072 micrograms carbon

BLANK FACTOR = 8.799072 / 10.99884 = +8.0E-01 ug/min Carbon

SAMPLE RESULTS:

(1048.6 - 8.798243) (1)/(1) = +1.0398E+03 g/L Carbon
(1048.6 - 8.798243) (1)/(1) (12) = +8.6650E+01 Molar Carbon

Sample Run By:

SL HOOD

00001

55 .08423

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T01778

Date: 08/31/97

Time: 16:09:31

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 2.65 ug/minute C

Analyst : SL HOOD

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==== Analysis Time ==== Coulometer ==== % Difference ==

1	0.51	0.40	0.00
2	1.01	6.30	93.65
3	1.50	89.40	92.95
4	2.00	186.10	51.96
5	2.50	245.50	24.20
6	3.00	295.20	16.84
7	3.50	341.80	13.63
8	4.00	387.70	11.84
9	4.50	428.60	9.54
10	5.00	461.90	7.21
11	5.50	488.40	5.43
12	6.00	506.20	3.52
13	6.50	516.10	1.92
14	7.00	521.80	1.09
15	7.50	525.00	0.61
16	8.00	526.90	0.36
17	8.50	528.20	0.25
18	9.00	529.00	0.15
19	9.50	529.60	0.11
20	10.00	530.00	0.08
21	10.50	530.40	0.08
22	11.00	530.90	0.09

USER INPUT BLANK VALUE

BLANK VALUE = 29.14693 micrograms carbon

BLANK FACTOR = 29.14693 / 10.99884 = +2.7E+00 ug/min Carbon

SAMPLE RESULTS:

(530.9 - 29.13981) (1)/(1) = +5.018E+02 g/L Carbon
 (530.9 - 29.13981) (1)/(1) (12) = +4.181E+01 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: S97T01778 DUP

Date: 08/31/97

Time: 16:23:59

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = .8 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	1.30	61.54
3	1.50	122.20	98.94
4	2.00	560.30	78.19
5	2.50	778.60	28.04
6	3.00	868.30	10.33
7	3.50	934.70	7.10
8	4.00	986.20	5.22
9	4.50	1021.90	3.49
10	5.00	1041.60	1.89
11	5.50	1048.30	0.64
12	6.00	1050.50	0.21
13	6.50	1051.70	0.11
14	7.00	1052.40	0.07
15	7.50	1053.20	0.08
16	8.00	1053.70	0.05
17	8.50	1054.30	0.06
18	9.00	1054.80	0.05
19	9.50	1055.30	0.05
20	10.00	1055.80	0.05
21	10.50	1056.30	0.05
22	11.00	1056.80	0.05

USER INPUT BLANK VALUE

BLANK VALUE = 8.799072 micrograms carbon

BLANK FACTOR = 8.799072 / 10.99884 = +8.0E-01 ug/min Carbon

SAMPLE RESULTS:

(1056.8 - 8.798291) (1)/(1) = +1.0480E+03 g/L Carbon
 (1056.8 - 8.798291) (1)/(1) (12) = +8.7333E+01 Molar Carbon

Sample Run By:

SL HOOD

00001

SS 0.074g

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T01778 DUP

Date: 08/31/97

Time: 16:37:13

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 2.65 ug/minute C

Analyst : SL HOOD

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==	==== Analysis Time ==	==== Coulometer ==	==== % Difference ==
1	0.51	0.30	0.00
2	1.01	6.30	95.24
3	1.51	100.00	93.70
4	2.00	209.20	52.20
5	2.50	274.20	23.71
6	3.00	327.50	16.27
7	3.50	377.70	13.29
8	4.00	423.40	10.79
9	4.50	463.90	8.73
10	5.00	494.90	6.26
11	5.50	516.70	4.22
12	6.00	529.50	2.42
13	6.50	535.80	1.18
14	7.00	539.20	0.63
15	7.50	541.10	0.35
16	8.00	542.40	0.24
17	8.50	543.10	0.13
18	9.00	543.80	0.13
19	9.50	544.10	0.06
20	10.00	544.60	0.09
21	10.50	544.90	0.06
22	11.00	545.30	0.07

USER INPUT BLANK VALUE

BLANK VALUE = 29.14693 micrograms carbon

BLANK FACTOR = 29.14693 / 10.99884 = +2.7E+00 ug/min Carbon

SAMPLE RESULTS:

(545.3 - 29.14466) (1) / (1) = +5.162E+02 g/L Carbon
 (545.3 - 29.14466) (1) / (1) (12) = +4.301E+01 Molar Carbon
 <<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

SL HOOD

00001

55.07946

WORKBOOK PAGE: BLANK1

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

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)	7.7	28
20055	µg of Carbon from Baseline (C2)	8.8	29.2
Test Code			
@TICTOC1			
Matrix			
SOLID			
Batch Number			
97004206			
Rerun	µg of Carbon = C1-C2		
0			
Sample Prep			
N/A			
Sample #			
Instrument Code			
Prepared By			
Chemist			
Analyst			
Date Complete			
Analysis Date			
Analysis Time	Method Detection Limit in ug/g	5	40
Sample Point	µg of Carbon	1.10E+00	1.20E+00

Data Entered By:	Date:
Signature of Chemist:	Date: 9/3/97
BLANK.WB1 REV 1.0	342100ML

WORKBOOK PAGE: STD2

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

LIQUIDS

		TIC	TOC
Type	Sample Size in mL (SS)	1.0000	0.2000
STD	Dilution Factor (DF)	1	1
Work List	Final Coulometer Reading in µg (C1)	584.8	586
20055	µg of Carbon from Baseline (C2)	8.8	29.2
Test Code	Standard Book Number	25N12B	26N12B
@TICTOC1	Standard Value (µg/ml)	602	3000
Matrix	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		
LIQUID			
Batch Number			
97004206			
Rerun			
0			
Sample Prep			
N/A			
Sample #			
Instrument Code			
Prepared By			
Chemist			
Analyst			
Date Complete			
Analysis Date			
Analysis Time			
Sample Point	Method Detection Limit in µg/mL	TIC	TOC
	QC Actual in µg/mL	5	40
	QC Found in µg/mL	6.02E+02	3.00E+03
	Percent Standard Recovery	5.76E+02	2.78E+03
		95.7	92.8

Data Entered By:

Signature of Chemist:

Date:

Date: 9/3/97

STANDARD.WB1 REV 1.0

342100ML

WORKBOOK PAGE: SAM3

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

SOLIDS

		TIC	TOC
Type	Sample Size in g (SS)	0.1064	0.1064
SAMPLE	Dilution Factor (DF)	1	1
Work List	µg of Carbon in Sample (C1)	2159.1	488
20055	µg of Carbon from Baseline (C2)	8.8	29.2
Test Code			
@TICTOC1			
Matrix			
SOLID			
Batch Number			
97004206			
Rerun	µg of Carbon/g = (C1-C2) * DF / SS		
0	µg of Carbon/g for TIC = 5 if C1 < C2		
Sample Prep	µg of Carbon/g for TOC = 40 if C1 < C2		
N/A			
Sample #			
S97T001726			
Instrument Code			
Prepared By			
Chemist			
Analyst			
Date Complete			
Analysis Date			
Analysis Time	Method Detection Limit in ug/g	TIC	TOC
		5	40
Sample Point	µg of Carbon/g	2.02E+04	4.31E+03

Data Entered By:

Date:

Signature of Chemist:

Date: 9/3/97

SAMPLE.WB1 REV 1.0

342100ML

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WORKBOOK PAGE: DUP4

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

SOLIDS

		TIC	TOC
Type	Sample Size in g (SS)	0.0701	0.0701
DUP	Dilution Factor (DF)	1	1
Work List	µg of Carbon in Sample (C1)	1265.2	413.8
20055	µg of Carbon from Baseline (C2)	8.8	29.2
Test Code	Known µg of C from Original Sample	2.02E+4	4.31E+3
@TICTOC1			
Matrix			
SOLID			
Batch Number			
97004206			
Rerun	µg of Carbon/g = (C1-C2) * DF / SS		
0	µg of Carbon/g for TIC = 5 if C1 < C2		
Sample Prep	µg of Carbon/g for TOC = 40 if C1 < C2		
N/A			
Sample #			
S97T001726			
Instrument Code			
Prepared By			
Chemist			
Analyst			
Date Complete			
Analysis Date			
Analysis Time	Method Detection Limit in ug/g	TIC 5	TOC 40
Sample Point	µg of Carbon/g	1.79E+04	5.49E+03

Data Entered By:

Date:

Signature of Chemist:

Date:

SAMPLE.WB1 REV 1.0

342100ML

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WORKBOOK PAGE: TRIPL5

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

SOLIDS

		TIC	TOC
Type	Sample Size in g (SS)	0.0864	0.0864
TRIPL	Dilution Factor (DF)	1	1
Work List	µg of Carbon in Sample (C1)	1369.9	399.7
20055	µg of Carbon from Baseline (C2)	8.8	29.2
Test Code	Known µg of C from Original Sample	2.02E+4	4.31E+3
@TICTOC1	Duplicate Result	1.79E+4	5.49E+3
Matrix	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		
SOLID			
Batch Number			
97004206			
Rerun			
0			
Sample Prep			
N/A			
Sample #			
S97T001726			
Instrument Code			
Prepared By			
Chemist			
Analyst			
Date Complete			
Analysis Date			
Analysis Time	Method Detection Limit in ug/g	5	40
Sample Point	µg of Carbon/g	1.58E+04	4.29E+03

Data Entered By:

Date:

Signature of Chemist:

Date: 9/3/97

SAMPLE.WB1 REV 1.0

342100ML

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SOLIDS

Data Entered By:	Date:
Signature of Chemist: <i>RW Schroeder</i>	Date: 9/3/97

WORKBOOK PAGE: SAM8

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

SOLIDS

		TIC	TOC
Type	Sample Size in g (SS)	0.0596	0.0596
SAMPLE	Dilution Factor (DF)	1	1
Work List	µg of Carbon in Sample (C1)	874.6	387
20055	µg of Carbon from Baseline (C2)	8.8	29.2
Test Code			
@TICTOC1			
Matrix			
SOLID			
Batch Number			
97004206			
Rerun	µg of Carbon/g = (C1-C2) * DF / SS		
0	µg of Carbon/g for TIC = 5 if C1 < C2		
Sample Prep	µg of Carbon/g for TOC = 40 if C1 < C2		
N/A			
Sample #			
S97T001730			
Instrument Code			
Prepared By			
Chemist			
Analyst			
Date Complete			
Analysis Date			
Analysis Time	Method Detection Limit in ug/g	TIC	TOC
		5	40
Sample Point	µg of Carbon/g	1.45E+04	6.00E+03

Data Entered By:

Date:

Signature of Chemist:

Date: 9/3/97

SAMPLE.WB1 REV 1.0

342100ML

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WORKBOOK PAGE: DUP9

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

SOLIDS

		TIC	TOC
Type	Sample Size in g (SS)	0.0483	0.0483
DUP	Dilution Factor (DF)	1	1
Work List	µg of Carbon in Sample (C1)	726	356.9
20055	µg of Carbon from Baseline (C2)	8.8	29.2
Test Code	Known µg of C from Original Sample	1.45E+4	6.00E+3
@TICTOC1			
Matrix			
SOLID			
Batch Number			
97004206			
Rerun	µg of Carbon/g = (C1-C2) * DF / SS		
0	µg of Carbon/g for TIC = 5 if C1 < C2		
Sample Prep	µg of Carbon/g for TOC = 40 if C1 < C2		
N/A			
Sample #			
S97T001730			
Instrument Code			
Prepared By			
Chemist			
Analyst			
Date Complete			
Analysis Date			
Analysis Time	Method Detection Limit in ug/g	5	40
Sample Point	µg of Carbon/g	1.48E+04	6.78E+03

Data Entered By:

Date:

Signature of Chemist:

Date:

9/3/97

SAMPLE.WB1 REV 1.0

342100ML

399

WORKBOOK PAGE: SAM10

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

SOLIDS

		TIC	TOC
Type	Sample Size in g (SS)	0.0842	0.0842
SAMPLE	Dilution Factor (DF)	1	1
Work List	µg of Carbon in Sample (C1)	1048.6	530.9
20055	µg of Carbon from Baseline (C2)	8.8	29.2
Test Code			
@TICTOC1			
Matrix			
SOLID			
Batch Number			
97004206			
Rerun	µg of Carbon/g = (C1-C2) * DF / SS		
0	µg of Carbon/g for TIC = 5 if C1 < C2		
Sample Prep	µg of Carbon/g for TOC = 40 if C1 < C2		
N/A			
Sample #			
S97T001778			
Instrument Code			
Prepared By			
Chemist			
Analyst			
Date Complete			
Analysis Date			
Analysis Time	Method Detection Limit in ug/g	TIC 5	TOC 40
Sample Point	µg of Carbon/g	1.23E+04	5.96E+03

Data Entered By:

Date:

Signature of Chemist:

Date: 9/3/97

SAMPLE.WB1 REV 1.0

342100ML

400

WORKBOOK PAGE: DUP11

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

SOLIDS

		TIC	TOC
Type	Sample Size in g (SS)	0.0794	0.0794
DUP	Dilution Factor (DF)	1	1
Work List	µg of Carbon in Sample (C1)	1056.8	545.3
20055	µg of Carbon from Baseline (C2)	8.8	29.2
Test Code	Known µg of C from Original Sample	1.23E+4	5.96E+3
@TICTOC1			
Matrix			
SOLID			
Batch Number			
97004206			
Rerun	µg of Carbon/g = (C1-C2) * DF / SS		
0	µg of Carbon/g for TIC = 5 if C1 < C2		
Sample Prep	µg of Carbon/g for TOC = 40 if C1 < C2		
N/A			
Sample #			
S97T001778			
Instrument Code			
Prepared By			
Chemist			
Analyst			
Date Complete			
Analysis Date			
Analysis Time	Method Detection Limit in ug/g	TIC	TOC
		5	40
Sample Point	µg of Carbon/g	1.32E+04	6.50E+03

Data Entered By:

Date:

Signature of Chemist:

Date: 9/3/97

SAMPLE.WB1 REV 1.0

342100ML

401

LABCORE Completed Worklist Report for Worklist# 20056

Analyst: pjm

Instrument: CARB2

Book# 25N12B
26N12B

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

Worklist Comment: AP-105 TICTOC. RCJ

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 BLNK	0		@TICTOC1 TIC-02	SOLID	1	1.20E+0	1.200	ug/g
1 BLNK	0		@TICTOC1 TOC-02	SOLID	1	6.80E+0	6.800	ug/g
2 STD	0		@TICTOC1 TIC-02	SOLID	6.02E+02	6.07E+2	100.831 % Recovery	
2 STD	0		@TICTOC1 TOC-02	SOLID	3.00E+03	2.78E+3	92.667 % Recovery	
3 SAMPLE	S97T001779	0	@TICTOC1 TIC-02	SOLID	N/A	1.58E+04	5.000	ug/g
3 SAMPLE	S97T001779	0	@TICTOC1 TOC-02	SOLID	N/A	3.84E+03	40.000	ug/g
4 DUF	S97T001779	0	@TICTOC1 TIC-02	SOLID	1.58E+4	1.63E+4	3.115	RPD
4 DUF	S97T001779	0	@TICTOC1 TOC-02	SOLID	3.84E+3	3.94E+3	2.571	RPD
5 SPK	S97T001779	0	@TICTOC1 TIC-02	SOLID	1.00E+02	9.83E+01	98.300 % Recovery	
5 SPK	S97T001779	0	@TICTOC1 TOC-02	SOLID	1.00E+02	1.19E+02	119.000 % Recovery	
6 SAMPLE	S97T001781	0	@TICTOC1 TIC-02	SOLID	N/A	1.51E+04	5.000	ug/g
6 SAMPLE	S97T001781	0	@TICTOC1 TOC-02	SOLID	N/A	5.68E+03	40.000	ug/g
7 DUF	S97T001781	0	@TICTOC1 TIC-02	SOLID	1.51E+4	1.54E+4	1.967	RPD
7 DUF	S97T001781	0	@TICTOC1 TOC-02	SOLID	5.68E+3	5.08E+3	11.152	RPD

Final page for worklist# 20056

Analyst Signature

Date

Analyst Signature

Date

R. J. Schroeder 9/3/97
Reviewer Signature Date

LABCORE Data Entry Template for Worklist# 20056

Analyst: Rau Instrument: CARB2 _____ Book# TIC 25N12 B
Method: LA-342-100 Rev/Mod E-0 CARB#1 TOC 26N12 B
Worklist Comment: AP-105 TICTOC. RCJ

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 BLNK			@TICTOC1	SOLID		
2 STD			@TICTOC1	SOLID		
3 SAMPLE	S97T001779 0		@TICTOC1	SOLID	97000478	AP-105 (P)
	Analytes Requested: TIC-02 , TOC-02					
4 DUP	S97T001779 0		@TICTOC1	SOLID		
5 SPK	S97T001779 0		@TICTOC1	SOLID		
6 SAMPLE	S97T001781 0		@TICTOC1	SOLID	97000478	AP-105 (P)
	Analytes Requested: TIC-02 , TOC-02					
7 DUP	S97T001781 0		@TICTOC1	SOLID		

Final page for worklist # 20056

R. McCorn 9/1/97
Analyst Signature Date

Steve Munk 9-1-97
Analyst Signature Date

Data Entry Comments:

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

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: STD-1

Date: 08/31/97

Time: 22:04:08

Sample Size = 1000 uL

Dil Factor = 1

Blank ID # =

Blank Value = .53 ug/minute C

Analyst : PJ MCCOWN

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading == Analysis Time == Coulometer == % Difference ==

1	0.51	0.80	0.00
2	1.01	13.50	94.07
3	1.51	116.00	88.36
4	2.00	284.20	59.18
5	2.51	422.80	32.78
6	3.00	513.70	17.70
7	3.50	564.60	9.02
8	4.00	590.00	4.31
9	4.50	601.40	1.90
10	5.00	605.80	0.73
11	5.50	607.40	0.26
12	6.00	608.20	0.13
13	6.50	608.80	0.10
14	7.00	609.50	0.11
15	7.50	610.00	0.08
16	8.00	610.50	0.08
17	8.50	610.80	0.05
18	9.00	611.30	0.08
19	9.50	611.70	0.07
20	10.00	612.00	0.05
21	10.50	612.40	0.07
22	11.00	612.80	0.07

USER INPUT BLANK VALUE

BLANK VALUE = 5.8289 micrograms carbon

BLANK FACTOR = 5.8289 / 10.99792 = +5.3E-01 ug/min Carbon

SAMPLE RESULTS:

(612.8 - 5.828965) (1) / (1000) = +6.070E-01 g/L Carbon
 (612.8 - 5.828965) (1) / (1000) (12) = +5.058E-02 Molar Carbon

Sample Run By: PJ McCown 8/31/97

PJ MCCOWN

00000

1.0ML 25N12B

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 404 TO 426

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: STD-1

Date: 08/31/97

Time: 22:31:11

Sample Size = 200 uL

Dil Factor = 1

Blank ID # =

Blank Value = 3.01 ug/minute C

Analyst : PJ MCCOWN

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==== Analysis Time ==== Coulometer ==== % Difference ==

1	0.51	2.10	0.00
2	1.01	3.00	30.00
3	1.50	6.10	50.82
4	2.00	18.00	66.11
5	2.50	40.60	55.67
6	3.00	77.90	47.88
7	3.50	133.20	41.52
8	4.00	210.10	36.60
9	4.50	295.70	28.95
10	5.00	375.30	21.21
11	5.50	437.90	14.30
12	6.00	486.30	9.95
13	6.50	519.10	6.32
14	7.00	542.30	4.28
15	7.50	557.70	2.76
16	8.00	568.40	1.88
17	8.50	575.40	1.22
18	9.00	579.90	0.78
19	9.50	583.20	0.57
20	10.00	585.60	0.41
21	10.50	587.60	0.34
22	11.00	589.00	0.24

USER INPUT BLANK VALUE

BLANK VALUE = 33.10375 micrograms carbon

BLANK FACTOR = 33.10375 / 10.99792 = +3.0E+00 ug/min Carbon

SAMPLE RESULTS:

(589 - 33.10375) (1) / (200) = +2.779E+00 g/L Carbon
 (589 - 33.10375) (1) / (200) (12) = +2.316E-01 Molar Carbon

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

Sample Run By:

PJ McCown
PJ MCCOWN

00000

.200mL 26N12B

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT

TICTOC REV 2.0

<<< BLANK ANALYSIS >>>

Sample: BASE-1

Date: 08/31/97

Time: 21:26:12

Sample Size = 1 uL

Dil Factor = 1

Blank ID # = BASE-1

Blank Value = N/A

Analyst : PJ MCCOWN

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==== Analysis Time ==== Coulometer ==== % Difference ==

1	0.51	0.10	0.00
2	1.01	0.40	75.00
3	1.50	0.70	42.86
4	2.00	0.90	22.22
5	2.50	1.30	30.77
6	3.00	1.50	13.33
7	3.50	1.80	16.67
8	4.00	2.10	14.29
9	4.50	2.30	8.70
10	5.00	2.60	11.54
11	5.50	2.90	10.34
12	6.00	3.10	6.45
13	6.50	3.50	11.43
14	7.00	3.70	5.41
15	7.50	4.00	7.50
16	8.00	4.30	6.98
17	8.50	4.50	4.44
18	9.00	4.80	6.25
19	9.50	5.00	4.00
20	10.00	5.30	5.66
21	10.50	5.70	7.02
22	11.00	5.80	1.72

BLANK VALUE = 5.8 micrograms carbon

BLANK FACTOR = $5.8 / 10.99805 =$

+5.3E-01

ug/min Carbon

Sample Run By:

PJ MCCOWN

00000

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

Sample: BASE-1

Date: 08/31/97

Time: 21:39:14

Sample Size = 1 uL

Dil Factor = 1

Blank ID # = BASE-1

Blank Value = N/A

Analyst : PJ MCCOWN

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==== Analysis Time ==== Coulometer ==== % Difference ==

1	0.51	0.70	0.00
2	1.01	1.00	30.00
3	1.50	4.60	78.26
4	2.00	10.60	56.60
5	2.50	15.90	33.33
6	3.00	20.30	21.67
7	3.50	23.20	12.50
8	4.00	25.40	8.66
9	4.50	26.80	5.22
10	5.00	27.60	2.90
11	5.50	28.40	2.82
12	6.00	29.00	2.07
13	6.50	29.50	1.69
14	7.00	30.00	1.67
15	7.50	30.50	1.64
16	8.00	30.80	0.97
17	8.50	31.30	1.60
18	9.00	31.60	0.95
19	9.50	32.10	1.56
20	10.00	32.30	0.62
21	10.50	32.70	1.22
22	11.00	33.10	1.21

BLANK VALUE = 33.1 micrograms carbon

BLANK FACTOR = 33.1 / 10.99792 =

+3.01E+00 ug/min Carbon

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

Sample Run By:

PJ MCCOWN

00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLNK-1

Date: 08/31/97

Time: 22:48:18

Sample Size = 1 uL

Analyst : PJ MCCOWN

Dil Factor = 1

Min Readings = 22

Blank ID # =

Max Readings = 22

Blank Value = .53 ug/minute C

% Difference = 10

== Reading ==	Analysis Time	Coulometer	% Difference ==
1	0.51	0.30	0.00
2	1.01	0.60	50.00
3	1.51	1.10	45.45
4	2.00	1.40	21.43
5	2.50	1.70	17.65
6	3.04	2.10	19.05
7	3.54	2.40	12.50
8	4.04	3.00	20.00
9	4.54	3.10	3.23
10	5.04	3.40	8.82
11	5.54	3.70	8.11
12	6.04	4.10	9.76
13	6.54	4.40	6.82
14	7.04	4.80	8.33
15	7.54	5.10	5.88
16	8.04	5.10	0.00
17	8.53	5.30	3.77
18	9.03	5.80	8.62
19	9.53	6.10	4.92
20	10.03	6.40	4.69
21	10.53	6.70	4.48
22	11.03	7.00	4.29

USER INPUT BLANK VALUE

BLANK VALUE = 5.8289 micrograms carbon

BLANK FACTOR = 5.8289 / 10.99792 = +5.3E-01 ug/min Carbon

SAMPLE RESULTS:

(7 - 5.847274) (1) / (1) =

(7 - 5.847274) (1) / (1) (12) =

+1.2E+00 g/L Carbon

+9.6E-02 Molar Carbon

Sample Run By: PJ McCown

00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLNK-1

Date: 08/31/97

Time: 23:10:37

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 3.01 ug/minute C

Analyst : PJ MCCOWN

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==== Analysis Time ==== Coulometer ==== % Difference ==

1	0.51	1.90	0.00
2	1.00	3.80	50.00
3	1.50	4.70	19.15
4	2.00	5.90	20.34
5	2.50	8.20	28.05
6	3.00	12.10	32.23
7	3.50	15.30	20.92
8	4.00	18.40	16.85
9	4.50	22.10	16.74
10	5.00	25.90	14.67
11	5.50	29.50	12.20
12	6.00	31.40	6.05
13	6.50	32.60	3.68
14	7.00	33.70	3.26
15	7.50	34.50	2.32
16	8.00	35.20	1.99
17	8.50	36.00	2.22
18	9.00	36.80	2.17
19	9.50	37.60	2.13
20	10.00	38.30	1.83
21	10.50	39.10	2.05
22	11.00	39.90	2.01

USER INPUT BLANK VALUE

BLANK VALUE = 33.10375 micrograms carbon

BLANK FACTOR = 33.10375 / 10.99792 =

+3.0E+00

ug/min Carbon

SAMPLE RESULTS:

(39.9 - 33.10339) (1)/(1) =

+6.80E+00

g/L Carbon

(39.9 - 33.10339) (1)/(1) (12) =

+5.66E-01

Molar Carbon

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

Sample Run By:


PJ MCCOWN

00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T001779-1 Date: 08/31/97 Time: 23:33:13

Sample Size = 1 uL Analyst : PJ MCCOWN
Dil Factor = 1 Min Readings = 22
Blank ID # = Max Readings = 22
Blank Value = .53 ug/minute C % Difference = 10

== Reading ==	Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.40	0.00
2	1.01	0.70	42.86
3	1.51	1.20	41.67
4	2.00	65.40	98.17
5	2.50	520.70	87.44
6	3.00	1212.80	57.07
7	3.50	1765.30	31.30
8	4.00	2119.80	16.72
9	4.50	2333.30	9.15
10	5.00	2456.40	5.01
11	5.50	2531.50	2.97
12	6.00	2574.60	1.67
13	6.50	2597.30	0.87
14	7.00	2608.40	0.43
15	7.50	2614.20	0.22
16	8.00	2617.70	0.13
17	8.50	2620.20	0.10
18	9.00	2622.10	0.07
19	9.50	2623.60	0.06
20	10.00	2624.90	0.05
21	10.50	2626.10	0.05
22	11.00	2627.10	0.04

USER INPUT BLANK VALUE

BLANK VALUE = 5.8289 micrograms carbon

BLANK FACTOR = 5.8289 / 10.99792 = +5.3E-01 ug/min Carbon

SAMPLE RESULTS:

(2627.1 - 5.828835) (1)/(1) = +2.6213E+03 g/L Carbon
(2627.1 - 5.828835) (1)/(1) (12) = +2.1844E+02 Molar Carbon

Sample Run By: PJ
PJ MCCOWN

00000

.1663g

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
 TICTOC REV 2.0

Sample: S97T001779-1 Date: 09/01/97 Time: 00:55:50

Sample Size = 1 uL Analyst : PJ MCCOWN
 Dil Factor = 1 Min Readings = 22
 Blank ID # = Max Readings = 22
 Blank Value = 3.01 ug/minute C % Difference = 10

== Reading ==== Analysis Time ==== Coulometer ==== % Difference ==

1	0.51	0.90	0.00
2	1.00	2.00	55.00
3	1.50	3.00	33.33
4	2.00	4.90	38.78
5	2.50	20.20	75.74
6	3.00	65.40	69.11
7	3.50	133.60	51.05
8	4.00	208.00	35.77
9	4.50	277.50	25.05
10	5.00	349.00	20.49
11	5.50	419.30	16.77
12	6.00	484.20	13.40
13	6.50	541.60	10.60
14	7.00	586.10	7.59
15	7.50	619.10	5.33
16	8.00	641.60	3.51
17	8.50	654.40	1.96
18	9.00	662.00	1.15
19	9.50	666.70	0.70
20	10.00	669.30	0.39
21	10.50	671.10	0.27
22	11.00	672.40	0.19

USER INPUT BLANK VALUE

BLANK VALUE = 33.10375 micrograms carbon

BLANK FACTOR = 33.10375 / 10.99792 = +3.0E+00 ug/min Carbon

SAMPLE RESULTS:

(672.4 - 33.10669) (1)/(1) = +6.393E+02 g/L Carbon
 (672.4 - 33.10669) (1)/(12) = +5.327E+01 Molar Carbon
 <<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By: *PJ McCown*

PJ MCCOWN

00000

1663g

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1779 DUP-1

Date: 09/01/97

Time: 01:13:17

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = .53 ug/minute C

Analyst : PJ MCCOWN

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==== Analysis Time ==== Coulometer ==== % Difference ==

1	0.51	0.50	0.00
2	1.01	0.80	37.50
3	1.51	1.40	42.86
4	2.01	62.90	97.77
5	2.51	467.00	86.53
6	3.01	1073.00	56.48
7	3.51	1560.10	31.22
8	4.01	1870.90	16.61
9	4.51	2059.40	9.15
10	5.00	2174.50	5.29
11	5.50	2246.20	3.19
12	6.00	2287.80	1.82
13	6.50	2310.00	0.96
14	7.00	2320.00	0.43
15	7.50	2325.20	0.22
16	8.00	2328.30	0.13
17	8.50	2330.60	0.10
18	9.00	2332.30	0.07
19	9.50	2333.60	0.06
20	10.00	2334.90	0.06
21	10.50	2335.80	0.04
22	11.00	2336.90	0.05

USER INPUT BLANK VALUE

BLANK VALUE = 5.8289 micrograms carbon

BLANK FACTOR = 5.8289 / 10.99792 = +5.3E-01 ug/min Carbon

SAMPLE RESULTS:

(2336.9 - 5.830351) (1)/(1) =

+2.3311E+03 g/L Carbon

(2336.9 - 5.830351) (1)/(1)(12) =

+1.9426E+02 Molar Carbon

Sample Run By:

PJ MCCOWN

00000

.1426g

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1779 DUP-1

Date: 09/01/97

Time: 01:30:44

Sample Size = 1 uL

Analyst : PJ MCCOWN

Dil Factor = 1

Min Readings = 22

Blank ID # =

Max Readings = 22

Blank Value = 3.01 ug/minute C

% Difference = 10

== Reading ==== Analysis Time ==== Coulometer ==== % Difference ==

1	0.51	0.70	0.00
2	1.00	1.60	56.25
3	1.51	2.70	40.74
4	2.00	4.00	32.50
5	2.50	16.00	75.00
6	3.00	53.30	69.98
7	3.50	108.20	50.74
8	4.00	170.20	36.43
9	4.50	228.70	25.58
10	5.00	289.10	20.89
11	5.50	350.30	17.47
12	6.00	409.30	14.41
13	6.50	460.80	11.18
14	7.00	504.80	8.72
15	7.50	538.50	6.26
16	8.00	561.20	4.04
17	8.50	575.90	2.55
18	9.00	583.90	1.37
19	9.50	588.70	0.82
20	10.00	591.40	0.46
21	10.50	593.30	0.32
22	11.00	594.50	0.20

USER INPUT BLANK VALUE

BLANK VALUE = 33.10375 micrograms carbon

BLANK FACTOR = 33.10375 / 10.99792 = +3.0E+00 ug/min Carbon

SAMPLE RESULTS:

(594.5 - 33.10649) (1) / (1) = +5.614E+02 g/L Carbon
 (594.5 - 33.10649) (1) / (1) (12) = +4.678E+01 Molar Carbon
 <<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

PJ MCCOWN

00000

.14263

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1779 SPK-1

Date: 09/01/97

Time: 01:50:47

Sample Size = 1 uL

Analyst : PJ MCCOWN

Dil Factor = 1

Min Readings = 22

Blank ID # =

Max Readings = 22

Blank Value = .53 ug/minute C

% Difference = 10

== Reading ==== Analysis Time ==== Coulometer ==== % Difference ==

1	0.51	2.40	0.00
2	1.00	3.70	35.14
3	1.50	4.80	22.92
4	2.00	32.20	85.09
5	2.50	223.90	85.62
6	3.00	558.30	59.90
7	3.50	867.50	35.64
8	4.00	1101.80	21.27
9	4.50	1266.30	12.99
10	5.00	1379.70	8.22
11	5.50	1453.50	5.08
12	6.00	1503.20	3.31
13	6.50	1531.10	1.82
14	7.00	1545.40	0.93
15	7.50	1552.40	0.45
16	8.00	1556.20	0.24
17	8.50	1558.50	0.15
18	9.00	1560.10	0.10
19	9.50	1561.50	0.09
20	10.00	1562.60	0.07
21	10.50	1563.50	0.06
22	11.00	1564.50	0.06

USER INPUT BLANK VALUE

BLANK VALUE = 5.8289 micrograms carbon

BLANK FACTOR = 5.8289 / 10.99792 =

+5.3E-01

ug/min Carbon

SAMPLE RESULTS:

(1564.5 - 5.828406) (1)/(1) =

+1.5587E+03 g/L Carbon

(1564.5 - 5.828406) (1)/(1) (12) =

+1.2989E+02 Molar Carbon

Sample Run By: PJ MCCOWN

PJ MCCOWN

00000

.0803g

+ .500mL 25N 12B

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1779 SPK-1

Date: 09/01/97

Time: 02:04:09

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 3.01 ug/minute C

Analyst : PJ MCCOWN

Min Readings = 22

Max Readings = 22

% Difference = 10

-- Reading ---- Analysis Time ---- Coulometer ---- % Difference ==

1	0.51	1.00	0.00
2	1.01	1.70	41.18
3	1.50	2.50	32.00
4	2.00	4.10	39.02
5	2.50	12.70	67.72
6	3.00	37.80	66.40
7	3.50	74.40	49.19
8	4.00	127.00	41.42
9	4.50	196.50	35.37
10	5.00	281.30	30.15
11	5.50	371.30	24.24
12	6.00	452.40	17.93
13	6.50	519.80	12.97
14	7.00	573.70	9.40
15	7.50	612.80	6.38
16	8.00	640.20	4.28
17	8.50	658.90	2.84
18	9.00	669.80	1.63
19	9.50	675.50	0.84
20	10.00	678.80	0.49
21	10.50	681.00	0.32
22	11.00	682.40	0.21

USER INPUT BLANK VALUE

BLANK VALUE = 33.10375 micrograms carbon

BLANK FACTOR = 33.10375 / 10.99792 = +3.0E+00 ug/min Carbon

SAMPLE RESULTS:

(682.4 - 33.10398) (1)/(1) = +6.493E+02 g/L Carbon
 (682.4 - 33.10398) (1)/(1) (12) = +5.411E+01 Molar Carbon
 <<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By: *PJM*

PJ MCCOWN

00000

.08039

+ .200 ML 26N12B

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T001781-1

Date: 09/01/97

Time: 02:22:19

Sample Size = 1 uL

Analyst : PJ MCCOWN

Dil Factor = 1

Min Readings = 22

Blank ID # =

Max Readings = 22

Blank Value = .53 ug/minute C

% Difference = 10

== Reading ==== Analysis Time ==== Coulometer ==== % Difference ==

1	0.51	0.60	0.00
2	1.01	1.20	50.00
3	1.50	1.80	33.33
4	2.00	32.80	94.51
5	2.50	243.40	86.52
6	3.00	584.10	58.33
7	3.50	856.30	31.79
8	4.00	1043.20	17.92
9	4.50	1162.00	10.22
10	5.00	1238.40	6.17
11	5.50	1287.40	3.81
12	6.00	1315.80	2.16
13	6.50	1329.90	1.06
14	7.00	1335.80	0.44
15	7.50	1338.80	0.22
16	8.00	1340.60	0.13
17	8.50	1342.10	0.11
18	9.00	1343.20	0.08
19	9.50	1344.20	0.07
20	10.00	1345.20	0.07
21	10.50	1346.00	0.06
22	11.00	1346.70	0.05

USER INPUT BLANK VALUE

BLANK VALUE = 5.8289 micrograms carbon

BLANK FACTOR = 5.8289 / 10.99792 = +5.3E-01 ug/min Carbon

SAMPLE RESULTS:

(1346.7 - 5.828843) (1)/(1) =

+1.3409E+03 g/L Carbon

(1346.7 - 5.828843) (1)/(1) (12) =

+1.1174E+02 Molar Carbon

Sample Run By:

PJ MCCOWN

00000

.0886g

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T001781-1

Date: 09/01/97

Time: 02:35:21

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 3.01 ug/minute C

Analyst : PJ MCCOWN

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==== Analysis Time ==== Coulometer ==== % Difference ==

1	0.50	0.80	0.00
2	1.01	1.80	55.56
3	1.50	2.40	25.00
4	2.00	5.30	54.72
5	2.50	24.90	78.71
6	3.00	68.50	63.65
7	3.50	129.80	47.23
8	4.00	197.70	34.34
9	4.50	264.00	25.11
10	5.00	326.80	19.22
11	5.50	386.80	15.51
12	6.00	436.40	11.37
13	6.50	474.00	7.93
14	7.00	500.80	5.35
15	7.50	517.90	3.30
16	8.00	526.00	1.54
17	8.50	530.30	0.81
18	9.00	532.50	0.41
19	9.50	534.00	0.28
20	10.00	534.90	0.17
21	10.50	535.70	0.15
22	11.03	536.40	0.13

USER INPUT BLANK VALUE

BLANK VALUE = 33.10375 micrograms carbon

BLANK FACTOR = 33.10375 / 10.99792 = +3.0E+00 ug/min Carbon

SAMPLE RESULTS:

(536.4 - 33.20287) (1)/(1) = +5.032E+02 g/L Carbon
 (536.4 - 33.20287) (1)/(1) (12) = +4.193E+01 Molar Carbon
 <<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By: *PJ*

PJ MCCOWN

00000

.0886g

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1781 DUP-1

Date: 09/01/97

Time: 02:50:24

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = .53 ug/minute C

Analyst : PJ MCCOWN

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==== Analysis Time ==== Coulometer ==== % Difference ==

1	0.51	0.60	0.00
2	1.01	1.20	50.00
3	1.50	1.90	36.84
4	2.00	46.50	95.91
5	2.50	340.40	86.34
6	3.00	775.30	56.09
7	3.50	1124.10	31.03
8	4.00	1358.50	17.25
9	4.50	1500.40	9.46
10	5.00	1587.20	5.47
11	5.50	1641.60	3.31
12	6.00	1673.20	1.89
13	6.50	1688.60	0.91
14	7.00	1695.20	0.39
15	7.50	1698.30	0.18
16	8.00	1700.50	0.13
17	8.50	1702.20	0.10
18	9.00	1703.50	0.08
19	9.50	1704.60	0.06
20	10.00	1705.40	0.05
21	10.50	1706.30	0.05
22	11.00	1707.20	0.05

USER INPUT BLANK VALUE

BLANK VALUE = 5.8289 micrograms carbon

BLANK FACTOR = 5.8289 / 10.99792 = +5.3E-01 ug/min Carbon

SAMPLE RESULTS:

(1707.2 - 5.829377) (1) / (1) = +1.7014E+03 g/L Carbon
 (1707.2 - 5.829377) (1) / (1) (12) = +1.4178E+02 Molar Carbon

Sample Run By: PJ

PJ MCCOWN

00000

1105g

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 1781 DUP-1

Date: 09/01/97

Time: 03:04:48

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 3.01 ug/minute C

Analyst : PJ MCCOWN

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==== Analysis Time ==== Coulometer ==== % Difference ==

1	0.51	0.40	0.00
2	1.01	1.40	71.43
3	1.50	1.90	26.32
4	2.00	4.00	52.50
5	2.50	21.60	81.48
6	3.00	74.40	70.97
7	3.50	151.80	50.99
8	4.00	232.70	34.77
9	4.50	309.40	24.79
10	5.00	384.30	19.49
11	5.50	448.80	14.37
12	6.00	501.40	10.49
13	6.50	539.30	7.03
14	7.00	565.10	4.57
15	7.50	579.90	2.55
16	8.00	586.00	1.04
17	8.50	589.30	0.56
18	9.00	591.10	0.30
19	9.50	592.20	0.19
20	10.00	593.10	0.15
21	10.50	593.80	0.12
22	11.00	594.60	0.13

USER INPUT BLANK VALUE

BLANK VALUE = 33.10375 micrograms carbon

BLANK FACTOR = 33.10375 / 10.99792 = +3.0E+00 ug/min Carbon

SAMPLE RESULTS:

(594.6 - 33.10348) (1) / (1) = +5.615E+02 g/L Carbon
 (594.6 - 33.10348) (1) / (1) (12) = +4.679E+01 Molar Carbon
 <<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By: *PJ*

PJ MCCOWN

00000

1105g

WORKBOOK PAGE: BLANK1

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

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	39.9
20056	µg of Carbon from Baseline	(C2)	5.8	33.1

Test Code	µg of Carbon = C1-C2
@TICTOC1	
Matrix	
SOLID	
Batch Number	
97004207	
Rerun	
0	
Sample Prep	
N/A	
Sample #	
Instrument Code	
CARB1	
Prepared By	
LCM	
Chemist	
RWS	
Analyst	
PJM	
Date Complete	
09/01/97	
Analysis Date	
09/01/97	
Analysis Time	Method Detection Limit in ug/g
04:30 AM	
Sample Point	µg of Carbon
AP-105	

TIC	TOC
5	40
1.20E+00	6.80E+00

Data Entered By:	LCM	Date:	09/01/97
Signature of Chemist:	<i>RWS</i>	Date:	9/3/97

BLANK.WB1 REV 1.0

342100ML

WORKBOOK PAGE: STD2

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

LIQUIDS

		TIC	TOC
Type	Sample Size in mL (SS)	1.0000	0.2000
STD	Dilution Factor (DF)	1	1
Work List	Final Coulometer Reading in μg (C1)	612.8	589
20056	μg of Carbon from Baseline (C2)	5.8	33.1
Test Code	Standard Book Number	25N12B	26N12B
@TICTOC1	Standard Value ($\mu\text{g}/\text{mL}$)	602	3000
Matrix	QC Actual in $\mu\text{g}/\text{mL}$ = Standard Value ($\mu\text{g}/\text{mL}$) QC Found in $\mu\text{g}/\text{mL}$ = $(C1 - C2) * DF / SS$ QC Found in $\mu\text{g}/\text{mL}$ for TIC = 5 if $C1 < C2$ QC Found in $\mu\text{g}/\text{mL}$ for TOC = 40 if $C1 < C2$ % Recovery = QC Found / QC Actual * 100		
LIQUID			
Batch Number			
97004207			
Rerun			
0			
Sample Prep			
N/A			
Sample #			
Instrument Code			
CARB1			
Prepared By			
LCM			
Chemist			
RWS			
Analyst			
PJM			
Date Complete			
09/01/97			
Analysis Date			
09/01/97			
Analysis Time	Method Detection Limit in $\mu\text{g}/\text{mL}$	5	40
04:30 AM	QC Actual in $\mu\text{g}/\text{mL}$	6.02E+02	3.00E+03
Sample Point	QC Found in $\mu\text{g}/\text{mL}$	6.07E+02	2.78E+03
AP-105	Percent Standard Recovery	100.8	92.7

Data Entered By:	LCM	Date:	09/01/97
Signature of Chemist:	<i>Ru Schroeder</i>	Date:	9/3/97

STANDARD.WB1 REV 1.0

342100ML

WORKBOOK PAGE: SAM3

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

SOLIDS

		TIC	TOC
Type	Sample Size in g (SS)	0.1663	0.1663
SAMPLE	Dilution Factor (DF)	1	1
Work List	µg of Carbon in Sample (C1)	2627.1	672.4
20056	µg of Carbon from Baseline (C2)	5.8	33.1
Test Code			
@TICTOC1			
Matrix			
SOLID			
Batch Number			
97004207			
Rerun	µg of Carbon/g = (C1-C2) * DF / SS		
0	µg of Carbon/g for TIC = 5 if C1 < C2		
Sample Prep	µg of Carbon/g for TOC = 40 if C1 < C2		
N/A			
Sample #			
S97T001779			
Instrument Code			
CARB1			
Prepared By			
LCM			
Chemist			
RWS			
Analyst			
PJM			
Date Complete			
09/01/97			
Analysis Date			
09/01/97			
Analysis Time	Method Detection Limit in ug/g	TIC	TOC
04:30 AM		5	40
Sample Point	µg of Carbon/g	1.58E+04	3.84E+03
AP-105			

Data Entered By:

LCM

Date: 09/01/97

Signature of Chemist:

R. J. Schmale

Date: 9/3/97

SAMPLE.WB1 REV 1.0

342100ML

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WORKBOOK PAGE: DUP4

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

SOLIDS

		TIC	TOC
Type	Sample Size in g (SS)	0.1426	0.1426
DUP	Dilution Factor (DF)	1	1
Work List	µg of Carbon in Sample (C1)	2336.9	594.5
20056	µg of Carbon from Baseline (C2)	5.8	33.1
Test Code	Known µg of C from Original Sample	1.58E+4	3.84E+3
@TICTOC1			

Matrix
SOLID
Batch Number
97004207
Rerun
0
Sample Prep
N/A
Sample #
S97T001779
Instrument Code
CARB1
Prepared By
LCM
Chemist
RWS
Analyst
PJM
Date Complete
09/01/97
Analysis Date
09/01/97
Analysis Time
04:30 AM
Sample Point
AP-105

$\mu\text{g of Carbon/g} = (C1 - C2) * DF / SS$
 $\mu\text{g of Carbon/g for TIC} = 5 \text{ if } C1 < C2$
 $\mu\text{g of Carbon/g for TOC} = 40 \text{ if } C1 < C2$

	TIC	TOC
Method Detection Limit in ug/g	5	40
µg of Carbon/g	1.63E+04	3.94E+03

Data Entered By:	LCM	Date: 09/01/97
Signature of Chemist:	<i>R. W. Schroeder</i>	Date: 9/3/97

WORKBOOK PAGE: SPIKE5

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

SOLIDS

Type	Sample Vial Data	TIC	TOC
SPK	Sample Size in g (SS)	0.1663	0.1663
Work List	Final Coulometer Reading in µg (C1)	2627.1	672.4
20056	Spiked Vial Data		
Test Code	Sample Size in g (SPK SS)	0.0803	0.0803
@TICTOC1	Amount of Spike Std. in mL (SPK VOL)	0.500	0.100
Matrix	Final Coulometer Reading in µg (C2)	1564.5	682.4
SOLID	Spike Book Number	25N12B	26N12B
Batch Number	Spike Standard Value in µg/mL (SPK CONC)	602	3000
97004207			
Rerun			
0			
Sample Prep			
N/A			
Sample #	Percent Spike Recovery = $(C2 - C1 * (SPK SS) / SS) / ((SPK CONC) * (SPK VOL)) * 100$		
S97T001779			
Instrument Code	QC Actual in µg/mL = Spike Value (µg/mL)		
CARB1	QC Found in µg/mL = (Percent Spike Recovery)*(QC Actual) / 100		
Prepared By			
LCM			
Chemist			
RWS			
Analyst			
PJM			
Date Complete			
09/01/97			
Analysis Date			
09/01/97			
Analysis Time		TIC	TOC
04:30 AM	QC Actual in µg/mL	6.02E+02	3.00E+03
Sample Point	QC Found in µg/mL	5.92E+02	3.58E+03
AP-105	Percent Spike Recovery	98.3	119.2

Data Entered By:

LCM

Date: 09/01/97

Signature of Chemist:

RWS

Date: 9/3/97

WORKBOOK PAGE: SAM6

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

SOLIDS

		TIC	TOC
Type	Sample Size in g (SS)	0.0886	0.0886
SAMPLE	Dilution Factor (DF)	1	1
Work List	µg of Carbon in Sample (C1)	1346.7	536.4
20056	µg of Carbon from Baseline (C2)	5.8	33.1
Test Code			
@TICTOC1			
Matrix			
SOLID			
Batch Number			
97004207			
Rerun	µg of Carbon/g = (C1-C2) * DF / SS		
0	µg of Carbon/g for TIC = 5 if C1 < C2		
Sample Prep	µg of Carbon/g for TOC = 40 if C1 < C2		
N/A			
Sample #			
S97T001781			
Instrument Code			
CARB1			
Prepared By			
LCM			
Chemist			
RWS			
Analyst			
PJM			
Date Complete			
09/01/97			
Analysis Date			
09/01/97			
Analysis Time	Method Detection Limit in ug/g	TIC	TOC
04:30 AM		5	40
Sample Point	µg of Carbon/g	1.51E+04	5.68E+03
AP-105			

Data Entered By:

LCM

Date: 09/01/97

Signature of Chemist:

R. Schweden

Date: 9/3/97

SAMPLE.WB1 REV 1.0

342100ML

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WORKBOOK PAGE: DUP7

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

SOLIDS

		TIC	TOC
Type	Sample Size in g (SS)	0.1105	0.1105
DUP	Dilution Factor (DF)	1	1
Work List	µg of Carbon in Sample (C1)	1707.2	594.6
20056	µg of Carbon from Baseline (C2)	5.8	33.1
Test Code	Known µg of C from Original Sample	1.51E+4	5.68E+3
@TICTOC1			
Matrix			
SOLID			
Batch Number			
97004207			
Rerun	µg of Carbon/g = (C1-C2) * DF / SS		
0	µg of Carbon/g for TIC = 5 if C1 < C2		
Sample Prep	µg of Carbon/g for TOC = 40 if C1 < C2		
N/A			
Sample #			
S97T001781			
Instrument Code			
CARB1			
Prepared By			
LCM			
Chemist			
RWS			
Analyst			
PJM			
Date Complete			
09/01/97			
Analysis Date			
09/01/97			
Analysis Time	Method Detection Limit in ug/g	TIC	TOC
04:30 AM		5	40
Sample Point	µg of Carbon/g	1.54E+04	5.08E+03
AP-105			

Data Entered By:

LCM

Date: 09/01/97

Signature of Chemist:

RW Schroeder

Date: 9/3/97

SAMPLE.WB1 REV 1.0

342100ML

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LABCORE Completed Worklist Report for Worklist# 20057

Analyst: krm

Instrument: CARB1

Book# 25N12B TIC
26N12B TOC

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

Worklist Comment: AP-105 TIC/TOC. RCJ

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 BLNK	0		@TICTOC1 TIC-02	SOLID	1	3.50E+0	3.500	ug/g
1 BLNK	0		@TICTOC1 TOC-02	SOLID	1	7.20E+0	7.200	ug/g
2 STD	0		@TICTOC1 TIC-02	SOLID	6.02E+02	6.08E+2	100.957	% Recovery
2 STD	0		@TICTOC1 TOC-02	SOLID	3.00E+03	3.05E+3	101.667	% Recovery
3 SAMPLE	S97T001783	0	@TICTOC1 TIC-02	SOLID	N/A	1.38E+04	5.000	ug/g
3 SAMPLE	S97T001783	0	@TICTOC1 TOC-02	SOLID	N/A	3.76E+03	40.000	ug/g
4 DUP	S97T001783	0	@TICTOC1 TIC-02	SOLID	1.38E+4	1.34E+4	2.941	RPD
4 DUP	S97T001783	0	@TICTOC1 TOC-02	SOLID	3.76E+3	6.96E+3	59.701	RPD
5 TRIPLE	S97T001783	0	@TICTOC1 TIC-02	SOLID	1.38E+4	1.00E+4	31.333	RPD
5 TRIPLE	S97T001783	0	@TICTOC1 TOC-02	SOLID	3.76E+3	5.69E+3	40.847	RPD
6 SAMPLE	S97T001784	0	@TICTOC1 TIC-02	SOLID	N/A	1.50E+04	5.000	ug/g
6 SAMPLE	S97T001784	0	@TICTOC1 TOC-02	SOLID	N/A	6.16E+03	40.000	ug/g
7 DUP	S97T001784	0	@TICTOC1 TIC-02	SOLID	1.50E+4	1.50E+4	0.000	RPD
7 DUP	S97T001784	0	@TICTOC1 TOC-02	SOLID	6.16E+3	7.40E+3	18.289	RPD

Final page for worklist# 20057

Analyst Signature Date

Analyst Signature Date

RW Schmedt 9/8/97
Reviewer Signature Date

LABCORE Data Entry Template for Worklist# 20057

Analyst: KRM Instrument: CARB2 Book# 250128
260128

Method: LA-342-100 Rev/Mod _____

Worklist Comment: AP-105 TICTOC. RCJ

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 BLNK			@TICTOC1	SOLID		
2 STD			@TICTOC1	SOLID		
3 SAMPLE	S97T001783 0		@TICTOC1	SOLID	97000479	AP-105 (P)
	Analytes Requested: TIC-02 , TOC-02					
4 DUP	S97T001783 0		@TICTOC1	SOLID		
5 SAMPLE	S97T001784 0		@TICTOC1	SOLID	97000479	AP-105 (P)
	Analytes Requested: TIC-02 , TOC-02					
6 DUP	S97T001784 0		@TICTOC1	SOLID		

Final page for worklist # 20057

 9-1-97
Analyst Signature Date

Analyst Signature Date

Data Entry Comments:

Triplicate on S97T001783

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

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT

TICTOC REV 2.0

<<< BLANK ANALYSIS >>>

Sample: BASE2

Date: 09/01/97

Time: 07:29:12

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	0.08	0.00	0.00
2	0.51	0.20	100.00
3	1.01	0.40	50.00
4	1.50	0.70	42.86
5	2.00	0.90	22.22
6	2.50	1.30	30.77
7	3.00	1.60	18.75
8	3.50	2.00	20.00
9	4.00	2.30	13.04
10	4.50	2.60	11.54
11	5.00	2.90	10.34
12	5.50	3.10	6.45
13	6.00	3.40	8.82
14	6.50	3.60	5.56
15	7.00	3.90	7.69
16	7.50	4.10	4.88
17	8.00	4.30	4.65
18	8.50	4.60	6.52
19	9.00	4.80	4.17
20	9.50	5.00	4.00
21	10.00	5.30	5.66
22	10.50	5.50	3.64

BLANK VALUE = 5.5 micrograms carbon

BLANK FACTOR = 5.5 / 10.49802 =

+5.2E-01 ug/min Carbon

Sample Run By:

KR MONTEITH

00000

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 429 TO 452

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT

TICTOC REV 2.0

<<< BLANK ANALYSIS >>>

Sample: BASE2

Date: 09/01/97

Time: 09:19:23

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	1.20	100.00
3	1.01	1.90	36.84
4	1.51	3.20	40.63
5	2.00	8.30	61.45
6	2.50	13.30	37.59
7	3.00	16.70	20.36
8	3.50	19.60	14.80
9	4.00	21.80	10.09
10	4.50	23.20	6.03
11	5.00	24.30	4.53
12	5.50	25.20	3.57
13	6.00	25.90	2.70
14	6.50	26.50	2.26
15	7.00	27.00	1.85
16	7.50	27.50	1.82
17	8.00	28.00	1.79
18	8.50	28.40	1.41
19	9.00	28.80	1.39
20	9.50	29.30	1.71
21	10.00	29.70	1.35
22	10.50	30.00	1.00

BLANK VALUE = 30 micrograms carbon

BLANK FACTOR = 30. / 10.49719 =

+2.86E+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: 09/01/97

Time: 09:34:06

Sample Size = 1000 uL
Dil Factor = 1
Blank ID # =
Blank Value = .52 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	1.00	100.00
3	1.01	1.00	0.00
4	1.51	1.40	28.57
5	2.00	7.80	82.05
6	2.50	64.30	87.87
7	3.00	181.50	64.57
8	3.50	313.60	42.12
9	4.00	421.90	25.67
10	4.50	497.80	15.25
11	5.00	546.60	8.93
12	5.50	575.90	5.09
13	6.00	591.60	2.65
14	6.50	599.90	1.38
15	7.00	604.50	0.76
16	7.50	607.30	0.46
17	8.00	609.30	0.33
18	8.50	610.20	0.15
19	9.00	611.10	0.15
20	9.50	611.90	0.13
21	10.00	612.50	0.10
22	10.50	613.10	0.10

USER INPUT BLANK VALUE

BLANK VALUE = 5.45854 micrograms carbon

BLANK FACTOR = 5.45854 / 10.49719 = +5.2E-01 ug/min Carbon

SAMPLE RESULTS:

(613.1 - 5.459492) (1)/(1000) = +6.076E-01 g/L Carbon
(613.1 - 5.459492) (1)/(1000) (12) = +5.064E-02 Molar Carbon

Sample Run By:

KR MONTEITH

00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: STD2

Date: 09/01/97

Time: 09:46:36

Sample Size = 200 uL

Dil Factor = 1

Blank ID # =

Blank Value = 2.86 ug/minute C

Analyst : KR MONTEITH

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==	==== Analysis Time ==	==== Coulometer ==	==== % Difference ==
1	0.08	0.00	0.00
2	0.51	0.70	100.00
3	1.01	0.90	22.22
4	1.51	2.50	64.00
5	2.00	38.90	93.57
6	2.50	152.10	74.42
7	3.00	284.50	46.54
8	3.50	398.60	28.63
9	4.00	484.00	17.64
10	4.50	542.50	10.78
11	5.00	580.70	6.58
12	5.50	603.40	3.76
13	6.00	616.00	2.05
14	6.50	623.30	1.17
15	7.00	628.00	0.75
16	7.50	631.20	0.51
17	8.00	633.70	0.39
18	8.50	635.60	0.30
19	9.00	637.30	0.27
20	9.50	638.30	0.16
21	10.00	639.40	0.17
22	10.50	640.30	0.14

USER INPUT BLANK VALUE

BLANK VALUE = 30.02197 micrograms carbon

BLANK FACTOR = 30.02197 / 10.49719 = +2.9E+00 ug/min Carbon

SAMPLE RESULTS:

(640.3 - 30.02721) (1)/(200) = +3.051E+00 g/L Carbon
 (640.3 - 30.02721) (1)/(200) (12) = +2.543E-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: 09/01/97

Time: 10:09:37

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = .52 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	1.10	100.00
3	1.01	1.60	31.25
4	1.50	2.00	20.00
5	2.00	2.40	16.67
6	2.50	2.90	17.24
7	3.00	3.30	12.12
8	3.50	3.70	10.81
9	4.00	4.00	7.50
10	4.50	4.40	9.09
11	5.00	4.80	8.33
12	5.50	5.20	7.69
13	6.00	5.50	5.45
14	6.50	5.90	6.78
15	7.00	6.30	6.35
16	7.50	6.70	5.97
17	8.00	7.10	5.63
18	8.50	7.50	5.33
19	9.00	7.80	3.85
20	9.50	8.20	4.88
21	10.00	8.60	4.65
22	10.50	9.00	4.44

USER INPUT BLANK VALUE

BLANK VALUE = 5.45854 micrograms carbon

BLANK FACTOR = 5.45854 / 10.49719 = +5.2E-01 ug/min Carbon

SAMPLE RESULTS:

(9 - 5.459492) (1)/(1) =

+3.5E+00 g/L Carbon

(9 - 5.459492) (1)/(1) (12) =

+3.0E-01 Molar Carbon

Sample Run By:

KR MONTEITH

00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLK2

Date: 09/01/97

Time: 10:23:20

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 2.86 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	0.80	37.50
4	1.50	3.10	74.19
5	2.00	11.10	72.07
6	2.50	17.30	35.84
7	3.00	21.00	17.62
8	3.50	24.30	13.58
9	4.00	26.60	8.65
10	4.50	28.40	6.34
11	5.00	29.80	4.70
12	5.50	30.90	3.56
13	6.00	31.70	2.52
14	6.50	32.70	3.06
15	7.00	33.30	1.80
16	7.50	33.90	1.77
17	8.00	34.60	2.02
18	8.50	35.10	1.42
19	9.00	35.70	1.68
20	9.50	36.30	1.65
21	10.03	36.80	1.36
22	10.53	37.20	1.08

USER INPUT BLANK VALUE

BLANK VALUE = 30.02197 micrograms carbon

BLANK FACTOR = 30.02197 / 10.49719 = +2.9E+00 ug/min Carbon

SAMPLE RESULTS:

(37.2 - 30.12374) (1)/(1) = +7.08E+00 g/L Carbon
 (37.2 - 30.12374) (1)/(1) (12) = +5.90E-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: S97T1783-2

Date: 09/01/97

Time: 10:41:50

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = .52 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	2.90	100.00
3	1.01	3.40	14.71
4	1.50	4.70	27.66
5	2.00	53.70	91.25
6	2.50	231.00	76.75
7	3.00	374.30	38.28
8	3.50	455.70	17.86
9	4.00	513.40	11.24
10	4.50	554.70	7.45
11	5.00	583.40	4.92
12	5.50	600.80	2.90
13	6.00	610.90	1.65
14	6.50	617.10	1.00
15	7.00	620.60	0.56
16	7.50	623.00	0.39
17	8.00	624.70	0.27
18	8.50	625.90	0.19
19	9.00	626.80	0.14
20	9.50	627.50	0.11
21	10.00	628.30	0.13
22	10.50	628.90	0.10

USER INPUT BLANK VALUE

BLANK VALUE = 5.45854 micrograms carbon

BLANK FACTOR = 5.45854 / 10.49719 = +5.2E-01 ug/min Carbon

SAMPLE RESULTS:

(628.9 - 5.459492) (1) / (1) =	+6.234E+02	g/L Carbon
(628.9 - 5.459492) (1) / (1) (12) =	+5.195E+01	Molar Carbon

Sample Run By:

KR MONTEITH

00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T1783-2

Date: 09/01/97

Time: 10:53:22

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 2.86 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	0.90	44.44
4	1.50	1.40	35.71
5	2.00	1.80	22.22
6	2.50	2.70	33.33
7	3.00	11.90	77.31
8	3.50	37.40	68.18
9	4.00	68.30	45.24
10	4.50	95.40	28.41
11	5.00	118.70	19.63
12	5.50	137.20	13.48
13	6.00	151.80	9.62
14	6.50	163.30	7.04
15	7.00	172.40	5.28
16	7.50	179.30	3.85
17	8.00	184.80	2.98
18	8.50	189.30	2.38
19	9.00	192.60	1.71
20	9.50	195.20	1.33
21	10.00	197.70	1.26
22	10.50	199.40	0.85

USER INPUT BLANK VALUE

BLANK VALUE = 30.02197 micrograms carbon

BLANK FACTOR = 30.02197 / 10.49719 = +2.9E+00 ug/min Carbon

SAMPLE RESULTS:

(199.4 - 30.02441) (1)/(1) = +1.694E+02 g/L Carbon
 (199.4 - 30.02441) (1)/(1)(12) = +1.411E+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: S97T1783DUP-2

Date: 09/01/97

Time: 13:40:54

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = .52 ug/minute C

Analyst : KR MONTEITH

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==	==== Analysis Time ==	==== Coulometer ==	==== % Difference ==
1	0.08	0.00	0.00
2	0.51	0.60	100.00
3	1.01	0.90	33.33
4	1.51	1.40	35.71
5	2.00	44.50	96.85
6	2.51	207.70	78.57
7	3.00	372.10	44.18
8	3.50	481.40	22.70
9	4.00	559.30	13.93
10	4.50	616.50	9.28
11	5.00	655.70	5.98
12	5.50	679.90	3.56
13	6.00	692.50	1.82
14	6.50	699.50	1.00
15	7.00	703.70	0.60
16	7.50	706.00	0.33
17	8.00	707.70	0.24
18	8.50	709.00	0.18
19	9.00	709.80	0.11
20	9.50	710.50	0.10
21	10.00	711.20	0.10
22	10.50	711.80	0.08

USER INPUT BLANK VALUE

BLANK VALUE = 5.45854 micrograms carbon

BLANK FACTOR = 5.45854 / 10.49719 = +5.2E-01 ug/min Carbon

SAMPLE RESULTS:

(711.8 - 5.46) (1)/(1) =

+7.063E+02 g/L Carbon

(711.8 - 5.46) (1)/(1) (12) =

+5.886E+01 Molar Carbon

Sample Run By:

KR MONTEITH

00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T1783DUP-2

Date: 09/01/97

Time: 13:53:49

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 2.86 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                0.90               55.56
  4           1.50               15.60               94.23
  5           2.00               64.20               75.70
  6           2.50              108.00               40.56
  7           3.00              145.00               25.52
  8           3.50              191.80               24.40
  9           4.00              239.10               19.78
 10           4.50              280.90               14.88
 11           5.00              313.30               10.34
 12           5.50              337.20                7.09
 13           6.00              353.60                4.64
 14           6.50              366.00                3.39
 15           7.00              374.30                2.22
 16           7.50              380.60                1.66
 17           8.00              385.30                1.22
 18           8.50              388.90                0.93
 19           9.00              391.90                0.77
 20           9.50              394.30                0.61
 21          10.00              396.30                0.50
 22          10.50              398.20                0.48

```

USER INPUT BLANK VALUE

BLANK VALUE = 30.02197 micrograms carbon

BLANK FACTOR = 30.02197 / 10.49719 = +2.9E+00 ug/min Carbon

SAMPLE RESULTS:

```

( 398.2 - 30.02703 ) (1)/(1) = +3.682E+02 g/L Carbon
( 398.2 - 30.02703 ) (1)/(1) (12) = +3.068E+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: S97T1783TRP-2

Date: 09/01/97

Time: 16:39:24

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = .52 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	2.20	100.00
3	1.01	10.30	78.64
4	1.51	245.40	95.80
5	2.00	489.80	49.90
6	2.50	598.90	18.22
7	3.00	669.30	10.52
8	3.50	717.60	6.73
9	4.00	748.30	4.10
10	4.50	763.30	1.97
11	5.00	770.20	0.90
12	5.50	773.20	0.39
13	6.00	775.30	0.27
14	6.50	776.60	0.17
15	7.00	777.60	0.13
16	7.50	778.50	0.12
17	8.00	779.30	0.10
18	8.50	780.10	0.10
19	9.00	780.70	0.08
20	9.50	781.40	0.09
21	10.00	782.00	0.08
22	10.50	782.70	0.09

USER INPUT BLANK VALUE

BLANK VALUE = 5.45854 micrograms carbon

BLANK FACTOR = 5.45854 / 10.49719 = +5.2E-01 ug/min Carbon

SAMPLE RESULTS:

(782.7 - 5.45946) (1)/(1) =	+7.772E+02	g/L Carbon
(782.7 - 5.45946) (1)/(1) (12) =	+6.477E+01	Molar Carbon

Sample Run By:

KR MONTEITH

00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T1783TRP-2

Date: 09/01/97

Time: 16:51:10

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 2.86 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	2.40	79.17
4	1.50	58.90	95.93
5	2.00	139.50	57.78
6	2.50	204.30	31.72
7	3.00	266.60	23.37
8	3.50	320.10	16.71
9	4.00	362.30	11.65
10	4.50	389.50	6.98
11	5.00	408.70	4.70
12	5.50	422.90	3.36
13	6.00	434.90	2.76
14	6.50	444.30	2.12
15	7.00	451.40	1.57
16	7.50	456.30	1.07
17	8.00	460.90	1.00
18	8.50	463.80	0.63
19	9.00	466.60	0.60
20	9.50	468.60	0.43
21	10.00	470.30	0.36
22	10.50	471.80	0.32

USER INPUT BLANK VALUE

BLANK VALUE = 30.02197 micrograms carbon

BLANK FACTOR = 30.02197 / 10.49719 = +2.9E+00 ug/min Carbon

SAMPLE RESULTS:

(471.8 - 30.02948) (1)/(1) = +4.418E+02 g/L Carbon
 (471.8 - 30.02948) (1)/(1) (12) = +3.681E+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: S97T1784-2

Date: 09/01/97

Time: 14:17:56

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = .52 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	3.10	100.00
3	1.01	58.60	94.71
4	1.51	349.30	83.22
5	2.00	778.90	55.15
6	2.50	1038.10	24.97
7	3.00	1148.00	9.57
8	3.50	1210.00	5.12
9	4.00	1249.30	3.15
10	4.50	1271.20	1.72
11	5.00	1282.70	0.90
12	5.50	1289.10	0.50
13	6.00	1293.00	0.30
14	6.50	1295.90	0.22
15	7.00	1297.80	0.15
16	7.50	1299.30	0.12
17	8.00	1300.60	0.10
18	8.50	1301.70	0.08
19	9.00	1302.60	0.07
20	9.50	1303.60	0.08
21	10.00	1304.40	0.06
22	10.50	1305.10	0.05

USER INPUT BLANK VALUE

BLANK VALUE = 5.45854 micrograms carbon

BLANK FACTOR = 5.45854 / 10.49719 = +5.2E-01 ug/min Carbon

SAMPLE RESULTS:

(1305.1 - 5.46) (1)/(1) =

+1.2996E+03 g/L Carbon

(1305.1 - 5.46) (1)/(1) (12) =

+1.0830E+02 Molar Carbon

Sample Run By:

KR MONTEITH

00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T1784-2

Date: 09/01/97

Time: 14:29:34

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 2.86 ug/minute C

Analyst : KR MONTEITH

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==	==== Analysis Time ==	==== Coulometer ==	==== % Difference ==
1	0.08	0.00	0.00
2	0.51	0.70	100.00
3	1.01	1.30	46.15
4	1.51	5.10	74.51
5	2.00	45.70	88.84
6	2.50	113.70	59.81
7	3.00	172.90	34.24
8	3.50	232.80	25.73
9	4.00	298.20	21.93
10	4.50	358.90	16.91
11	5.00	409.40	12.34
12	5.50	450.30	9.08
13	6.00	480.90	6.36
14	6.50	503.20	4.43
15	7.00	519.50	3.14
16	7.50	531.30	2.22
17	8.00	540.10	1.63
18	8.50	547.10	1.28
19	9.03	552.50	0.98
20	9.53	556.60	0.74
21	10.03	560.10	0.62
22	10.53	562.60	0.44

USER INPUT BLANK VALUE

BLANK VALUE = 30.02197 micrograms carbon

BLANK FACTOR = 30.02197 / 10.49719 = +2.9E+00 ug/min Carbon

SAMPLE RESULTS:

(562.6 - 30.12444) (1)/(1) = +5.325E+02 g/L Carbon
 (562.6 - 30.12444) (1)/(1) (12) = +4.437E+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: S97T1784DUP-2

Date: 09/01/97

Time: 14:41:02

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = .52 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	3.00	100.00
3	1.01	4.80	37.50
4	1.51	144.60	96.68
5	2.00	672.90	78.51
6	2.50	1033.30	34.88
7	3.00	1220.10	15.31
8	3.50	1332.00	8.40
9	4.00	1401.00	4.93
10	4.50	1442.40	2.87
11	5.00	1463.40	1.44
12	5.50	1473.50	0.69
13	6.00	1480.00	0.44
14	6.50	1485.20	0.35
15	7.00	1490.70	0.37
16	7.50	1494.90	0.28
17	8.00	1500.60	0.38
18	8.50	1514.30	0.90
19	9.00	1524.10	0.64
20	9.50	1529.50	0.35
21	10.00	1532.60	0.20
22	10.50	1535.10	0.16

USER INPUT BLANK VALUE

BLANK VALUE = 5.45854 micrograms carbon

BLANK FACTOR = 5.45854 / 10.49719 = +5.2E-01 ug/min Carbon

SAMPLE RESULTS:

(1535.1 - 5.46) (1)/(1) =

+1.5296E+03 g/L Carbon

(1535.1 - 5.46) (1)/(1) (12) =

+1.2747E+02 Molar Carbon

Sample Run By:

KR MONTEITH

00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S97T1784DUP-2

Date: 09/01/97

Time: 14:52:21

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 2.86 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           2.10          100.00
  3           1.00           3.60          41.67
  4           1.50          37.10          90.30
  5           2.00         156.00          76.22
  6           2.50         248.10          37.12
  7           3.00         330.90          25.02
  8           3.50         417.70          20.78
  9           4.00         496.40          15.85
 10           4.50         561.80          11.64
 11           5.00         614.00           8.50
 12           5.50         656.70           6.50
 13           6.00         689.40           4.74
 14           6.50         713.40           3.36
 15           7.00         727.00           1.87
 16           7.50         741.90           2.01
 17           8.00         753.40           1.53
 18           8.50         763.40           1.31
 19           9.00         771.20           1.01
 20           9.50         776.90           0.73
 21          10.00         781.10           0.54
 22          10.50         784.90           0.48

```

USER INPUT BLANK VALUE

BLANK VALUE = 30.02197 micrograms carbon

BLANK FACTOR = 30.02197 / 10.49719 = +2.9E+00 ug/min Carbon

SAMPLE RESULTS:

```

( 784.9 - 30.02703 ) (1)/(1) = +7.549E+02 g/L Carbon
( 784.9 - 30.02703 ) (1)/(1) (12) = +6.291E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

```

Sample Run By:

KR MONTEITH

00000

WORKBOOK PAGE: BLANK1

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

SOLIDS

			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)	9	37.2
20057	µg of Carbon from Baseline	(C2)	5.5	30

Test Code
@TICTOC1

Matrix
SOLID

Batch Number
97004208

Rerun
0

Sample Prep
N/A

Sample #

Instrument Code
CARB1

Prepared By
LCM

Chemist
RWS

Analyst
KRM

Date Complete
09/04/97

Analysis Date
09/01/97

Analysis Time
07:29 AM

Sample Point
AP-105

µg of Carbon = |C1-C2|

		TIC	TOC
Analysis Time	Method Detection Limit in ug/g	5	40
Sample Point	µg of Carbon	3.50E+00	7.20E+00

Data Entered By:	LCM	Date:	09/04/97
Signature of Chemist:	<i>RW Johnson</i>	Date:	9/8/97

BLANK.WB1 REV 1.0

342100ML

WORKBOOK PAGE: STD2

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

LIQUIDS

		TIC	TOC
Type	Sample Size in mL (SS)	1.0000	0.2000
STD	Dilution Factor (DF)	1	1
Work List	Final Coulometer Reading in µg (C1)	613.1	640.3
20057	µg of Carbon from Baseline (C2)	5.5	30
Test Code	Standard Book Number	25N12B	26N12B
@TICTOC1	Standard Value (µg/ml)	602	3000
Matrix			
LIQUID			
Batch Number			
97004208			
Rerun			
0			
Sample Prep	QC Actual in µg/mL = Standard Value (µg/mL)		
N/A	QC Found in µg/mL = (C1 - C2) * DF / SS		
	QC Found in µg/mL for TIC = 5 if C1 < C2		
Sample #	QC Found in µg/mL for TOC = 40 if C1 < C2		
Instrument Code	% Recovery = QC Found / QC Actual * 100		
CARB1			
Prepared By			
LCM			
Chemist			
RWS			
Analyst			
KRM			
Date Complete			
09/04/97			
Analysis Date			
09/01/97			
Analysis Time	Method Detection Limit in µg/mL	TIC	TOC
07:29 AM	QC Actual in µg/mL	5	40
Sample Point	QC Found in µg/mL	6.02E+02	3.00E+03
AP-105	Percent Standard Recovery	6.08E+02	3.05E+03
		100.9	101.7

Data Entered By:

Signature of Chemist:

STANDARD.WB1 REV 1.0

342100ML

LCM

Date: 09/04/97

Date: 9/8/97

WORKBOOK PAGE: SAM3

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

SOLIDS

		TIC	TOC
Type	Sample Size in g (SS)	0.0451	0.0451
SAMPLE	Dilution Factor (DF)	1	1
Work List	µg of Carbon in Sample (C1)	628.9	199.4
20057	µg of Carbon from Baseline (C2)	5.5	30
Test Code			
@TICTOC1			
Matrix			
SOLID			
Batch Number			
97004208			
Rerun	µg of Carbon/g = (C1-C2) * DF / SS		
0	µg of Carbon/g for TIC = 5 if C1 < C2		
Sample Prep	µg of Carbon/g for TOC = 40 if C1 < C2		
N/A			
Sample #			
S97T001783			
Instrument Code			
CARB1			
Prepared By			
LCM			
Chemist			
RWS			
Analyst			
KRM			
Date Complete			
09/04/97			
Analysis Date			
09/01/97			
Analysis Time	Method Detection Limit in ug/g	TIC	TOC
07:29 AM		5	40
Sample Point	µg of Carbon/g	1.38E+04	3.76E+03
AP-105			

Data Entered By:	LCM	Date:	09/04/97
Signature of Chemist:	<i>W. Schneider</i>	Date:	9/8/97

SAMPLE.WB1 REV 1.0

342100ML

447

WORKBOOK PAGE: DUP4

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

SOLIDS

		TIC	TOC
Type	Sample Size in g (SS)	0.0529	0.0529
DUP	Dilution Factor (DF)	1	1
Work List	µg of Carbon in Sample (C1)	711.8	398.2
20057	µg of Carbon from Baseline (C2)	5.5	30
Test Code	Known µg of C from Original Sample	1.38E+4	3.76E+3
@TICTOC1			
Matrix			
SOLID			
Batch Number			
97004208			
Rerun	µg of Carbon/g = (C1-C2) * DF / SS		
0	µg of Carbon/g for TIC = 5 if C1 < C2		
Sample Prep	µg of Carbon/g for TOC = 40 if C1 < C2		
N/A			
Sample #			
S97T001783			
Instrument Code			
CARB1			
Prepared By			
LCM			
Chemist			
RWS			
Analyst			
KRM			
Date Complete			
09/04/97			
Analysis Date			
09/01/97			
Analysis Time	Method Detection Limit in ug/g	TIC	TOC
07:29 AM		5	40
Sample Point	µg of Carbon/g	1.34E+04	6.96E+03
AP-105			

Data Entered By:	LCM	Date:	09/04/97
Signature of Chemist:	<i>RWS</i>	Date:	9/8/97

SAMPLE.WB1 REV 1.0

342100ML

448

WORKBOOK PAGE: TRIPL5

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

SOLIDS

		TIC	TOC
Type	Sample Size in g (SS)	0.0776	0.0776
TRIPL	Dilution Factor (DF)	1	1
Work List	µg of Carbon in Sample (C1)	782.7	471.8
20057	µg of Carbon from Baseline (C2)	5.5	30
Test Code	Known µg of C from Original Sample	1.38E+4	3.76E+3
@TICTOC1	Duplicate Result	1.34E+4	6.96E+3
Matrix			
SOLID			
Batch Number			
97004208			
Rerun	µg of Carbon/g = (C1-C2) * DF / SS		
0	µg of Carbon/g for TIC = 5 if C1 < C2		
Sample Prep	µg of Carbon/g for TOC = 40 if C1 < C2		
N/A			
Sample #			
S97T001783			
Instrument Code			
CARB1			
Prepared By			
LCM			
Chemist			
RWS			
Analyst			
KRM			
Date Complete			
09/04/97			
Analysis Date			
09/01/97			
Analysis Time	Method Detection Limit in ug/g	TIC	TOC
07:29 AM		5	40
Sample Point	µg of Carbon/g	1.00E+04	5.69E+03
AP-105			

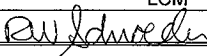
Data Entered By:	LCM	Date:	09/04/97
Signature of Chemist:	<i>R. W. Schroeder</i>	Date:	9/8/97

WORKBOOK PAGE: SAM6

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

SOLIDS

		TIC	TOC
Type	Sample Size in g (SS)	0.0864	0.0864
SAMPLE	Dilution Factor (DF)	1	1
Work List	µg of Carbon in Sample (C1)	1305.1	562.6
20057	µg of Carbon from Baseline (C2)	5.5	30
Test Code			
@TICTOC1			
Matrix			
SOLID			
Batch Number			
97004208			
Rerun	µg of Carbon/g = (C1-C2) * DF / SS		
0	µg of Carbon/g for TIC = 5 if C1 < C2		
Sample Prep	µg of Carbon/g for TOC = 40 if C1 < C2		
N/A			
Sample #			
S97T001784			
Instrument Code			
CARB1			
Prepared By			
LCM			
Chemist			
RWS			
Analyst			
KRM			
Date Complete			
09/04/97			
Analysis Date			
09/01/97			
Analysis Time	Method Detection Limit in ug/g	TIC	TOC
07:29 AM		5	40
Sample Point	µg of Carbon/g	1.50E+04	6.16E+03
AP-105			

Data Entered By:	LCM	Date:	09/04/97
Signature of Chemist:		Date:	9/8/97

SAMPLE.WB1 REV 1.0

342100ML

450

WORKBOOK PAGE: DUP7

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

SOLIDS

		TIC	TOC
Type	Sample Size in g (SS)	0.1020	0.1020
DUP	Dilution Factor (DF)	1	1
Work List	µg of Carbon in Sample (C1)	1535.1	784.9
20057	µg of Carbon from Baseline (C2)	5.5	30
Test Code	Known µg of C from Original Sample	1.50E+4	6.16E+3
@TICTOC1			
Matrix			
SOLID			
Batch Number			
97004208			
Rerun			
0			
Sample Prep			
N/A			
Sample #			
S97T001784			
Instrument Code			
CARB1			
Prepared By			
LCM			
Chemist			
RWS			
Analyst			
KRM			
Date Complete			
09/04/97			
Analysis Date			
09/01/97			
Analysis Time	Method Detection Limit in ug/g	TIC	TOC
07:29 AM		5	40
Sample Point	µg of Carbon/g	1.50E+04	7.40E+03
AP-105			

$\mu\text{g of Carbon/g} = (C1 - C2) * DF / SS$
 $\mu\text{g of Carbon/g for TIC} = 5 \text{ if } C1 < C2$
 $\mu\text{g of Carbon/g for TOC} = 40 \text{ if } C1 < C2$

Data Entered By:

LCM

Date: 09/04/97

Signature of Chemist:

R. J. Schneider

Date: 9/8/97

SAMPLE.WB1 REV 1.0

342100ML

451

HNF-SD-WM-DP-263, REV. 0

RADIOCHEMICAL ANALYSIS

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LABCORE Completed Worklist Report for Worklist# 19539

Analyst: scl Instrument: AB16 Book# _____

Method: _____ Rev/Mod _____

Worklist Comment: AP105, @ALPHA01, STD: 1.0mL skm

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD	0		@ALPHA01 ALPHA01	LIQUID	2.00E-04	1.79E-4	89.500	% Recovery
1 STD	0		@ALPHA01 ALPHA01E	LIQUID	1.00	3.48E+00	3.480	% Ct. Error
2 BLNK	0		@ALPHA01 ALPHA01	LIQUID	1	1.14E-2	0.011	uCi/mL
2 BLNK	0		@ALPHA01 ALPHA01E	LIQUID	1.00	5.80E+01	58.000	uCi/mL
3 BLNK/BKG	0		@ALPHA01 ALPHA01	LIQUID	1.00E+00	4.90E+00	4.900	BLNK/BKG
4 SAMPLE	S97T001762	0	@ALPHA01 ALPHA01	LIQUID	N/A	1.02E-02	7.57e-003	uCi/mL
4 SAMPLE	S97T001762	0	@ALPHA01 ALPHA01E	LIQUID	N/A	6.92E+01		% Ct. Error
5 DUP	S97T001762	0	@ALPHA01 ALPHA01	LIQUID	1.02E-2	9.93E-3	2.683	RPD
5 DUP	S97T001762	0	@ALPHA01 ALPHA01E	LIQUID	1.00	6.92E+01	69.200	% Ct. Error

Final page for worklist# 19539

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Reviewer Signature _____

Date _____

7/30/97

07/28/97 10:18
A-0004-1

Page: 1

LABCORE Data Entry Template for Worklist# 19539

Analyst: S.L Instrument: AB00 16 Book# 7956Method: LA-508-101 Rev/Mod G-0Worklist Comment: AP105, @ALPHA01, STD: 1.0mL skm Sample size by Luddum. SKM

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 STD			@ALPHA01	LIQUID		
2 BLNK			@ALPHA01	LIQUID		
3 BLNK/BKG			@ALPHA01	LIQUID		
4 SAMPLE	S97T001762 0		@ALPHA01	LIQUID	97000479	AP-105 (P)
	Analytes Requested: ALPHA01 , ALPHA01E					
5 DUP	S97T001762 0		@ALPHA01	LIQUID		

Final page for worklist # 19539

Sue Lin 7-27-97
Analyst Signature Date

Alicia Hogan 7-30-97
Analyst Signature Date
C.J. Opium 7/30/97

Data Entry Comments:

Sample S97T001762 one of sample turn up-side down, when I pick
it up when they dried. SL 7/29/97 Sample inspected and found to
be acceptable.

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

7/30/97

WORKBOOK PAGE: STD1

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

LA-508-113 (B-0) STANDARD

		STANDARD	REPLICATE
Detector	DETECTOR NUMBER	16	16
STD	DISH SIZE (1, 2, or 5) (MS)	2	2
Worklist	GROSS COUNTS (GC)	3212	3181
19539	COUNT TIME In MINUTES (CT)	30	30
Alpha/Beta	BACKGROUND In cpm (BKG)	0.17	0.17
AT	SAMPLE SIZE In mL (SS)	1.000	1.000
Test Code	DILUTION FACTOR (DF)	1	1
@ALPHA01	STANDARD BOOK NUMBER (Std BN)	79B56	79B56
Matrix	EFFICIENCY FACTOR (EFF)	0.2683	0.2683
LIQUID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE	106.897	105.863
Batch Number	Standard Value In $\mu\text{Ci/mL}$	2.00E-04	
97003663	Concentration In $\mu\text{Ci/L}$ =	1.79E-01	
Retun	Replicate Concentration In $\mu\text{Ci/L}$ =	1.78E-01	
0	AVERAGE CONCENTRATION In $\mu\text{Ci/L}$ =	1.7860E-01	
Sample Rep			
N/A	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Sample#	ALPHA TOTAL $\mu\text{Ci/L}$ = $R_s * 1000\text{mL/L} * DF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$		
WL19539	ALPHA TOTAL $\mu\text{Ci/mL}$ = ALPHA TOTAL $\mu\text{Ci/L} / 1000\text{mL/L}$		
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
WB27806	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
SEH			
Chemist			
SLF	ALPHA TOTAL CONCENTRATION In $\mu\text{Ci/mL}$ =	1.79E-04	DETECTION LEVEL
Analyst			
SCL			
Date Complete			7.42E-07 $\mu\text{Ci/mL}$
07/30/97	RELATIVE COUNTING ERROR =	3.5%	
Analyst Date			
07/29/97			
Analysis Time			
02:40 PM			
Sample Cont			
AP-105 (P)			

Analyst:	SEH	Date: 30-Jul-97
Signature of Chemist:	SLF	Date: 7/30/97

STANDARD.WB1 Rev. 1.0

508101ML

WORKBOOK PAGE: BLANK2

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

LIQUIDS

		BLNK	REPLICATE
Type	DETECTOR NUMBER	16	16
BLNK	DISH SIZE (1, 2, or 5)	2	2
Worklist	GROSS COUNTS	27	23
19539	COUNT TIME in MINUTES	30	30
Alpha B3	BACKGROUND in cpm	0.17	0.17
AT	SAMPLE SIZE in mL	1.000	1.000
Test Code	DILUTION FACTOR	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR	1	1
Matrix	EFFICIENCY FACTOR	0.2683	0.2683
LIQUID	Lc, Rmax, or Rs.(SAMPLE RATE) as APPROPRIATE	0.730	0.597
Batch Number			
97003663	Blank Concentration in $\mu\text{Ci/L}$	1.25E+01	
Retun	Replicate Concentration in $\mu\text{Ci/L}$	1.02E+01	
0	Average Concentration in $\mu\text{Ci/L}$	1.1361E+01	
Sample Prep			
N/A	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	ALPHA TOTAL $\mu\text{Ci/L}$ = $R_s * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$		
WL19539	ALPHA TOTAL $\mu\text{Ci/mL}$ = ALPHA TOTAL $\mu\text{Ci/L} / 1000\text{mL/L}$		
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
WB27806	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
SEH			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Average) =	1.14E-02	DETECTION LEVEL
Analyst			
SCL			7.57E-03
Date Complete			$\mu\text{Ci/mL}$
07/30/97	RELATIVE COUNTING ERROR	58.0%	
Analysis Date			
07/29/97			
Analysis Time			
02:40 PM			
Sample Point			
AP-105 (P)			

Analyst:		SCL	Date: 30-Jul-97
Signature of Chemist:		SLF	Date: 7/30/97
BLANK.WBT Rev. 1.0	508101ML		

WORKBOOK PAGE: SAM4

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

		SAMPLE	REPLICATE
Type	DETECTOR NUMBER	16	16
SAMPLE	DISH SIZE (1, 2, or 5) (MS)	2	2
Worklist	GROSS COUNTS (GC)	19	27
19539	COUNT TIME in MINUTES (CT)	30	30
Al Total B	BACKGROUND in cpm (BKG)	0.17	0.17
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)	0.2683	0.2683
LIQUID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE	0.463	0.730

Batch Number	
97003663	Blank Concentration in $\mu\text{Ci/L}$ 7.94E+00
Replicate	Replicate Concentration in $\mu\text{Ci/L}$ 1.25E+01
0	Average Concentration in $\mu\text{Ci/L}$ 1.0219E+01

Sample Prep	N/A	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	S97T001762	ALPHA TOTAL $\mu\text{Ci/L}$ = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/ μCi)
Instrument Code	WB27806	ALPHA TOTAL $\mu\text{Ci/mL}$ = ALPHA TOTAL $\mu\text{Ci/L}$ / 1000mL/L
Prepared By	SEH	Relative Counting Error = [(The Square Root of TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100
Chemist		Detection Levels and Less Than Values are determined from Procedure LA-508-002.

SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Average) =	1.02E-02	DETECTION LEVEL
Analyst			
SCL			7.57E-03
Date Complete			$\mu\text{Ci/mL}$
07/30/97	RELATIVE COUNTING ERROR	69.2%	
Analysis Date			
07/29/97			
Analysis Time			
02:40 PM			
Sample Point			
AP-105 (P)			

(/ system;text)yes~

Analyst:	SCL	Date: 30-Jul-97
Signature of Chemist:	SLF	Date: 7/30/97
SAMPLE.WB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: DUP5

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

		DUP	REPLICATE
Type	DETECTOR NUMBER	16	16
DUP	DISH SIZE (1, 2, or 5) (MS)	2	2
Worksheet	GROSS COUNTS (GC)	26	19
19639	COUNT TIME in MINUTES (CT)	30	30
Alpha B	BACKGROUND in cpm (BKG)	0.17	0.17
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)	0.2683	0.2683
LIQUID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE	0.697	0.463
Batch Number			
97003663	Blank Concentration in $\mu\text{Ci/L}$	1.19E+01	
Rerun	Replicate Concentration in $\mu\text{Ci/L}$	7.94E+00	
0	Average Concentration in $\mu\text{Ci/L}$	9.9334E+00	
Sample Prep			
N/A			

Sample	Rs (Sample Count Rate) = $(TC / CT) - BKG$
S97T001762	ALPHA TOTAL $\mu\text{Ci/L}$ = $Rs * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$
Instrument Code	ALPHA TOTAL $\mu\text{Ci/mL}$ = $ALPHA\ TOTAL\ \mu\text{Ci/L} / 1000\text{mL/L}$
WB27806	Relative Counting Error = $[(The\ Square\ Root\ of\ TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$
Prepared By	Detection Levels and Less Than Values are determined from Procedure LA-508-002.
SEH	
Chemist	

SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Average) =	9.93E-03	DETECTION LEVEL
Analyst			
SCL			7.57E-03
Date Complete			$\mu\text{Ci/mL}$
07/30/97	RELATIVE COUNTING ERROR	69.2%	
Analysis Date			
07/29/97			
Analysis Time			
02:40 PM			
Sample Point			
AP-105 (P)			

// system exit yes~

Analyst:	SCL	Date: 30-Jul-97
Signature of Chemist:	SLF	Date: 7/30/97
SAMPLE.WB1 Rev. 1.0	508101ML	

LABCORE Completed RadChem Report for Worklist#: 19544

Analyst: slh Instrument: AB14 Book# _____

Method: _____ Rev/Mod _____

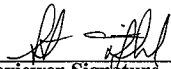
Worklist Comment: For 1721; .1-10-.1-10-1, for 1723; .1-10-.1-10-.5. RR#1 SLF

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD	0		0ALPHA01 ALPHA01	LIQUID	2.00E-04	1.58E-4	79.000	% Recovery
1 STD	0		0ALPHA01 ALPHA01E	LIQUID	1.00	3.73E+00	3.730	% Ct. Error
2 BLNK	0		0ALPHA01 ALPHA01	LIQUID	1	<4.60E-3		uCi/mL
2 BLNK	0		0ALPHA01 ALPHA01E	LIQUID	1.00	5.00E+02	500.000	uCi/mL
3 BLNK/BKG	0		0ALPHA01 ALPHA01	LIQUID	1.00E+00	3.75E-01	0.375	BLNK/BKG
4 SAMPLE	S97T001721	0	0ALPHA01 ALPHA01	LIQUID	N/A <	4.60E-03	107.0e-004	uCi/mL
4 SAMPLE	S97T001721	0	0ALPHA01 ALPHA01E	LIQUID	N/A	5.00E+02	0.0e+000	% Ct. Error
5 DUP	S97T001721	0	0ALPHA01 ALPHA01	LIQUID	<4.60E-3	<4.60E-3		RPD
5 DUP	S97T001721	0	0ALPHA01 ALPHA01E	LIQUID	1.00	5.00E+02	500.000	% Ct. Error
6 SPK	S97T001721	0	0ALPHA01 ALPHA01	LIQUID	2.63E-02	2.69E-02	102.281	% Recovery
7 SAMPLE	S97T001723	0	0ALPHA01 ALPHA01	LIQUID	N/A <	1.45E-02	215.0e-004	uCi/mL
7 SAMPLE	S97T001723	0	0ALPHA01 ALPHA01E	LIQUID	N/A	5.00E+02	0.0e+000	% Ct. Error
8 DUP	S97T001723	0	0ALPHA01 ALPHA01	LIQUID	<1.45E-2	<9.20E-3		RPD
8 DUP	S97T001723	0	0ALPHA01 ALPHA01E	LIQUID	1.00	5.00E+02	500.000	% Ct. Error

Final page for worklist# 19544

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____


Reviewer Signature _____ Date 7/30/97

LABCORE Data Entry Template for Worklist# 19544

Analyst: SLH Instrument: AB00 14 Book# 79856

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

Worklist Comment: For 1721; .1-10-.1-10-1, for 1723; .1-10-.1-10-.5. RR#1 SLF

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 STD			@ALPHA01	LIQUID		
2 BLNK			@ALPHA01	LIQUID		
3 BLNK/BKG			@ALPHA01	LIQUID		
4 SAMPLE	S97T001721 0		@ALPHA01	LIQUID	97000455	AP-105 (P)
	Analytes Requested: ALPHA01 , ALPHA01E					
5 DUP	S97T001721 0		@ALPHA01	LIQUID		
6 SPK	S97T001721 0		@ALPHA01	LIQUID		
7 SAMPLE	S97T001723 0		@ALPHA01	LIQUID	97000455	AP-105 (P)
	Analytes Requested: ALPHA01 , ALPHA01E					
8 DUP	S97T001723 0		@ALPHA01	LIQUID		

Final page for worklist # 19544

Indira Attard Boatright
Analyst Signature Date
7-28-97

Suzanne Z Cochran 7/29/97
Analyst Signature Date
Sue Hogan 7-29-97

Data Entry Comments:

WORKBOOK PAGE: STD1

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

	STANDARD	REPLICATE
Type	DETECTOR NUMBER	14
STD	DISH SIZE (1, 2, or 5) (MS)	2
Work List	GROSS COUNTS (GC)	2914
19544	COUNT TIME in MINUTES (CT)	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.4
AT	SAMPLE SIZE in mL (SS)	1.000
Test Code	DILUTION FACTOR (DF)	1
@ALPHA01	STANDARD BOOK NUMBER (Std BN)	79B56
Matrix	EFFICIENCY FACTOR (EFF)	0.2692
LIQUID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE	96.733
Batch Number	Standard Value in $\mu\text{Ci/mL}$	2.00E-04
97003670	Concentration in $\mu\text{Ci/L}$ =	1.62E-01
Rerun	Replicate Concentration in $\mu\text{Ci/L}$ =	1.55E-01
0	AVERAGE CONCENTRATION in $\mu\text{Ci/L}$ =	1.5843E-01
Sample Prep		
N/A	R_s (Sample Count Rate) = $(TC / CT) - BKG$	
Sample #	$\text{ALPHA TOTAL } \mu\text{Ci/L} = R_s * 1000\text{mL/L} * DF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$	
WL19544	$\text{ALPHA TOTAL } \mu\text{Ci/mL} = \text{ALPHA TOTAL } \mu\text{Ci/L} / 1000\text{mL/L}$	
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$	
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.	
Prepared By		
SZC		
Chemist		
SLF	ALPHA TOTAL CONCENTRATION in $\mu\text{Ci/mL}$ =	1.58E-04
Analyst		DETECTION LEVEL
SLH		
Date/Complete		1.05E-06
07/29/97	RELATIVE COUNTING ERROR =	3.7%
Analysis Date		$\mu\text{Ci/mL}$
07/28/97		
Analysis Time		
11:30 PM		
Sample Point		
AP-105		

Analyst:	SZC	Date: 29-Jul-97
Signature of Chemist:	SLF	Date: 7/30/97
STANDARD.WB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: BLANK2

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

LIQUIDS

		BLNK	REPLICATE
Type	DETECTOR NUMBER	14	14
BLNK	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	5	4
19544	COUNT TIME IN MINUTES (CT)	30	30
At or TB ?	BACKGROUND in cpm (BKG)	0.4	0.4
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	0.269	0.269
Batch Number			
97003670	Blank Concentration in $\mu\text{Ci/L}$	< 4.60E+00	
Retuns	Replicate Concentration in $\mu\text{Ci/L}$	< 4.60E+00	
0	Maximum Concentration in $\mu\text{Ci/L}$	< 4.5992E+00	
Sample Prep			
N/A	Rs (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	ALPHA TOTAL $\mu\text{Ci/L}$ = $Rs * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$		
WL19544	ALPHA TOTAL $\mu\text{Ci/mL}$ = ALPHA TOTAL $\mu\text{Ci/L} / 1000\text{mL/L}$		
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
SZC			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum) =	< 4.60E-03	DETECTION LEVEL
Analyst	LESS Than Value was Determined from Lc.		
SLH			
Date Complete	RELATIVE COUNTING ERROR	500.0%	1.07E-02 $\mu\text{Ci/mL}$
07/29/97			
Analysis Date			
07/28/97			
Analysis Time			
11:30 PM			
Sample Point			
AP-105			

Analyst:	SLH	Date: 29-Jul-97
Signature of Chemist:	SLF	Date: 7/30/97
BLANK.WB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: SAM4

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

LIQUIDS

		SAMPLE	REPLICATE
TYPE	DETECTOR NUMBER	14	14
SAMPLE	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	4	7
19544	COUNT TIME IN MINUTES (CT)	30	30
AT or TB?	BACKGROUND in cpm (BKG)	0.4	0.4
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	0.269	0.269
Batch Number			
97003670	Blank Concentration in $\mu\text{Ci/L}$	< 4.60E+00	
Rerun	Replicate Concentration in $\mu\text{Ci/L}$	< 4.60E+00	
0	Maximum Concentration in $\mu\text{Ci/L}$	< 4.5992E+00	
Sample Prep			
N/A	Rs (Sample Count Rate) = $(\text{TC} / \text{CT}) - \text{BKG}$		
Sample #	ALPHA TOTAL $\mu\text{Ci/L}$ = $\text{Rs} * 1000\text{mL/L} * \text{DF} * \text{DDF} / (\text{EFF} * \text{SS} * 2220000\text{dpm}/\mu\text{Ci})$		
S97T001721	ALPHA TOTAL $\mu\text{Ci/mL}$ = $\text{ALPHA TOTAL } \mu\text{Ci/L} / 1000\text{mL/L}$		
Instrument Code	Relative Counting Error = $[(\text{The Square Root of TC} + \text{BKG} * \text{CT}) / (\text{TC} - \text{BKG} * \text{CT})] * 1.96 * 100$		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
SZC			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum) =	< 4.60E-03	DETECTION LEVEL
Analyst			
SLH	LESS Than Value was Determined from Lc.		
Date Complete			1.07E-02 $\mu\text{Ci/mL}$
07/29/97	RELATIVE COUNTING ERROR	500.0%	
Analysis Date			
07/28/97			
Analysis Time			
11:30 PM			
Sample Point			
AP-105			

Analyst:	SLH	Date: 29-Jul-97
Signature of Chemist:	SLF	Date: 7/30/97
SAMPLE.WB1 Rev. 1.	508101ML	

WORKBOOK PAGE: DUPS

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

		DUP	REPLICATE
Type	DETECTOR NUMBER	14	14
DUP	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	5	2
19544	COUNT TIME IN MINUTES (CT)	30	30
A1 or B1?	BACKGROUND in cpm (BKG)	0.4	0.4
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	0.269	0.269
Batch Number			
97003670	Blank Concentration in $\mu\text{Ci/L}$	< 4.60E+00	
Rerun	Replicate Concentration in $\mu\text{Ci/L}$	< 4.60E+00	
0	Maximum Concentration in $\mu\text{Ci/L}$	< 4.5992E+00	
Sample Prep			
N/A	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	$\text{ALPHA TOTAL } \mu\text{Ci/L} = R_s * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$		
S97T001721	$\text{ALPHA TOTAL } \mu\text{Ci/mL} = \text{ALPHA TOTAL } \mu\text{Ci/L} / 1000\text{mL/L}$		
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
SZC			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum) =	< 4.60E-03	DETECTION LEVEL
Analyst	LESS Than Value was Determined from Lc.		
SLH			
Date Complete			1.07E-02 $\mu\text{Ci/mL}$
07/29/97	RELATIVE COUNTING ERROR	500.0%	
Analysis Date			
07/28/97			
Analysis Time			
11:30 PM			
Sample Point			
AP-105			

Analyst:	SLH	Date: 29-Jul-97
Signature of Chemist:	SLF	Date: 7/30/97
SAMPLE.WB1 Rev. 1.	508101ML	

WORKBOOK PAGE: SPK6

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

Type	DETECTOR NUMBER	SPIKE	REPLICATE
SPK	DISH SIZE 1, 2, or 5 (MS)	14	14
Work List	TOTAL COUNTS (TC)	2	2
19544	COUNT TIME in MINUTES (CT)	48196	48420
AT or TB?	BACKGROUND in cpm (BKG)	30	30
AT	SAMPLE VOLUME in mL (Spiked Vial) (SS)	0.4	0.4
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial) (DF)	1.000	1.000
@ALPHA01	DIGEST DILUTION FACTOR (DDF)	10201	10201
Matrix	SPIKE VOLUME in mL (SVol)	1	1
LIQUID	SPIKE DILUTION FACTOR (SDF)	0.100	0.100
Batch Number	SPIKE BOOK NUMBER (Spk BN)	1	1
97003670	SPIKE VALUE in $\mu\text{Ci/mL}$ (SVal)	131B43	131B43
Rerrun	INSTRUMENT EFFICIENCY FACTOR (EFF)	2.6285E-02	2.6285E-02
0	SAMPLE + SPIKE $\mu\text{Ci/mL}$ (S+S)	0.2692	0.2692
Sample Prep	AVERAGE or MAXIMUM $\mu\text{Ci/mL}$ in SAMPLE	2.74E+01	2.75E+01
N/A	<	4.5992E-03	
Sample #			
S97T001721	Rs (Sample Count Rate) = $(TC / CT) - BKG$		
Instrument Code	SAMPLE + SPIKE $\mu\text{Ci/mL}$ = $Rs * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$		
WB27807	QC ACTUAL = SVal		
Prepared By	QC FOUND = $((S+S \mu\text{Ci/mL} - \text{SAMPLE } \mu\text{Ci/mL}) * ((SDF/SVol)/(DF*DDF/SS)))$		
SZC	PERCENT SPIKE RECOVERY = $(QC \text{ FOUND} / QC \text{ ACTUAL}) * 100$		
Chemist			
SLF			
Analyst			
SLH			
Date Complete	NOTE: Original Sample result was a LESS THAN value. Zero (0) was subtracted from the spiked value for QC found calculation.		
07/29/97			
Analysis Date			
07/28/97	QC ACTUAL =	2.63E-02	
Analysis Time	QC FOUND =	2.69E-02	
11:30 PM	AVG. PERCENT SPIKE RECOVERY =	102.5%	
Sample Point			
AP-105			

Analyst:	SZC	Date: 29-Jul-97
Signature of Chemist:	SLF	Date: 7/30/97
SPIKE.WB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: SAM7

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

LIQUIDS

		SAMPLE	REPLICATE
Type	DETECTOR NUMBER	14	14
SAMPLE	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	16	2
19544	COUNT TIME IN MINUTES (CT)	30	30
Atom IB?	BACKGROUND in cpm (BKG)	0.4	0.4
AT	SAMPLE SIZE in mL (SS)	0.500	0.500
Test Code	DILUTION FACTOR (DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR (DDF)	1	1
Matrix	EFFICIENCY FACTOR (EFF)	0.2692	0.2692
LIQUID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.424	0.269
Batch Number			
97003670	Blank Concentration in $\mu\text{Ci/L}$	< 1.45E+01	
ReRun	Replicate Concentration in $\mu\text{Ci/L}$	< 9.20E+00	
0	Maximum Concentration in $\mu\text{Ci/L}$	< 1.4487E+01	
Sample Prep			
N/A	Rs (Sample Count Rate) = $(\text{TC} / \text{CT}) - \text{BKG}$		
Sample #	ALPHA TOTAL $\mu\text{Ci/L}$ = $\text{Rs} * 1000\text{mL/L} * \text{DF} * \text{DDF} / (\text{EFF} * \text{SS} * 2220000\text{dpm}/\mu\text{Ci})$		
S97T001723	ALPHA TOTAL $\mu\text{Ci/mL}$ = $\text{ALPHA TOTAL } \mu\text{Ci/L} / 1000\text{mL/L}$		
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } \text{TC} + \text{BKG} * \text{CT}) / (\text{TC} - \text{BKG} * \text{CT})] * 1.96 * 100$		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
SZC			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum) =	< 1.45E-02	DETECTION LEVEL
Analyst			
SLH	LESS THAN Value was Determined from Rmax.		
Date Complete			2.15E-02 $\mu\text{Ci/mL}$
07/29/97	RELATIVE COUNTING ERROR	500.0%	
Analysis Date			
07/28/97			
Analysis Time			
11:30 PM			
Sample Point			
AP-105			

Analyst:	SLH	Date: 29-Jul-97
Signature of Chemist:	SLF	Date: 7/30/97
SAMPLE.WB1 Rev. 1.	508101ML	

WORKBOOK PAGE: DUP8

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

		DUP	REPLICATE
Type	DETECTOR NUMBER	14	14
DUP	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	4	8
19544	COUNT TIME IN MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.4	0.4
AT	SAMPLE SIZE in mL (SS)	0.500	0.500
Test Code	DILUTION FACTOR (DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR (DDF)	1	1
Matrix	EFFICIENCY FACTOR (EFF)	0.2692	0.2692
LIQUID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.269	0.269
Batch Number			
97003670	Blank Concentration in $\mu\text{Ci/L}$	< 9.20E+00	
Rerun	Replicate Concentration in $\mu\text{Ci/L}$	< 9.20E+00	
0	Maximum Concentration in $\mu\text{Ci/L}$	< 9.1984E+00	
Sample Prep			
N/A	Rs (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	ALPHA TOTAL $\mu\text{Ci/L}$ = $Rs * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$		
S97T001723	ALPHA TOTAL $\mu\text{Ci/mL}$ = $ALPHA TOTAL \mu\text{Ci/L} / 1000\text{mL/L}$		
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
SZC			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum) =	< 9.20E-03	DETECTION LEVEL
Analyst			
SLH	LESS Than Value was Determined from Lc.		
Date Complete			2.15E-02 $\mu\text{Ci/mL}$
07/29/97	RELATIVE COUNTING ERROR	500.0%	
Analysis Date			
07/28/97			
Analysis Time			
11:30 PM			
Sample Point			
AP-105			

Analyst:	SLH	Date: 29-Jul-97
Signature of Chemist:	SLF	Date: 7/30/97

SAMPLE.WB1 Rev. 1.

508101ML

LABCORE Completed RadChem Report for Worklist#: 19566

Analyst: scl

Instrument: AB18

Book# _____

Method: _____ Rev/Mod _____

Worklist Comment: Use .1-10-.1-10-.250 mL sample size. Rerun #1. SLF

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD	0		GALPHA01 ALPHA01 LIQUID		2.00E-04	1.91E-4	95.500	% Recovery
1 STD	0		GALPHA01 ALPHA01 LIQUID		1.00	3.43E+00	3.430	% Ct. Error
2 BLNK	0		GALPHA01 ALPHA01 LIQUID		1	<2.34E-3		uCi/mL
2 BLNK	0		GALPHA01 ALPHA01 LIQUID		1.00	5.00E+02	500.000	uCi/mL
3 BLNK/BKG	0		GALPHA01 ALPHA01 LIQUID		1.00E+00	6.67E-01	0.667	BLNK/BKG
4 SAMPLE	S97T001761	0	GALPHA01 ALPHA01 LIQUID		N/A	< 3.86E-03	626.0e-005	uCi/mL
4 SAMPLE	S97T001761	0	GALPHA01 ALPHA01 LIQUID		N/A	5.00E+02	0.0e+000	% Ct. Error
5 DUP	S97T001761	0	GALPHA01 ALPHA01 LIQUID		<3.86E-3	<2.34E-3		RPD
5 DUP	S97T001761	0	GALPHA01 ALPHA01 LIQUID		1.00	5.00E+02	500.000	% Ct. Error

Final page for worklist# 19566

Analyst Signature

Date

Analyst Signature

Date

Reviewer Signature

Date

07/29/97 14:08
A-0004-1

LABCORE Data Entry Template for Worklist# 19566

Analyst: S.L. Instrument: AB00 18 Book# 79856Method: LA-508-101 Rev/Mod GT-0

Worklist Comment: Use .1-10-.1-10-.250 mL sample size. Rerun #1. SLF

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 STD			@ALPHA01	LIQUID		
2 BLNK			@ALPHA01	LIQUID		
3 BLNK/BKG			@ALPHA01	LIQUID		
4 SAMPLE	S97T001761 0		@ALPHA01	LIQUID	97000478	AP-105 (P)
	Analytes Requested: ALPHA01 , ALPHA01E					
5 DUP	S97T001761 0		@ALPHA01	LIQUID		

Final page for worklist # 19566

Sue L. 7-31-97
Analyst Signature DateM. C. B. 8/1/97
Analyst Signature Date
Sue Hogan 8/1/97

Data Entry Comments:

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

WORKBOOK PAGE: STD1

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

		STANDARD	REPLICATE
Type	DETECTOR NUMBER	18	18
STD	DISH SIZE (1, 2, or 5) (MS)	2	2
Worklist	GROSS COUNTS (GC)	3475	3275
19566	COUNT TIME in MINUTES (CT)	30	30
AT 101E-1	BACKGROUND in cpm (BKG)	0.1	0.1
AT	SAMPLE SIZE in mL (SS)	1.000	1.000
Test Code	DILUTION FACTOR (DF)	1	1
@ALPHA01	STANDARD BOOK NUMBER (Std BN)	79B56	79B56
Matrix	EFFICIENCY FACTOR (EFF)	0.2644	0.2644
LIQUID	Lc, Rmax, or Rs.(SAMPLE RATE) as APPROPRIATE	115.733	109.067
Batch Number	Standard Value in $\mu\text{Ci/mL}$	2.00E-04	
97003692	Concentration in $\mu\text{Ci/L}$ =	1.97E-01	
Rerun	Replicate Concentration in $\mu\text{Ci/L}$ =	1.86E-01	
0	AVERAGE CONCENTRATION in $\mu\text{Ci/L}$ =	1.9149E-01	
Sample Prep			
N/A	Rs (Sample Count Rate) = $(\text{TC} / \text{CT}) - \text{BKG}$		
Sample #	ALPHA TOTAL $\mu\text{Ci/L}$ = $\text{Rs} * 1000\text{mL/L} * \text{DF} / (\text{EFF} * \text{SS} * 2220000\text{dpm}/\mu\text{Ci})$		
WL19566-STD	ALPHA TOTAL $\mu\text{Ci/mL}$ = ALPHA TOTAL $\mu\text{Ci/L}$ / 1000mL/L		
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } \text{TC} + \text{BKG} * \text{CT}) / (\text{TC} - \text{BKG} * \text{CT})] * 1.96 * 100$		
WB27809	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
MCB			
Chemist			
SLF	ALPHA TOTAL CONCENTRATION in $\mu\text{Ci/mL}$ =	1.91E-04	
Analyst			
SCL			
Date Complete			
08/01/97	RELATIVE COUNTING ERROR =	3.4%	
Analysis Date			
07/31/97			
Analysis Time			
02:55 PM			
Sample Point			
AP-105(P)			

Analyst:	MCB	Date: 01-Aug-97
Signature of Chemist:	SLF	Date: 1 Aug 97
STANDARD.WB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: BLANK2

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

LIQUIDS

		BLNK	REPLICATE
Type	DETECTOR NUMBER	18	18
BLNK	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	3	1
19566	COUNT TIME in MINUTES (CT)	30	30
Atom/Bkg	BACKGROUND in cpm (BKG)	0.1	0.1
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)	0.2644	0.2644
LIQUID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.135	0.135

Batch Number	
97003692	Blank Concentration in $\mu\text{Ci/L}$ < 2.34E+00
Rerun	Replicate Concentration in $\mu\text{Ci/L}$ < 2.34E+00
0	Maximum Concentration in $\mu\text{Ci/L}$ < 2.3414E+00

Sample Prep	
N/A	R_s (Sample Count Rate) = $(TC / CT) - BKG$
Sample #	$\text{ALPHA TOTAL } \mu\text{Ci/L} = R_s * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$
	$\text{ALPHA TOTAL } \mu\text{Ci/mL} = \text{ALPHA TOTAL } \mu\text{Ci/L} / 1000\text{mL/L}$
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$
WB27809	Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Prepared By	
MCB	
Chemist	
SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum) = < 2.34E-03
Analyst	
SCL	LESS Than Value was Determined from Lc.
Date Complete	
08/01/97	RELATIVE COUNTING ERROR 500.0%
Analysis Date	
07/31/97	
Analysis Time	
02:55 PM	
Sample Point	
AP-105(P)	

Analyst:	SCL	Date: 01-Aug-97
Signature of Chemist:	<i>SCL</i>	SLF
BLANK.WB1 Rev. 1.0	508101ML	Date: <i>Aug 97</i>

WORKBOOK PAGE: SAM4

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

	SAMPLE	REPLICATE
Type	DETECTOR NUMBER	18
SAMPLE	DISH SIZE (1, 2, or 6) (MS)	2
Work List	GROSS COUNTS (GC)	5
19566	COUNT TIME in MINUTES (CT)	30
Atorh Bk	BACKGROUND in cpm (BKG)	0.1
AT	SAMPLE SIZE in mL (SS)	1.000
Test Code	DILUTION FACTOR (DF)	10201
@ALPHA01	DIGEST DILUTION FACTOR (DDF)	1
Matrix	EFFICIENCY FACTOR (EFF)	0.2644
LIQUID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.222
Batch Number		
97003692	Blank Concentration in $\mu\text{Ci/L}$	< 3.86E+00
ReRun	Replicate Concentration in $\mu\text{Ci/L}$	< 2.34E+00
0	Maximum Concentration in $\mu\text{Ci/L}$	< 3.8622E+00
Sample Prep		
N/A	Rs (Sample Count Rate) = $(TC / CT) - BKG$	
Sample #	ALPHA TOTAL $\mu\text{Ci/L}$ = $Rs * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$	
S97T001761	ALPHA TOTAL $\mu\text{Ci/mL}$ = $ALPHA\ TOTAL\ \mu\text{Ci/L} / 1000\text{mL/L}$	
Instrument Code	Relative Counting Error = $[(The\ Square\ Root\ of\ TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$	
WB27809	Detection Levels and Less Than Values are determined from Procedure LA-508-002.	
Prepared By		
MCB		
Chemist		
SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum) =	< 3.86E-03
Analyst		
SCL	LESS THAN Value was Determined from Rmax.	
Date Complete		
08/01/97	RELATIVE COUNTING ERROR	500.0%
Analysis Date		
07/31/97		
Analysis Time		
02:55 PM		
Sample Point		
AP-105(P)		

Analyst:	SCL	Date: 01-Aug-97
Signature of Chemist: <i>SLF</i>	SLF	Date: <i>1 Aug 97</i>
SAMPLE.WB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: DUPS

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

	DUP	REPLICATE
Type	DETECTOR NUMBER	18
DUP	DISH SIZE (1, 2, or 5) (MS)	2
Work List	GROSS COUNTS (GC)	2
19566	COUNT TIME in MINUTES (CT)	30
Alpha/Bk	BACKGROUND in cpm (BKG)	0.1
AT	SAMPLE SIZE in mL (SS)	1.000
Test Code	DILUTION FACTOR (DF)	10201
@ALPHA01	DIGEST DILUTION FACTOR (DDF)	1
Matrix	EFFICIENCY FACTOR (EFF)	0.2644
LIQUID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.135
Batch Number		
97003692	Blank Concentration in $\mu\text{Ci/L}$	< 2.34E+00
Rerun	Replicate Concentration in $\mu\text{Ci/L}$	< 2.34E+00
0	Maximum Concentration in $\mu\text{Ci/L}$	< 2.3414E+00
Sample Prep		
N/A	Rs (Sample Count Rate) = $(TC / CT) - BKG$	
Sample #	ALPHA TOTAL $\mu\text{Ci/L}$ = $Rs * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$	
S97T001761	ALPHA TOTAL $\mu\text{Ci/mL}$ = $ALPHA\ TOTAL\ \mu\text{Ci/L} / 1000\text{mL/L}$	
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$	
WB27809	Detection Levels and Less Than Values are determined from Procedure LA-508-002.	
Prepared By		
MCB		
Chemist		
SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum) =	< 2.34E-03
Analyst		
SCL	LESS Than Value was Determined from Lc.	
Date Complete		
08/01/97	RELATIVE COUNTING ERROR	500.0%
Analysis Date		
07/31/97		
Analysis Time		
02:56 PM		
Sample Point		
AP-105(P)		

Analyst:	SCL	Date: 01-Aug-97
Signature of Chemist:	SLF	Date: 1 Aug 97
SAMPLE.WB1 Rev. 1.0	508101ML	

LABCORE Completed RadChem Report for Worklist#: 19574

Analyst: dpb

Instrument: AB14

Book# _____

Method: _____ Rev/Mod _____

Worklist Comment: AP105, @ALPHA01 S.S. by Ludlum. Std:1.0mL, Spk:0.1mL skm

Seq Type	Sample# R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD	0	@ALPHA01 ALPHA01 LIQUID		2.00E-04	1.45E-4	72.500	% Recovery
1 STD	0	@ALPHA01 ALPHA01E LIQUID		1.00	3.97E+00	3.970	% Ct. Error
2 BLNK	0	@ALPHA01 ALPHA01 LIQUID		1	<4.56E-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	1.83E-00	1.830	BLNK/BKG
4 SAMPLE	S97T001689	0 @ALPHA01 ALPHA01 LIQUID		N/A <	3.88E-07	789.0e-009	uCi/mL
4 SAMPLE	S97T001689	0 @ALPHA01 ALPHA01E LIQUID		N/A	5.00E+02	0.0e+000	% Ct. Error
5 DUP	S97T001689	0 @ALPHA01 ALPHA01 LIQUID		<3.88E-7	<3.19E-7		RPD
5 DUP	S97T001689	0 @ALPHA01 ALPHA01E LIQUID		1.00	5.00E+02	500.000	% Ct. Error

Final page for worklist# 19574

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____


Reviewer Signature

1 Aug 97
Date

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

LABCORE Data Entry Template for Worklist# 19574

Analyst: DPB Instrument: AB00 14 Book# .79B56

Method: LA-508-101 Rev/Mod _____

Worklist Comment: AP105, @ALPHA01 S.S. by Ludlum. Std:1.0mL, Spk:0.1mL skm

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 STD			@ALPHA01	LIQUID		
2 BLNK			@ALPHA01	LIQUID		
3 BLNK/BKG			@ALPHA01	LIQUID		
4 SAMPLE	S97T001689 0		@ALPHA01	LIQUID	97000455	AP-105 (P)
	Analytes Requested: ALPHA01 , ALPHA01E					
5 DUP	S97T001689 0		@ALPHA01	LIQUID		

Final page for worklist # 19574

Don P. Brumley 7/31/97 2230
Analyst Signature Date

Em Bucher 8-1-97
Analyst Signature Date
Supurna Z. Chakraborty 8/1/97

Data Entry Comments:

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

WORKBOOK PAGE: STD1

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

LA-508-113 (B-0) STANDARD

		STANDARD	REPLICATE
Type	DETECTOR NUMBER	14	14
STD	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	2461	2739
19574	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	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)	79B56	79B56
Matrix	EFFICIENCY FACTOR (EFF)	0.2692	0.2692
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE	81.833	91.100
Batch Number	Standard Value in µCi/mL	2.00E-04	
97003700	Concentration in µCi/L =	1.37E-01	
Rerun	Replicate Concentration in µCi/L =	1.52E-01	
0	AVERAGE CONCENTRATION in µCi/L =	1.4468E-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)		
WL19574-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		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
EMB			
Chemist			
SLF	ALPHA TOTAL CONCENTRATION in µCi/mL =	1.45E-04	DETECTION LEVEL
Analyst			
DPB			
Date Complete			7.89E-07 µCi/mL
08/01/97	RELATIVE COUNTING ERROR =	4.0%	
Analysis Date			
07/31/97			
Analysis Time			
10:30 PM			
Sample Point			
AP-105 (P)			

Analyst:	EMB	Date: 01-Aug-97
Signature of Chemist:	SLF	Date: 1/16/97

STANDARD.WB1 Rev. 1.0

508101ML

WORKBOOK PAGE: BLANK2

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

LIQUIDS

		BLNK	REPLICATE
Type	DETECTOR NUMBER	14	14
BLNK	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	8	14
19574	COUNT TIME IN MINUTES (CT)	30	30
AT or TB ?	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	DIGEST DILUTION FACTOR (DDF)	1	1
Matrix	EFFICIENCY FACTOR (EFF)	0.2692	0.2692
LIQUID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.272	0.267
Batch Number			
97003700	Blank Concentration in $\mu\text{Ci/L}$	< 4.56E-04	
Rerun	Replicate Concentration in $\mu\text{Ci/L}$	4.46E-04	
0	Maximum Concentration in $\mu\text{Ci/L}$	< 4.5590E-04	
Sample Prep			
N/A	Rs (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	ALPHA TOTAL $\mu\text{Ci/L}$ = $Rs * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$		
WL19574-BLK	ALPHA TOTAL $\mu\text{Ci/mL}$ = ALPHA TOTAL $\mu\text{Ci/L}$ / 1000mL/L		
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
WB27607	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
EMB			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum) =	< 4.56E-07	DETECTION LEVEL
Analyst	LESS THAN Value was Determined from Rmax.		7.89E-07
DPB			$\mu\text{Ci/mL}$
Date Complete	RELATIVE COUNTING ERROR	500.0%	
08/01/97			
Analysis Date			
07/31/97			
Analysis Time			
10:30 PM			
Sample Point			
AP-105 (P)			

Analyst:	DPB	Date: 01-Aug-97
Signature of Chemist:	SLF	Date: 11 Aug 97
BLANK.WB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: SAM4

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

		SAMPLE	REPLICATE
Type	DETECTOR NUMBER	14	14
SAMPLE	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	3	7
19574	COUNT TIME IN MINUTES (CT)	30	30
AT or TB ?	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	DIGEST DILUTION FACTOR (DDF)	1	1
Matrix	EFFICIENCY FACTOR (EFF)	0.2692	0.2692
LIQUID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.191	0.232
Batch Number			
97003700	Blank Concentration in $\mu\text{Ci/L}$	< 3.19E-04	
Retrun	Replicate Concentration in $\mu\text{Ci/L}$	< 3.88E-04	
0	Maximum Concentration in $\mu\text{Ci/L}$	< 3.8760E-04	
Sample Prep			
N/A	$R_s (\text{Sample Count Rate}) = (TC / CT) - BKG$		
Sample #	$\text{ALPHA TOTAL } \mu\text{Ci/L} = R_s * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$		
S97T001689	$\text{ALPHA TOTAL } \mu\text{Ci/mL} = \text{ALPHA TOTAL } \mu\text{Ci/L} / 1000\text{mL/L}$		
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
EMB			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum) =	< 3.88E-07	DETECTION LEVEL
Analyst	LESS Than Value was Determined from Lc.		
DPB			
Date Complete	RELATIVE COUNTING ERROR	500.0%	7.89E-07 $\mu\text{Ci/mL}$
08/01/97			
Analysis Date			
07/31/97			
Analysis Time			
10:30 PM			
Sample Point			
AP-105 (P)			

Analyst:	DPB	Date: 01-Aug-97
Signature of Chemist:	SLF	Date: 1 Aug 97

SAMPLE.WB1 Rev. 1.0

508101ML

WORKBOOK PAGE: DUPS

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

		DUP	REPLICATE
Type	DETECTOR NUMBER	14	14
DUP	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	2	3
19574	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	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	DIGEST DILUTION FACTOR (DDF)	1	1
Matrix	EFFICIENCY FACTOR (EFF)	0.2692	0.2692
LIQUID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.191	0.191
Batch Number			
97003700	Blank Concentration in $\mu\text{Ci/L}$	< 3.19E-04	
Rerun	Replicate Concentration in $\mu\text{Ci/L}$	< 3.19E-04	
0	Maximum Concentration in $\mu\text{Ci/L}$	< 3.1881E-04	
Sample Prep			
N/A	$R_s (\text{Sample Count Rate}) = (TC / CT) - BKG$		
Sample #	$\text{ALPHA TOTAL } \mu\text{Ci/L} = R_s * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$		
S97T001689	$\text{ALPHA TOTAL } \mu\text{Ci/mL} = \text{ALPHA TOTAL } \mu\text{Ci/L} / 1000\text{mL/L}$		
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
EMB			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum) =	< 3.19E-07	DETECTION LEVEL
Analyst	LESS Than Value was Determined from Lc.		
DPB			
Date Complete	RELATIVE COUNTING ERROR	500.0%	7.89E-07 $\mu\text{Ci/mL}$
08/01/97			
Analysis Date			
07/31/97			
Analysis Time			
10:30 PM			
Sample Point			
AP-105 (P)			

Analyst:	DPB	Date: 01-Aug-97
Signature of Chemist: <i>SLF</i>	SLF	Date: <i>1 Aug 97</i>

SAMPLE.WB1 Rev. 1.0

508101ML

LABCORE Completed RadChem Report for Worklist#: 19616

Analyst: smf Instrument: AB14 Book# _____

Method: _____ Rev/Mod _____

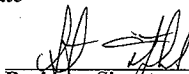
Worklist Comment: AP-105 C208S2 ALPHA01 1mL ENVCRB std SKB

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD	0		@ALPHA01 ALPHA01 SOLID		2.00E-4	1.55E-4	77.500	% Recovery
1 STD	0		@ALPHA01 ALPHA01E SOLID		1.00	3.74E+00	3.740	% Ct. Erro
2 BLNK	0		@ALPHA01 ALPHA01 SOLID		1	<5.95E-3		uCi/g
2 BLNK	0		@ALPHA01 ALPHA01E SOLID		1.00	5.00E+02	500.000	uCi/g
3 BLNK/BKG	0		@ALPHA01 ALPHA01 SOLID		1.00E+00	7.84E-01	0.784	BLNK/BKG
4 SAMPLE	S97T001727	0 F	@ALPHA01 ALPHA01 SOLID		N/A	< 1.28E-02	150.0e-004	uCi/g
4 SAMPLE	S97T001727	0 F	@ALPHA01 ALPHA01E SOLID		N/A	2.45E+02	0.0e+000	% Ct. Error
5 DUP	S97T001727	0 F	@ALPHA01 ALPHA01 SOLID		<1.28E-2	<8.02E-3		RPD
5 DUP	S97T001727	0 F	@ALPHA01 ALPHA01E SOLID		1.00	5.00E+02	500.000	% Ct. Erro
6 SPK	S97T001727	0 F	@ALPHA01 ALPHA01 SOLID		2.63E-02	2.12E-02	80.608	% Recovery

Final page for worklist# 19616

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____


Reviewer Signature _____ Date 8/13/97

08/02/97 21:55

A-0004-1

Page: 1

LABCORE Data Entry Template for Worklist# 19616

Analyst: SHE Instrument: AB00 14 Book# 78B56 ^{SIF} 2/13/97
79B56

Method: LA-508-101 Rev/Mod GTO

Worklist Comment: AP-105 C208S2 ALPHA01 1mL ENVCRB std SKB

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 STD			@ALPHA01	SOLID		
2 BLNK			@ALPHA01	SOLID		
3 BLNK/BKG			@ALPHA01	SOLID		
4 SAMPLE	S97T001727	0 F	@ALPHA01	SOLID	97000455	AP-105 (P)
	Analytes Requested: ALPHA01 , ALPHA01E					
5 DUP	S97T001727	0 F	@ALPHA01	SOLID		
6 SPK	S97T001727	0 F	@ALPHA01	SOLID		

Final page for worklist # 19616

Susie M. Dalton 8-4-97
 Analyst Signature Date

Sylvia Z. Chan 8/5/97
 Analyst Signature Date
Joe Hogan 8/5/97

Data Entry Comments:

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

AT : LA-508-101 (E-1) LA-508-113 (B-0) STANDARD		STANDARD	REPLICATE
Type	DETECTOR NUMBER	14	14
STANDARD	DISH SIZE (1, 2, or 5) (MS)	2	2
WorkList	GROSS COUNTS (GC)	2806	2760
19616	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.17	0.17
AT	SAMPLE SIZE in mL (SS)	1.000	1.000
Test Code	DILUTION FACTOR (DF)	1	1
@ALPHA01	STANDARD BOOK NUMBER (Std BN)	79B56	79B56
Matrix	EFFICIENCY FACTOR (EFF)	0.2692	0.2692
LIQUID	Lc, Rmax, or Rs.(SAMPLE RATE) as APPROPRIATE	93.363	91.830
Batch Number	Standard Value in $\mu\text{Ci/mL}$	2.00E-04	
97003748	Concentration in $\mu\text{Ci/L}$ =	1.56E-01	
Rerun	Replicate Concentration in $\mu\text{Ci/L}$ =	1.54E-01	
0	AVERAGE CONCENTRATION in $\mu\text{Ci/L}$ =	1.5494E-01	
Sample Prep			
N/A	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	ALPHA TOTAL $\mu\text{Ci/L}$ = $R_s * 1000\text{mL/L} * DF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$		
WL19616	ALPHA TOTAL $\mu\text{Ci/mL}$ = ALPHA TOTAL $\mu\text{Ci/L}$ / 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			
SCZ			
Chemist			
SLF	ALPHA TOTAL CONCENTRATION in $\mu\text{Ci/mL}$ =	1.55E-04	DETECTION LEVEL
Analyst			
SMF			
Date Complete			
08/05/97	RELATIVE COUNTING ERROR =	3.7%	7.40E-07 $\mu\text{Ci/mL}$
Analysis Date			
08/04/97			
Analysis Time			
09:15 AM			
Sample Point			
AP-106			

Analyst:	SCZ	Date: 05-Aug-97
Signature of Chemist:	SLF	Date: 8/13/97

STANDARD.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: BLANK2

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

SOLIDS

		BLNK	REPLICATE
Type	DETECTOR NUMBER	14	14
BLNK	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	3	5
19616	COUNT TIME IN MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.17	0.17
AT	SAMPLE SIZE in mL (SS)	0.250	0.250
Test Code	DILUTION FACTOR (DF)	11	11
@ALPHA01	DIGEST GRAMS OF SOLIDS / L (Dg/L)	2.1744	2.1744
Matrix	EFFICIENCY FACTOR (EFF)	0.2692	0.2692
SOLID	Lc, Rmax, or Rs.(SAMPLE RATE) as APPROPRIATE	0.176	0.176
Batch Number			
97003748	Blank Concentration in $\mu\text{Ci/g}$	< 5.95E-03	
ReRun	Replicate Concentration in $\mu\text{Ci/g}$	< 5.95E-03	
0	Maximum Concentration in $\mu\text{Ci/g}$	< 5.9477E-03	
Sample Prep			
N/A	Rs (Sample Count Rate) = $(TC / CT) - BKG$		
Sample	ALPHA TOTAL $\mu\text{Ci/g}$ = $Rs * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$		
WL19616			
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
SZC			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/g}$ (Maximum) =	< 5.95E-03	DETECTION LEVEL
Analyst	LESS Than Value was Determined from Lc.		
SMF			
Date Complete	RELATIVE COUNTING ERROR	500.0%	1.50E-02 $\mu\text{Ci/g}$
08/05/97			
Analysis Date			
08/04/97			
Analysis Time			
09:15 AM			
Sample Point			
AP-105			

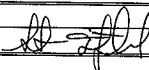
Analyst:	SMF	Date: 05-Aug-97
Signature of Chemist:	SLF	Date: 8/6/97
BLANKWB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: SAM4

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

SOLIDS

		SAMPLE	REPLICATE
Type	DETECTOR NUMBER	14	14
SAMPLE	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	10	8
19616	COUNT TIME IN MINUTES (CT)	30	30
AT or TB?	BACKGROUND in cpm (BKG)	0.17	0.17
AT	SAMPLE SIZE in mL (SS)	0.250	0.250
Test Code	DILUTION FACTOR (DF)	11	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.1744	2.1744
Matrix	EFFICIENCY FACTOR (EFF)	0.2692	0.2692
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.377	0.296
Batch Number			
97003748	Blank Concentration in $\mu\text{Ci/g}$	< 1.28E-02	
Rerun	Replicate Concentration in $\mu\text{Ci/g}$	< 1.00E-02	
0	Maximum Concentration in $\mu\text{Ci/g}$	< 1.2767E-02	
Sample Prep			
FUSION01	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	$ALPHA \text{ TOTAL } \mu\text{Ci/g} = R_s * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$		
S97T001727			
Instrument Code	Relative Counting Error = $[(The \text{ Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
SZC			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/g}$ (Maximum) =	< 1.28E-02	DETECTION LEVEL
Analyst			
SMF	LESS THAN Value was Determined from Rmax.		
Date Complete			1.50E-02 $\mu\text{Ci/g}$
08/05/97	RELATIVE COUNTING ERROR	244.6%	
Analysis Date			
08/04/97			
Analysis Time			
09:15 AM			
Sample Point			
AP-105			

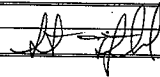
Analyst:		SMF	Date: 05-Aug-97
Signature of Chemist:		SLF	Date: 8/6/97
SAMPLE.WB1 Rev. 1.	508101ML		

WORKBOOK PAGE: DUP5

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

SOLIDS

		DUP	REPLICATE
Type	DETECTOR NUMBER	14	14
DUP	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	7	13
19616	COUNT TIME in MINUTES (CT)	30	30
AT or TB?	BACKGROUND in cpm (BKG)	0.17	0.17
AT	SAMPLE SIZE in mL (SS)	0.250	0.250
Test Code	DILUTION FACTOR (DF)	11	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.418	2.418
Matrix	EFFICIENCY FACTOR (EFF)	0.2692	0.2692
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.255	0.263
Batch Number			
97003748	Blank Concentration in $\mu\text{Ci/g}$	< 7.75E-03	
Re-run	Replicate Concentration in $\mu\text{Ci/g}$	8.02E-03	
0	Maximum Concentration in $\mu\text{Ci/g}$	< 8.0182E-03	
Sample Prep			
FUSION01	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	$ALPHA \text{ TOTAL } \mu\text{Ci/g} = R_s * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$		
S97T001727			
Instrument Code	Relative Counting Error = $[(The \text{ Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
SZC			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/g}$ (Maximum) =	< 8.02E-03	DETECTION LEVEL
Analyst			
SMF	LESS THAN Value was Determined from Rmax.		
Date Complete			1.35E-02 $\mu\text{Ci/g}$
08/05/97	RELATIVE COUNTING ERROR	500.0%	
Analysis Date			
08/04/97			
Analysis Time			
09:15 AM			
Sample Point			
AP-105			

Analyst:		SMF	Date: 05-Aug-97
Signature of Chemist:		SLF	Date: 8/6/97
SAMPLE.WB1 Rev. 1.	508101ML		

WORKBOOK PAGE: SPK6

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

Type	DETECTOR NUMBER	SPIKE	REPLICATE
SPK	DISH SIZE 1, 2, or 5 (MS)	14	14
Work List	TOTAL COUNTS (TC)	2	2
19616	COUNT TIME in MINUTES (CT)	39272	36718
Ator TE?	BACKGROUND in cpm (BKG)	30	30
AT	SAMPLE VOLUME in mL (Spiked Vial) (SS)	0.17	0.17
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial) (DF)	0.250	0.250
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	11	11
Matrix	SPIKE VOLUME in mL (SVol)	2.1744	2.1744
SOLID	SPIKE DILUTION FACTOR (SDF)	0.100	0.100
Batch Number	SPIKE BOOK NUMBER (Spk BN)	1	1
97003748	SPIKE VALUE in $\mu\text{Ci/mL}$ (SVal)	131B43	131B43
Rerun	INSTRUMENT EFFICIENCY FACTOR (EFF)	2.6285E-02	2.6285E-02
0	SAMPLE + SPIKE $\mu\text{Ci/g}$ (S+S)	0.2692	0.2692
Sample Prep	AVERAGE or MAXIMUM $\mu\text{Ci/g}$ in SAMPLE	4.43E+01	4.14E+01
FUSION01		<	1.2767E-02
Sample #			
S97T001727			
Instrument Code	Rs (Sample Count Rate) = $(TC / CT) - BKG$		
WB27807	SAMPLE + SPIKE $\mu\text{Ci/g}$ = $Rs * 1000\text{mL/L} * DF / ((EFF * SS * \text{Dg/L} * 2220000\text{dpm}/\mu\text{Ci}))$		
Prepared By	QC ACTUAL = SVal		
SZC	QC FOUND = $((S+S \mu\text{Ci/g} - \text{SAMPLE } \mu\text{Ci/g}) * ((SDF/(SVol*1000)))/(DF/SS/Dg/L)))$		
Chemist	PERCENT SPIKE RECOVERY = $(QC \text{ FOUND} / QC \text{ ACTUAL}) * 100$		
SLF			
Analyst			
SMF			
Date Complete	NOTE: Original Sample result was a LESS THAN value. Zero (0) was subtracted from the spiked value for QC found calculation.		
08/05/97			
Analysis Date			
08/04/97			
Analysis time	QC ACTUAL =	2.63E-02	
09:15 AM	QC FOUND =	2.12E-02	
Sample Point	AVG. PERCENT SPIKE RECOVERY =	80.6%	
AP-105			

Analyst:	SZC	Date: 05-Aug-97
Signature of Chemist:	SLF	Date: 8/6/97
SPIKE.WB1 Rev. 1.0	508101ML	

LABCORE Completed RadChem Report for Worklist#: 19617

Analyst: smf Instrument: AB14 Book# _____

Method: _____ Rev/Mod _____

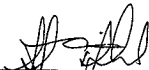
Worklist Comment: AP-105 C210S1,2 ALPHA01 1mL ENVCRB std SKB

Seq Type	Sample# R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD	0	@ALPHA01 ALPHA01	SOLID	2.00E-04	1.47E-4	75.500	% Recovery
1 STD	0	@ALPHA01 ALPHA01R	SOLID	1.00	3.84E+00	3.840	% Ct. Erro
2 BLNK	0	@ALPHA01 ALPHA01	SOLID	1	<7.43E-3		uCi/g
2 BLNK	0	@ALPHA01 ALPHA01R	SOLID	1.00	5.00E+02	500.000	uCi/g
3 BLNK/BKG	0	@ALPHA01 ALPHA01	SOLID	1.00E+00	9.90E-01	0.990	BLNK/BKG
4 SAMPLE	S97T001817 0 F	@ALPHA01 ALPHA01	SOLID	N/A	< 1.17E-02	154.0e-004	uCi/g
4 SAMPLE	S97T001817 0 F	@ALPHA01 ALPHA01R	SOLID	N/A	5.00E+02	0.0e+000	% Ct. Error
5 DUP	S97T001817 0 F	@ALPHA01 ALPHA01	SOLID	<1.17E-2	<1.15E-2		RPD
5 DUP	S97T001817 0 F	@ALPHA01 ALPHA01R	SOLID	1.00	1.89E+02	189.000	% Ct. Erro
6 SPK	S97T001817 0 F	@ALPHA01 ALPHA01	SOLID	2.63E-02	2.08E-02	79.087	% Recovery
7 SAMPLE	S97T001819 0 F	@ALPHA01 ALPHA01	SOLID	N/A	< 1.69E-02	150.0e-004	uCi/g
7 SAMPLE	S97T001819 0 F	@ALPHA01 ALPHA01R	SOLID	N/A	5.00E+02	0.0e+000	% Ct. Error
8 DUP	S97T001819 0 F	@ALPHA01 ALPHA01	SOLID	<1.69E-2	<1.33E-2		RPD
8 DUP	S97T001819 0 F	@ALPHA01 ALPHA01R	SOLID	1.00	1.89E+02	189.000	% Ct. Erro

Final page for worklist# 19617

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Reviewer Signature  Date 8/7/97

LABCORE Data Entry Template for Worklist# 19617

Analyst: SMF Instrument: AB00 14 Book# 78B56 ^{SLF} 8/13/97
79B56

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

Worklist Comment: AP-105 C210S1,2 ALPHA01 1mL ENVCRB std SKB

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 STD			@ALPHA01	SOLID		
2 BLNK			@ALPHA01	SOLID		
3 BLNK/BKG			@ALPHA01	SOLID		
4 SAMPLE	S97T001817 0 F		@ALPHA01	SOLID	97000479	AP-105 (P)
	Analytes Requested: ALPHA01 , ALPHA01E					
5 DUP	S97T001817 0 F		@ALPHA01	SOLID		
6 SPK	S97T001817 0 F		@ALPHA01	SOLID		
7 SAMPLE	S97T001819 0 F		@ALPHA01	SOLID	97000479	AP-105 (P)
	Analytes Requested: ALPHA01 , ALPHA01E					
8 DUP	S97T001819 0 F		@ALPHA01	SOLID		

Final page for worklist # 19617

Lurie M. Dalton 8-4-97
Analyst Signature Date

Lue Hogan 8-5-97
Analyst Signature Date
Lue 2 Cochran 8/5/97

Data Entry Comments:

WORKBOOK PAGE: STD1

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

		STANDARD	REPLICATE
Type	DETECTOR NUMBER	14	14
STD	DISH SIZE (1, 2, or 5) (MS)	2	2
WorkList	GROSS COUNTS (GC)	2619	2661
19617	COUNT TIME in MINUTES (CT)	30	30
Auton/Bkg	BACKGROUND in cpm (BKG)	0.17	0.17
AT	SAMPLE SIZE in mL (SS)	1.000	1.000
Test Code	DILUTION FACTOR (DF)	1	1
@ALPHA01	STANDARD BOOK NUMBER (Std BN)	79B56	79B56
Matrix	EFFICIENCY FACTOR (EFF)	0.2692	0.2692
LIQUID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE	87.130	88.530
Batch Number	Standard Value in $\mu\text{Ci/mL}$	2.00E-04	
97003749	Concentration in $\mu\text{Ci/L}$ =	1.46E-01	
Kerim	Replicate Concentration in $\mu\text{Ci/L}$ =	1.48E-01	
0	AVERAGE CONCENTRATION in $\mu\text{Ci/L}$ =	1.4697E-01	
Sample Prep			
N/A	Rs (Sample Count Rate) = $(TC / CT) - BKG$		
Sample	ALPHA TOTAL $\mu\text{Ci/L}$ = $Rs * 1000\text{mL/L} * DF / (EFF * SS * 2220000\text{dpm/pCi})$		
WL19617	ALPHA TOTAL $\mu\text{Ci/mL}$ = $ALPHA\ TOTAL\ \mu\text{Ci/L} / 1000\text{mL/L}$		
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
SEH			
Chemist			
SLF	ALPHA TOTAL CONCENTRATION in $\mu\text{Ci/mL}$ =	1.47E-04	DETECTION LEVEL
Analyst			
SMF			
Date Complete			7.40E-07 $\mu\text{Ci/mL}$
08/05/97	RELATIVE COUNTING ERROR =	3.8%	
Analysis Date			
08/04/97			
Analysis Time			
11:10 AM			
Sample Point			
AP-105 (P)			

Analyst:	SLF	Date: 05-Aug-97
Signature of Chemist:	SLF	Date: 8/2/97
STANDARD.WB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: BLANK2

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

SOLIDS

		BLNK	REPLICATE
YDC	DETECTOR NUMBER	14	14
BLNK	DISH SIZE (1, 2, or 5) (MS)	2	2
Worklist	GROSS COUNTS (GC)	6	4
19617	COUNT TIME In MINUTES (CT)	30	30
Alcon By	BACKGROUND In cpm (BKG)	0.17	0.17
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)	2.1136	2.1136
Matrix	EFFICIENCY FACTOR (EFF)	0.2692	0.2692
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.213	0.176
Batch Number			
97003749	Blank Concentration in $\mu\text{Ci/g}$	< 7.43E-03	
Rerun	Replicate Concentration in $\mu\text{Ci/g}$	< 6.12E-03	
0	Maximum Concentration in $\mu\text{Ci/g}$	< 7.4280E-03	
Sample Prep			
NIA	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Sample	$ALPHA \text{ TOTAL } \mu\text{Ci/g} = R_s * 1000 \text{ mL/L} * DF / (EFF * SS * Dg/L * 2220000 \text{ dpm}/\mu\text{Ci})$		
WL19617			
Instrument Code	Relative Counting Error = $[(The \text{ Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared by			
SEH			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/g}$ (Maximum) =	< 7.43E-03	DETECTION LEVEL
Analyst	LESS THAN Value was Determined from Rmax.		
SMF			1.54E-02
Date Complete	RELATIVE COUNTING ERROR	500.0%	$\mu\text{Ci/g}$
08/05/97			
Analysis Date			
08/04/97			
Analysis Time			
11:10 AM			
Sample Point			
AP-105 (P)			

Analyst:	SMF	Date: 05-Aug-97
Signature of Chemist:	SLF	Date: 8/2/97
BLANK.WB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: SAM4

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

		SAMPLE	REPLICATE
TYPE	DETECTOR NUMBER	14	14
SAMPLE	DISH SIZE (1, 2, or 5)	(MS)	2
Work List	GROSS COUNTS	(GC)	9
19817	COUNT TIME in MINUTES	(CT)	30
Alcori By	BACKGROUND in cpm	(BKG)	0.17
AT	SAMPLE SIZE in mL	(SS)	0.250
Test Code	DILUTION FACTOR	(DF)	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.1136
Matrix	EFFICIENCY FACTOR	(EFF)	0.2692
SOLID	Lc, Rmax, or Rs.(SAMPLE RATE) as APPROPRIATE	0.337	0.213
Batch Number			
97003749	Blank Concentration in $\mu\text{Ci/g}$	< 1.17E-02	
Rerun	Replicate Concentration in $\mu\text{Ci/g}$	< 7.43E-03	
0	Maximum Concentration in $\mu\text{Ci/g}$	< 1.1722E-02	
Sample Prep			
FUSION01	Rs (Sample Count Rate) = (TC / CT) - BKG		
Sample #	ALPHA TOTAL $\mu\text{Ci/g}$ = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/ μCi)		
S97T001817			
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 $\mu\text{Ci/g}$ (Maximum) =	< 1.17E-02	DETECTION LEVEL
Analyst	LESS THAN Value was Determined from Rmax.		
SMF			1.54E-02
Date Complete			$\mu\text{Ci/g}$
08/05/97	RELATIVE COUNTING ERROR	500.0%	
Analysis Date			
08/04/97			
Analysis Time			
11:10 AM			
Sample Point			
AP-105 (P)			

// system;exit//yes-

Analyst:	SMF	Date: 05-Aug-97
Signature of Chemist:	SLF	Date:
SAMPLE.WB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: DUP5

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

		DUP	REPLICATE
Type	DETECTOR NUMBER	14	14
DUP	DISH SIZE (1, 2, or 5)	(MS)	2
Work List	GROSS COUNTS	(GC)	13
19817	COUNT TIME in MINUTES	(CT)	30
Alor 1B	BACKGROUND In cpm	(BKG)	0.17
AT	SAMPLE SIZE in mL	(SS)	0.250
Test Code	DILUTION FACTOR	(DF)	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.158
Matrix	EFFICIENCY FACTOR	(EFF)	0.2692
SOLID	Lc, Rmax, or Rs.(SAMPLE RATE) as APPROPRIATE	0.263	0.337
Batch Number			
97003749	Blank Concentration in $\mu\text{Ci/g}$	8.98E-03	
Return	Replicate Concentration in $\mu\text{Ci/g}$	< 1.15E-02	
0	Maximum Concentration in $\mu\text{Ci/g}$	< 1.1481E-02	
Sample Prep			
FUSION01	Rs (Sample Count Rate) = $(TC / CT) - BKG$		
Sample	ALPHA TOTAL $\mu\text{Ci/g}$ = $Rs * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$		
S97T001817			
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 $\mu\text{Ci/g}$ (Maximum) =	< 1.15E-02	DETECTION LEVEL
Analyst	LESS THAN Value was Determined from Rs.		
SMF			1.51E-02
Date Complete	RELATIVE COUNTING ERROR	188.7%	$\mu\text{Ci/g}$
08/05/97			
Analysis Date			
08/04/97			
Analysis Time			
11:10 AM			
Sample Point			
AP-105 (P)			

{/ system;exit}yes~

Analyst:	SMF	Date: 05-Aug-97
Signature of Chemist:	SLF	Date: 8/7/97
SAMPLE.WB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: SPK6

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

		SPIKE	REPLICATE
Type	DETECTOR NUMBER	16	16
SPK	DISH SIZE 1, 2, or 5 (MS)	2	2
Work List	TOTAL COUNTS (TC)	38732	35611
19617	COUNT TIME in MINUTES (CT)	30	30
Atom/Bg	BACKGROUND in cpm (BKG)	0.17	0.17
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)	2.1136	2.1136
Matrix	SPIKE VOLUME in mL (SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR (SDF)	1	1
Batch Number	SPIKE BOOK NUMBER (Spk BN)	131B43	131B43
97003749	SPIKE VALUE in $\mu\text{Ci/mL}$ (SVal)	2.6285E-02	2.6285E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR (EFF)	0.2683	0.2683
0	SAMPLE + SPIKE $\mu\text{Ci/g}$ (S+S)	4.51E+01	4.14E+01
Sample Prep	AVERAGE or MAXIMUM $\mu\text{Ci/g}$ in SAMPLE	1.1722E-02	
FUSION01			
Sample #			
S97T001817			
Instrument Code	Rs (Sample Count Rate) = (TC / CT) - BKG		
WB27807	SAMPLE + SPIKE $\mu\text{Ci/g}$ = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/ μCi)		
Prepared By	QC ACTUAL = SVal		
SEH	QC FOUND = (((S+S $\mu\text{Ci/g}$ - SAMPLE $\mu\text{Ci/g}$) * ((SDF/(SVol*1000)))/(DF/SS/Dg/L))))		
Chemist	PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) * 100		
SLF			
Analyst			
SMF			
Data Complete	NOTE: Original Sample result was a LESS THAN value. Zero (0) was subtracted from the spiked value for QC found calculation.		
08/05/97			
Analysis Date			
08/04/97	QC ACTUAL =	2.63E-02	
Analysis Time	QC FOUND =	2.08E-02	
11:10 AM	AVG. PERCENT SPIKE RECOVERY =	79.0%	
Sample Point			
AP-105 (P)			

Analyst:	SEH	Date: 05-Aug-97
Signature of Chemist:	SLF	Date: 8/7/97

SPIKE.WB1 Rev. 1.0

508101ML

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

		SAMPLE	REPLICATE
DETECTOR NUMBER		16	16
SAMPLE	DISH SIZE (1, 2, or 6)	(MS)	2
Worklist	GROSS COUNTS	(GC)	20
19617	COUNT TIME IN MINUTES	(CT)	30
ALPHA B	BACKGROUND in cpm	(BKG)	0.17
AT	SAMPLE SIZE in mL	(SS)	0.250
Test Code	DILUTION FACTOR	(DF)	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.1724
Matrix	EFFICIENCY FACTOR	(EFF)	0.2683
SOLID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE		0.497
Batch Number			0.213
97003749	Blank Concentration in $\mu\text{Ci/g}$	1.69E-02	
Rerun	Replicate Concentration in $\mu\text{Ci/g}$	< 7.25E-03	
0	Maximum Concentration in $\mu\text{Ci/g}$	< 1.6889E-02	
Sample Prep			
FUSION01	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Sample	$ALPHA\ TOTAL\ \mu\text{Ci/g} = R_s * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 222000\text{dpm}/\mu\text{Ci})$		
S97T001819			
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 $\mu\text{Ci/g}$ (Maximum) =	< 1.69E-02	DETECTION LEVEL
Analyst	LESS THAN Value was Determined from R_s .		
SMF			1.50E-02
Date Complete	RELATIVE COUNTING ERROR	500.0%	$\mu\text{Ci/g}$
08/05/97			
Analysis Date			
08/04/97			
Analysis Time			
11:10 AM			
Sample Point			
AP-105 (P)			

(/ system exit) yes-

Analyst:	SMF	Date: 05-Aug-97
Signature of Chemist:	SLF	Date: 8/7/97
SAMPLE.WB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: DUP8

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

SOLIDS

		DUP	REPLICATE
Type	DETECTOR NUMBER	16	16
DUP	DISH SIZE (1, 2, or 5)	(MS)	2
Work List	GROSS COUNTS	(GC)	10
19617	COUNT TIME in MINUTES	(CT)	30
Alcor TB	BACKGROUND in cpm	(BKG)	0.17
AT	SAMPLE SIZE in mL	(SS)	0.250
Test Code	DILUTION FACTOR	(DF)	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.1012
Matrix	EFFICIENCY FACTOR	(EFF)	0.2683
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE	0.377	0.337
Batch Number			
97003749	Blank Concentration in µCi/g	<	1.33E-02
Rerun	Replicate Concentration in µCi/g	<	1.18E-02
0	Maximum Concentration in µCi/g	<	1.3256E-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)		
S97T001819			
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/g (Maximum) =	< 1.33E-02	DETECTION LEVEL
Analyst	LESS THAN Value was Determined from Rmax.		
SMF			1.55E-02
Date Complete	RELATIVE COUNTING ERROR	188.7%	µCi/g
08/05/97			
Analysis Date			
08/04/97			
Analysis Time			
11:10 AM			
Sample Point			
AP-105 (P)			

(/ system;exit)yes~

Analyst:	SMF	Date: 05-Aug-97
Signature of Chemist:	SLF	Date: 8/7/97
SAMPLE.WB1 Rev. 1.0	508101ML	

LABCORE Completed RadChem Report for Worklist#: 19623

Analyst: smf Instrument: AB18 Book# _____

Method: _____ Rev/Mod _____

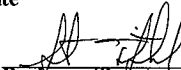
Worklist Comment: AP-105 ALPHA01 1mL ENVCRB std. SKB

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD	0		@ALPHA01 ALPHA01 SOLID		2.00E-04	1.62E-4	81.000	% Recovery
1 STD	0		@ALPHA01 ALPHA01E SOLID		1.00	3.71E+00	3.710	% Ct. Erro
2 BLNK	0		@ALPHA01 ALPHA01 SOLID		1	<1.25E-2		uCi/g
2 BLNK	0		@ALPHA01 ALPHA01E SOLID		1.00	2.09E+02	209.000	uCi/g
3 BLNK/BKG	0		@ALPHA01 ALPHA01 SOLID		1.00E+00	4.23E+00	4.230	BLNK/BKG
4 SAMPLE	S97T001807	0 F	@ALPHA01 ALPHA01 SOLID		N/A	5.02E-03	577.0e+005	uCi/g
4 SAMPLE	S97T001807	0 F	@ALPHA01 ALPHA01E SOLID		N/A	1.38E+02	0.0e+000	% Ct. Error
5 DUP	S97T001807	0 F	@ALPHA01 ALPHA01 SOLID		6.02E-3	6.24E-3	3.589	RPD
5 DUP	S97T001807	0 F	@ALPHA01 ALPHA01E SOLID		1.00	8.85E+01	88.500	% Ct. Erro
6 SAMPLE	S97T001809	0 F	@ALPHA01 ALPHA01 SOLID		N/A	9.70E-03	135.0e+004	uCi/g
6 SAMPLE	S97T001809	0 F	@ALPHA01 ALPHA01E SOLID		N/A	5.90E+02	0.0e+000	% Ct. Error
7 DUP	S97T001809	0 F	@ALPHA01 ALPHA01 SOLID		<9.70E-3	<9.93E-3		RPD
7 DUP	S97T001809	0 F	@ALPHA01 ALPHA01E SOLID		1.00	2.09E+02	209.000	% Ct. Erro
8 SPK	S97T001809	0 F	@ALPHA01 ALPHA01 SOLID		2.63E-02	2.13E-02	80.989	% Recovery

Final page for worklist# 19623

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____


Reviewer Signature _____ Date 8/7/97

LABCORE Data Entry Template for Worklist# 19623

Analyst: SJF Instrument: AB00 18 Book# 78B56

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

Worklist Comment: AP-105 ALPHA01 1mL ENVCRB std. SKB

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 STD			@ALPHA01	SOLID		
2 BLNK			@ALPHA01	SOLID		
3 BLNK/BKG			@ALPHA01	SOLID		
4 SAMPLE	S97T001807 0 F		@ALPHA01	SOLID	97000478	AP-105 (P)
	Analytes Requested: ALPHA01 , ALPHA01E					
5 DUP	S97T001807 0 F		@ALPHA01	SOLID		
6 SAMPLE	S97T001809 0 F		@ALPHA01	SOLID	97000478	AP-105 (P)
	Analytes Requested: ALPHA01 , ALPHA01E					
7 DUP	S97T001809 0 F		@ALPHA01	SOLID		
8 SPK	S97T001809 0 F		@ALPHA01	SOLID		

Final page for worklist # 19623

Lusie M. Dalton 8-4-97
Analyst Signature Date

Lee Hogan 8-5-97
Analyst Signature Date
Sylvia Z. Chason 8/5/97

Data Entry Comments:

WORKBOOK PAGE: STD1

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

		STANDARD	REPLICATE
Type	DETECTOR NUMBER	18	18
STD	DISH SIZE (1, 2, or 5)	(MS)	2
Work list	GROSS COUNTS	(GC)	2797
19823	COUNT TIME in MINUTES	(CT)	30
ANALYST	BACKGROUND in cpm	(BKG)	0.13
AT	SAMPLE SIZE in mL	(SS)	1.000
Test Code	DILUTION FACTOR	(DF)	1
@ALPHA01	STANDARD BOOK NUMBER	(Std BN)	79B56
Matrix	EFFICIENCY FACTOR	(EFF)	0.2644
LIQUID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE		93.103
Batch Number	Standard Value in $\mu\text{Ci/mL}$		2.00E-04
97003755	Concentration in $\mu\text{Ci/L}$	=	1.69E-01
Re-run	Replicate Concentration in $\mu\text{Ci/L}$	=	1.66E-01
0	AVERAGE CONCENTRATION in $\mu\text{Ci/L}$	=	1.6239E-01

Sample Prep	N/A	R_s (Sample Count Rate) = $(TC / CT) - BKG$
Sample	WL19823	ALPHA TOTAL $\mu\text{Ci/L}$ = $R_s * 1000\text{mL/L} * DF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$
Instrument Code	WB27809	ALPHA TOTAL $\mu\text{Ci/mL}$ = ALPHA TOTAL $\mu\text{Ci/L}$ / 1000mL/L
Prepared By	SEH	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$
Chemist	SLF	Detection Levels and Less Than Values are determined from Procedure LA-508-002.

SLF	ALPHA TOTAL CONCENTRATION in $\mu\text{Ci/mL}$ =	1.62E-04	DETECTION LEVEL
Analyst			
SMF			6.78E-07
Date Complete	RELATIVE COUNTING ERROR =	3.7%	$\mu\text{Ci/mL}$
08/05/97			
Analysis Date			
08/04/97			
Analysis time			
09:35 AM			
Sample Point			
AP-105 (P)			

Analyst:	SEH	Date: 05-Aug-97
Signature of Chemist:	SLF	Date: 8/7/97
STANDARD.WB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: BLANK2

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

SOLIDS

		BLNK	REPLICATE
Type	DETECTOR NUMBER	18	18
BLNK	DISH SIZE (1, 2, or 5) (MS)	2	2
WorkList	GROSS COUNTS (GC)	26	7
19623	COUNT TIME in MINUTES (CT)	30	30
Blank Bl	BACKGROUND in cpm (BKG)	0.13	0.13
AT	SAMPLE SIZE in mL (SS)	0.600	0.500
Test Code	DILUTION FACTOR (DF)	11	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.2012	2.2012
Matrix	EFFICIENCY FACTOR (EFF)	0.2644	0.2644
SOLID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE	0.737	0.285
Batch Number			
97003755	Blank Concentration in $\mu\text{Ci/g}$	1.25E-02	
Rerun	Replicate Concentration in $\mu\text{Ci/g}$	< 4.85E-03	
0	Maximum Concentration in $\mu\text{Ci/g}$	< 1.2544E-02	
Sample Rep			
N/A	Rs (Sample Count Rate) = (TC / CT) - BKG		
Sample	ALPHA TOTAL $\mu\text{Ci/g}$ = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/ μCi)		
WL19623			
Instrument Code	Relative Counting Error = [(The Square Root of TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100		
WB27809	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
SEH			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/g}$ (Maximum) =	< 1.25E-02	DETECTION LEVEL
Analyst	LESS THAN Value was Determined from Rs.		
SMF			6.77E-03
Date Complete	RELATIVE COUNTING ERROR	208.7%	$\mu\text{Ci/g}$
08/05/97			
Analysis Date			
08/04/97			
Analysis Time			
09:35 AM			
Sample Point			
AP-105 (P)			

Analyst:	SMF	Date: 05-Aug-97
Signature of Chemist:	SLF	Date: 8/2/99
BLANK.WB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: SAM4

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

		SAMPLE	REPLICATE
DETECTOR NUMBER		18	18
SAMPLE DISH SIZE (1, 2, or 5)	(MS)	2	2
GROSS COUNTS	(GC)	20	9
COUNT TIME in MINUTES	(CT)	30	30
BACKGROUND in cpm	(BKG)	0.13	0.13
SAMPLE SIZE in mL	(SS)	0.600	0.600
DILUTION FACTOR	(DF)	11	11
DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.2012	2.2012
EFFICIENCY FACTOR	(EFF)	0.2644	0.2644
LC, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE		0.537	0.170

Blank Concentration in $\mu\text{Ci/g}$	9.14E-03
Replicate Concentration in $\mu\text{Ci/g}$	2.89E-03
Average Concentration in $\mu\text{Ci/g}$	6.0164E-03

Rs (Sample Count Rate) = (TC / CT) - BKG	
ALPHA TOTAL $\mu\text{Ci/g}$ = 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 $\mu\text{Ci/g}$ (Average)	=	6.02E-03	DETECTION LEVEL
			6.77E-03 $\mu\text{Ci/g}$
RELATIVE COUNTING ERROR		138.0%	

(/ system;exit)yes~

Analyst:	SMF	Date: 05-Aug-97
Signature of Chemist:	SLF	Date: 8/2/97
SAMPLE.WB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: DUP5

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

		DUP	REPLICATE
Type	DETECTOR NUMBER	18	18
DUP	DISH SIZE (1, 2, or 5)	(MS)	2
Work List	GROSS COUNTS	(GC)	13
19623	COUNT TIME in MINUTES	(CT)	30
A or B	BACKGROUND in cpm	(BKG)	0.13
AT	SAMPLE SIZE in mL	(SS)	0.500
Test Code	DILUTION FACTOR	(DF)	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.2216
Matrix	EFFICIENCY FACTOR	(EFF)	0.2644
SOLID	Lg, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.303	0.437
Batch Number			
97003755	Blank Concentration in $\mu\text{Ci/g}$	5.12E-03	
Rerun	Replicate Concentration in $\mu\text{Ci/g}$	7.37E-03	
0	Average Concentration in $\mu\text{Ci/g}$	6.2423E-03	
Sample Prep			
FUSION01	Rs (Sample Count Rate) = (TC / CT) - BKG		
Sample	ALPHA TOTAL $\mu\text{Ci/g}$ = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/ μCi)		
S97T001807			
Instrument Code	Relative Counting Error = [(The Square Root of TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100		
WB27809	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
SEH			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/g}$ (Average) =	6.24E-03	DETECTION LEVEL
Analyst			
SMF			
Date Complete			6.71E-03
08/06/97	RELATIVE COUNTING ERROR	88.5%	$\mu\text{Ci/g}$
Analysis Date			
08/04/97			
Analysis Time			
09:35 AM			
Sample Point			
AP-105 (P)			

/ system;exit;yes~

Analyst:	SMF	Date: 05-Aug-97
Signature of Chemist:	SLF	Date: 8/2/97
SAMPLE.WB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: SAM6

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

		SAMPLE	REPLICATE
TYPE	DETECTOR NUMBER	18	18
SAMPLE	DISH SIZE (1, 2, or 5)	(MS)	2
Work List	GROSS COUNTS	(GC)	7
19623	COUNT TIME in MINUTES	(CT)	30
Ator/Bx	BACKGROUND in cpm	(BKG)	0.13
AT	SAMPLE SIZE in mL	(SS)	0.250
Test Code	DILUTION FACTOR	(DF)	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.202
Matrix	EFFICIENCY FACTOR	(EFF)	0.2644
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE	0.285	0.201
Batch Number			
97003755	Blank Concentration in $\mu\text{Ci/g}$	<	9.70E-03
Rerun	Replicate Concentration in $\mu\text{Ci/g}$	<	6.83E-03
0	Maximum Concentration in $\mu\text{Ci/g}$	<	9.6993E-03
Sample Prep			
FUSION01	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Sample#	$\text{ALPHA TOTAL } \mu\text{Ci/g} = R_s * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$		
S97T001809			
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
WB27809	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
SEH			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/g}$ (Maximum) =	< 9.70E-03	DETECTION LEVEL
Analyst	LESS THAN Value was Determined from Rmax.		
SMF			
Date Complete			1.35E-02
08/05/97	RELATIVE COUNTING ERROR	500.0%	$\mu\text{Ci/g}$
Analysis Date			
08/04/97			
Analysis Time			
09:35 AM			
Sample Point			
AP-105 (P)			

/ system exit yes~

Analyst:	SMF	Date: 05-Aug-97
Signature of Chemist:	SLF	Date: 8/7/97
SAMPLE.WB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: DUP7

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

		DUP	REPLICATE
TYPE	DETECTOR NUMBER	18	18
DUP	DISH SIZE (1, 2, or 5)	(MS)	2
WorkList	GROSS COUNTS	(GC)	7
19623	COUNT TIME in MINUTES	(CT)	30
Ator B7	BACKGROUND In cpm	(BKG)	0.13
AT	SAMPLE SIZE in mL	(SS)	0.250
Test Code	DILUTION FACTOR	(DF)	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.1516
Matrix	EFFICIENCY FACTOR	(EFF)	0.2644
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE		0.285

Batch Number	
97003755	Blank Concentration in $\mu\text{Ci/g}$
Rerun	Replicate Concentration in $\mu\text{Ci/g}$
0	Maximum Concentration in $\mu\text{Ci/g}$

Sample Prep	
FUSION01	$R_s \text{ (Sample Count Rate)} = (TC / CT) - BKG$
Sample	$ALPHA \text{ TOTAL } \mu\text{Ci/g} = R_s * 1000 \text{ mL/L} * DF / (EFF * SS * Dg/L * 2220000 \text{ dpm}/\mu\text{Ci})$
S97T001809	

Instrument Code	Relative Counting Error = $[(The \text{ Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$
WB27809	Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Prepared By

SEH

Chemist

SLF

Analyst

SMF

Data Complete

08/05/97

Analysis Date

08/04/97

Analysis Time

09:35 AM

Sample Point

AP-105 (P)

ALPHA TOTAL in $\mu\text{Ci/g}$ (Maximum)	=	< 9.93E-03	DETECTION LEVEL
LESS THAN Value was Determined from Rmax.			
RELATIVE COUNTING ERROR		208.7%	1.39E-02 $\mu\text{Ci/g}$

/ system:exit yes~

Analyst:	SMF	Date: 05-Aug-97
Signature of Chemist:	SLF	Date: 8/7/97
SAMPLE.WB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: SPKs

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

		SPIKE	REPLICATE
Type	DETECTOR NUMBER	18	18
SPK	DISH SIZE 1, 2, or 5 (MS)	2	2
Work List	TOTAL COUNTS (TC)	35891	39237
19623	COUNT TIME in MINUTES (CT)	30	30
Atorn1 Bk	BACKGROUND In cpm (BKG)	0.13	0.13
AT	SAMPLE VOLUME in mL (Spiked Vial) (SS)	0.260	0.260
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial) (DF)	11	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.202	2.202
Matrix	SPIKE VOLUME in mL (SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR (SDF)	1	1
Batch Number	SPIKE BOOK NUMBER (Spk BN)	131B43	131B43
97003755	SPIKE VALUE In $\mu\text{Ci/mL}$ (SVal)	2.6285E-02	2.6285E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR (EFF)	0.2644	0.2644
0	SAMPLE + SPIKE $\mu\text{Ci/g}$ (S+S)	4.07E+01	4.45E+01
Sample Prep	AVERAGE or MAXIMUM $\mu\text{Ci/g}$ in SAMPLE	<	9.6993E-03
FUSION01			
Sample			
S97T001009			
Instrument Code	Rs (Sample Count Rate) = (TC / CT) - BKG		
WB27809	SAMPLE + SPIKE $\mu\text{Ci/g}$ = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/ μCi)		
Prepared By	QC ACTUAL = SVal		
SEH	QC FOUND = (((S+S $\mu\text{Ci/g}$ - SAMPLE $\mu\text{Ci/g}$) * ((SDF/(SVol*1000)))/(DF/SS/Dg/L))))		
Chemist	PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) * 100		
SLF			
Analyst			
SMF			
Date Completed	NOTE: Original Sample result was a LESS THAN value. Zero (0) was subtracted from the spiked value for QC found calculation.		
08/06/97			
Analysis Date			
08/04/97	QC ACTUAL =	2.63E-02	
Analysis Time	QC FOUND =	2.13E-02	
09:35 AM	AVG. PERCENT SPIKE RECOVERY =	81.2%	
Sample Point			
AP-105 (P)			

Analyst:	BEH	Date: 05-Aug-97
Signature of Chemist:	SLF	Date: 8/7/97

SPIKE.WB1 Rev. 1.0

508101ML

LABCORE Completed RadChem Report for Worklist#: 19687

Analyst: crj Instrument: AB18 Book# _____

Method: _____ Rev/Mod _____

Worklist Comment: Use 1-10-.25 mL sample size. Rerun #1. SLF

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD	0		@ALPHA01 ALPHA01	SOLID	2.00E-04	1.71E-4	85.500	% Recovery
1 STD	0		@ALPHA01 ALPHA01E	SOLID	1.00	3.60E+00	3.600	% Ct. Error
2 BLNK-PREP	0		@ALPHA01 ALPHA01	SOLID	1	<3.80E-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	2.78E+00	2.780	BLNK/BKG
4 SAMPLE	S97T001810	0 F	@ALPHA01 ALPHA01	SOLID	N/A	1.06E-02	877.0e-005	uCi/g
4 SAMPLE	S97T001810	0 F	@ALPHA01 ALPHA01E	SOLID	N/A	9.03E+01	0.0e+000	% Ct. Error
5 DUP	S97T001810	0 F	@ALPHA01 ALPHA01	SOLID	1.06E-2	4.99E-3	71.969	RPD
5 DUP	S97T001810	0 F	@ALPHA01 ALPHA01E	SOLID	1.00	1.40E+02	140.000	% Ct. Error
6 SPK	S97T001810	0 F	@ALPHA01 ALPHA01	SOLID	2.63E-02	2.26E-02	85.932	% Recovery

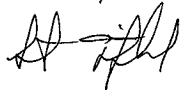
Final page for worklist# 19687

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____


Reviewer Signature _____ Date 8/11/97

The RPD is acceptable due
to the low sample alpha activity.


8/11/97

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

LABCORE Data Entry Template for Worklist# 19687

Analyst: CRJ Instrument: AB00 18 Book# 79856

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

Worklist Comment: Use 1-10-.25 mL sample size. Rerun #1. SLF

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 STD			@ALPHA01	SOLID		
2 BLNK-PREP			@ALPHA01	SOLID		
3 BLNK/BKG			@ALPHA01	SOLID		
4 SAMPLE	S97T001810 0 F		@ALPHA01	SOLID	97000478	AP-105 (P)
	Analytes Requested: ALPHA01 , ALPHA01E					
5 DUP	S97T001810 0 F		@ALPHA01	SOLID		
6 SPK	S97T001810 0 F		@ALPHA01	SOLID		

Final page for worklist # 19687

CJ Jensen 8/7/97
Analyst Signature Date

Lue Hooper 8-11-97
Analyst Signature Date
Sylvia L. Caruano 8/11/97

Data Entry Comments:

WORKBOOK PAGE: STD1

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

		STANDARD	REPLICATE
Type	DETECTOR NUMBER	18	18
STD	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	3055	2967
19687	COUNT TIME in MINUTES (CT)	30	30
Account By?	BACKGROUND in cpm (BKG)	0.03	0.03
AT	SAMPLE SIZE in mL (SS)	1.000	1.000
Test Code	DILUTION FACTOR (DF)	1	1
@ALPHA01	STANDARD BOOK NUMBER (Std BN)	79B56	79B56
Matrix	EFFICIENCY FACTOR (EFF)	0.2644	0.2644
LIQUID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE	101.803	98.870
Batch Number	Standard Value in $\mu\text{Ci/mL}$	2.00E-04	
07003823	Concentration in $\mu\text{Ci/L}$ =	1.73E-01	
Rerun	Replicate Concentration in $\mu\text{Ci/L}$ =	1.68E-01	
0	AVERAGE CONCENTRATION in $\mu\text{Ci/L}$ =	1.7094E-01	
Sample Prep			
N/A	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	ALPHA TOTAL $\mu\text{Ci/L}$ = $R_s * 1000\text{mL/L} * DF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$		
WL19687	ALPHA TOTAL $\mu\text{Ci/mL}$ = ALPHA TOTAL $\mu\text{Ci/L}$ / 1000mL		
Instrument Code	Relative Counting Error = $[(The\ Square\ Root\ of\ TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
WB27809	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
SEH			
Chemist			
SLF	ALPHA TOTAL CONCENTRATION in $\mu\text{Ci/mL}$ =	1.71E-04	DETECTION LEVEL
Analyst			
CRJ			
Date Complete			4.06E-07 $\mu\text{Ci/mL}$
08/11/97	RELATIVE COUNTING ERROR =	3.6%	
Analysis Date			
08/07/97			
Analysis Time			
01:15 PM			
Sample Point			
AP-106 (P)			

Analyst:	SEH	Date: 11-Aug-97
Signature of Chemist:	SLF	Date: 8/11/97

STANDARD.WB1 Rev. 1.0

508101ML

WORKBOOK PAGE: BLANK2

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

		BLNK-PREP	REPLICATE
Type	DETECTOR NUMBER	18	18
BLNK-PREP	DISH SIZE (1, 2, or 5)	(MS)	2
Worksheets	GROSS COUNTS	(GC)	4
19687	COUNT TIME in MINUTES	(CT)	30
Alpha/Beta	BACKGROUND in cpm	(BKG)	0.03
AT	SAMPLE SIZE in mL	(SS)	0.250
Test Code	DILUTION FACTOR	(DF)	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.036
Matrix	EFFICIENCY FACTOR	(EFF)	0.2644
SOLID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE	0.103	0.079
Batch Number			
97003823	Blank Concentration in $\mu\text{Ci/g}$	3.80E-03	
Retrun	Replicate Concentration in $\mu\text{Ci/g}$	< 2.91E-03	
0	Maximum Concentration in $\mu\text{Ci/g}$	< 3.8045E-03	
Sample Prep			
N/A	Rs (Sample Count Rate) = (TC / CT) - BKG		
Sample	ALPHA TOTAL $\mu\text{Ci/g}$ = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/ μCi)		
WL19687			
Instrument Code	Relative Counting Error = [(The Square Root of TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100		
WB27809	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
SEH			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/g}$ (Maximum) =	< 3.80E-03	DETECTION LEVEL
Analyst	LESS THAN Value was Determined from Rs.		
CRJ			8.77E-03
Date Complete	RELATIVE COUNTING ERROR	500.0%	$\mu\text{Ci/g}$
08/11/97			
Analysis Date			
08/07/97			
Analysis Time			
01:15 PM			
Sample Point			
AP-105 (P)			

Analyst:	CPM	Date: 11-Aug-97
Signature of Chemist:	SLF	Date: 8/11/97
BLANK.WB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: SAM4

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

	DETECTOR NUMBER	SAMPLE	REPLICATE
TYPE		18	18
SAMPLE	DISH SIZE (1, 2, or 5)	(MS)	2
WORKSHEET	GROSS COUNTS	(GC)	12
19687	COUNT TIME in MINUTES	(CT)	30
ALPHA B	BACKGROUND in cpm	(BKG)	0.03
AT	SAMPLE SIZE in mL	(SS)	0.250
Test Code	DILUTION FACTOR	(DF)	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.036
Matrix	EFFICIENCY FACTOR	(EFF)	0.2644
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE		0.370
Batch Number			0.203
97003823	Blank Concentration in $\mu\text{Ci/g}$		1.36E-02
Rerun	Replicate Concentration in $\mu\text{Ci/g}$		7.49E-03
1	Average Concentration in $\mu\text{Ci/g}$		1.055E-02

Sample Prep	
FUSION01	R_s (Sample Count Rate) = $(TC / CT) - BKG$
Sample #	$ALPHA\ TOTAL\ \mu\text{Ci/g} = R_s * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$
S97T001810	
Instrument Code	Relative Counting Error = $[(The\ Square\ Root\ of\ TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$
WB27809	Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Prepared By	
SEH	
Chemist	
SLF	ALPHA TOTAL in $\mu\text{Ci/g}$ (Average) = 1.06E-02
Analyst	
CRJ	
Date Complete	
08/11/97	RELATIVE COUNTING ERROR 90.3%
Analysis Date	
08/07/97	
Analysis Time	
01:15 PM	
Sample Point	
AP-105 (P)	

{/ system;exit;yes~

Analyst:	CRJ	Date: 11-Aug-97
Signature of Chemist:	SLF	Date: 8/11/97
SAMPLE.WB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: DUP5

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

		DUP	REPLICATE
TYPE	DETECTOR NUMBER	18	18
DUP	DISH SIZE (1, 2, or 5)	(MS)	2
Work List	GROSS COUNTS	(GC)	4
19687	COUNT TIME in MINUTES	(CT)	30
AT FOR TB	BACKGROUND in cpm	(BKG)	0.03
AT	SAMPLE SIZE in mL	(SS)	0.250
Test Code	DILUTION FACTOR	(DF)	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.0512
Matrix	EFFICIENCY FACTOR	(EFF)	0.2644
SOLID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE	0.103	0.170
Batch Number			
97003823	Blank Concentration in $\mu\text{Ci/g}$	3.78E-03	
Retun	Replicate Concentration in $\mu\text{Ci/g}$	6.21E-03	
1	Average Concentration in $\mu\text{Ci/g}$	4.9945E-03	
Sample Prep			
FUSION01	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Sample	$ALPHA \text{ TOTAL } \mu\text{Ci/g} = R_s * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$		
S977001810			
Instrument Code	Relative Counting Error = $[(The \text{ Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
WB27809	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
SEH			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/g}$ (Average) =	4.99E-03	DETECTION LEVEL
Analyst			
CRJ			
Date Complete			8.71E-03 $\mu\text{Ci/g}$
08/11/97	RELATIVE COUNTING ERROR	140.0%	
Analysis Date			
08/07/97			
Analysis Time			
01:15 PM			
Sample Point			
AP-105 (P)			

f/ system;exit;yes-

Analyst:	CRJ	Date: 11-Aug-97
Signature of Chemist:	SLF	Date: 8/11/97
SAMPLE.WB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: SPK6

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

		SPIKE	REPLICATE
Type	DETECTOR NUMBER	18	18
SPK	DISH SIZE 1, 2, or 5 (MS)	2	2
Work List	TOTAL COUNTS (TC)	39630	39935
19687	COUNT TIME In MINUTES (CT)	30	30
Ator(B)	BACKGROUND In cpm (BKG)	0.03	0.03
AT	SAMPLE VOLUME in mL (Spiked Vial) (SS)	0.250	0.250
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial) (DF)	11	11
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.036	2.036
Matrix	SPIKE VOLUME In mL (SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR (SDF)	1	1
Batch Number	SPIKE BOOK NUMBER (Spk BN)	131B43	131B43
97003823	SPIKE VALUE in µCi/mL (SVal)	2.6284E-02	2.6284E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR (EFF)	0.2644	0.2644
1	SAMPLE + SPIKE µCi/g (S+S)	4.86E+01	4.90E+01
Sample Prep	AVERAGE or MAXIMUM µCi/g In SAMPLE	1.0555E-02	
FUSION01			
Sample #			
S97T001810			
Instrument Code	Rs (Sample Count Rate) = (TC / CT) - BKG		
WB27809	SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)		
Prepared By	QC ACTUAL = SVal		
SEH	QC FOUND = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/(SVol*1000)))/(DF/SS/Dg/L))))		
Chemist	PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) * 100		
SLF			
Analyst			
CRJ			
Date Complete			
08/11/97			
Analysis Date			
08/07/97	QC ACTUAL =	2.63E-02	
Analysis Time	QC FOUND =	2.26E-02	
01:16 PM	AVG. PERCENT SPIKE RECOVERY =	85.9%	
Sample Point			
AP-105 (P)			

Analyst:	SEH	Date: 11-Aug-97
Signature of Chemist:	SLF	Date: 8/11/97
SPIKE.WB1 Rev. 1.0	508101ML	

HNF-SD-WM-DP-263, REV. 0

APPENDIX A : OPPORTUNISTIC ANALYTE RESULTS

HNF-SD-WM-DP-263, REV. 0

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HNF-SD-WM-DP-263, REV. 0

Appendix A. Opportunistic Analytes AP-105 (P)

SEGMENT #: Field Blank

SEGMENT PORTION: Field Blank

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk. Rec. %	Det Limit	Count Err%
S97T001689	D	Silver-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
S97T001689	D	Aluminum-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
S97T001689	D	Arsenic-ICP-Acid Dil.	ug/mL	104.8	<1.00e-01	<1.00e-01	<1.00e-1	n/a	n/a	n/a	1.00e-01	n/a
S97T001689	D	Boron-ICP-Acid Dil.	ug/mL	102.4	<5.00e-02	9.12e-02	8.60e-02	8.86e-02	5.87	n/a	5.00e-02	n/a
S97T001689	D	Barium-ICP-Acid Dil.	ug/mL	102.0	<5.00e-02	<5.00e-02	<5.00e-2	n/a	n/a	n/a	5.00e-02	n/a
S97T001689	D	Beryllium-ICP-Acid Dil.	ug/mL	104.4	<5.00e-02	<5.00e-02	<5.00e-2	n/a	n/a	n/a	5.00e-02	n/a
S97T001689	D	Bismuth-ICP-Acid Dil.	ug/mL	102.8	<1.00e-01	<1.00e-01	<1.00e-1	n/a	n/a	n/a	1.00e-01	n/a
S97T001689	D	Calcium-ICP-Acid Dil.	ug/mL	102.4	<1.00e-01	3.87e-01	2.47e-01	3.17e-01	44.2	n/a	1.00e-01	n/a
S97T001689	D	Cadmium-ICP-Acid Dil.	ug/mL	102.0	<5.00e-03	<5.00e-03	<5.00e-3	n/a	n/a	n/a	5.00e-03	n/a
S97T001689	D	Cerium-ICP-Acid Dil.	ug/mL	102.0	<1.00e-01	<1.00e-01	<1.00e-1	n/a	n/a	n/a	1.00e-01	n/a
S97T001689	D	Cobalt-ICP-Acid Dil.	ug/mL	101.6	<2.00e-02	<2.00e-02	<2.00e-2	n/a	n/a	n/a	2.00e-02	n/a
S97T001689	D	Chromium-ICP-Acid Dil.	ug/mL	102.6	<1.00e-02	<1.00e-02	<1.00e-2	n/a	n/a	n/a	1.00e-02	n/a
S97T001689	D	Chromium-ICP-Acid Dil.	ug/mL	99.00	<5.00e-02	<5.00e-02	<5.00e-2	n/a	n/a	n/a	5.00e-02	n/a
S97T001689	D	Copper-ICP-Acid Dil.	ug/mL	95.40	<5.00e-02	<5.00e-02	<5.00e-2	n/a	n/a	n/a	5.00e-02	n/a
S97T001689	D	Iron-ICP-Acid Dil.	ug/mL	103.4	<5.00e-01	<5.00e-01	<5.00e-1	n/a	n/a	n/a	5.00e-01	n/a
S97T001689	D	Potassium-ICP-Acid Dil.	ug/mL	103.4	<5.00e-02	<5.00e-02	<5.00e-2	n/a	n/a	n/a	5.00e-02	n/a
S97T001689	D	Lanthanum-ICP-Acid Dil.	ug/mL	100.6	<1.00e-02	<1.00e-02	<1.00e-2	n/a	n/a	n/a	1.00e-02	n/a
S97T001689	D	Magnesium-ICP-Acid Dil.	ug/mL	100.6	<1.00e-02	<1.00e-02	<1.00e-2	n/a	n/a	n/a	1.00e-02	n/a
S97T001689	D	Manganese-ICP-Acid Dil.	ug/mL	102.2	<5.00e-02	<5.00e-02	<5.00e-2	n/a	n/a	n/a	5.00e-02	n/a
S97T001689	D	Molybdenum-ICP-Acid Dil.	ug/mL	99.80	<1.00e-01	<1.00e-01	<1.00e-1	1.440	7.02	n/a	1.00e-01	n/a
S97T001689	D	Sodium-ICP-Acid Dil.	ug/mL	103.8	<1.00e-01	<1.00e-01	<1.00e-1	n/a	n/a	n/a	1.00e-01	n/a
S97T001689	D	Neodymium-ICP-Acid Dil.	ug/mL	102.0	<2.00e-02	<2.00e-02	<2.00e-2	n/a	n/a	n/a	2.00e-02	n/a
S97T001689	D	Nickel-ICP-Acid Dil.	ug/mL	104.3	<2.00e-01	<2.00e-01	<2.00e-1	n/a	n/a	n/a	2.00e-01	n/a
S97T001689	D	Phosphorus-ICP-Acid Dil.	ug/mL	100.4	<1.00e-01	<1.00e-01	<1.00e-1	n/a	n/a	n/a	1.00e-01	n/a
S97T001689	D	Lead-ICP-Acid Dil.	ug/mL	100.4	<1.00e-01	<1.00e-01	<1.00e-1	n/a	n/a	n/a	1.00e-01	n/a
S97T001689	D	Sulfur-ICP-Acid Dil.	ug/mL	97.40	<6.00e-02	<6.00e-02	<6.00e-2	n/a	n/a	n/a	6.00e-02	n/a
S97T001689	D	Antimony-ICP-Acid Dil.	ug/mL	98.40	<1.00e-01	<1.00e-01	<1.00e-1	n/a	n/a	n/a	1.00e-01	n/a
S97T001689	D	Selenium-ICP-Acid Dil.	ug/mL	97.80	<5.00e-02	<5.00e-02	<5.00e-2	1.670	2.40	n/a	5.00e-02	n/a
S97T001689	D	Silicon-ICP-Acid Dil.	ug/mL	100.0	<1.00e-02	<1.00e-02	<1.00e-2	n/a	n/a	n/a	1.00e-02	n/a
S97T001689	D	Samarium-ICP-Acid Dil.	ug/mL	100.6	<1.00e-02	<1.00e-02	<1.00e-2	n/a	n/a	n/a	1.00e-02	n/a
S97T001689	D	Strontium-ICP-Acid Dil.	ug/mL	99.60	<1.00e-02	<1.00e-02	<1.00e-2	n/a	n/a	n/a	1.00e-02	n/a
S97T001689	D	Titanium-ICP-Acid Dil.	ug/mL	98.60	<2.00e-01	<2.00e-01	<2.00e-1	n/a	n/a	n/a	2.00e-01	n/a
S97T001689	D	Thallium-ICP-Acid Dil.	ug/mL	97.90	<5.00e-02	<5.00e-02	<5.00e-2	n/a	n/a	n/a	5.00e-02	n/a
S97T001689	D	Uranium-ICP-Acid Dil.	ug/mL	100.2	<5.00e-02	<5.00e-02	<5.00e-2	n/a	n/a	n/a	5.00e-02	n/a
S97T001689	D	Vanadium-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
S97T001689	D	Zinc-ICP-Acid Dil.	ug/mL	100.2	<1.00e-02	<1.00e-02	<1.00e-2	n/a	n/a	n/a	1.00e-02	n/a
S97T001689	D	Zirconium-ICP-Acid Dil.	ug/mL	98.98	<1.20e-02	<1.20e-02	<1.20e-2	n/a	n/a	n/a	1.20e-02	n/a
S97T001689	D	Fluoride-IC-Dionex 4000/4500	ug/mL	92.58	<1.70e-02	<1.70e-02	<1.70e-2	36.6	7.10e-02	n/a	1.70e-02	n/a
S97T001689	D	Chloride-IC-Dionex 4000/4500	ug/mL	99.45	<1.00e-01	<1.00e-01	<1.00e-1	n/a	n/a	n/a	1.00e-01	n/a
S97T001689	D	Nitrate-IC-Dionex 4000/4500	ug/mL	98.15	<1.30e-01	<1.30e-01	<1.30e-1	n/a	n/a	n/a	1.30e-01	n/a
S97T001689	D	Nitrate-IC-Dionex 4000/4500	ug/mL	103.5	<1.20e-01	<1.20e-01	<1.20e-1	n/a	n/a	n/a	1.20e-01	n/a
S97T001689	D	Phosphate-IC-Dionex 4000/4500	ug/mL	100.2	<1.30e-01	<1.30e-01	<1.30e-1	n/a	n/a	n/a	1.30e-01	n/a
S97T001689	D	Sulfate-IC-Dionex 4000/4500	ug/mL	100.2	<1.30e-01	<1.30e-01	<1.30e-1	n/a	n/a	n/a	1.30e-01	n/a
S97T001689	D	Oxalate-IC-Dionex 4000/4500	ug/mL	100.6	<1.00e-01	<1.00e-01	<1.00e-1	n/a	n/a	n/a	1.00e-01	n/a

14-oct-1997 13:55:36
A-0002-1Appendix A. Opportunistic Analyses
AP-105 (P)CORE NUMBER: 208
SEGMENT #: 1

SEGMENT PORTION: Drainable Liquid

Sample#	RA#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S97T001721	D	Silver-ICP-Acid Dil.	ug/mL	10.12	< 1.00e-02	9.920	10.00	9.960	0.80	66.30	4.010	n/a
S97T001721	D	Aluminum-ICP-Acid Dil.	ug/mL	99.49	< 5.00e-02	1.97e+04	1.97e+04	1.96e+04	1.53	102.0	20.10	n/a
S97T001721	D	Arsenic-ICP-Acid Dil.	ug/mL	10.12	< 1.00e-02	< 40.10	< 40.01e1	n/a	n/a	102.0	40.10	n/a
S97T001721	D	Boron-ICP-Acid Dil.	ug/mL	102.6	< 5.00e-02	< 20.10	< 2.01e1	n/a	n/a	105.0	20.10	n/a
S97T001721	D	Barium-ICP-Acid Dil.	ug/mL	102.6	< 5.00e-02	< 20.10	< 2.01e1	n/a	n/a	99.80	20.10	n/a
S97T001721	D	Beryllium-ICP-Acid Dil.	ug/mL	102.6	< 5.00e-02	< 2.000	< 2.00e0	n/a	n/a	104.0	2.000	n/a
S97T001721	D	Bismuth-ICP-Acid Dil.	ug/mL	102.6	< 5.00e-02	< 40.10	< 40.01e1	n/a	n/a	105.0	40.10	n/a
S97T001721	D	Calcium-ICP-Acid Dil.	ug/mL	102.6	< 5.00e-02	< 2.000	< 2.00e0	n/a	n/a	107.0	2.000	n/a
S97T001721	D	Cadmium-ICP-Acid Dil.	ug/mL	102.6	< 5.00e-02	< 40.10	< 40.01e1	n/a	n/a	102.0	40.10	n/a
S97T001721	D	Cerium-ICP-Acid Dil.	ug/mL	102.6	< 5.00e-02	< 8.020	< 8.02e0	n/a	n/a	101.0	8.020	n/a
S97T001721	D	Cobalt-ICP-Acid Dil.	ug/mL	102.6	< 5.00e-02	< 40.10	< 40.01e1	n/a	n/a	101.0	40.10	n/a
S97T001721	D	Chromium-ICP-Acid Dil.	ug/mL	102.6	< 5.00e-02	2.40e+02	2.45	242.5	2.96	103.0	4.010	n/a
S97T001721	D	Copper-ICP-Acid Dil.	ug/mL	99.00	< 1.00e-02	< 40.10	< 40.01e1	n/a	n/a	97.50	4.010	n/a
S97T001721	D	Iron-ICP-Acid Dil.	ug/mL	95.40	< 5.00e-02	< 20.10	< 2.01e1	n/a	n/a	96.10	20.10	n/a
S97T001721	D	Potassium-ICP-Acid Dil.	ug/mL	101.5	< 5.00e-02	1.70e+04	1.72e+04	1.71e+04	1.17	85.50	200.0	n/a
S97T001721	D	Lanthanum-ICP-Acid Dil.	ug/mL	103.4	< 5.00e-02	< 20.10	< 2.01e1	n/a	n/a	103.0	20.10	n/a
S97T001721	D	Magnesium-ICP-Acid Dil.	ug/mL	104.6	< 1.00e-02	< 40.10	< 40.01e1	n/a	n/a	101.0	40.10	n/a
S97T001721	D	Manganese-ICP-Acid Dil.	ug/mL	100.0	< 1.00e-02	< 4.010	< 4.01e0	n/a	n/a	97.30	4.010	n/a
S97T001721	D	Molybdenum-ICP-Acid Dil.	ug/mL	102.2	< 5.00e-02	35.30	35.60	35.45	0.85	102.0	20.10	n/a
S97T001721	D	Sodium-ICP-Acid Dil.	ug/mL	93.8	< 1.00e-01	1.34e+05	1.35e+05	1.34e+05	0.74	-2.720e1	40.10	n/a
S97T001721	D	Nickel-ICP-Acid Dil.	ug/mL	102.0	< 2.00e-02	< 40.10	< 40.01e1	n/a	n/a	103.0	40.10	n/a
S97T001721	D	Neodymium-ICP-Acid Dil.	ug/mL	104.8	< 2.00e-02	8.020	-8.02e0	n/a	n/a	100.0	8.020	n/a
S97T001721	D	Phosphorus-ICP-Acid Dil.	ug/mL	102.6	< 1.00e-01	7.11e+03	698.0	704.5	1.85	101.0	80.20	n/a
S97T001721	D	Sulfur-ICP-Acid Dil.	ug/mL	100.4	< 1.00e-01	< 40.10	< 40.01e1	n/a	n/a	113.0	40.10	n/a
S97T001721	D	Antimony-ICP-Acid Dil.	ug/mL	97.40	< 5.00e-02	< 24.10	-2.41e1	n/a	n/a	99.30	24.10	n/a
S97T001721	D	Selenium-ICP-Acid Dil.	ug/mL	97.80	< 5.00e-02	1.45e+02	173.0	159.0	17.6	103.0	20.10	n/a
S97T001721	D	Silicon-ICP-Acid Dil.	ug/mL	100.0	< 1.00e-01	< 40.10	< 40.01e1	n/a	n/a	102.0	40.10	n/a
S97T001721	D	Samarium-ICP-Acid Dil.	ug/mL	97.40	< 1.00e-01	< 40.10	< 40.01e1	n/a	n/a	99.60	40.10	n/a
S97T001721	D	Strontium-ICP-Acid Dil.	ug/mL	100.6	< 1.00e-02	< 4.010	< 4.01e0	n/a	n/a	100.0	4.010	n/a
S97T001721	D	Tellurium-ICP-Acid Dil.	ug/mL	99.60	< 1.00e-02	< 4.010	< 4.01e0	n/a	n/a	99.10	4.010	n/a
S97T001721	D	Thallium-ICP-Acid Dil.	ug/mL	98.60	< 5.00e-01	80.20	-8.02e1	n/a	n/a	94.20	80.20	n/a
S97T001721	D	Uranium-ICP-Acid Dil.	ug/mL	97.90	< 5.00e-01	< 2.00e+02	< 2.00e2	n/a	n/a	99.50	200.0	n/a
S97T001721	D	Vanadium-ICP-Acid Dil.	ug/mL	100.2	< 5.00e-02	< 20.10	< 2.01e1	n/a	n/a	99.60	20.10	n/a
S97T001721	D	Zinc-ICP-Acid Dil.	ug/mL	97.60	< 1.00e-02	8.060	8.030	8.495	10.2	98.50	4.010	n/a
S97T001721	D	Zirconium-ICP-Acid Dil.	ug/mL	100.2	< 1.00e-02	< 4.010	< 4.01e0	n/a	n/a	100.0	4.010	n/a
S97T001721	D	Fluoride-IC-Dioxex 4000/4500	ug/mL	99.66	< 2.00e-02	1.35e+03	1.38e+03	1.38e+03	0.00	128.3	49.69	n/a
S97T001721	D	Chloride-IC-Dioxex 4000/4500	ug/mL	94.63	< 7.00e-02	2.67e+03	2.68e+03	2.68e+03	0.37	98.87	70.40	n/a
S97T001721	D	Nitrate-IC-Dioxex 4000/4500	ug/mL	101.5	< 1.00e-01	4.89e+04	4.83e+04	4.86e+04	1.23	109.4	447.2	n/a
S97T001721	D	Nitrate by IC-Dioxex 4000/4500	ug/mL	101.0	< 3.9e-01	1.17e+05	1.17e+05	1.17e+05	0.00	104.4	575.6	n/a
S97T001721	D	Phosphate by IC-Dioxex 4000/4500	ug/mL	106.1	< 4.20e-01	1.22e+03	1.08e+03	1.15e+03	12.2	104.2	496.9	n/a
S97T001721	D	Sulfate by IC-Dioxex 4000/4500	ug/mL	101.3	< 3.8e-01	1.83e+03	1.81e+03	1.81e+03	2.21	103.5	571.5	n/a
S97T001721	D	Oxalate-IC-Dioxex 4000/4500	ug/mL	102.6	< 1.05e-01	< 4.35e+02	< 4.35e2	n/a	n/a	101.3	434.8	n/a

Appendix A. Opportunistic Analytes
AP-105 (P)

CORE NUMBER: 208
SEGMENT #: 2

SEGMENT PORTION: U Upper Half of Segment

Sample #	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk %	Det Limit	Count	Err%
S97T001730		TIC DI Acid/Conductivity	ug/g	95.68	1.100	1.45e+04		1.46e+04	2.05	n/a	5.000		n/a
S97T001732		F Silver - ICP-Fusion	ug/g	98.60	<1.00e-02	<2.00e-02	<1.90e2	n/a	n/a	n/a	200.0		n/a
S97T001733		F Aluminum - ICP-Fusion	ug/g	97.60	<5.00e-02	7.89e+03	8.18e+03	8.14e+03	3.61	n/a	1.00e+03		n/a
S97T001735		F Arsenic - ICP-Fusion	ug/g	100.8	<1.00e-01	<2.00e+03	<1.90e3	n/a	n/a	n/a	2.00e+03		n/a
S97T001737		F Barium - ICP-Fusion	ug/g	103.6	<5.00e-02	<1.00e+03	<9.51e2	n/a	n/a	n/a	1.00e+03		n/a
S97T001739		F Barium - ICP-Fusion	ug/g	98.60	<5.00e-02	<1.00e+03	<9.51e2	n/a	n/a	n/a	1.00e+03		n/a
S97T001741		F Barium - ICP-Fusion	ug/g	101.4	<5.00e-03	<1.00e+02	<9.51e1	n/a	n/a	n/a	100.0		n/a
S97T001743		F Barium - ICP-Fusion	ug/g	105.0	<1.00e-01	<2.00e+03	<1.90e3	n/a	n/a	n/a	2.00e+03		n/a
S97T001745		F Barium - ICP-Fusion	ug/g	99.80	<1.00e-01	<2.00e+03	<1.90e3	n/a	n/a	n/a	2.00e+03		n/a
S97T001747		F Barium - ICP-Fusion	ug/g	100.4	<5.00e-03	<1.00e+02	<9.51e1	n/a	n/a	n/a	100.0		n/a
S97T001749		F Barium - ICP-Fusion	ug/g	97.80	<1.00e-01	<2.00e+03	<1.90e3	n/a	n/a	n/a	2.00e+03		n/a
S97T001751		F Barium - ICP-Fusion	ug/g	102.6	<2.00e-02	<4.00e+02	<3.80e2	n/a	n/a	n/a	400.0		n/a
S97T001753		F Barium - ICP-Fusion	ug/g	99.80	<1.00e-02	<2.00e+02	<1.90e2	n/a	n/a	n/a	200.0		n/a
S97T001755		F Barium - ICP-Fusion	ug/g	100.2	<5.00e-02	<1.00e+03	<9.51e2	n/a	n/a	n/a	1.00e+03		n/a
S97T001757		F Barium - ICP-Fusion	ug/g	99.20	<5.00e-02	<1.00e+03	<9.51e2	n/a	n/a	n/a	1.00e+03		n/a
S97T001759		F Barium - ICP-Fusion	ug/g	99.60	<1.00e-01	<2.00e+03	<1.90e3	n/a	n/a	n/a	2.00e+03		n/a
S97T001761		F Barium - ICP-Fusion	ug/g	101.4	<5.00e-02	<2.00e+02	<1.90e2	n/a	n/a	n/a	200.0		n/a
S97T001763		F Barium - ICP-Fusion	ug/g	101.0	<1.00e-01	<1.76e+03	1.86e+03	1.81e+03	5.52	n/a	1.00e+03		n/a
S97T001765		F Barium - ICP-Fusion	ug/g	99.00	<1.00e-01	<2.00e+03	<1.90e3	n/a	n/a	n/a	2.00e+03		n/a
S97T001767		F Barium - ICP-Fusion	ug/g	101.2	<2.00e-01	6.31e+03	6.80e+03	6.56e+03	7.48	n/a	4.00e+03		n/a
S97T001769		F Barium - ICP-Fusion	ug/g	100.0	<1.00e-01	<2.00e+03	<1.90e3	n/a	n/a	n/a	2.00e+03		n/a
S97T001771		F Barium - ICP-Fusion	ug/g	100.2	<1.00e-01	<2.26e+03	2.51e+03	2.38e+03	10.5	n/a	1.20e+03		n/a
S97T001773		F Barium - ICP-Fusion	ug/g	96.40	<6.00e-02	<1.20e+03	<1.14e3	n/a	n/a	n/a	2.00e+03		n/a
S97T001775		F Barium - ICP-Fusion	ug/g	94.40	<1.00e-01	<2.00e+03	<1.90e3	n/a	n/a	n/a	2.00e+03		n/a
S97T001777		F Barium - ICP-Fusion	ug/g	99.40	<5.00e-02	<1.00e+03	<9.51e2	n/a	n/a	n/a	1.00e+03		n/a
S97T001779		F Barium - ICP-Fusion	ug/g	97.20	<1.00e-01	<2.00e+02	<1.90e2	n/a	n/a	n/a	200.0		n/a
S97T001781		F Barium - ICP-Fusion	ug/g	98.00	<1.00e-02	<2.00e+02	<1.90e2	n/a	n/a	n/a	200.0		n/a
S97T001783		F Barium - ICP-Fusion	ug/g	98.00	<1.00e-02	<2.00e+02	<1.90e2	n/a	n/a	n/a	200.0		n/a
S97T001785		F Barium - ICP-Fusion	ug/g	95.40	<2.00e-01	<4.00e+03	<3.80e3	n/a	n/a	n/a	4.00e+03		n/a
S97T001787		F Barium - ICP-Fusion	ug/g	95.50	<5.00e-01	<1.00e+03	<9.51e2	n/a	n/a	n/a	1.00e+04		n/a
S97T001789		F Barium - ICP-Fusion	ug/g	101.2	<1.00e-02	<1.00e+03	<9.51e2	n/a	n/a	n/a	1.00e+03		n/a
S97T001791		F Barium - ICP-Fusion	ug/g	99.20	<1.00e-02	<2.00e+02	<1.90e2	n/a	n/a	n/a	200.0		n/a
S97T001793		F Barium - ICP-Fusion	ug/g	98.60	<1.00e-02	<2.00e+02	<1.90e2	n/a	n/a	n/a	200.0		n/a
S97T001795		F Barium - ICP-Fusion	ug/g	97.46	<1.20e-02	2.29e+04	2.27e+04	2.27e+04	2.21	n/a	95.61		n/a
S97T001797		F Barium - ICP-Fusion	ug/g	94.00	<1.70e-02	1.20e+03	1.19e+03	1.19e+03	0.84	n/a	135.5		n/a
S97T001799		F Barium - ICP-Fusion	ug/g	100.2	<1.00e-01	3.04e+03	2.94e+04	2.99e+04	3.34	n/a	860.6		n/a
S97T001733		F Nitrate by IC-Dionex 4000/4500	ug/g	103.2	<1.39e-01	1.31e+05	1.40e+05	1.36e+05	6.64	n/a	1.11e+03		n/a
S97T001735		F Phosphate by IC-Dionex 4000/4500	ug/g	104.6	<1.20e-01	1.66e+04	1.65e+04	1.66e+04	0.60	n/a	956.1		n/a
S97T001737		F Sulfate by IC-Dionex 4000/4500	ug/g	100.6	<1.38e-01	6.14e+03	6.39e+03	6.39e+03	7.67	n/a	1.10e+03		n/a
S97T001739		F Oxalate by IC-Dionex 4000/4500	ug/g	100.0	<1.05e-01	9.75e+03	9.30e+03	9.52e+03	4.72	n/a	836.8		n/a

L Lower Half of Segment: L Lower Half of Segment

Sample#	P.#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S971001726		TiC by Acid/Coulometry	ug/g	95.68	1.100	2.02e+04	1.79e+04	1.90e+04	12.1	75.70	5.000	n/a
S971001727		F Silver - ICP-Fusion	ug/g	98.60	<1.00e-02	<1.89e+03	<1.70e2	<1.70e2	n/a	88.80	189.0	n/a
S971001727		F Aluminum - ICP-Fusion	ug/g	97.60	<5.00e-02	<7.92e+03	7.08e+03	7.50e+03	11.2	97.90	943.0	n/a
S971001727		F Arsenic - ICP-Fusion	ug/g	103.8	<1.00e-01	<1.89e+03	<1.70e3	<1.70e3	n/a	104.0	1.89e+03	n/a
S971001727		F Boron - ICP-Fusion	ug/g	100.6	<5.00e-02	<9.43e+02	<8.48e2	n/a	n/a	99.00	943.0	n/a
S971001727		F Barium - ICP-Fusion	ug/g	98.60	<5.00e-02	<9.43e+02	<8.48e2	n/a	n/a	95.90	943.0	n/a
S971001727		F Beryllium - ICP-Fusion	ug/g	101.4	<5.00e-03	<9.43e+02	<8.48e1	n/a	n/a	99.30	94.30	n/a
S971001727		F Bismuth - ICP-Fusion	ug/g	105.0	<1.00e-01	<1.89e+03	<1.70e3	n/a	n/a	101.0	1.89e+03	n/a
S971001727		F Calcium - ICP-Fusion	ug/g	99.80	<1.00e+03	<1.89e+03	<1.70e3	n/a	n/a	101.0	1.89e+03	n/a
S971001727		F Cadmium - ICP-Fusion	ug/g	100.4	<5.00e-03	<9.43e+02	<8.48e1	n/a	n/a	99.10	94.30	n/a
S971001727		F Cerium - ICP-Fusion	ug/g	97.80	<2.00e-02	<1.89e+03	<1.70e3	n/a	n/a	98.20	1.89e+03	n/a
S971001727		F Cobalt - ICP-Fusion	ug/g	102.6	<2.00e-02	<1.89e+03	<3.39e2	n/a	n/a	101.0	377.0	n/a
S971001727		F Chromium - ICP-Fusion	ug/g	99.80	<1.00e-02	<1.89e+02	<1.70e2	n/a	n/a	99.30	189.0	n/a
S971001727		F Copper - ICP-Fusion	ug/g	100.2	<1.00e-02	<1.89e+02	<1.70e2	n/a	n/a	99.50	189.0	n/a
S971001727		F Iron - ICP-Fusion	ug/g	93.40	<5.00e-02	<9.43e+02	<8.48e2	n/a	n/a	92.10	943.0	n/a
S971001727		F Lanthanum - ICP-Fusion	ug/g	99.60	<1.00e-01	<1.89e+03	<1.70e3	n/a	n/a	97.80	1.89e+03	n/a
S971001727		F Magnesium - ICP-Fusion	ug/g	98.60	<1.00e-02	<1.89e+03	<1.70e2	n/a	n/a	95.00	189.0	n/a
S971001727		F Manganese - ICP-Fusion	ug/g	101.4	<5.00e-02	<9.43e+02	<8.48e2	n/a	n/a	101.0	943.0	n/a
S971001727		F Molybdenum - ICP-Fusion	ug/g	101.0	<1.00e-01	<1.89e+03	<1.70e2	n/a	n/a	97.80	1.89e+03	n/a
S971001727		F Sodium - ICP-Fusion	ug/g	101.0	<1.00e-01	<1.89e+03	<8.48e2	n/a	n/a	95.00	189.0	n/a
S971001727		F Neodymium - ICP-Fusion	ug/g	99.00	<2.00e-01	<1.90e+03	1.70e+05	1.80e+05	11.1	118.0	1.89e+03	n/a
S971001727		F Phosphorus - ICP-Fusion	ug/g	101.2	<2.00e-01	<3.77e+03	<3.39e3	n/a	n/a	97.50	1.89e+03	n/a
S971001727		F Lead - ICP-Fusion	ug/g	100.2	<1.00e-01	<1.89e+03	<1.70e3	n/a	n/a	114.0	3.77e+03	n/a
S971001727		F Sulfur - ICP-Fusion	ug/g	100.2	<1.00e-01	<2.64e+03	2.21e+03	2.42e+03	17.7	101.0	1.89e+03	n/a
S971001727		F Antimony - ICP-Fusion	ug/g	96.40	<6.00e-02	<1.13e+03	<1.02e3	n/a	n/a	95.80	1.13e+03	n/a
S971001727		F Selenium - ICP-Fusion	ug/g	94.40	<1.00e-01	<1.89e+03	<1.70e3	n/a	n/a	94.30	1.89e+03	n/a
S971001727		F Silicon - ICP-Fusion	ug/g	99.40	<5.00e-02	<9.43e+02	<8.48e2	n/a	n/a	103.0	943.0	n/a
S971001727		F Samarium - ICP-Fusion	ug/g	97.20	<1.00e-01	<1.89e+03	<1.70e3	n/a	n/a	95.50	1.89e+03	n/a
S971001727		F Strontium - ICP-Fusion	ug/g	98.00	<1.00e-02	<1.89e+03	<1.70e2	n/a	n/a	96.50	189.0	n/a
S971001727		F Titanium - ICP-Fusion	ug/g	98.00	<1.00e-02	<1.89e+02	<1.70e2	n/a	n/a	97.20	189.0	n/a
S971001727		F Thallium - ICP-Fusion	ug/g	95.40	<2.00e-01	<3.77e+03	<3.39e3	n/a	n/a	93.20	3.77e+03	n/a
S971001727		F Uranium - ICP-Fusion	ug/g	95.50	<5.00e-01	<3.77e+03	<8.48e3	n/a	n/a	90.50	9.43e+03	n/a
S971001727		F Vanadium - ICP-Fusion	ug/g	101.2	<5.00e-02	<9.43e+02	<8.48e2	n/a	n/a	99.80	943.0	n/a
S971001727		F Zinc - ICP-Fusion	ug/g	99.20	<1.00e-02	<1.89e+02	<1.70e2	n/a	n/a	99.50	189.0	n/a
S971001727		F Zirconium - ICP-Fusion	ug/g	97.46	<1.20e-02	<1.76e+04	<1.70e2	n/a	n/a	96.80	189.0	n/a
S971001728		Fluoride-IC-Dioxin 4000/4500	ug/g	97.46	<1.20e-02	<1.76e+04	1.75e+04	1.75e+04	1.14	107.1	97.13	n/a
S971001728		Chloride-IC-Dioxin 4000/4500	ug/g	94.00	<1.70e-02	1.33e+03	1.33e+03	1.37e+03	5.84	93.75	137.6	n/a
S971001728		Nitrite-IC-Dioxin 4000/4500	ug/g	100.2	<1.08e-01	3.17e+04	3.14e+04	3.15e+04	0.95	104.1	874.1	n/a
S971001728		Nitrate by IC-Dioxin 4000/4500	ug/g	103.2	<1.39e-01	1.22e+05	1.24e+05	1.23e+05	1.63	106.4	1.12e+03	n/a
S971001728		Phosphate-IC-Dioxin 4000/4500	ug/g	104.6	<1.39e-01	3.89e+03	4.32e+03	4.10e+03	10.5	104.0	971.3	n/a
S971001728		Sulfate by IC-Dioxin 4000/4500	ug/g	100.6	<1.38e-01	7.03e+03	6.50e+03	6.76e+03	7.83	103.5	1.12e+03	n/a
S971001728		Oxalate-IC-Dioxin 4000/4500	ug/g	100.0	<1.05e-01	7.28e+03	6.89e+03	7.09e+03	5.50	100.9	849.9	n/a

HNF-SD-WM-DP-263, REV. 0

Drainable Liquid: Drainable Liquid

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S97T001723	D	Silver-ICP-Acid Dil.	ug/mL	101.2	< 1.00e-02	13.40	13.70	13.55	2.21	n/a	4.010	n/a
S97T001723	D	Aluminum-ICP-Acid Dil.	ug/mL	99.40	< 1.00e-02	1.62e+04	1.62e+04	1.62e+04	0.62	n/a	20.10	n/a
S97T001723	D	Arsenic-ICP-Acid Dil.	ug/mL	104.8	< 1.00e-01	< 40.10	< 40.10	n/a	n/a	n/a	40.10	n/a
S97T001723	D	Boron-ICP-Acid Dil.	ug/mL	102.4	< 5.00e-02	< 20.10	< 20.10	n/a	n/a	n/a	20.10	n/a
S97T001723	D	Barium-ICP-Acid Dil.	ug/mL	102.0	< 5.00e-02	< 20.10	< 20.10	n/a	n/a	n/a	20.10	n/a
S97T001723	D	Beryllium-ICP-Acid Dil.	ug/mL	104.4	< 5.00e-03	< 2.000	< 2.000	n/a	n/a	n/a	2.000	n/a
S97T001723	D	Bismuth-ICP-Acid Dil.	ug/mL	102.8	< 1.00e-01	< 40.10	< 40.10	n/a	n/a	n/a	40.10	n/a
S97T001723	D	Calcium-ICP-Acid Dil.	ug/mL	102.4	< 1.00e-01	< 40.10	< 40.10	n/a	n/a	n/a	40.10	n/a
S97T001723	D	Cadmium-ICP-Acid Dil.	ug/mL	102.2	< 5.00e-03	< 2.000	< 2.000	n/a	n/a	n/a	2.000	n/a
S97T001723	D	Cerium-ICP-Acid Dil.	ug/mL	102.0	< 1.00e-01	< 40.10	< 40.10	n/a	n/a	n/a	40.10	n/a
S97T001723	D	Cobalt-ICP-Acid Dil.	ug/mL	101.6	< 2.00e-02	< 8.020	< 8.020	n/a	n/a	n/a	8.020	n/a
S97T001723	D	Chromium-ICP-Acid Dil.	ug/mL	102.6	< 1.00e-02	2.35e+02	236.0	235.5	0.42	n/a	4.010	n/a
S97T001723	D	Copper-ICP-Acid Dil.	ug/mL	99.00	< 1.00e-02	< 4.010	< 4.010	n/a	n/a	n/a	4.010	n/a
S97T001723	D	Iron-ICP-Acid Dil.	ug/mL	95.40	< 5.00e-02	< 20.10	< 20.10	n/a	n/a	n/a	20.10	n/a
S97T001723	D	Potassium-ICP-Acid Dil.	ug/mL	103.4	< 5.00e-01	4.77e+04	4.81e+04	4.79e+04	0.84	n/a	200.0	n/a
S97T001723	D	Lanthanum-ICP-Acid Dil.	ug/mL	103.4	< 5.00e-02	< 20.10	< 20.10	n/a	n/a	n/a	20.10	n/a
S97T001723	D	Magnesium-ICP-Acid Dil.	ug/mL	104.6	< 1.00e-01	< 40.10	< 40.10	n/a	n/a	n/a	40.10	n/a
S97T001723	D	Manganese-ICP-Acid Dil.	ug/mL	100.0	< 1.00e-02	< 4.010	< 4.010	n/a	n/a	n/a	4.010	n/a
S97T001723	D	Molybdenum-ICP-Acid Dil.	ug/mL	102.2	< 5.00e-02	29.90	28.90	29.40	3.40	n/a	20.10	n/a
S97T001723	D	Sodium-ICP-Acid Dil.	ug/mL	99.60	< 1.00e-01	1.87e+05	1.85e+05	1.86e+05	1.08	n/a	40.10	n/a
S97T001723	D	Nickel-ICP-Acid Dil.	ug/mL	103.8	< 1.00e-01	< 40.10	< 40.10	n/a	n/a	n/a	40.10	n/a
S97T001723	D	Neodymium-ICP-Acid Dil.	ug/mL	102.0	< 2.00e-02	< 8.020	< 8.020	n/a	n/a	n/a	8.020	n/a
S97T001723	D	Phosphorus-ICP-Acid Dil.	ug/mL	104.8	< 1.00e-01	7.09e+02	679.0	694.0	4.32	n/a	80.20	n/a
S97T001723	D	Lead-ICP-Acid Dil.	ug/mL	102.6	< 1.00e-01	< 40.10	< 40.10	n/a	n/a	n/a	40.10	n/a
S97T001723	D	Sulfur-ICP-Acid Dil.	ug/mL	100.4	< 1.00e-01	9.95e+02	995.0	995.0	0.00	n/a	40.10	n/a
S97T001723	D	Antimony-ICP-Acid Dil.	ug/mL	97.40	< 6.00e-02	< 24.10	< 24.10	n/a	n/a	n/a	24.10	n/a
S97T001723	D	Selenium-ICP-Acid Dil.	ug/mL	98.40	< 1.00e-01	< 40.10	< 40.10	n/a	n/a	n/a	40.10	n/a
S97T001723	D	Silicon-ICP-Acid Dil.	ug/mL	97.80	< 5.00e-02	3.54e+02	324.0	339.0	8.85	n/a	20.10	n/a
S97T001723	D	Samarium-ICP-Acid Dil.	ug/mL	100.0	< 1.00e-01	< 40.10	< 40.10	n/a	n/a	n/a	40.10	n/a
S97T001723	D	Strontium-ICP-Acid Dil.	ug/mL	100.6	< 1.00e-02	< 4.010	< 4.010	n/a	n/a	n/a	4.010	n/a
S97T001723	D	Titanium-ICP-Acid Dil.	ug/mL	99.60	< 2.00e-01	< 4.010	< 4.010	n/a	n/a	n/a	4.010	n/a
S97T001723	D	Thallium-ICP-Acid Dil.	ug/mL	98.60	< 2.00e-01	< 80.20	< 80.20	n/a	n/a	n/a	80.20	n/a
S97T001723	D	Uranium-ICP-Acid Dil.	ug/mL	97.90	< 5.00e-01	< 2.00e+02	< 2.00e+02	n/a	n/a	n/a	200.0	n/a
S97T001723	D	Vanadium-ICP-Acid Dil.	ug/mL	100.2	< 5.00e-02	< 20.10	< 20.10	n/a	n/a	n/a	20.10	n/a
S97T001723	D	Zinc-ICP-Acid Dil.	ug/mL	97.60	< 1.00e-02	12.00	12.10	12.05	0.83	n/a	4.010	n/a
S97T001723	D	Zirconium-ICP-Acid Dil.	ug/mL	100.2	< 1.00e-02	< 4.010	< 4.010	n/a	n/a	n/a	4.010	n/a
S97T001723	D	Fluoride-IC-Dionex 4000/4500	ug/mL	99.66	< 1.20e-02	8.21e+02	1.22e+03	1.02e+03	39.1	n/a	49.69	n/a
S97T001723	D	Chloride-IC-Dionex 4000/4500	ug/mL	94.62	< 1.70e-02	3.18e+03	3.11e+03	3.14e+03	2.23	n/a	70.40	n/a
S97T001723	D	Nitrate-IC-Dionex 4000/4500	ug/mL	101.5	< 1.08e-01	6.44e+04	6.38e+04	6.41e+04	0.94	n/a	447.2	n/a
S97T001723	D	Nitrite-IC-Dionex 4000/4500	ug/mL	101.0	< 1.59e-01	2.54e+05	2.53e+05	2.53e+05	0.00	n/a	575.6	n/a
S97T001723	D	Phosphate-IC-Dionex 4000/4500	ug/mL	106.1	< 1.20e-01	6.77e+02	732.0	704.5	7.81	n/a	496.9	n/a
S97T001723	D	Sulfate-IC-Dionex 4000/4500	ug/mL	101.3	< 1.38e-01	2.44e+03	2.31e+03	2.38e+03	5.47	n/a	571.5	n/a
S97T001723	D	Oxalate-IC-Dionex 4000/4500	ug/mL	102.6	< 1.05e-01	5.00e+02	659.0	569.7	24.4	n/a	434.8	n/a

Appendix A. Opportunistic Analyses
AP-105 (P)

CORE NUMBER: 209

SEGMENT #: 1

SEGMENT PORTION: L Lower Half of Segment

Sample#	R.#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S97T001778		TiC by Acid/Coulometry	ug/g	95.68	1.100	1.22e+04		1.28e+04	7.06	n/a	5.000	n/a
S97T001807		F Silver - ICP-Fusion	ug/g	102.40	<1.00e-02	<1.86e+02	<1.85e2	n/a	n/a	n/a	186.0	n/a
S97T001807		F Aluminum - ICP-Fusion	ug/g	98.80	<5.00e-02	9.88e+03	9.88e+03	9.88e+03	0.00	n/a	931.0	n/a
S97T001807		F Arsenic - ICP-Fusion	ug/g	102.2	<1.00e-01	<1.86e+03	<1.85e3	n/a	n/a	n/a	1.86e+03	n/a
S97T001807		F Boron - ICP-Fusion	ug/g	101.2	<5.00e-02	<9.31e+02	<9.23e2	n/a	n/a	n/a	931.0	n/a
S97T001807		F Barium - ICP-Fusion	ug/g	97.60	<5.00e-02	<9.31e+02	<9.23e2	n/a	n/a	n/a	931.0	n/a
S97T001807		F Beryllium - ICP-Fusion	ug/g	101.0	<5.00e-03	<93.10	<9.23e1	n/a	n/a	n/a	93.10	n/a
S97T001807		F Bismuth - ICP-Fusion	ug/g	100.6	<1.00e-01	<1.86e+03	<1.85e3	n/a	n/a	n/a	1.86e+03	n/a
S97T001807		F Calcium - ICP-Fusion	ug/g	94.80	<1.00e-01	<1.86e+03	<1.85e3	n/a	n/a	n/a	1.86e+03	n/a
S97T001807		F Cadmium - ICP-Fusion	ug/g	100.0	<5.00e-03	<93.10	<9.23e1	n/a	n/a	n/a	93.10	n/a
S97T001807		F Cerium - ICP-Fusion	ug/g	96.80	<1.00e-01	<1.86e+03	<1.85e3	n/a	n/a	n/a	1.86e+03	n/a
S97T001807		F Cobalt - ICP-Fusion	ug/g	103.0	<2.00e-02	<3.73e+02	<3.69e2	n/a	n/a	n/a	373.0	n/a
S97T001807		F Chromium - ICP-Fusion	ug/g	98.80	<1.00e-02	<1.86e+02	<1.85e2	n/a	n/a	n/a	186.0	n/a
S97T001807		F Copper - ICP-Fusion	ug/g	103.4	<1.00e-02	<1.86e+02	<1.85e2	n/a	n/a	n/a	186.0	n/a
S97T001807		F Iron - ICP-Fusion	ug/g	99.40	<5.00e-02	<9.31e+02	<9.23e2	n/a	n/a	n/a	931.0	n/a
S97T001807		F Lanthanum - ICP-Fusion	ug/g	99.00	<5.00e-02	<9.31e+02	<9.23e2	n/a	n/a	n/a	931.0	n/a
S97T001807		F Magnesium - ICP-Fusion	ug/g	97.80	<1.00e-01	<1.86e+03	<1.85e3	n/a	n/a	n/a	1.86e+03	n/a
S97T001807		F Manganese - ICP-Fusion	ug/g	100.4	<1.00e-02	<9.31e+02	<9.23e2	n/a	n/a	n/a	931.0	n/a
S97T001807		F Molybdenum - ICP-Fusion	ug/g	101.6	<5.00e-02	<9.31e+02	<9.23e2	n/a	n/a	n/a	931.0	n/a
S97T001807		F Sodium - ICP-Fusion	ug/g	99.20	<1.13e-01	2.19e+05	2.16e+05	2.18e+05	1.38	n/a	931.0	n/a
S97T001807		F Neodymium - ICP-Fusion	ug/g	102.4	<2.00e-01	<1.86e+03	<1.85e3	n/a	n/a	n/a	1.86e+03	n/a
S97T001807		F Phosphorus - ICP-Fusion	ug/g	102.0	<2.00e-01	1.22e+04	1.20e+04	1.21e+04	1.65	n/a	3.73e+03	n/a
S97T001807		F Sulfur - ICP-Fusion	ug/g	98.00	<1.00e-01	<1.86e+03	<1.85e3	n/a	n/a	n/a	1.86e+03	n/a
S97T001807		F Antimony - ICP-Fusion	ug/g	98.00	<1.00e-01	<1.86e+03	<1.85e3	n/a	n/a	n/a	1.86e+03	n/a
S97T001807		F Silicon - ICP-Fusion	ug/g	95.20	<6.00e-02	<5.20e+03	5.13e+03	5.20e+03	2.88	n/a	1.86e+03	n/a
S97T001807		F Samarium - ICP-Fusion	ug/g	99.00	<1.00e-02	<1.12e+03	<1.11e3	n/a	n/a	n/a	931.0	n/a
S97T001807		F Strontium - ICP-Fusion	ug/g	99.00	<1.00e-01	<1.86e+03	1.03e+03	1.09e+03	11.0	n/a	1.86e+03	n/a
S97T001807		F Tantalum - ICP-Fusion	ug/g	98.40	<1.00e-02	<1.86e+02	<1.85e2	n/a	n/a	n/a	186.0	n/a
S97T001807		F Thallium - ICP-Fusion	ug/g	96.80	<1.00e-02	<1.86e+02	<1.85e2	n/a	n/a	n/a	186.0	n/a
S97T001807		F Vanadium - ICP-Fusion	ug/g	97.00	<5.00e-01	<3.73e+03	<3.69e3	n/a	n/a	n/a	3.73e+03	n/a
S97T001807		F Zinc - ICP-Fusion	ug/g	105.2	<5.00e-02	<9.31e+02	<9.23e2	n/a	n/a	n/a	931.0	n/a
S97T001807		F Zirconium - ICP-Fusion	ug/g	98.00	<1.00e-02	<1.86e+02	<1.85e2	n/a	n/a	n/a	186.0	n/a
S97T001808		F Fluoride-IC-Dioxex 4000/4500	ug/g	93.22	<1.20e-02	2.60e+04	2.69e+04	2.64e+04	3.40	n/a	95.45	n/a
S97T001808		F Chloride-IC-Dioxex 4000/4500	ug/g	95.82	<1.70e-01	1.02e+03	1.04e+03	1.03e+03	1.94	n/a	135.2	n/a
S97T001808		F Nitrite-IC - Dioxex 4000/4500	ug/g	100.6	<1.28e-01	2.63e+04	2.71e+04	2.67e+04	3.00	n/a	858.9	n/a
S97T001808		F Nitrate by IC-Dioxex 4000/4500	ug/g	96.13	<1.39e-01	9.49e+04	9.56e+04	9.53e+04	0.73	n/a	1.10e+03	n/a
S97T001808		W Phosphate-IC-Dioxex 4000/4500	ug/g	99.27	<1.20e-01	2.69e+04	2.70e+04	2.69e+04	0.74	n/a	954.5	n/a
S97T001808		W Sulfate by IC-Dioxex 4000/4500	ug/g	95.89	<1.33e-01	1.22e+04	1.32e+04	1.30e+04	2.30	n/a	1.10e+03	n/a
S97T001808		W Oxalate-IC-Dioxex 4000/4500	ug/g	100.4	<1.05e-01	1.01e+04	1.01e+04	1.01e+04	0.00	n/a	835.2	n/a

Drainable Liquid: Drainable Liquid

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S97T001761	0	Silver-ICP-Acid Dil.	ug/mL	99.40	< 1.00e-02	10.80	11.00	10.90	1.83	n/a	4.010	n/a
S97T001761	0	Aluminum-ICP-Acid Dil.	ug/mL	101.2	< 1.00e-02	1.97e+04	1.98e+04	1.98e+04	0.51	n/a	20.10	n/a
S97T001761	0	Ar-sens-ICP-Acid Dil.	ug/mL	104.8	< 1.00e-01	< 40.10	< 40.01e1	n/a	n/a	n/a	40.10	n/a
S97T001761	0	Boron-ICP-Acid Dil.	ug/mL	102.4	< 1.00e-02	20.10	< 20.01e1	n/a	n/a	n/a	20.10	n/a
S97T001761	0	Barium-ICP-Acid Dil.	ug/mL	102.4	< 1.00e-02	20.10	< 20.01e1	n/a	n/a	n/a	20.10	n/a
S97T001761	0	Beryllium-ICP-Acid Dil.	ug/mL	104.4	< 1.00e-03	2.000	< 2.00e0	n/a	n/a	n/a	2.000	n/a
S97T001761	0	Bismuth-ICP-Acid Dil.	ug/mL	102.8	< 1.00e-01	40.10	< 40.01e1	n/a	n/a	n/a	40.10	n/a
S97T001761	0	Cadmium-ICP-Acid Dil.	ug/mL	102.4	< 1.00e-01	40.10	< 40.01e1	n/a	n/a	n/a	40.10	n/a
S97T001761	0	Caesium-ICP-Acid Dil.	ug/mL	102.2	< 1.00e-03	2.000	< 2.00e0	n/a	n/a	n/a	2.000	n/a
S97T001761	0	Cerium-ICP-Acid Dil.	ug/mL	102.4	< 1.00e-01	40.10	< 40.01e1	n/a	n/a	n/a	40.10	n/a
S97T001761	0	Cobalt-ICP-Acid Dil.	ug/mL	101.6	< 1.00e-02	8.020	< 8.02e0	n/a	n/a	n/a	8.020	n/a
S97T001761	0	Chromium-ICP-Acid Dil.	ug/mL	102.6	< 1.00e-02	2.50e+02	2.48e0	2.69e0	0.80	n/a	4.010	n/a
S97T001761	0	Copper-ICP-Acid Dil.	ug/mL	99.00	< 1.00e-02	< 4.010	< 4.01e0	n/a	n/a	n/a	4.010	n/a
S97T001761	0	Iron-ICP-Acid Dil.	ug/mL	95.40	< 1.00e-02	20.10	< 20.01e1	n/a	n/a	n/a	20.10	n/a
S97T001761	0	Potassium-ICP-Acid Dil.	ug/mL	101.6	< 1.00e-01	1.05e+04	1.04e+04	1.04e+04	0.96	n/a	200.0	n/a
S97T001761	0	Lanthanum-ICP-Acid Dil.	ug/mL	103.4	< 1.00e-02	20.10	< 20.01e1	n/a	n/a	n/a	20.10	n/a
S97T001761	0	Magnesium-ICP-Acid Dil.	ug/mL	104.6	< 1.00e-01	40.10	< 40.01e1	n/a	n/a	n/a	40.10	n/a
S97T001761	0	Manganese-ICP-Acid Dil.	ug/mL	100.0	< 1.00e-02	< 4.010	< 4.01e0	n/a	n/a	n/a	4.010	n/a
S97T001761	0	Molybdenum-ICP-Acid Dil.	ug/mL	102.2	< 1.00e-02	35.60	35.60	35.60	1.70	n/a	20.10	n/a
S97T001761	0	Sodium-ICP-Acid Dil.	ug/mL	99.60	< 1.00e-01	1.43e+05	1.44e+05	1.44e+05	0.70	n/a	40.10	n/a
S97T001761	0	Nickel-ICP-Acid Dil.	ug/mL	103.8	< 1.00e-01	< 40.10	< 40.01e1	n/a	n/a	n/a	40.10	n/a
S97T001761	0	Niobium-ICP-Acid Dil.	ug/mL	102.0	< 1.00e-02	8.020	< 8.02e0	n/a	n/a	n/a	8.020	n/a
S97T001761	0	Phosphorus-ICP-Acid Dil.	ug/mL	104.8	< 1.00e-01	7.14e+02	703.0	708.5	1.55	n/a	80.20	n/a
S97T001761	0	Lead-ICP-Acid Dil.	ug/mL	102.6	< 1.00e-01	< 40.10	< 40.01e1	n/a	n/a	n/a	40.10	n/a
S97T001761	0	Selenium-ICP-Acid Dil.	ug/mL	100.4	< 1.00e-01	1.16e+03	1.16e+03	1.16e+03	0.00	n/a	40.10	n/a
S97T001761	0	Antimony-ICP-Acid Dil.	ug/mL	97.40	< 1.00e-02	24.10	< 24.01e1	n/a	n/a	n/a	24.10	n/a
S97T001761	0	Strontium-ICP-Acid Dil.	ug/mL	98.40	< 1.00e-01	< 40.10	< 40.01e1	n/a	n/a	n/a	40.10	n/a
S97T001761	0	Silicon-ICP-Acid Dil.	ug/mL	97.80	< 1.00e-02	3.64e+02	315.0	339.5	14.4	n/a	20.10	n/a
S97T001761	0	Samarium-ICP-Acid Dil.	ug/mL	100.0	< 1.00e-01	< 4.010	< 4.01e0	n/a	n/a	n/a	40.10	n/a
S97T001761	0	Sr-ium-ICP-Acid Dil.	ug/mL	100.6	< 1.00e-02	< 4.010	< 4.01e0	n/a	n/a	n/a	40.10	n/a
S97T001761	0	Tellurium-ICP-Acid Dil.	ug/mL	99.60	< 1.00e-02	< 4.010	< 4.01e0	n/a	n/a	n/a	40.10	n/a
S97T001761	0	Thallium-ICP-Acid Dil.	ug/mL	98.60	< 1.00e-01	80.20	< 80.2e1	n/a	n/a	n/a	80.20	n/a
S97T001761	0	Vanadium-ICP-Acid Dil.	ug/mL	97.90	< 1.00e-02	< 2.010	< 2.01e1	n/a	n/a	n/a	20.00	n/a
S97T001761	0	Uranium-ICP-Acid Dil.	ug/mL	100.2	< 1.00e-02	< 20.10	< 20.01e1	n/a	n/a	n/a	20.00	n/a
S97T001761	0	Zinc-ICP-Acid Dil.	ug/mL	97.60	< 1.00e-02	8.500	8.620	8.560	1.40	n/a	4.010	n/a
S97T001761	0	Zirconium-ICP-Acid Dil.	ug/mL	100.2	< 1.00e-02	< 4.010	< 4.01e0	n/a	n/a	n/a	4.010	n/a
S97T001761	0	Fluoride-IC-Dioxex 4000/4500	ug/mL	98.31	< 1.20e-02	8.54e+02	1.82e+03	1.34e+03	72.3	n/a	49.69	n/a
S97T001761	0	Chloride-IC-Dioxex 4000/4500	ug/mL	92.75	< 1.10e-02	3.11e+03	3.24e+03	3.18e+03	4.09	n/a	70.40	n/a
S97T001761	0	Nitrate-IC-Dioxex 4000/4500	ug/mL	99.45	< 1.00e-01	5.61e+04	5.76e+04	5.68e+04	2.64	n/a	447.2	n/a
S97T001761	0	Nitrate by IC-Dioxex 4000/4500	ug/mL	99.50	< 1.39e-01	1.22e+05	1.22e+05	1.22e+05	0.00	n/a	575.6	n/a
S97T001761	0	Phosphate-IC-Dioxex 4000/4500	ug/mL	103.5	< 1.20e-01	1.18e+03	1.17e+03	1.18e+03	0.85	n/a	496.9	n/a
S97T001761	0	Sulfate by IC-Dioxex 4000/4500	ug/mL	100.8	< 1.38e-01	2.78e+03	2.54e+03	2.66e+03	9.02	n/a	571.5	n/a
S97T001761	0	Oxalate-IC-Dioxex 4000/4500	ug/mL	99.44	< 1.05e-01	7.25e+02	769.0	747.1	5.89	n/a	434.8	n/a

Appendix A. Opportunistic Analyses
AP-105 (P)

CORE NUMBER: 209

SEGMENT #: 2

SEGMENT PORTION: U Upper Half of Segment

Sample#	R#	Analyte	Unit	Standard	Blank	Result	Duplicate	Average	RPD	% Spk Rec	% Det	Limit	Count	Err%
S97T001813	F	Silicium - ICP-Fusion	ug/g	102.8	< 1.00e-02	3.62e+02	< 1.95e2	n/a	n/a	n/a	n/a	189.0	n/a	n/a
S97T001813	F	Aluminium - ICP-Fusion	ug/g	98.40	< 1.00e-02	1.06e+04	1.03e+04	1.04e+04	2.87	n/a	n/a	943.0	n/a	n/a
S97T001813	F	Arsenic - ICP-Fusion	ug/g	102.2	< 1.00e-01	< 1.89e+03	< 1.95e3	< 1.95e3	n/a	n/a	n/a	1.89e+03	n/a	n/a
S97T001813	F	Boron - ICP-Fusion	ug/g	101.2	< 5.00e-02	< 9.45e+02	< 9.73e2	< 9.73e2	n/a	n/a	n/a	943.0	n/a	n/a
S97T001813	F	Barium - ICP-Fusion	ug/g	97.60	< 5.00e-02	< 9.45e+02	< 9.73e2	< 9.73e2	n/a	n/a	n/a	943.0	n/a	n/a
S97T001813	F	Beryllium - ICP-Fusion	ug/g	101.6	< 1.00e-03	< 94.50	< 9.73e1	< 94.50	n/a	n/a	n/a	94.50	n/a	n/a
S97T001813	F	Bismuth - ICP-Fusion	ug/g	100.6	< 1.00e-01	< 1.89e+03	< 1.95e3	< 1.95e3	n/a	n/a	n/a	1.89e+03	n/a	n/a
S97T001813	F	Calcium - ICP-Fusion	ug/g	94.80	< 1.00e-03	< 94.50	< 9.73e1	< 94.50	n/a	n/a	n/a	1.89e+03	n/a	n/a
S97T001813	F	Cadmium - ICP-Fusion	ug/g	100.0	< 5.00e-03	< 94.50	< 9.73e1	< 94.50	n/a	n/a	n/a	94.50	n/a	n/a
S97T001813	F	Cerium - ICP-Fusion	ug/g	96.80	< 1.00e-01	< 1.95e+03	< 1.95e3	< 1.95e3	n/a	n/a	n/a	1.89e+03	n/a	n/a
S97T001813	F	Cobalt - ICP-Fusion	ug/g	103.0	< 1.00e-02	< 3.78e+02	< 3.89e2	< 3.89e2	n/a	n/a	n/a	3.78e2	n/a	n/a
S97T001813	F	Chromium - ICP-Fusion	ug/g	98.80	< 1.00e-02	< 2.33e+02	< 214.0	< 223.5	8.50	n/a	n/a	189.0	n/a	n/a
S97T001813	F	Copper - ICP-Fusion	ug/g	103.4	< 1.00e-02	< 1.89e+02	< 1.95e2	< 1.95e2	n/a	n/a	n/a	943.0	n/a	n/a
S97T001813	F	Iron - ICP-Fusion	ug/g	99.40	< 5.00e-02	< 9.45e+02	< 9.73e2	< 9.73e2	n/a	n/a	n/a	943.0	n/a	n/a
S97T001813	F	Lanthanum - ICP-Fusion	ug/g	99.00	< 5.00e-02	< 9.45e+02	< 9.73e2	< 9.73e2	n/a	n/a	n/a	1.89e+03	n/a	n/a
S97T001813	F	Magnesium - ICP-Fusion	ug/g	97.80	< 1.00e-01	< 1.89e+03	< 1.95e3	< 1.95e3	n/a	n/a	n/a	1.89e+03	n/a	n/a
S97T001813	F	Manganese - ICP-Fusion	ug/g	100.4	< 1.00e-01	< 1.89e+02	< 1.95e2	< 1.95e2	n/a	n/a	n/a	189.0	n/a	n/a
S97T001813	F	Molybdenum - ICP-Fusion	ug/g	101.6	< 5.00e-02	< 9.45e+02	< 9.73e2	< 9.73e2	n/a	n/a	n/a	943.0	n/a	n/a
S97T001813	F	Sodium - ICP-Fusion	ug/g	99.20	< 1.13e-01	< 2.10e+02	< 2.19e+02	< 2.19e+02	4.20	n/a	n/a	1.89e+03	n/a	n/a
S97T001813	F	Neodymium - ICP-Fusion	ug/g	102.4	< 1.00e-01	< 1.89e+03	< 1.95e3	< 1.95e3	n/a	n/a	n/a	1.89e+03	n/a	n/a
S97T001813	F	Phosphorus - ICP-Fusion	ug/g	102.0	< 2.00e-01	< 3.78e+03	< 3.89e3	< 3.89e3	n/a	n/a	n/a	3.78e+03	n/a	n/a
S97T001813	F	Lead - ICP-Fusion	ug/g	98.00	< 1.00e-01	< 1.89e+03	< 1.95e3	< 1.95e3	n/a	n/a	n/a	1.89e+03	n/a	n/a
S97T001813	F	Sulfur - ICP-Fusion	ug/g	98.00	< 1.00e-01	< 8.49e+03	6.96e+03	7.70e+03	19.2	n/a	n/a	1.89e+03	n/a	n/a
S97T001813	F	Antimony - ICP-Fusion	ug/g	95.20	< 6.00e-02	< 1.13e+03	< 1.17e3	< 1.17e3	n/a	n/a	n/a	943.0	n/a	n/a
S97T001813	F	Silicon - ICP-Fusion	ug/g	95.40	< 5.00e-02	< 1.89e+03	< 1.95e3	< 1.95e3	n/a	n/a	n/a	1.89e+03	n/a	n/a
S97T001813	F	Samarium - ICP-Fusion	ug/g	99.00	< 1.00e-01	< 1.89e+02	< 1.95e2	< 1.95e2	n/a	n/a	n/a	189.0	n/a	n/a
S97T001813	F	Strontium - ICP-Fusion	ug/g	98.40	< 1.00e-02	< 1.89e+02	< 1.95e2	< 1.95e2	n/a	n/a	n/a	189.0	n/a	n/a
S97T001813	F	Titanium - ICP-Fusion	ug/g	96.80	< 1.00e-02	< 1.89e+02	< 1.95e2	< 1.95e2	n/a	n/a	n/a	189.0	n/a	n/a
S97T001813	F	Thallium - ICP-Fusion	ug/g	101.0	< 2.00e-01	< 3.78e+03	< 3.89e3	< 3.89e3	n/a	n/a	n/a	3.78e+03	n/a	n/a
S97T001813	F	Uranium - ICP-Fusion	ug/g	97.00	< 5.00e-01	< 9.45e+02	< 9.73e2	< 9.73e2	n/a	n/a	n/a	9.45e+03	n/a	n/a
S97T001813	F	Vanadium - ICP-Fusion	ug/g	102.0	< 5.00e-01	< 9.45e+02	< 9.73e2	< 9.73e2	n/a	n/a	n/a	943.0	n/a	n/a
S97T001813	F	Zinc - ICP-Fusion	ug/g	105.2	< 1.00e-02	< 1.89e+02	< 1.95e2	< 1.95e2	n/a	n/a	n/a	189.0	n/a	n/a
S97T001813	F	Zirconium - ICP-Fusion	ug/g	98.00	< 1.00e-02	< 2.01e+02	< 1.95e2	< 1.95e2	n/a	n/a	n/a	189.0	n/a	n/a
S97T001815	W	Fluoride-IC-Dioxex 4000/4500	ug/g	93.82	< 1.20e-02	1.74e+04	1.78e+04	1.76e+04	2.27	n/a	n/a	95.24	n/a	n/a
S97T001815	W	Chloride-IC-Dioxex 4000/4500	ug/g	95.82	< 1.70e-02	1.20e+03	1.18e+03	1.19e+03	0.64	n/a	n/a	134.9	n/a	n/a
S97T001815	W	Nitrate-IC - Dioxex 4000/4500	ug/g	100.6	< 1.28e-01	3.13e+04	3.15e+04	3.14e+04	0.64	n/a	n/a	857.3	n/a	n/a
S97T001815	W	Nitrate by IC-Dioxex 4000/4500	ug/g	96.13	< 1.39e-01	1.21e+05	1.18e+05	1.20e+05	2.51	n/a	n/a	1.10e+03	n/a	n/a
S97T001815	W	Phosphate-IC-Dioxex 4000/4500	ug/g	99.27	< 1.20e-01	7.43e+03	7.01e+03	7.22e+03	5.82	n/a	n/a	952.4	n/a	n/a
S97T001815	W	Sulfate by IC-Dioxex 4000/4500	ug/g	95.99	< 1.38e-01	1.75e+04	1.69e+04	1.72e+04	3.49	n/a	n/a	1.10e+03	n/a	n/a
S97T001815	W	Oxalate-IC-Dioxex 4000/4500	ug/g	100.4	< 1.05e-01	4.37e+03	5.74e+03	5.05e+03	27.1	n/a	n/a	833.5	n/a	n/a

HNF-SD-WM-DP-263, REV. 0

L Lower Half of Segment: L Lower Half of Segment

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S97T001809		TiC by Acid/Coulometry	ug/g	100.8	1.200	1.58e+04	1.63e+04	1.60e+04	3.12	98.30	5.000	n/a
S97T001809		F Silver - ICP-Fusion	ug/g	102.8	< 1.00e-02	< 1.86e-02	< 1.91e-02	< 1.91e-02	n/a	90.00	186.0	n/a
S97T001809		F Aluminum - ICP-Fusion	ug/g	98.40	< 5.00e-02	8.62e+03	8.67e+03	8.64e+03	0.58	96.50	931.0	n/a
S97T001809		F Arsenic - ICP-Fusion	ug/g	102.4	< 1.00e-01	< 1.86e+03	< 1.91e+03	< 1.91e+03	n/a	101.0	1.86e+03	n/a
S97T001809		F Boron - ICP-Fusion	ug/g	101.2	< 5.00e-02	< 9.31e+02	< 9.53e+02	< 9.53e+02	n/a	97.90	931.0	n/a
S97T001809		F Barium - ICP-Fusion	ug/g	97.60	< 5.00e-02	< 9.31e+02	< 9.53e+02	< 9.53e+02	n/a	95.20	931.0	n/a
S97T001809		F Beryllium - ICP-Fusion	ug/g	100.0	< 5.00e-03	< 93.10	< 93.10	< 93.10	n/a	97.20	93.10	n/a
S97T001809		F Bismuth - ICP-Fusion	ug/g	94.80	< 1.00e-01	< 1.86e+03	< 1.91e+03	< 1.91e+03	n/a	93.90	1.86e+03	n/a
S97T001809		F Calcium - ICP-Fusion	ug/g	100.0	< 5.00e-03	< 93.10	< 93.10	< 93.10	n/a	93.90	93.10	n/a
S97T001809		F Cadmium - ICP-Fusion	ug/g	100.0	< 5.00e-03	< 93.10	< 93.10	< 93.10	n/a	93.90	93.10	n/a
S97T001809		F Cerium - ICP-Fusion	ug/g	96.80	< 1.00e-01	< 1.86e+03	< 1.91e+03	< 1.91e+03	n/a	92.50	1.86e+03	n/a
S97T001809		F Cobalt - ICP-Fusion	ug/g	103.0	< 2.00e-02	< 3.72e+02	< 3.81e+02	< 3.81e+02	n/a	105.0	372.0	n/a
S97T001809		F Chromium - ICP-Fusion	ug/g	98.80	< 1.00e-02	< 2.46e+02	< 2.53e+02	< 2.53e+02	n/a	100.0	186.0	n/a
S97T001809		F Copper - ICP-Fusion	ug/g	103.4	< 1.00e-02	< 1.86e+02	< 1.91e+02	< 1.91e+02	n/a	101.0	186.0	n/a
S97T001809		F Iron - ICP-Fusion	ug/g	99.40	< 5.00e-02	< 9.31e+02	< 9.53e+02	< 9.53e+02	n/a	98.00	931.0	n/a
S97T001809		F Lanthanum - ICP-Fusion	ug/g	99.00	< 5.00e-02	< 9.31e+02	< 9.53e+02	< 9.53e+02	n/a	98.00	931.0	n/a
S97T001809		F Magnesium - ICP-Fusion	ug/g	97.80	< 1.00e-01	< 1.86e+03	< 1.91e+03	< 1.91e+03	n/a	98.20	1.86e+03	n/a
S97T001809		F Manganese - ICP-Fusion	ug/g	100.4	< 1.00e-02	< 1.86e+02	< 1.91e+02	< 1.91e+02	n/a	101.0	186.0	n/a
S97T001809		F Molybdenum - ICP-Fusion	ug/g	101.6	< 5.00e-02	< 9.31e+02	< 9.53e+02	< 9.53e+02	n/a	101.0	931.0	n/a
S97T001809		F Sodium - ICP-Fusion	ug/g	99.20	< 1.13e-01	2.59e+05	2.53e+05	2.56e+05	2.34	66.50	1.86e+03	n/a
S97T001809		F Neodymium - ICP-Fusion	ug/g	102.4	< 1.00e-01	< 1.86e+03	< 1.91e+03	< 1.91e+03	n/a	115.0	3.72e+03	n/a
S97T001809		F Phosphorus - ICP-Fusion	ug/g	102.0	< 2.00e-01	< 3.72e+03	< 3.81e+03	< 3.81e+03	n/a	115.0	3.72e+03	n/a
S97T001809		F Lead - ICP-Fusion	ug/g	98.00	< 1.00e-01	< 1.86e+03	< 1.91e+03	< 1.91e+03	n/a	101.0	1.86e+03	n/a
S97T001809		F Sulfur - ICP-Fusion	ug/g	98.00	< 1.00e-01	2.82e+04	2.48e+04	2.65e+04	12.8	99.30	1.86e+03	n/a
S97T001809		F Antimony - ICP-Fusion	ug/g	95.20	< 6.00e-02	< 1.12e+03	< 1.14e+03	< 1.14e+03	n/a	91.10	1.12e+03	n/a
S97T001809		F Tellurium - ICP-Fusion	ug/g	95.40	< 5.00e-02	< 9.31e+02	< 9.53e+02	< 9.53e+02	n/a	101.0	931.0	n/a
S97T001809		F Samarium - ICP-Fusion	ug/g	99.00	< 1.00e-01	< 1.86e+03	< 1.91e+03	< 1.91e+03	n/a	98.00	1.86e+03	n/a
S97T001809		F Strontium - ICP-Fusion	ug/g	98.40	< 1.00e-02	< 1.86e+02	< 1.91e+02	< 1.91e+02	n/a	96.90	186.0	n/a
S97T001809		F Tantalum - ICP-Fusion	ug/g	96.80	< 1.00e-02	< 1.86e+02	< 1.91e+02	< 1.91e+02	n/a	98.60	3.72e+03	n/a
S97T001809		F Thallium - ICP-Fusion	ug/g	101.0	< 2.00e-01	< 3.72e+03	< 3.81e+03	< 3.81e+03	n/a	99.00	9.31e+03	n/a
S97T001809		F Uranium - ICP-Fusion	ug/g	97.00	< 5.00e-01	< 9.31e+03	< 9.53e+03	< 9.53e+03	n/a	102.0	9.31e+03	n/a
S97T001809		F Vanadium - ICP-Fusion	ug/g	102.0	< 5.00e-02	< 9.31e+02	< 9.53e+02	< 9.53e+02	n/a	106.0	931.0	n/a
S97T001809		F Zinc - ICP-Fusion	ug/g	105.2	< 1.00e-02	< 1.86e+02	< 1.91e+02	< 1.91e+02	n/a	97.90	186.0	n/a
S97T001809		F Zirconium - ICP-Fusion	ug/g	98.00	< 1.00e-02	< 1.86e+02	< 1.91e+02	< 1.91e+02	n/a	97.90	186.0	n/a
S97T001811		F Fluoride-IC-Dionex 4000/4500	ug/g	96.10	< 1.20e-02	3.00e+04	2.95e+04	2.97e+04	2.36	84.92	93.23	n/a
S97T001811		F Chloride-IC-Dionex 4000/4500	ug/g	96.12	< 1.70e-02	1.30e+03	1.29e+03	1.30e+03	0.77	95.50	132.1	n/a
S97T001811		F Nitrate-IC - Dionex 4000/4500	ug/g	95.92	1.92e-01	2.74e+04	2.65e+04	2.70e+04	3.34	98.16	839.3	n/a
S97T001811		F Nitrate by IC-Dionex 4000/4500	ug/g	92.42	< 2.19e-01	1.07e+05	1.07e+05	1.07e+05	0.00	108.9	1.08e+03	n/a
S97T001811		F Phosphate-IC-Dionex 4000/4500	ug/g	96.51	< 2.01e-01	3.53e+03	4.07e+03	3.80e+03	14.2	92.70	932.3	n/a
S97T001811		F Sulfate by IC-Dionex 4000/4500	ug/g	95.25	< 4.23e-01	6.00e+04	5.99e+04	5.97e+04	1.17	101.7	1.07e+03	n/a
S97T001811		F Oxalate-IC-Dionex 4000/4500	ug/g	95.87	< 1.05e-01	3.78e+03	3.75e+03	3.76e+03	0.80	96.62	815.9	n/a

Appendix A. Opportunistic Analyses
AP-105 (P)

SEGMENT PORTION: U Upper Half of Segment

Sample#	R#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S977001814	F	Silver - ICP-Fusion	ug/g	102.2	<1.00e-02	<2.08e-02	<2.01e2	N/A	N/A	N/A	208.0	N/A
S977001814	F	Aluminum - ICP-Fusion	ug/g	99.20	<5.00e-02	8.32e+03	8.18e+03	2.66e+03	1.82	N/A	1.04e+03	N/A
S977001814	F	Artenic - ICP-Fusion	ug/g	105.4	<1.00e-01	<2.08e-03	<2.01e3	N/A	N/A	N/A	1.04e+03	N/A
S977001814	F	Boron - ICP-Fusion	ug/g	101.0	<5.00e-02	<1.04e+03	<1.01e3	N/A	N/A	N/A	1.04e+03	N/A
S977001814	F	Barium - ICP-Fusion	ug/g	102.2	<5.00e-02	<1.04e+03	<1.01e3	N/A	N/A	N/A	1.04e+03	N/A
S977001814	F	Beryllium - ICP-Fusion	ug/g	104.6	<5.00e-03	<1.04e+02	<1.01e2	N/A	N/A	N/A	104.0	N/A
S977001814	F	Bismuth - ICP-Fusion	ug/g	103.4	<1.00e-01	<2.08e+03	<2.01e3	N/A	N/A	N/A	2.08e+03	N/A
S977001814	F	Calcium - ICP-Fusion	ug/g	103.6	<1.00e-01	<2.08e+03	<2.01e3	N/A	N/A	N/A	2.08e+03	N/A
S977001814	F	Cadmium - ICP-Fusion	ug/g	103.2	<5.00e-03	<1.04e+02	<1.01e2	N/A	N/A	N/A	104.0	N/A
S977001814	F	Cerium - ICP-Fusion	ug/g	101.6	<1.00e-01	<2.08e+03	<2.01e3	N/A	N/A	N/A	2.08e+03	N/A
S977001814	F	Cobalt - ICP-Fusion	ug/g	103.8	<2.00e-02	<4.16e+02	<4.02e2	N/A	N/A	N/A	414.0	N/A
S977001814	F	Chromium - ICP-Fusion	ug/g	103.8	<1.00e-02	<2.08e+02	<2.01e2	N/A	N/A	N/A	208.0	N/A
S977001814	F	Copper - ICP-Fusion	ug/g	97.40	<5.00e-02	<1.04e+03	<1.01e3	N/A	N/A	N/A	1.04e+03	N/A
S977001814	F	Iron - ICP-Fusion	ug/g	96.00	<5.00e-02	<1.04e+03	<1.01e3	N/A	N/A	N/A	1.04e+03	N/A
S977001814	F	Lanthanum - ICP-Fusion	ug/g	103.2	<5.00e-02	<2.08e+03	<2.01e3	N/A	N/A	N/A	2.08e+03	N/A
S977001814	F	Magnesium - ICP-Fusion	ug/g	104.0	<1.00e-01	<2.08e+03	<2.01e3	N/A	N/A	N/A	1.04e+03	N/A
S977001814	F	Manganese - ICP-Fusion	ug/g	101.0	<1.00e-01	<2.08e+02	<2.01e2	N/A	N/A	N/A	2.08e+03	N/A
S977001814	F	Molybdenum - ICP-Fusion	ug/g	102.0	<5.00e-02	<1.04e+03	<1.01e3	N/A	N/A	N/A	208.0	N/A
S977001814	F	Sodium - ICP-Fusion	ug/g	99.00	<1.00e-01	1.89e+05	1.89e+05	0.00	N/A	N/A	1.04e+03	N/A
S977001814	F	Neodymium - ICP-Fusion	ug/g	103.4	<1.00e-01	<2.08e+03	<2.01e3	N/A	N/A	N/A	2.08e+03	N/A
S977001814	F	Phosphorus - ICP-Fusion	ug/g	102.8	<2.00e-01	<4.16e+03	<4.02e3	N/A	N/A	N/A	2.08e+03	N/A
S977001814	F	Lead - ICP-Fusion	ug/g	103.4	<1.00e-01	<2.08e+03	<2.01e3	N/A	N/A	N/A	2.08e+03	N/A
S977001814	F	Sulfur - ICP-Fusion	ug/g	100.8	<1.00e-01	6.65e+03	5.81e+03	6.23e+03	13.5	N/A	2.08e+03	N/A
S977001814	F	Antimony - ICP-Fusion	ug/g	96.20	<6.00e-02	<1.25e+03	<1.21e3	N/A	N/A	N/A	1.25e+03	N/A
S977001814	F	Selenium - ICP-Fusion	ug/g	99.00	<1.00e-01	<2.08e+03	<2.01e3	N/A	N/A	N/A	2.08e+03	N/A
S977001814	F	Strontium - ICP-Fusion	ug/g	97.00	<5.00e-02	<1.04e+03	<1.01e3	N/A	N/A	N/A	1.04e+03	N/A
S977001814	F	Tantalum - ICP-Fusion	ug/g	99.60	<1.00e-02	<2.08e+02	<2.01e2	N/A	N/A	N/A	208.0	N/A
S977001814	F	Titanium - ICP-Fusion	ug/g	98.60	<1.00e-02	<2.08e+02	<2.01e2	N/A	N/A	N/A	208.0	N/A
S977001814	F	Thallium - ICP-Fusion	ug/g	98.00	<2.00e-01	<4.16e+03	<4.02e3	N/A	N/A	N/A	4.16e+03	N/A
S977001814	F	Uranium - ICP-Fusion	ug/g	96.80	<5.00e-01	<1.04e+04	<1.01e4	N/A	N/A	N/A	1.04e+04	N/A
S977001814	F	Vanadium - ICP-Fusion	ug/g	100.0	<1.00e-02	<1.04e+03	<1.01e3	N/A	N/A	N/A	208.0	N/A
S977001814	F	Zinc - ICP-Fusion	ug/g	98.00	<1.00e-02	<2.08e+02	<2.01e2	N/A	N/A	N/A	208.0	N/A
S977001814	F	Zirconium - ICP-Fusion	ug/g	99.40	<1.00e-02	<2.08e+02	<2.01e2	N/A	N/A	N/A	208.0	N/A
S977001816	F	Fluoride-IC-Dioxex 4000/4500	ug/g	94.58	<1.20e-02	1.92e+04	1.88e+04	1.91e+04	2.62	N/A	90.69	N/A
S977001816	F	Chloride-IC-Dioxex 4000/4500	ug/g	97.85	<1.70e-02	1.26e+03	1.25e+03	1.26e+03	0.80	N/A	128.5	N/A
S977001816	F	Nitrite-IC - Dioxex 4000/4500	ug/g	100.2	<1.22e-01	3.23e+04	3.17e+04	3.20e+04	1.88	N/A	816.3	N/A
S977001816	F	Nitrate by IC-Dioxex 4000/4500	ug/g	96.13	<1.39e-01	1.24e+05	1.18e+05	1.21e+05	4.96	N/A	1.05e+03	N/A
S977001816	F	Phosphate-IC-Dioxex 4000/4500	ug/g	97.98	<1.20e-01	3.78e+03	3.42e+03	3.60e+03	10.0	N/A	906.9	N/A
S977001816	F	Sulfate by IC-Dioxex 4000/4500	ug/g	97.78	<1.33e-01	2.05e+04	1.99e+04	2.02e+04	2.97	N/A	1.04e+03	N/A
S977001816	F	Oxalate-IC-Dioxex 4000/4500	ug/g	98.12	<1.05e-01	4.70e+03	4.88e+03	4.79e+03	3.76	N/A	795.8	N/A

HNF-SD-WM-DP-263, REV. 0

L Lower Half of Segment: L Lower Half of Segment

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S97T001781		TiC by Acid/Coulometry	ug/g	100.8	1.200	1.51e+04		1.52e+04	1.97	N/A	5.000	N/A
S97T001810		F Silver - ICP-Fusion	ug/g	102.2	<1.00e-02	<2.01e-04	<2.00e2	<2.00e2	N/A	N/A	201.0	N/A
S97T001810		F Aluminum - ICP-Fusion	ug/g	99.20	<5.00e-02	7.92e+03	7.78e+03	7.86e+03	1.91	N/A	1.01e+03	N/A
S97T001810		F Arsenic - ICP-Fusion	ug/g	105.4	<1.00e-01	<2.01e+03	<2.00e3		N/A	N/A	2.01e+03	N/A
S97T001810		F Boron - ICP-Fusion	ug/g	101.2	<5.00e-02	<1.01e+03	<9.99e2		N/A	N/A	1.01e+03	N/A
S97T001810		F Barium - ICP-Fusion	ug/g	102.5	<5.00e-02	<1.01e+03	<9.99e2		N/A	N/A	1.01e+03	N/A
S97T001810		F Beryllium - ICP-Fusion	ug/g	103.6	<5.00e-03	<1.01e+02	<9.99e1		N/A	N/A	101.0	N/A
S97T001810		F Bismuth - ICP-Fusion	ug/g	104.4	<1.00e-01	<2.01e+03	<2.00e3		N/A	N/A	2.01e+03	N/A
S97T001810		F Calcium - ICP-Fusion	ug/g	103.2	<1.00e-01	<2.01e+03	<2.00e3		N/A	N/A	2.01e+03	N/A
S97T001810		F Cadmium - ICP-Fusion	ug/g	103.2	<5.00e-03	<1.01e+02	<9.99e1		N/A	N/A	101.0	N/A
S97T001810		F Cerium - ICP-Fusion	ug/g	101.0	<1.00e-01	<2.01e+03	<2.00e2		N/A	N/A	2.01e+03	N/A
S97T001810		F Cobalt - ICP-Fusion	ug/g	102.0	<2.00e-02	<4.03e+02	<4.00e2		N/A	N/A	403.0	N/A
S97T001810		F Chromium - ICP-Fusion	ug/g	103.8	<1.00e-02	<2.01e+02	<2.00e2		N/A	N/A	201.0	N/A
S97T001810		F Copper - ICP-Fusion	ug/g	97.40	<1.00e-02	<2.01e+02	<2.00e2		N/A	N/A	201.0	N/A
S97T001810		F Iron - ICP-Fusion	ug/g	96.00	<5.00e-02	<1.01e+03	<9.99e2		N/A	N/A	1.01e+03	N/A
S97T001810		F Lanthanum - ICP-Fusion	ug/g	103.2	<5.00e-02	<1.01e+03	<9.99e2		N/A	N/A	1.01e+03	N/A
S97T001810		F Magnesium - ICP-Fusion	ug/g	104.0	<1.00e-01	<2.01e+03	<2.00e3		N/A	N/A	2.01e+03	N/A
S97T001810		F Manganese - ICP-Fusion	ug/g	101.0	<1.00e-02	<2.01e+02	<2.00e2		N/A	N/A	201.0	N/A
S97T001810		F Molybdenum - ICP-Fusion	ug/g	102.0	<5.00e-02	<1.01e+03	<9.99e2		N/A	N/A	1.01e+03	N/A
S97T001810		F Sodium - ICP-Fusion	ug/g	99.00	<1.00e-01	1.98e+05	1.99e+05	1.98e+05	0.50	N/A	2.01e+03	N/A
S97T001810		F Neodymium - ICP-Fusion	ug/g	103.4	<1.00e-01	<2.01e+03	<2.00e3		N/A	N/A	2.01e+03	N/A
S97T001810		F Phosphorus - ICP-Fusion	ug/g	102.8	<2.00e-01	<4.03e+03	<4.00e3		N/A	N/A	4.03e+03	N/A
S97T001810		F Lead - ICP-Fusion	ug/g	103.4	<1.00e-01	<2.01e+03	<2.00e3		N/A	N/A	2.01e+03	N/A
S97T001810		F Sulfur - ICP-Fusion	ug/g	100.8	<1.00e-01	8.02e+03	8.05e+03	8.04e+03	0.37	N/A	2.01e+03	N/A
S97T001810		F Antimony - ICP-Fusion	ug/g	96.20	<6.00e-02	<1.21e+03	<1.20e3		N/A	N/A	1.21e+03	N/A
S97T001810		F Selenium - ICP-Fusion	ug/g	99.00	<1.00e-01	<2.01e+03	<2.00e3		N/A	N/A	2.01e+03	N/A
S97T001810		F Silicon - ICP-Fusion	ug/g	97.00	<5.00e-02	1.36e+03	<9.99e2		N/A	N/A	1.01e+03	N/A
S97T001810		F Samarium - ICP-Fusion	ug/g	99.60	<1.00e-01	<2.01e+03	<2.00e3		N/A	N/A	2.01e+03	N/A
S97T001810		F Strontium - ICP-Fusion	ug/g	100.4	<1.00e-02	<2.01e+02	<2.00e2		N/A	N/A	201.0	N/A
S97T001810		F Titanium - ICP-Fusion	ug/g	98.60	<1.00e-02	<2.01e+02	<2.00e2		N/A	N/A	201.0	N/A
S97T001810		F Thallium - ICP-Fusion	ug/g	98.00	<2.00e-01	<4.03e+03	<4.00e3		N/A	N/A	4.03e+03	N/A
S97T001810		F Uranium - ICP-Fusion	ug/g	98.00	<5.00e-01	<1.01e+04	<9.99e3		N/A	N/A	1.01e+04	N/A
S97T001810		F Vanadium - ICP-Fusion	ug/g	100.0	<5.00e-02	<1.01e+03	<9.99e2		N/A	N/A	1.01e+03	N/A
S97T001810		F Zinc - ICP-Fusion	ug/g	98.00	<1.00e-02	<2.01e+02	<2.00e2		N/A	N/A	201.0	N/A
S97T001810		F Zirconium - ICP-Fusion	ug/g	99.40	<1.00e-02	<2.01e+02	<2.00e2		N/A	N/A	201.0	N/A
S97T001812		F Fluoride-IC-Dioxex 4000/4500	ug/g	94.58	<1.20e-02	2.13e+04	2.36e+04	2.24e+04	10.2	N/A	92.62	N/A
S97T001812		F Chloride-IC-Dioxex 4000/4500	ug/g	97.85	<1.70e-02	1.14e+03	1.12e+03	1.12e+03	3.57	N/A	131.2	N/A
S97T001812		F Nitrite-IC-Dioxex 4000/4500	ug/g	100.2	1.22e-01	2.82e+04	3.14e+04	2.98e+04	10.7	N/A	833.5	N/A
S97T001812		F Nitrate by IC-Dioxex 4000/4500	ug/g	96.13	<1.39e-01	1.03e+05	1.12e+05	1.08e+05	8.37	N/A	1.07e+03	N/A
S97T001812		F Phosphate-IC-Dioxex 4000/4500	ug/g	97.98	<1.20e-01	2.84e+03	3.22e+03	3.03e+03	12.5	N/A	926.2	N/A
S97T001812		F Sulfate by IC-Dioxex 4000/4500	ug/g	97.78	<1.38e-01	2.10e+04	2.21e+04	2.16e+04	5.10	N/A	1.06e+03	N/A
S97T001812		F Oxalate-IC-Dioxex 4000/4500	ug/g	98.12	<1.05e-01	5.81e+03	6.02e+03	5.92e+03	3.55	N/A	810.2	N/A

Appendix A. Opportunistic Analyses
AP-105 (P)

CORE NUMBER: 210

SEGMENT #: 2

SEGMENT PORTION: L Lower Half of Segment

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD	% Spk Rec	Det Limit	Count Err%
S97T001783		TIC by Acid/Coulometry	ug/g	101.0	3.500	1.38e+04	1.38e+04	1.36e+04	2.94	N/A	5.000	N/A
S97T001817		F Silver - ICP-Fusion	ug/g	102.2	<1.00e-02	<1.94e+02	<1.90e+02	<1.94e+02	N/A	N/A	194.0	N/A
S97T001817		F Aluminum - ICP-Fusion	ug/g	99.20	<5.00e-02	8.77e+03	8.74e+03	8.86e+03	2.60	N/A	972.0	N/A
S97T001817		F Arsenic - ICP-Fusion	ug/g	105.4	<1.00e-01	<1.94e+02	<1.90e+02	<1.94e+02	N/A	N/A	1.94e+03	N/A
S97T001817		F Boron - ICP-Fusion	ug/g	101.0	<5.00e-02	<9.70e+02	<9.50e+02	<9.70e+02	N/A	N/A	972.0	N/A
S97T001817		F Barium - ICP-Fusion	ug/g	102.2	<5.00e-02	<9.70e+02	<9.50e+02	<9.70e+02	N/A	N/A	972.0	N/A
S97T001817		F Beryllium - ICP-Fusion	ug/g	104.6	<5.00e-03	<9.70e+02	<9.50e+02	<9.70e+02	N/A	N/A	97.20	N/A
S97T001817		F Bismuth - ICP-Fusion	ug/g	103.4	<1.00e-01	<1.94e+03	<1.90e+03	<1.94e+03	N/A	N/A	1.94e+03	N/A
S97T001817		F Calcium - ICP-Fusion	ug/g	103.6	<1.00e-01	<1.94e+03	<1.90e+03	<1.94e+03	N/A	N/A	1.94e+03	N/A
S97T001817		F Cadmium - ICP-Fusion	ug/g	103.2	<5.00e-03	<9.70e+02	<9.50e+02	<9.70e+02	N/A	N/A	97.20	N/A
S97T001817		F Cerium - ICP-Fusion	ug/g	101.6	<1.00e-01	<1.94e+03	<1.90e+03	<1.94e+03	N/A	N/A	1.94e+03	N/A
S97T001817		F Cobalt - ICP-Fusion	ug/g	102.0	<2.00e-02	<3.88e+02	<3.80e+02	<3.88e+02	N/A	N/A	388.0	N/A
S97T001817		F Chromium - ICP-Fusion	ug/g	103.8	<1.00e-02	<1.94e+02	<1.90e+02	<1.94e+02	N/A	N/A	194.0	N/A
S97T001817		F Copper - ICP-Fusion	ug/g	97.40	<5.00e-02	<1.94e+02	<1.90e+02	<1.94e+02	N/A	N/A	194.0	N/A
S97T001817		F Iron - ICP-Fusion	ug/g	96.00	<5.00e-02	<9.70e+02	<9.50e+02	<9.70e+02	N/A	N/A	972.0	N/A
S97T001817		F Lanthanum - ICP-Fusion	ug/g	103.2	<5.00e-02	<9.70e+02	<9.50e+02	<9.70e+02	N/A	N/A	972.0	N/A
S97T001817		F Magnesium - ICP-Fusion	ug/g	104.0	<1.00e-01	<1.94e+03	<1.90e+03	<1.94e+03	N/A	N/A	1.94e+03	N/A
S97T001817		F Manganese - ICP-Fusion	ug/g	101.0	<5.00e-02	<1.94e+02	<1.90e+02	<1.94e+02	N/A	N/A	194.0	N/A
S97T001817		F Molybdenum - ICP-Fusion	ug/g	102.0	<5.00e-02	<1.94e+02	<1.90e+02	<1.94e+02	N/A	N/A	1.94e+03	N/A
S97T001817		F Sodium - ICP-Fusion	ug/g	99.00	<1.00e-01	1.70e+05	1.73e+05	1.72e+05	1.75	N/A	972.0	N/A
S97T001817		F Neodymium - ICP-Fusion	ug/g	103.4	<1.00e-01	<1.94e+03	<1.90e+03	<1.94e+03	N/A	N/A	1.94e+03	N/A
S97T001817		F Phosphorus - ICP-Fusion	ug/g	102.8	<2.00e-01	<3.88e+03	<3.80e+03	<3.88e+03	N/A	N/A	3.88e+03	N/A
S97T001817		F Lead - ICP-Fusion	ug/g	103.4	<1.00e-01	<1.94e+03	<1.90e+03	<1.94e+03	N/A	N/A	1.94e+03	N/A
S97T001817		F Sulfur - ICP-Fusion	ug/g	100.8	<2.00e-02	<1.94e+03	1.91e+03	<1.14e+03	N/A	N/A	1.14e+03	N/A
S97T001817		F Antimony - ICP-Fusion	ug/g	96.20	<5.00e-02	<1.94e+03	<1.90e+03	<1.94e+03	N/A	N/A	1.94e+03	N/A
S97T001817		F Selenium - ICP-Fusion	ug/g	99.00	<5.00e-02	<1.94e+03	<1.90e+03	<1.94e+03	N/A	N/A	1.94e+03	N/A
S97T001817		F Silicon - ICP-Fusion	ug/g	97.00	<5.00e-02	1.05e+03	<1.90e+03	<1.94e+03	N/A	N/A	972.0	N/A
S97T001817		F Samarium - ICP-Fusion	ug/g	99.60	<1.00e-01	<1.94e+03	<1.90e+03	<1.94e+03	N/A	N/A	1.94e+03	N/A
S97T001817		F Strontium - ICP-Fusion	ug/g	100.4	<1.00e-02	<1.94e+02	<1.90e+02	<1.94e+02	N/A	N/A	194.0	N/A
S97T001817		F Tantalum - ICP-Fusion	ug/g	98.60	<1.00e-02	<1.94e+02	<1.90e+02	<1.94e+02	N/A	N/A	194.0	N/A
S97T001817		F Thallium - ICP-Fusion	ug/g	98.00	<2.00e-01	<3.88e+03	<3.80e+03	<3.88e+03	N/A	N/A	3.88e+03	N/A
S97T001817		F Uranium - ICP-Fusion	ug/g	96.80	<5.00e-01	<9.70e+02	<9.50e+02	<9.70e+02	N/A	N/A	972.0	N/A
S97T001817		F Vanadium - ICP-Fusion	ug/g	100.0	<5.00e-02	<9.70e+02	<9.50e+02	<9.70e+02	N/A	N/A	972.0	N/A
S97T001817		F Zinc - ICP-Fusion	ug/g	98.00	<1.00e-02	<1.94e+02	<1.90e+02	<1.94e+02	N/A	N/A	194.0	N/A
S97T001817		F Zirconium - ICP-Fusion	ug/g	99.40	<1.00e-02	<1.94e+02	<1.90e+02	<1.94e+02	N/A	N/A	194.0	N/A
S97T001818		Fluoride-IC-Dioxen 4000/4500	ug/g	101.5	<1.20e-02	1.43e+04	1.37e+04	1.40e+04	4.29	N/A	91.63	N/A
S97T001818		Chloride-IC-Dioxen 4000/4500	ug/g	108.2	<1.70e-02	1.64e+03	1.66e+03	1.65e+03	1.21	N/A	129.8	N/A
S97T001818		Nitrate-IC - Dioxen 4000/4500	ug/g	103.5	<1.08e-01	3.47e+04	3.35e+04	3.41e+04	3.52	N/A	824.5	N/A
S97T001818		Nitrite by IC-Dioxen 4000/4500	ug/g	100.7	<1.59e-01	1.41e+05	1.35e+05	1.38e+05	5.09	N/A	1.06e+05	N/A
S97T001818		Phosphate-IC-Dioxen 4000/4500	ug/g	100.7	<1.20e-01	7.21e+03	6.61e+03	6.91e+03	8.68	N/A	916.4	N/A
S97T001818		Sulfate by IC-Dioxen 4000/4500	ug/g	101.6	<1.38e-01	7.07e+03	7.00e+03	7.03e+03	1.00	N/A	1.05e+03	N/A
S97T001818		Ioxalate-IC-Dioxen 4000/4500	ug/g	99.06	<1.05e-01	4.98e+03	4.60e+03	4.79e+03	7.95	N/A	801.6	N/A

Appendix A. Opportunistic Analyses
AP-105 (P)

CORE NUMBER: 210
SEGMENT #: 3

SEGMENT PORTION: L Lower Half of Segment

Sample#	R#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S97T001784		TiC by Acid/Coulometry	ug/g	101.0	3.500	1.50e+04	1.50e+04	1.50e+04	0.00	N/A	5.000	N/A
S97T001819		F Silver - ICP-Fusion	ug/g	102.2	<1.00e-02	<1.89e+02	<1.95e2	8.01e+03	N/A	N/A	189.0	N/A
S97T001819		F Aluminum - ICP-Fusion	ug/g	99.20	<1.00e-02	8.13e+03	8.11e+03	8.08e+03	N/A	N/A	943.0	N/A
S97T001819		F Arsenic - ICP-Fusion	ug/g	105.4	<1.00e-01	<1.89e+03	<1.95e3	N/A	N/A	N/A	1.89e+03	N/A
S97T001819		F Boron - ICP-Fusion	ug/g	101.0	<5.00e-02	<9.44e+02	<9.76e2	N/A	N/A	N/A	943.0	N/A
S97T001819		F Barium - ICP-Fusion	ug/g	102.2	<5.00e-02	<9.44e+02	<9.76e2	N/A	N/A	N/A	943.0	N/A
S97T001819		F Beryllium - ICP-Fusion	ug/g	104.6	<5.00e-03	<9.44e+02	<9.76e2	N/A	N/A	N/A	943.0	N/A
S97T001819		F Bismuth - ICP-Fusion	ug/g	103.4	<1.00e-01	<1.89e+03	<1.95e3	N/A	N/A	N/A	1.89e+03	N/A
S97T001819		F Calcium - ICP-Fusion	ug/g	103.6	<1.00e-01	<1.89e+03	<1.95e3	N/A	N/A	N/A	1.89e+03	N/A
S97T001819		F Cadmium - ICP-Fusion	ug/g	103.2	<5.00e-03	<9.44e+02	<9.76e2	N/A	N/A	N/A	943.0	N/A
S97T001819		F Cobalt - ICP-Fusion	ug/g	101.6	<1.00e-01	<1.89e+03	<1.95e3	N/A	N/A	N/A	1.89e+03	N/A
S97T001819		F Chromium - ICP-Fusion	ug/g	102.0	<2.00e-02	<3.77e+02	<3.90e2	N/A	N/A	N/A	378.0	N/A
S97T001819		F Copper - ICP-Fusion	ug/g	103.8	<1.00e-02	<1.89e+02	<1.95e2	N/A	N/A	N/A	189.0	N/A
S97T001819		F Iron - ICP-Fusion	ug/g	97.40	<5.00e-02	<1.89e+02	<1.95e2	N/A	N/A	N/A	189.0	N/A
S97T001819		F Lanthanum - ICP-Fusion	ug/g	96.00	<5.00e-02	<9.44e+02	<9.76e2	N/A	N/A	N/A	943.0	N/A
S97T001819		F Magnesium - ICP-Fusion	ug/g	103.2	<5.00e-02	<9.44e+02	<9.76e2	N/A	N/A	N/A	943.0	N/A
S97T001819		F Manganese - ICP-Fusion	ug/g	104.0	<1.00e-01	<1.89e+03	<1.95e3	N/A	N/A	N/A	1.89e+03	N/A
S97T001819		F Molybdenum - ICP-Fusion	ug/g	101.0	<5.00e-02	<9.44e+02	<9.76e2	N/A	N/A	N/A	943.0	N/A
S97T001819		F Sodium - ICP-Fusion	ug/g	99.00	<1.00e-01	<1.89e+03	<1.95e3	N/A	N/A	N/A	1.89e+03	N/A
S97T001819		F Neodymium - ICP-Fusion	ug/g	103.4	<2.00e-01	<1.89e+03	<1.95e3	N/A	N/A	N/A	1.89e+03	N/A
S97T001819		F Phosphorus - ICP-Fusion	ug/g	102.8	<2.00e-01	<3.77e+03	<3.90e3	N/A	N/A	N/A	3.78e+03	N/A
S97T001819		F Lead - ICP-Fusion	ug/g	103.4	<1.00e-01	<1.89e+03	<1.95e3	N/A	N/A	N/A	1.89e+03	N/A
S97T001819		F Sulfur - ICP-Fusion	ug/g	100.8	<1.00e-01	<3.69e+03	<3.77e+03	3.73e+03	2.14	N/A	1.89e+03	N/A
S97T001819		F Antimony - ICP-Fusion	ug/g	96.20	<6.00e-02	<1.19e+03	<1.17e3	N/A	N/A	N/A	943.0	N/A
S97T001819		F Selenium - ICP-Fusion	ug/g	97.00	<1.00e-01	<1.89e+03	<1.95e3	N/A	N/A	N/A	1.89e+03	N/A
S97T001819		F Silicon - ICP-Fusion	ug/g	99.00	<5.00e-02	<9.44e+02	<9.76e2	N/A	N/A	N/A	943.0	N/A
S97T001819		F Samarium - ICP-Fusion	ug/g	99.60	<1.00e-01	<1.89e+03	<1.95e3	N/A	N/A	N/A	1.89e+03	N/A
S97T001819		F Strontium - ICP-Fusion	ug/g	100.4	<1.00e-02	<1.89e+02	<1.95e2	N/A	N/A	N/A	189.0	N/A
S97T001819		F Titanium - ICP-Fusion	ug/g	98.60	<1.00e-02	<1.89e+02	<1.95e2	N/A	N/A	N/A	189.0	N/A
S97T001819		F Thallium - ICP-Fusion	ug/g	98.00	<2.00e-01	<3.77e+03	<3.90e3	N/A	N/A	N/A	3.78e+03	N/A
S97T001819		F Uranium - ICP-Fusion	ug/g	96.80	<5.00e-01	<9.44e+02	<9.76e2	N/A	N/A	N/A	943.0	N/A
S97T001819		F Vanadium - ICP-Fusion	ug/g	100.0	<5.00e-02	<9.44e+02	<9.76e2	N/A	N/A	N/A	943.0	N/A
S97T001819		F Zinc - ICP-Fusion	ug/g	98.00	<1.00e-02	<1.89e+02	<1.95e2	N/A	N/A	N/A	189.0	N/A
S97T001819		F Zirconium - ICP-Fusion	ug/g	99.40	<1.00e-02	<1.89e+02	<1.95e2	N/A	N/A	N/A	189.0	N/A
S97T001820		W Fluoride-IC-Dioxex 4000/4500	ug/g	101.5	<1.20e-02	1.98e+04	1.98e+04	1.98e+04	0.00	N/A	91.06	N/A
S97T001820		W Chloride-IC-Dioxex 4000/4500	ug/g	108.2	<1.70e-02	1.51e+03	1.45e+03	1.48e+03	4.05	N/A	129.0	N/A
S97T001820		W Nitrate-IC - Dioxex 4000/4500	ug/g	103.5	<1.08e-01	3.22e+04	3.19e+04	3.22e+04	1.86	N/A	819.6	N/A
S97T001820		W Nitrate by IC-Dioxex 4000/4500	ug/g	100.7	<1.39e-01	1.21e+05	1.17e+05	1.19e+05	3.36	N/A	1.06e+03	N/A
S97T001820		W Phosphate by IC-Dioxex 4000/4500	ug/g	100.7	<1.20e-01	4.59e+03	4.45e+03	4.57e+03	10.1	N/A	910.6	N/A
S97T001820		W Sulfate by IC-Dioxex 4000/4500	ug/g	101.6	<1.38e-01	1.13e+04	1.15e+04	1.15e+04	0.00	N/A	1.05e+03	N/A
S97T001820		W Oxalate-IC-Dioxex 4000/4500	ug/g	99.06	<1.05e-01	6.90e+03	6.51e+03	6.70e+03	5.82	N/A	796.6	N/A

HNF-SD-WM-DP-263, REV. 0

Drainable Liquid: Drainable Liquid

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S97T001762	D	Silver-ICP-Acid Dil.	ug/mL	101.2	<1.00e-02	19.10	17.80	18.45	7.35	N/A	6.010	N/A
S97T001762	D	Aluminum-ICP-Acid Dil.	ug/mL	99.40	<1.00e-02	1.83e+04	1.70e+04	1.76e+04	N/A	N/A	60.10	N/A
S97T001762	D	Arsenic-ICP-Acid Dil.	ug/mL	104.8	<1.00e-01	< 30.10	<6.01e1	N/A	N/A	N/A	30.10	N/A
S97T001762	D	Boron-ICP-Acid Dil.	ug/mL	102.4	<5.00e-02	< 30.10	<3.01e1	N/A	N/A	N/A	30.10	N/A
S97T001762	D	Barium-ICP-Acid Dil.	ug/mL	102.0	<5.00e-02	< 30.10	<3.01e1	N/A	N/A	N/A	30.10	N/A
S97T001762	D	Beryllium-ICP-Acid Dil.	ug/mL	104.4	<5.00e-03	< 3.000	<3.00e0	N/A	N/A	N/A	3.000	N/A
S97T001762	D	Bismuth-ICP-Acid Dil.	ug/mL	102.8	<1.00e-01	< 60.10	<6.01e1	N/A	N/A	N/A	60.10	N/A
S97T001762	D	Calcium-ICP-Acid Dil.	ug/mL	102.4	<1.00e-01	< 60.10	<6.01e1	N/A	N/A	N/A	60.10	N/A
S97T001762	D	Cadmium-ICP-Acid Dil.	ug/mL	102.2	<5.00e-03	< 3.240	<3.190	3.215	1.56	N/A	3.000	N/A
S97T001762	D	Cerium-ICP-Acid Dil.	ug/mL	102.0	<1.00e-01	< 60.10	<6.01e1	N/A	N/A	N/A	60.10	N/A
S97T001762	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
S97T001762	D	Chromium-ICP-Acid Dil.	ug/mL	102.6	<1.00e-02	2.90e+02	269.0	279.5	7.51	N/A	6.010	N/A
S97T001762	D	Copper-ICP-Acid Dil.	ug/mL	99.00	<1.00e-02	< 6.010	<6.01e0	N/A	N/A	N/A	6.010	N/A
S97T001762	D	Iron-ICP-Acid Dil.	ug/mL	95.40	<5.00e-02	< 30.10	<3.01e1	N/A	N/A	N/A	30.10	N/A
S97T001762	D	Potassium-ICP-Acid Dil.	ug/mL	101.6	<5.00e-01	5.09e+04	4.72e+04	4.90e+04	7.54	N/A	300.0	N/A
S97T001762	D	Lanthanum-ICP-Acid Dil.	ug/mL	103.4	<5.00e-02	< 30.10	<3.01e1	N/A	N/A	N/A	30.10	N/A
S97T001762	D	Magnesium-ICP-Acid Dil.	ug/mL	104.6	<1.00e-01	< 60.10	<6.01e1	N/A	N/A	N/A	60.10	N/A
S97T001762	D	Manganese-ICP-Acid Dil.	ug/mL	100.0	<1.00e-02	< 6.010	<6.01e0	N/A	N/A	N/A	6.010	N/A
S97T001762	D	Molybdenum-ICP-Acid Dil.	ug/mL	102.2	<5.00e-02	31.40	<3.01e1	2.43e+05	7.91	N/A	30.10	N/A
S97T001762	D	Sodium-ICP-Acid Dil.	ug/mL	99.60	<1.00e-01	2.63e+05	<3.01e1	2.53e+05	7.91	N/A	60.10	N/A
S97T001762	D	Nickel-ICP-Acid Dil.	ug/mL	103.8	<1.00e-01	< 60.10	<6.01e1	N/A	N/A	N/A	60.10	N/A
S97T001762	D	Neodymium-ICP-Acid Dil.	ug/mL	102.0	<2.00e-02	< 12.00	<1.20e1	N/A	N/A	N/A	12.00	N/A
S97T001762	D	Phosphorus-ICP-Acid Dil.	ug/mL	104.8	<2.00e-01	6.07e+03	5.56e+03	5.82e+03	8.77	N/A	120.0	N/A
S97T001762	D	Lead-ICP-Acid Dil.	ug/mL	102.6	<1.00e-01	< 60.10	<6.01e1	N/A	N/A	N/A	60.10	N/A
S97T001762	D	Sulfur-ICP-Acid Dil.	ug/mL	100.4	<1.00e-01	8.61e+02	787.0	824.0	8.98	N/A	60.10	N/A
S97T001762	D	Antimony-ICP-Acid Dil.	ug/mL	97.40	<6.00e-02	< 36.10	<3.61e1	N/A	N/A	N/A	36.10	N/A
S97T001762	D	Selenium-ICP-Acid Dil.	ug/mL	98.40	<1.00e-01	< 60.10	<6.01e1	N/A	N/A	N/A	60.10	N/A
S97T001762	D	Silicon-ICP-Acid Dil.	ug/mL	97.80	<5.00e-02	3.12e+02	281.0	296.5	10.5	N/A	30.10	N/A
S97T001762	D	Samarium-ICP-Acid Dil.	ug/mL	100.0	<1.00e-01	< 60.10	<6.01e1	N/A	N/A	N/A	60.10	N/A
S97T001762	D	Strontium-ICP-Acid Dil.	ug/mL	100.6	<1.00e-02	< 6.010	<6.01e0	N/A	N/A	N/A	6.010	N/A
S97T001762	D	Tantalum-ICP-Acid Dil.	ug/mL	99.60	<1.00e-02	< 6.010	<6.01e0	N/A	N/A	N/A	6.010	N/A
S97T001762	D	Thallium-ICP-Acid Dil.	ug/mL	98.60	<2.00e-01	<1.20e+02	<1.20e2	N/A	N/A	N/A	120.0	N/A
S97T001762	D	Uranium-ICP-Acid Dil.	ug/mL	97.90	<5.00e-01	<3.00e+02	<3.00e2	N/A	N/A	N/A	300.0	N/A
S97T001762	D	Vanadium-ICP-Acid Dil.	ug/mL	100.2	<5.00e-02	< 30.10	<3.01e1	N/A	N/A	N/A	30.10	N/A
S97T001762	D	Zinc-ICP-Acid Dil.	ug/mL	97.60	<1.00e-02	13.10	12.50	12.80	4.69	N/A	6.010	N/A
S97T001762	D	Zirconium-ICP-Acid Dil.	ug/mL	100.2	<1.00e-02	< 6.010	<6.01e0	N/A	N/A	N/A	6.010	N/A
S97T001762	D	Fluoride-IC-Dioxex 4000/4500	ug/mL	98.31	<1.20e-02	9.18e+02	902.0	910.1	1.76	N/A	61.81	N/A
S97T001762	D	Chloride-IC-Dioxex 4000/4500	ug/mL	92.75	<1.70e-02	3.27e+03	3.17e+03	3.22e+03	3.11	N/A	87.57	N/A
S97T001762	D	Nitrate-IC - Dioxex 4000/4500	ug/mL	99.45	<1.09e-01	6.88e+04	6.72e+04	6.80e+04	2.35	N/A	556.3	N/A
S97T001762	D	Nitrite by IC-Dioxex 4000/4500	ug/mL	99.50	<1.38e-01	2.51e+05	2.44e+05	2.47e+05	2.67	N/A	716.0	N/A
S97T001762	D	Phosphate-IC-Dioxex 4000/4500	ug/mL	103.5	<1.20e-01	6.48e+02	<6.18e2	N/A	N/A	N/A	618.1	N/A
S97T001762	D	Sulfate by IC-Dioxex 4000/4500	ug/mL	100.8	<1.38e-01	1.04e+03	879.0	958.0	16.8	N/A	710.8	N/A
S97T001762	D	Oxalate-IC-Dioxex 4000/4500	ug/mL	99.44	<1.05e-01	<5.41e+02	<5.41e2	N/A	N/A	N/A	540.9	N/A

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