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Tank 241-T-105, Cores 205 and 207 Analytical Results for the Final Report

Ruth A. Esch

Waste Management of Hanford, Inc., Richland, WA 99352
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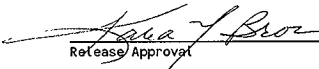
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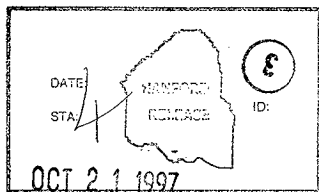
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ANALYTICAL SERVICES

**TANK 241-T-105, CORES 205 AND 207
ANALYTICAL RESULTS FOR THE FINAL REPORT**

Project Coordinator: RUTH A. ESCH

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

by

**222-S Laboratory
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NARRATIVE

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222-S ANALYTICAL SERVICES

TANK 241-T-105, CORES 205 AND 207,
ANALYTICAL RESULTS FOR THE FINAL REPORT

This document is the final laboratory report for tank 241-T-105 push mode core segments collected between June 24, 1997 and June 30, 1997. The segments were subsampled and analyzed in accordance with the *Tank Push Mode Core Sampling and Analysis Plan* (TSAP) (Field, 1997), the *Tank Safety Screening Data Quality Objective* (Safety DQO) (Dukelow, et al., 1995) and *Tank 241-T-105 Sample Analysis* (memo) (Field, 1997a). The analytical results are included in Table 1.

None of the subsamples submitted for the differential scanning calorimetry (DSC) analysis or total alpha activity (AT) exceeded the notification limits as stated in the TSAP (Field, 1997). The statistical results of the 95% confidence interval on the mean calculations are provided by the Tank Waste Remediation Systems (TWRS) Technical Basis Group in accordance with the Memorandum of Understanding (Schreiber, 1997) and not considered in this report.

Appearance and Sample Handling

Attachment 1 is a cross reference to relate the tank farm identification numbers to the 222-S Laboratory sample numbers. The subsamples generated in the laboratory for analyses are identified in these diagrams with their sources shown. The diagram identifying the lithium bromide (LiBr) blank is also included.

Core 205

Two push mode core segments were removed from tank 241-T-105 riser 3 on June 24, 1997 and June 26, 1997. Segments were received by the 222-S Laboratory on June 26, 1997. Table 2 summarizes the sample receipt and extrusion information.

Core 207

Two push mode core segments were removed from tank 241-T-105 riser 7 on June 27, 1997 and June 30, 1997. Segments were received by the 222-S Laboratory on July 1, 1997. Table 3 summarizes the sample receipt and extrusion information.

Blanks

A field blank and a LiBr blank were provided to the 222-S Laboratory with core 205. The field blank underwent the same analyses as the drainable liquid. The LiBr blank was analyzed by Ion Chromatography (IC) and Inductively Coupled Plasma (ICP).

Table 2. Sample Receipt and Extrusion Information for 241-T-105, Core 205

Customer Id	Segment	Date Sampled	Date Received	Date Extruded	Inches Extruded*	Liquid Recovered (g)	Solids Recovered (g)	Sample Description
205-01	1	6/24/97	6/26/97	7/2/97	N/A	291.8 - Drainable	N/A	This segment contained approximately 280 mL of black opaque drainable liquid of which approximately 230 mL was retained. A trace amount of crystalline solid material was collected from the drainable liquid. No organic layer was observed. LBr was added to drill string.
205-02	2	6/26/97	6/26/97	7/2/97	3	80.96 - Liner 41.05 - Drainable	81.63 - Lower Half	The valve was approximately half opened before and after the cables on the sampler were cut. There were approximately 80 mL of black, opaque liner liquid of which approximately 70 mL were retained. Drainable liquid analyses were performed on the liner liquid. Approximately 35 mL of drainable liquid was also collected and analyzed. No organic layer was observed. The solids consisted of black sludge slurry coating larger (~ 1/4 to 1/2 inch) pieces of very hard crystalline material. Some of the material was faceted clear crystals, while the rest was darker gray and more cement-like. The pieces could not be broken up with a spatula. Since it was difficult to separate the sludge from the large crystalline pieces, the black sludge that settled to the bottom of the drainable liquid jar was used for safety screening analyses of solids for this segment. The two types of crystalline material were analyzed by ICP and IR.
Field Blank	N/A	6/24/97	6/24/97	N/A	N/A	N/A	N/A	DJ water for field blank.
LBr Blank	N/A	6/13/97	6/13/97	N/A	N/A	N/A	N/A	LBr blank.

*Approximate Inches Extruded

N/A - Information was not available or not applicable.

Table 3. Sample Receipt and Extrusion Information for 241-T-105, Core 207

Customer Id	Segment	Date Sampled	Date Received	Date Extruded	Inches Extruded*	Liquid Recovered (g)	Solids Recovered (g)	Sample Description
207-1	1	6/27/97	7/1/97	7/8/97	2	183.8 - Drainable	72.3 - Lower Half	This segment contained approximately 160 mL of black opaque drainable liquid. Less than 5 mL of milky white liner liquid was not retained. The solid was black, contained a granular texture, and was sticky. No organic layer was observed. 1500 mL LBr was added to drill string.
207-2	2	6/30/97	7/1/97	7/8/97	18	103.3 - Liner	177.2 - Upper Half 197.5 - Lower Half	There were approximately 70 mL of light brown, opaque liner liquid of which approximately 10 mL were retained. The liner liquid was analyzed for LBr only. No drainable liquid was observed. The upper half solids resembled very dark brown, smooth textured sludge slurry. The lower half solids were lighter brown, smooth textured dry sludge. The lower half segment held its shape on the extrusion tray. 1500 mL LBr was added to drill string.

*Approximate Inches Extruded

N/A - information was not available or not applicable.

Analytical Results Summary

The data summary table (Table 1) included in this report compiles the analytical results that comply with the applicable DQO. Opportunistic analyte results are presented in Appendix A. These analytes do not have customer defined QC parameters, and any anomalies in the results are not discussed in this report.

In the tables, the aliquot class (A#) column indicates the type of preparation performed prior to analysis. A "D" indicates that an acid dilution was made on a liquid sample, an "A" indicates an acid digest of a solid, an "F" indicates a fusion digest of a solid, a "W" indicates a water digest of a solid and a blank indicates a direct sample analysis.

As noted in Table 2, the solid material collected from tank 241-T-105 core 205, segment 2 contained large pieces of crystalline material. Since this material was very hard and could not be homogenized, an LOI (Field, 1997a) was received requesting that only IC and ICP analyses be performed on this material for characterization purposes. Small pieces, 0.2 to 0.6 grams each, were subsampled to perform a water digest for IC analysis and an acid digest for ICP analysis (samples S97T002008 and S97T002017 for IC; S97T002007 and S97T002016 for ICP). Duplicate digests and analyses were performed. The duplicate results provide information concerning the heterogeneity of the material. The two types of crystalline material could not be completely separated from the sludge or from each other. Consequently, if poor duplicate results were obtained, reanalyses were not performed.

The clear crystalline material dissolved readily in acid. Approximately 80 - 90% of the crystalline material dissolved in water alone. The molar concentrations of the predominant analytes found in this material indicate that the crystals may be sodium fluoride diphosphate ($\text{Na}_7\text{F}(\text{PO}_4)_2 \cdot 19\text{H}_2\text{O}$).

The darker cement-like solids did not dissolve as well. Approximately 75% dissolved in the acid leaving white powdery undissolved solids. Very little of the material dissolved in the deionized water. Since there was a large amount of undissolved solids, the reported dilution factors may not reflect the actual concentrations of analytes in the "as received" sample and the results should be considered qualitative only.

Inorganic Analyses

Differential Scanning Calorimetry (DSC)

The DSC analyses were performed in duplicate. The exothermic energy based on dry weight of subsample was calculated for all subsamples. The average of the TGA result for each subsample was used in the dry weight correction for that subsample. The standard recoveries and relative percent difference (RPD) between sample and duplicate results for this analysis were within the required limits.

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None of the subsamples submitted for the differential scanning calorimetry (DSC) analysis exceeded the notification limit of 480 Joules/g stated in the DQO.

Thermogravimetric Analysis (TGA)

The TGA analyses were performed in duplicate. Typically the results for TGA analysis are determined by summing the weight loss steps that begin below 200° C. For this tank, the result for one subsample was the sum of two weight loss steps that began below 200° C. Two subsamples had two weight loss steps, but only the first was included in the results because the second began above ~ 250° C. The remaining six subsamples had only one weight loss step. More information may be obtained by examining the raw data. The standard recoveries and RPDs for this analysis were within the required limits.

Bulk Density/Specific Gravity (Sp.G.)

Bulk density was requested to be performed on the lower half segment solids only for correction of the notification limit for the total alpha activity analysis. However, since the upper and lower half segment solids for Core 207 segment 2 differed in appearance, the bulk density was determined for both half segments. The results of the bulk density test ranged from 1.32 g/mL to 1.53 g/mL. The highest bulk density of 1.53 g/mL was used to calculate the notification limit for the total alpha activity for the solids.

The specific gravity analysis was performed on drainable liquid samples. The RPDs for this analysis were within the required limits.

Ion Chromatography (IC)

The ion chromatography (IC) analysis was performed for process control to check for intrusion of hydrostatic head fluid that was added to the drill string during core sampling. Bromide (Br⁻) was the only required analyte for this analysis. The standard recoveries, RPDs and spike recoveries for the Br⁻ analysis were all within the required limits.

Bromide was observed in the lower segment (segment 2) from each core, indicating hydrostatic head fluid intrusion into these samples.

Inductively Coupled Plasma Spectrophotometry (ICP)

The inductively coupled plasma (ICP) analysis was performed for process control to check for intrusion of hydrostatic head fluid that was added to the drill string during core sampling. Lithium (Li) was the only required analyte for this analysis. The standard recoveries, RPDs and spike recoveries for the Li analysis were all within the required limits.

Lithium was observed in the lower segment (segment 2) from each core, indicating hydrostatic head fluid intrusion into these samples.

Radionuclide Analyses

Total Alpha Activity (AT)

The total alpha (AT) analyses were performed in duplicate. The standard recoveries, RPDs and spike recoveries for this analysis were within the required limits, with the exception of one sample. The drainable liquid sample from Core 205 segment 1 had an RPD of 53.5%. No rerun was requested because the alpha activity was very near the detection limit. When the activity is this low, a rerun will not improve the quality of the results.

All liquid AT results were below the total alpha activity notification limit of 61.5 $\mu\text{Ci/mL}$. All solid AT results were below the total alpha activity limit of 40.1 $\mu\text{Ci/g}$ (based on a bulk density of 1.53 g/mL).

Procedures

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

Table 4: Analytical Procedures

Analysis	Preparation Procedure	Analysis Procedure
Inorganic Analyses		
Bulk Density	Direct Analysis	LO-160-103 Rev. C-0
DSC	Direct Analysis	LA-514-114 Rev. D-1
TGA	Direct Analysis	LA-514-114 Rev. D-1
Sp.G.	Direct Analyses	LA-510-112 Rev. D-1
IC	Liquid - Direct Analysis Solid - LA-504-101 Rev. F-0 +	LA-533-105 Rev. D-1

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Table 4: Analytical Procedures

Analysis	Preparation Procedure	Analysis Procedure
ICP	Liquid - Acid Dilution Solid - LA-505-163 Rev. A-0 ++	LA-505-151 Rev. E-1 LA-505-161 Rev. C-2
Radionuclide Analyses		
Total Alpha	Liquid - Direct Analysis Solid - LA-549-141 Rev. F-0 +++	LA-508-101 Rev. G-0

Notes: + - Water digestion procedure
 ++ - Acid digestion procedure
 +++ - Fusion digestion procedure

Abbreviations:

DSC	= differential scanning calorimetry	ICP	= inductively coupled plasma spectrometry
TGA	= thermogravimetric analysis	Sp.G.	= specific gravity
IC	= ion chromatography		

References

- Dukelow, G. T., et al., 1995, *Tank Safety Screening Data Quality Objective*, WHC-SD-WM-SP-004, Rev. 2, Westinghouse Hanford Company, Richland, WA 99352.
- Field, J. G., 1997, *Tank 241-T-105 Push Mode Core Sampling and Analysis Plan*, HNF-SD-WM-TSAP-134, Rev. 0-C, Lockheed Martin Hanford Corporation, Richland, WA 99352.
- Field, J. G., 1997a, *Tank 241-T-105 Sample Analysis*, (interoffice memo 74620-97-213 to A. D. Rice, dated August 20), Lockheed Martin of Hanford Corporation, Richland, WA 99352.

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ATTACHMENT 1

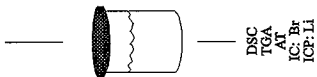
T-105 SAMPLE BREAKDOWN

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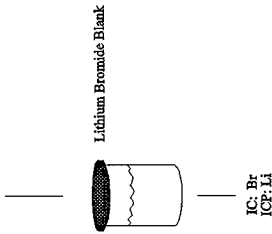
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T-105
Core 205
Field Blank
S97T001505



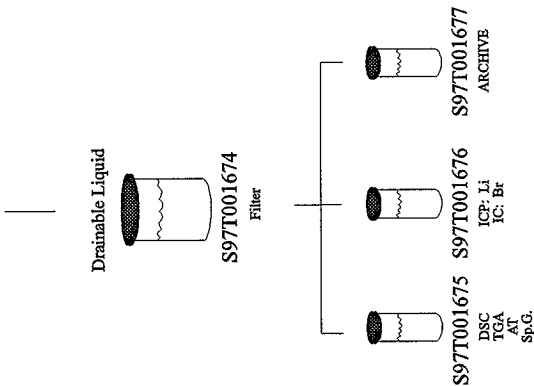
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T-105
Core 205
Blank - LiBr
S97T001506



T-105
Core 205
Seg: 1
S97T001533

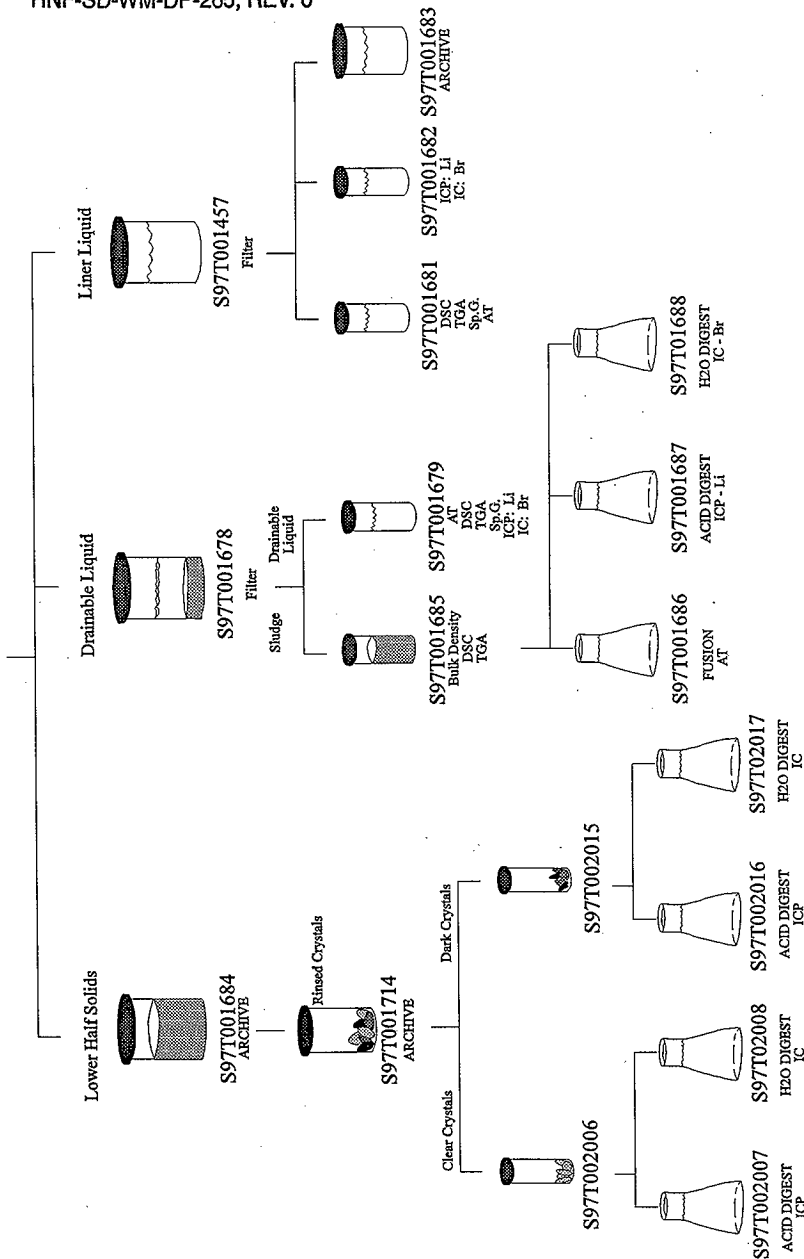
Attachment 1



T-105
Core 205
Seg: 2
S97T001534

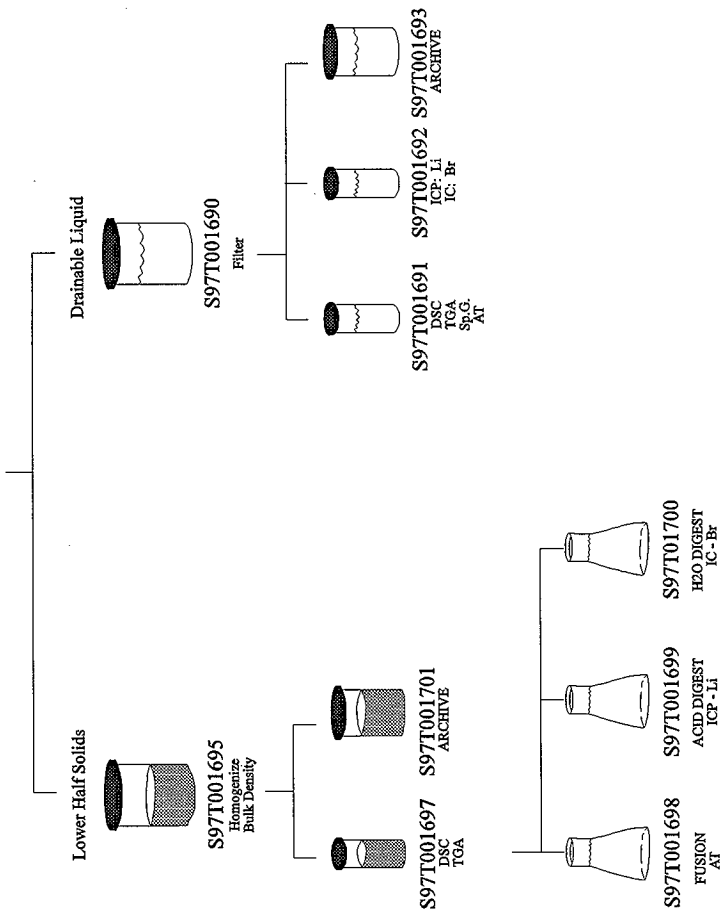
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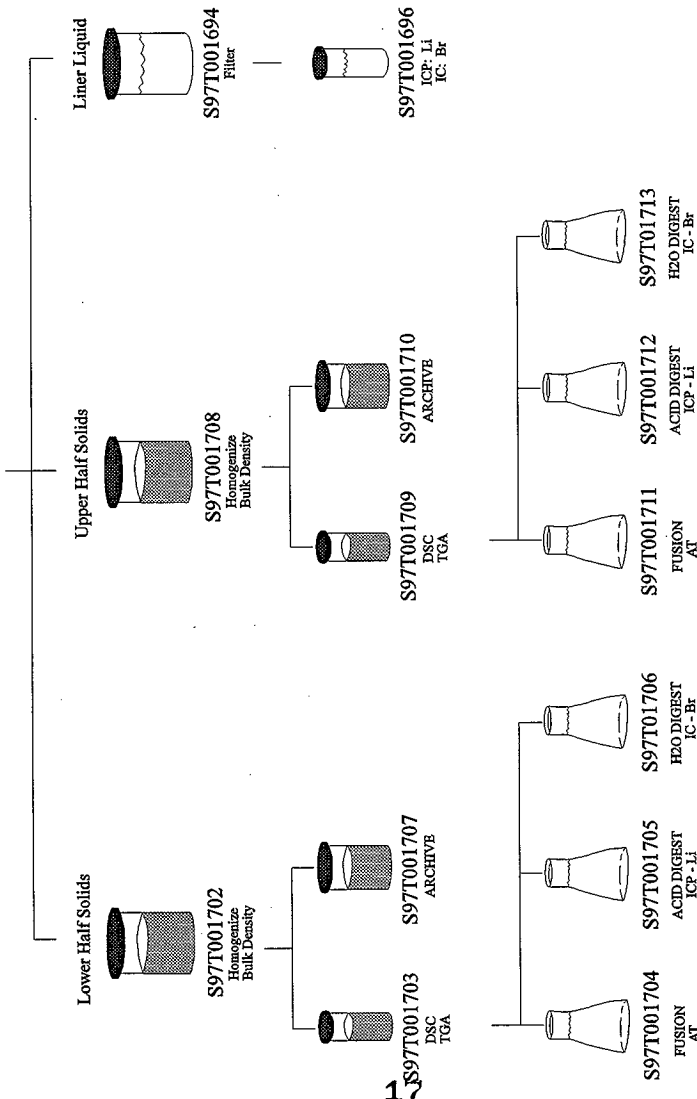
T-105
Core 207
Seg: 1
S97T001625

Attachment 1



T-105
Core 207
Seg: 2
S97T001626

Attachment 1



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SAMPLE DATA SUMMARY

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Table 1: Data Summary Report
1-105

CORE NUMBER: 205
SEGMENT #: FB

SEGMENT PORTION: Field Blank

Sample #	P. A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S97T001505		DSC Exotherm Dry Calculated	Joules/g Dry	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
S97T001505		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
S97T001505		% Water by TGA on Perkin Elmer	%	99.126	n/a	99.60	99.60	99.60	0.00	n/a	n/a	n/a
S97T001505		% Lithium-TP-Acid Dil.	ug/mL	99.60	<1.00e-02	<1.00e-02	<1.00e-02	n/a	n/a	n/a	1.00e-02	n/a
S97T001505		Bromide by Ion Chromatograph	ug/mL	99.60	<1.23e-01	<1.23e-01	<1.23e-01	n/a	n/a	n/a	1.23e-01	n/a
S97T001505		Alpha In Liquid Samples	UCI/mL	89.50	<4.09e-03	<4.54e-03	<2.54E-3	n/a	n/a	n/a	4.00e-03	3.03E+02

Table 1: Data Summary Report
1-105

CORE NUMBER: 205
SEGMENT #: LIBR

SEGMENT PORTION: Hydrostatic Head Fluid

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S97T001506	10	Lithium-10P-Acid Dil.	ug/mL	99.60	<1.08e-02	1.88e+03	1.90e+03	1.90e+03	0.53	N/A	2.11e-01	N/A
S97T001506		Bromide by Ion Chromatograph	ug/mL	91.85	<1.23e-01	2.55e+04	2.60e+04	2.57e+04	1.94	N/A	138.9	N/A

Table 1: Data Summary Report
1-105

CORE NUMBER: 205
SEGMENT #: 1

SEGMENT PORTION: Drainable Liquid

Sample#	R A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S97T001675		DSC Exotherm Dry	Joules/g Dry	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
S97T001675		DSC Exotherm on Perkin Elmer	Joules/g	100	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S97T001675		Specific Gravity	Sp.G.	98.42	n/a	1.174	1.174	1.175	0.17	n/a	n/a	n/a
S97T001675		% Water by IGA on Perkin Elmer	%	99.85	n/a	76.10	76.30	76.20	0.26	n/a	1.00e-03	n/a
S97T001675		Alpha In Liquid Samples	uCi/mL	89.50	< 4.05e-03	4.05e-03	2.36e-03	3.19e-03	53.5	100.0	4.00e-03	9.03E+01
S97T001676		Lithium-ICP-Acid Dil.	ug/mL	100.8	< 1.00e-02	< 4.010	< 4.010	< 4.010	n/a	101.0	4.010	n/a
S97T001676		Bromide by Ion Chromatograph	ug/mL	94.25	< 1.22e-01	< 1.28e+03	< 1.28e3	n/a	n/a	92.53	1.28e+03	n/a

Table 1: Data Summary Report
1-105

CORE NUMBER: 205
SEGMENT #: 2

SEGMENT PORTION: Limer Liquid

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S97T001631		DSC Exotherm Dry, Calculated	Joules/g Dry	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
S97T001631		DSC Exotherm on Perkin Elmer	Joules/g	100.2	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S97T001631		Specific Gravity	Sp.G.	99.46	n/a	1.1195	1.1195	1.1195	1.11	n/a	1.00e-03	n/a
S97T001631		% Water by TGA on Perkin Elmer	%	99.83	n/a	77.42	77.42	77.41	0.53	n/a	1.00e-03	n/a
S97T001631		% Water by TGA on Perkin Elmer	%	99.79	< 0.05e-03	1.35e-03	1.52e-03	1.43e-03	100.8	100.8	2.00e-03	1.84e+02
S97T001631		Alpha In Liquid Samples	ug/mL	100.8	< 1.00e-02	1.35e-02	1.52e-02	1.43e-02	133.0	102.0	4.010	n/a
S97T001632		Lithium-TP-Acid D11.	ug/mL	94.06	< 1.20e-01	1.26e+03	1.30e+03	1.28e+03	3.12	104.4	265.1	n/a
S97T001652		Bromide by Ion Chromatograph	ug/mL	94.06	< 1.20e-01	1.26e+03	1.30e+03	1.28e+03	3.12	104.4	265.1	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%
S97T001655		Bulk Density of Sample	g/mL	n/a	n/a	1.340	n/a	n/a	n/a	n/a	5.00e-01	n/a
S97T001655		DSC Exotherm Dry, Calculated	Joules/g Dry	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
S97T001655		DSC Exotherm on Perkin Elmer	Joules/g	101.2	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S97T001655		% Water by TGA on Perkin Elmer	%	99.85	n/a	45.99	55.51	62.25	21.7	n/a	n/a	n/a
S97T001655		% Water by TGA on Perkin Elmer	%	81.50	< 1.10e-02	5.39e-01	5.53e-01	5.46e-01	2.56	101.9	2.00e-02	1.49e+01
S97T001657		Alpha of Digested Solid	ug/g	105.4	< 1.00e-02	1.11e+02	1.10e+02	110.5	0.90	102.6	14.50	n/a
S97T001657		Lithium-TP-Acid Digest	ug/g	95.43	< 2.5e-01	1.09e+03	1.06e+03	1.08e+03	2.79	92.87	528.8	n/a
S97T001657		Bromide by Ion Chromatograph	ug/g	93.00	< 1.00e-02	4.100	< 6.30e0	n/a	n/a	95.60	3.920	n/a
S97T002007		Lithium-CP-Acid Digest	ug/g	90.49	< 2.5e-01	< 7.82e+02	< 2.08e3	n/a	n/a	90.65	781.5	n/a
S97T002008		Bromide by Ion Chromatograph	ug/g	93.00	< 1.00e-02	5.210	6.000	5.605	14.1	98.00	4.140	n/a
S97T002016		Lithium-CP-Acid Digest	ug/g	92.70	< 1.00e-02	5.22e+02	< 4.54e2	n/a	n/a	85.91	315.3	n/a
S97T002017		Bromide by Ion Chromatograph	ug/g	92.70	< 1.25e-01	5.22e+02	< 4.54e2	n/a	n/a	85.91	315.3	n/a

Drainable Liquid: Drainable Liquid

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S97T001679		DSC Exotherm Dry, Calculated	Joules/g Dry	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
S97T001679		DSC Exotherm on Perkin Elmer	Joules/g	101.2	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S97T001679		Specific Gravity	Sp.G.	99.46	n/a	1.204	1.194	1.199	0.83	n/a	1.00e-03	n/a
S97T001679		% Water by TGA on Perkin Elmer	%	99.85	n/a	76.92	76.91	76.91	0.01	n/a	n/a	n/a
S97T001679		% Water by TGA on Perkin Elmer	%	99.85	< 1.00e-02	97.80	100.0	98.90	2.22	n/a	4.010	n/a
S97T001679		Lithium-TP-Acid D11.	ug/mL	100.8	< 1.25e-01	1.28e+03	1.30e+03	1.29e+03	1.12	n/a	1.28e+03	n/a
S97T001679		Bromide by Ion Chromatograph	ug/mL	94.23	< 1.25e-01	1.28e+03	1.30e+03	1.29e+03	1.12	n/a	1.28e+03	n/a
S97T001679		Alpha in Liquid Samples	ug/mL	89.50	< 4.05e-03	< 1.77e-03	< 3.48e-3	n/a	n/a	n/a	4.00e-03	5.00e+02

Table 1: Data Summary Report
1-105

CORE NUMBER: 207
SEGMENT #: 1

SEGMENT PORTION: 1 Lower Half of Segment

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count	Err%
S97T001695		Bulk Density of Sample	g/mL	n/a	n/a	1.320	n/a	n/a	n/a	n/a	5.00e-01	n/a	n/a
S97T001697		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
S97T001697		DSC Exotherm on Perkin Elmer	Joules/g	101.2	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a	n/a
S97T001697		% Water by TGA on Perkin Elmer	%	99.85	n/a	61.65	71.70	66.67	15.0	n/a	n/a	n/a	n/a
S97T001698	F	Alpha of Digested Solid	uCi/g	61.50	< 1.10e-02	3.07e-01	2.49e-01	2.88e-01	13.2	n/a	2.00e-03	1.93E+03	n/a
S97T001699	A	Lithium -ICP-Acid Digest	ug/g	85.4	< 1.00e-02	84.40	1.45e1	n/a	n/a	n/a	n/a	16.46	n/a
S97T001700	W	Bromide by Ion Chromatograph	ug/g	95.42	< 1.20e-01	< 5.20e+02	< 5.20e2	n/a	n/a	n/a	n/a	328.4	n/a

Drainable Liquid: Drainable Liquid

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count	Err%
S97T001691		DSC Exotherm Dry Calculated	Joules/g Dry	100.6	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a	n/a
S97T001691		DSC Exotherm on Perkin Elmer	Joules/g	99.44	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a	n/a
S97T001691		Specific Gravity	%	99.85	n/a	1.148	1.176	1.162	2.41	n/a	1.00e-03	n/a	n/a
S97T001691		% Water by TGA on Perkin Elmer	%	99.85	n/a	76.43	76.19	76.31	0.31	n/a	n/a	n/a	n/a
S97T001691		Alpha in Liquid Samples	uCi/mL	89.50	< 4.05e-03	< 4.05e-03	< 1.30E+3	n/a	n/a	107.4	4.00e-03	1.84E+02	n/a
S97T001692	D	Lithium-ICP-Acid Dlt.	ug/mL	100.8	< 1.00e-02	< 4.010	< 4.01e0	n/a	n/a	99.30	4.010	n/a	n/a
S97T001692		Bromide by Ion Chromatograph	ug/mL	94.06	< 1.20e-01	< 2.65e+02	< 2.65e2	n/a	n/a	98.47	265.1	n/a	n/a

HNF-SD-WM-DP-265, REV. 0

Table 1: Data Summary Report
1-105

CORE NUMBER: 207
SEGMENT #: 2

SEGMENT PORTION: Linear Liquid

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S97T001696	D	Lithium-ICP-Acid Dil.	ug/mL	100.8	<1.00e-02	1.45e+03	1.42e+03	1.44e+03	2.09	n/a	5.10e-01	n/a
S97T001696	N	Bromide by Ion Chromatograph	ug/mL	99.49	<1.29e-01	2.01e+04	2.00e+04	2.00e+04	0.50	n/a	517.6	n/a
U Upper Half of Segment: U Upper Half of Segment												
Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S97T001708		Bulk Density of Sample	g/mL	n/a	n/a	1.490	n/a	n/a	n/a	n/a	5.00e-01	n/a
S97T001709		DSC Exotherm DRY Calculated	Joules/g DRY	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
S97T001709		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
S97T001709		% Water by TGA on Perkin Elmer	%	99.32	n/a	54.67	49.20	51.94	10.5	n/a	n/a	n/a
S97T001710	F	Alpha of Digested Solid	ug/g	81.50	<1.11e-02	5.66e-01	5.87e-01	5.77e-01	3.64	n/a	2.00e-02	1.42E+01
S97T001712	A	Lithium -ICP-Acid Digest	ug/g	105.4	<1.08e-02	42.00	44.20	43.10	5.10	n/a	14.20	n/a
S97T001713	N	Bromide by Ion Chromatograph	ug/g	101.4	<1.29e-01	4.55e+02	442.0	448.6	2.90	n/a	277.8	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%
S97T001702		Bulk Density of Sample	g/mL	n/a	n/a	1.530	n/a	n/a	n/a	n/a	5.00e-01	n/a
S97T001703		DSC Exotherm DRY Calculated	Joules/g DRY	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
S97T001703		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
S97T001703		% Water by TGA on Perkin Elmer	%	99.22	n/a	56.22	53.78	55.00	4.44	n/a	n/a	n/a
S97T001704	F	Alpha of Digested Solid	ug/g	81.50	<1.11e-02	1.41e-01	1.51e-01	1.46e-01	6.85	98.48	4.20e-02	4.34E+01
S97T001705	A	Lithium -ICP-Acid Digest	ug/g	105.4	<1.00e-02	1.23e+02	106.0	114.5	14.8	91.20	14.30	n/a
S97T001706	N	Bromide by Ion Chromatograph	ug/g	101.4	<1.29e-01	1.03e+03	985.0	1.01e+03	4.47	95.93	518.7	n/a

HNH-SD-WM-DP-265, REV. 0

CHAIN OF CUSTODY FORMS

HNH-SD-WM-DP-265, REV. 0

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CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

Jun. 24, 1997 10:14AM SWC 222S LAB ROOM 2F BACKSIDE No. 4259 P. 2/6

Shipment Number N/A (2) Sample Number LIBC BLEWK-T-105 (3) Supervisor M.C. L. Jones M.S. Jones (8) Cask Serial Number N/A
 Tank T-105 (5) Riser 3 (6) Segment N/A (7) Core 205

(9) FIELD		(33) LABORATORY		(10) Shipment Description	
Radiation Survey Date:				A. Work Package Number <u>CUS-97-00121</u>	
Over Top Dose Rate				B. Cask Seal Number <u>N/A</u>	
Side Dose Rate				C. Sampler Serial Number <u>N/A</u>	
Bottom Dose Rate				D. Date and Time Sampler Unseated <u>6-24-97 0215</u>	
Smearable Contamination				E. Expected Liquid Content <u>100%</u>	
				F. Expected Solid Content <u>0%</u>	
ACT* (HPT)		ACT* (HPT)		G. Dose Rate Through Drill String <u>< 5 mS/Hr</u>	
(Signature)		(Signature)		H. Expected Sample Length <u>100 mL</u>	

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

29

HNF-SD-WM-DP-265, REV. 0

2) Field Comments

LIBC Field BLEWK.

(34) Laboratory Comments

597 TOL 506

(15) Sender Name (Sign and PRINT)		(16) Date/Time		(17) Sender Comments	
James Suckel		6-24-97			
(20) Received By (Sign and PRINT)		(21) Date/Time		(22) Receiver Comments	
James Suckel		6-24-97			
(24) Received By (Sign and PRINT)		(25) Date/Time		(26) Receiver Comments	
James Suckel		6-24-97			
(28) Received By (Sign and PRINT)		(29) Date/Time		(30) Receiver Comments	
James Suckel		6-24-97			

(18) Seal Intact Upon Release?		(31) Seal Intact Upon Receipt?		(32) Seal Data Consistent with this Record?	
☒ Yes	☐ No	☒ Yes	☐ No	☒ Yes	☐ No

DISTRIBUTION: White - Office of Sample Management Yellow - Recipient of Sample Pink - Core Sampling, 86-85 Goldenrod - Tank Farm Operations, S4-43 BC-6000-309 (02/94)

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

Jun. 26, 1997 1:08PM WHC 222S LAB ROOM 2F BACKSIDE No. 4347 P. 1/2

Shipment Number 200W-08-TF (2) Sample Number 205-01 (3) Supervisor M. S. Jones (8) Cask Serial Number C-1020
 Tank T-105 (5) Riser 3 (6) Segment 1 (7) Core 205

Radiation Survey Data:		(9) FIELD		(33) LABORATORY		(10) Shipment Description	
Over Top Dose Rate	<u>0.005 mSv</u>		<u>0.005 mSv/hr</u>	A. Work Package Number	<u>WS-97-00121</u>		
Side Dose Rate	<u>0.05 mSv</u>		<u>0.06 mSv/hr</u>	B. Cask Seal Number	<u>2455</u>		
Bottom Dose Rate	<u>0.025 mSv</u>		<u>0.03 mSv/hr</u>	C. Sampler Serial Number	<u>97-210</u>		
Smearable Contamination	<u>< 0.334 Bq</u>	(Alpha)	<u>< 0.334 Bq/LAW</u>	D. Date and Time Sampler Unseated	<u>6-24-97 0255</u>		
	<u>< 16.7 Bq</u>	(Beta-Gamma)	<u>< 16.7 Bq/LAW</u>	E. Expected Liquid Content	<u>90%</u>		
ACT* (HPT)	<u>[Signature]</u>	(Signature)	<u>[Signature]</u>	F. Expected Solid Content	<u>20%</u>		
ACT* (HPT)	<u>[Signature]</u>	(Signature)	<u>[Signature]</u>	G. Dose Rate Through Drill String	<u>150 mR/hr</u>		
				H. Expected Sample Length	<u>3"</u>		

1) INFORMATION (include statement of laboratory tests to be performed.)
 HNF-SD-WM-DP-265, REV. 0

(34) Laboratory Comments		(32) Seal Data Consistent with this Record?	
LIBR ADDED TO DRILL STRING		(31) Seal Intact Upon Receipt? ☒ Yes ☐ No (30) Seal Intact Upon Release? ☒ Yes ☐ No	
(14) Destination	(15) Sender Name (Sign and PRINT)	(16) Date/Time	(17) Sender Comments
<u>222-S</u>	<u>James Sickels</u>	<u>6-26-97</u>	
(23) Relinquished By (Sign and PRINT)	(24) Received By (Sign and PRINT)	(21) Date/Time	(22) Receiver Comments
<u>James Sickels</u>	<u>James Sickels</u>	<u>6-26-97</u>	
(25) Relinquished By (Sign and PRINT)	(26) Received By (Sign and PRINT)	(25) Date/Time	(26) Receiver Comments
<u>James Sickels</u>	<u>James Sickels</u>	<u>6-26-97</u>	
(27) Relinquished By (Sign and PRINT)	(28) Received By (Sign and PRINT)	(29) Date/Time	(30) Receiver Comments
<u>James Sickels</u>	<u>James Sickels</u>	<u>6-26-97</u>	

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

Jun. 26, 1997 1:09PM WHC 222S C22S LAB ROOM 2F BACKSIDE No. 4347 P. 2/2

Shipment Number 200W-08-7F	(2) Sample Number 205-02	(3) Supervisor M.L. Jones	(8) Cask Serial Number 22-6
Tank T-105	(5) Riser 3	(6) Segment 2	(7) Core 205

(9) FIELD		(33) LABORATORY	
Over Top Dose Rate 0.005 mSv		A. Work Package Number WS-97-00121	
Side Dose Rate 0.05 mSv		B. Cask Seal Number 2461	
Bottom Dose Rate 0.037 mSv		C. Sampler Serial Number 96-356	
Snearebar Contamination < 0.334 Bq	(Alpha)	D. Date and Time Sampler Unseated 6-26-97/0410	
< 16.7 Bq	(Beta-Gamma)	E. Expected Liquid Content 20%	
	(Beta-Gamma)	F. Expected Solid Content 80%	
RCT* (Signature) <i>[Signature]</i>		G. Dose Rate Through Drill String 220 MR/HR	
HPT* (Signature) <i>[Signature]</i>		H. Expected Sample Length 19"	

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

HNF-SD-WM-DP-265, REV. 0

31

2) Field Comments

(34) Laboratory Comments

(14) Destination 222-S	(15) Sender Name (Sign and PRINT) James Sickett	(16) Package 6-26-97	(17) Sender Comments
(18) Relinquished By (Sign and PRINT) James Sickett	(19) Received By (Sign and PRINT) James Sickett	(21) Date/Time 6-26-97	(22) Receiver Comments
(20) Relinquished By (Sign and PRINT) James Sickett	(21) Received By (Sign and PRINT) James Sickett	(23) Date/Time 6-26-97	(24) Receiver Comments
(22) Relinquished By (Sign and PRINT) James Sickett	(23) Received By (Sign and PRINT) James Sickett	(25) Date/Time 6-26-97	(26) Receiver Comments
(24) Relinquished By (Sign and PRINT) James Sickett	(25) Received By (Sign and PRINT) James Sickett	(27) Date/Time 6-26-97	(28) Receiver Comments

(31) Seal Intact Upon Receipt? ☒ Yes ☐ No	(32) Seal Data Consistent with this Record? ☒ Yes ☐ No	Cask Seal No. ☒ Yes ☐ No	Sample No. ☒ Yes ☐ No
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ATTENTION: White - Office of Sample Management Yellow - Recipient of Sample Pink - Core Sampling, 56-85 Goldenrod - Tank Farm Operations, 54-43 BC-6000-309 102/94

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

Shipment Number 200W-08-7F (2) Sample Number 207-1 (3) Supervisor R. French
 Tank T-105 (5) Riser 7 (6) Segment 1 (7) Core 207 (8) Cask Seal Number 71

Shipment Date: (9) FIELD (10) SHIPMENT DESCRIPTION

er Top Dose Rate <u><0.5 mS/hr 0.005 mS/hr</u>	(11) LABORATORY <u>Q205</u>	A. Work Package Number <u>105-97-00135</u>
le Dose Rate <u>6 mS/hr 0.02 mS/hr</u>	<u>Q205</u>	B. Cask Seal Number <u>1508</u>
Bottom Dose Rate <u>2 mS/hr 0.02 mS/hr</u>	<u>Q205</u>	C. Sampler Seal Number <u>97-219</u>
nearable Contamination <u>1 16.7 Bq</u>	<u>Q205</u> (Alpha)	D. Date and Time Sampler Unseated <u>6-27-97 / 2001</u>
ECT* (HPT) <u>[Signature]</u>	(Beta-Gamma)	E. Expected Liquid Content <u>no information on engineering sheet</u>
ECT* (HPT) <u>[Signature]</u>	(Signature)	F. Expected Solid Content <u>200 Bq</u>
		G. Dose Rate Through Drill String <u>72"</u>
		H. Expected Sample Length <u>72"</u>

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

HNF-SD-WM-DP-265, REV. 0

Field Comments
1500 mli Lithium Bromide added to drill string
in waste on bottom of sampler + dripping
liquid.
unsealed sample

(14) Destination
222's Labs.

(15) Sender/Name (Sign and PRINT)
James Sicked

(16) Receiver/Name (Sign and PRINT)
James Sicked

(17) Sender Comments

(18) Date/Time
7-1-97

(19) Receiver Comments

(20) Date/Time
7-1-97

(21) Sender Comments

(22) Receiver Comments

(23) Date/Time
7-1-97

(24) Sender Comments

(25) Receiver Comments

(26) Date/Time
7-1-97

(27) Sender Comments

(28) Receiver Comments

(29) Date/Time

(30) Sender Comments

(31) Receiver Comments

(32) Seal Data Consistent with this Record?

Shipment No. ☒ Yes ☐ No

Sample No. ☒ Yes ☐ No

EC-9000-309 (02/84)

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

Shipment Number 200W-00-7F (2) Sample Number 207-2 (3) Supervisor R. Lumbert
 Tonk T-105 (6) Riser 7 (6) Segment 2 (7) Core 207 (8) Cask Serial Number 56

(9) FIELD		(13) LABORATORY		(10) Shipment Description	
Top Dose Rate	1.05 mS/hr	0.005 mSv	50.5	A. Work Package Number	WS-97-00135/0
Middle Dose Rate	5 mS/hr	0.08 mSv	84.2	B. Cask Seal Number	1536
Bottom Dose Rate	4.7 mS/hr	0.047 mSv	4.7	C. Sampler Serial Number	97-220
Unrecoverable Contamination	< 0.334 Bq	(Alpha)	< 32 Y	D. Date and Time Sampler Unsealed	6-30-97/0825
	< 16.7 Bq	(Beta-Gamma)	< 16.7	E. Expected Liquid Content	44% NA - nothing written
		(Signature)		F. Expected Solid Content	cor. engineering about
RCPT* (HPT)		RCPT* (HPT)		G. Dose Rate Through Drill String	300 mR
		(Signature)		H. Expected Sample Length	18 1/2

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

HNF-SD-WM-DP-265, REV. 0

33

(14) Destination		(15) Sender Name (Sign and PRINT)		(134) Laboratory Comments		(16) Day/Time		(17) Sender Comments	
Point of Origin R-7	222S	Reinforced by Sign and PRINT	Reinforced by Sign and PRINT	S97T001026		7-1-97			
Relinquished by (Sign and PRINT)		Reinforced by (Sign and PRINT)	Reinforced by (Sign and PRINT)			7-1-97			
Relinquished by (Sign and PRINT)		Reinforced by (Sign and PRINT)	Reinforced by (Sign and PRINT)			7-1-97			
Relinquished by (Sign and PRINT)		Reinforced by (Sign and PRINT)	Reinforced by (Sign and PRINT)			7-1-97			

(31) Seal Intact Upon Receipt?

☒ Yes ☐ No

(32) Seal Data Consistent with this Receipt?

☒ Yes ☐ No

 Shipment No.
☒ Yes ☐ No

 Cask Seal No.
☒ Yes ☐ No

 Sample No.
☒ Yes ☐ No

HNF-SD-WM-DP-265, REV. 0

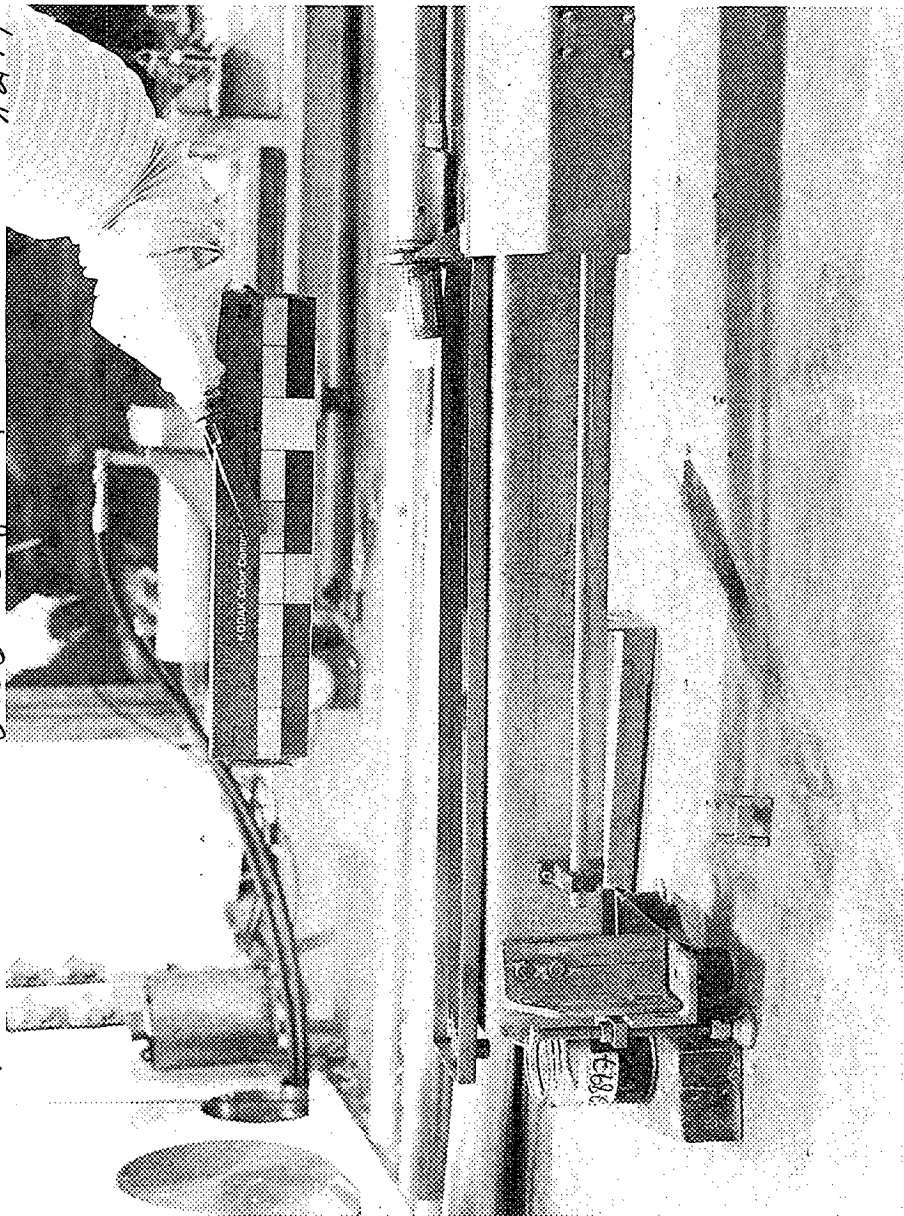
PHOTOGRAPHS

HNH-SD-WM-DP-265, REV. 0

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T 105 Core 205 Segment 1

7/2/97

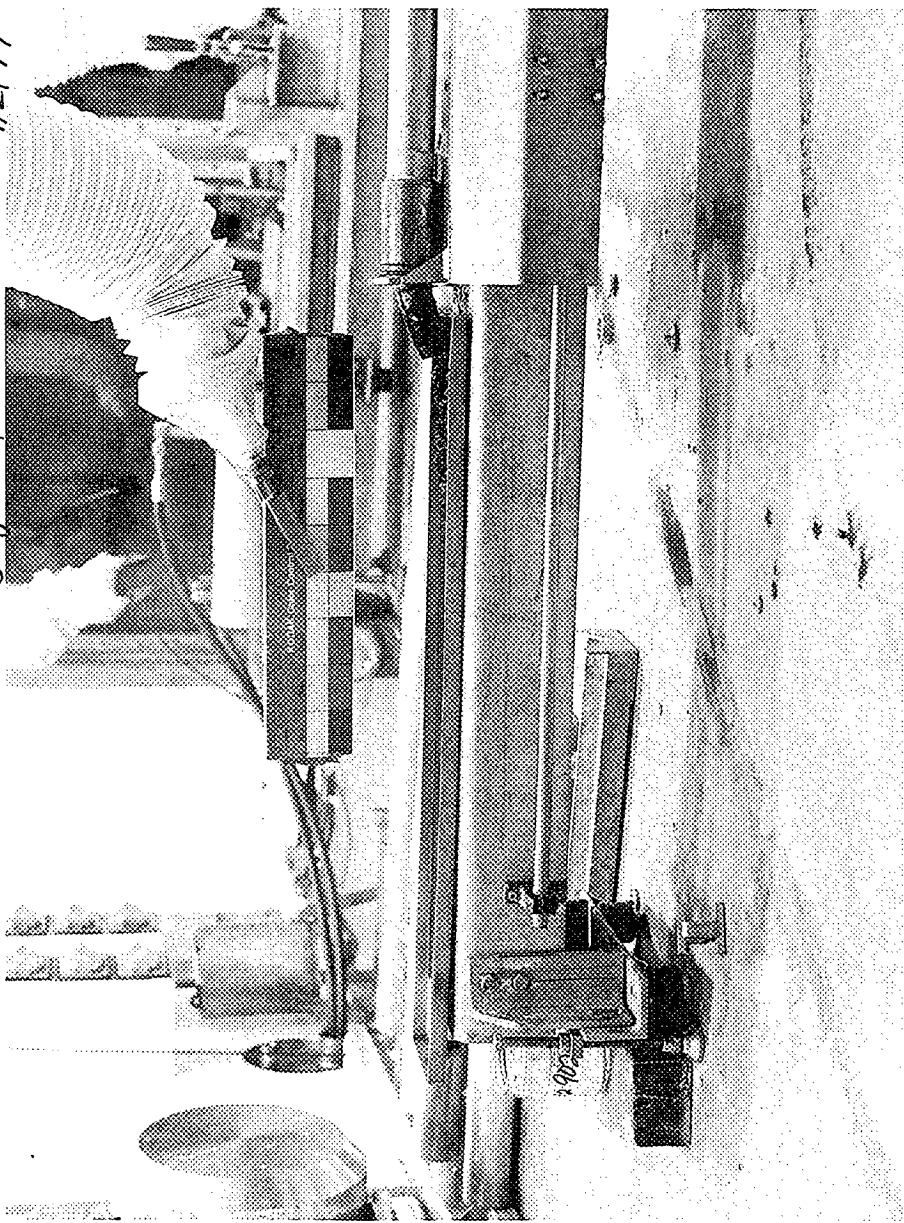


T-105

Core 205

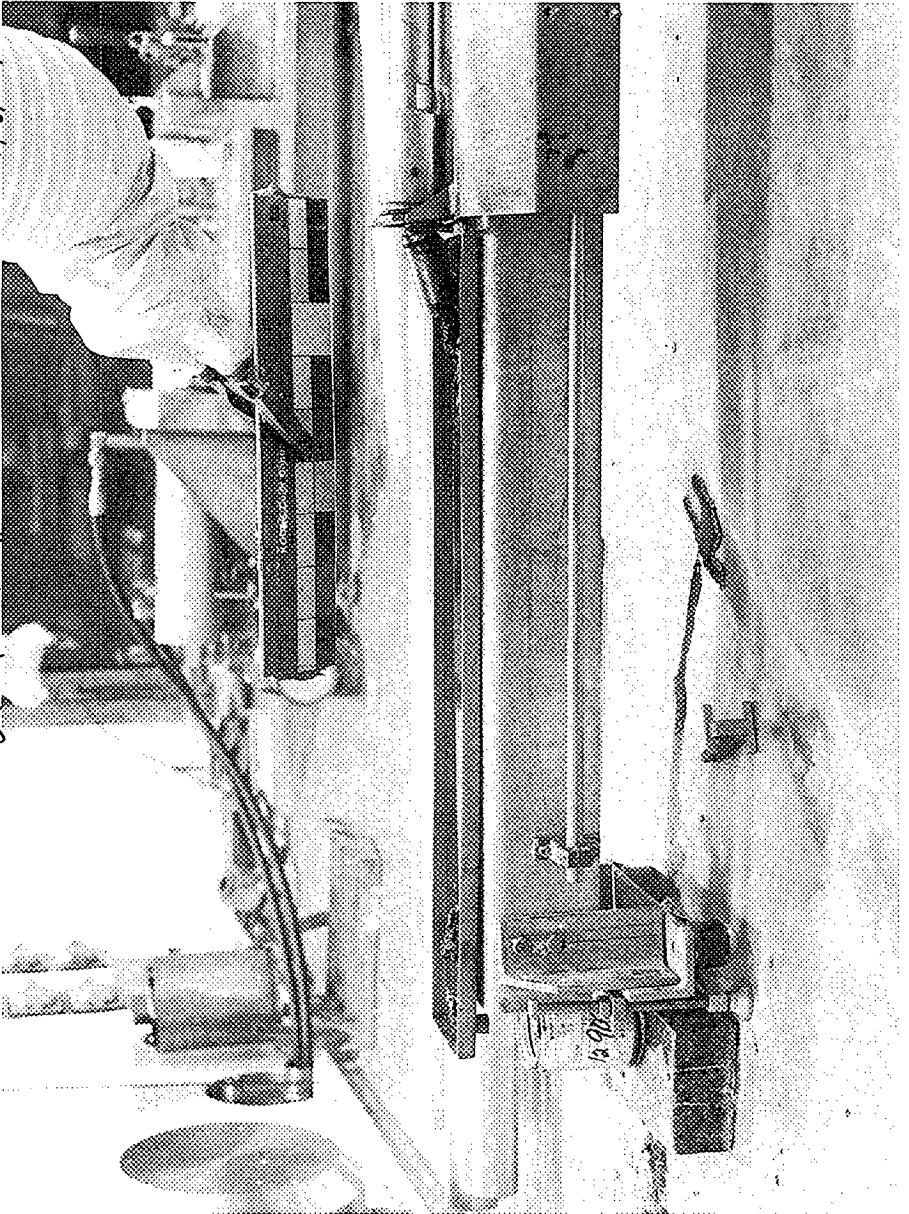
Segment 2

7/2/97



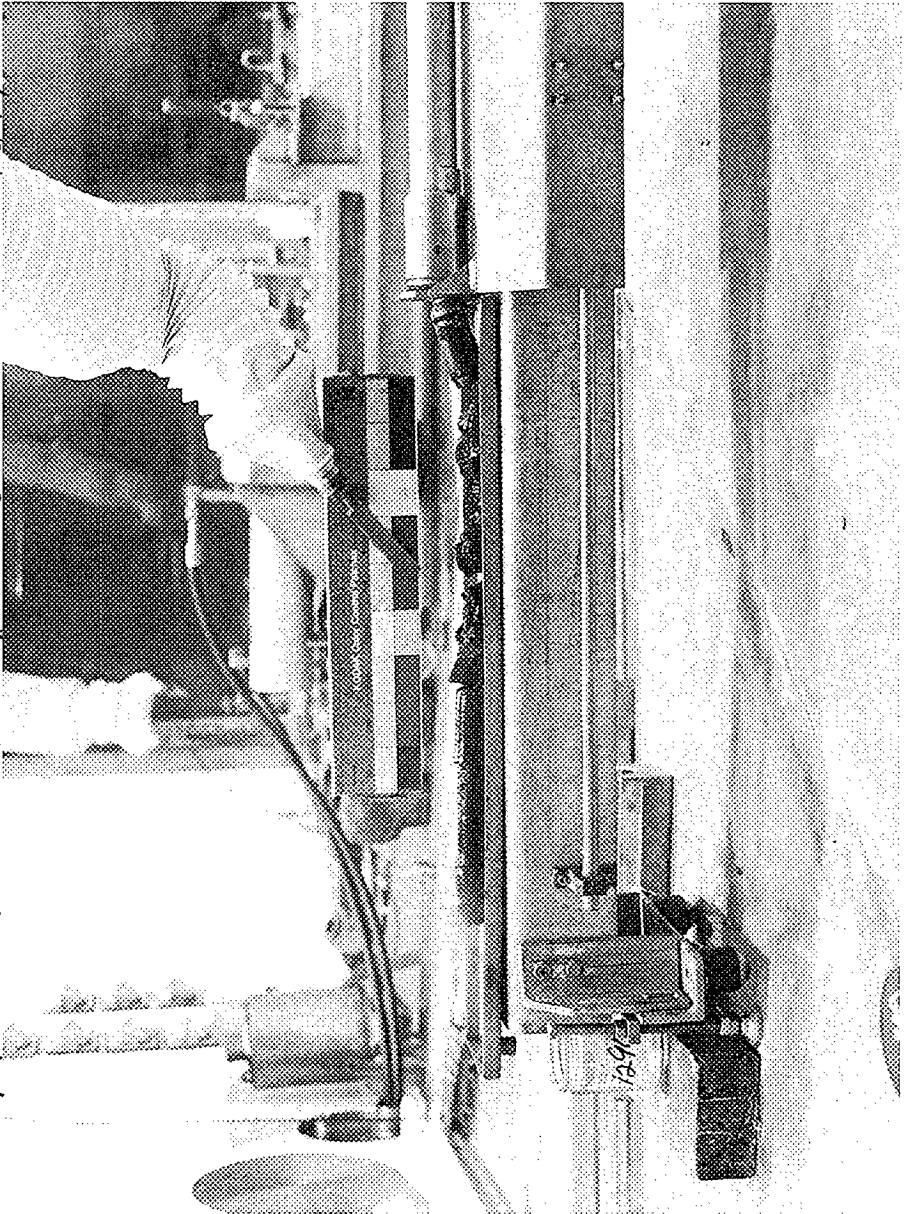
T-105 Core 207 Segment 1

7/8/99



F-105 Core 207 Segment 2

7/8/97



HNF-SD-WM-DP-265, REV. 0

SAMPLE HANDLING

HNF-SD-WM-DP-265, REV. 0

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worklist rpt Version 2.1 05/15/95
07/02/97 15:06

HNFS-SD-WM-DP-265, REV. 0

Page: 1

LABCORE Data Entry Template for Worklist# 18999

Analyst: EC

Instrument: BA000

Book # NA

Method: LO-160-103 Rev/Mod CO

Worklist Comment: T-105 C205 SEG # 1 RISER 3 EXTRUSION

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 INSTCHK01			EXTRUD01	SOLID	20	20.02	N/A	
		2 INSTCHK02			EXTRUD01	SOLID	500	500.13	N/A	
97000434	T-105	3 SAMPLE	S97T001533	0	DLIQV01	SOLID	N/A	260		ml
97000434	T-105	4 SAMPLE	S97T001533	0	DLIQWT01	SOLID	N/A	291.8		g
97000434	T-105	5 SAMPLE	S97T001533	0	EST.G/ML	SOLID	N/A	1.12		g/ml
97000434	T-105	6 SAMPLE	S97T001533	0	EXTRUD01	SOLID	N/A	complete		
97000434	T-105	7 SAMPLE	S97T001533	0	LLTQHT01	SOLID	N/A	25		g
97000434	T-105	8 SAMPLE	S97T001533	0	NOTEBOOK	SOLID	N/A	10-650		
97000434	T-105	9 SAMPLE	S97T001533	0	SLDVOL01	SOLID	N/A	NA		ml
97000434	T-105	10 SAMPLE	S97T001533	0	SLDWT-01	SOLID	N/A	0		g
97000434	T-105	11 SAMPLE	S97T001533	0	APPEAR01	SOLID	N/A	complete		
97000434	T-105	12 SAMPLE	S97T001533	0	ORGVOL01	SOLID	N/A	0		ml

Final page for worklist # 18999

Analyst Signature EC

Date 7-7-97

Analyst Signature GP Linsell

Date 7-10-97

Data Entry Comments:

Validated
7/14/97
RK Hall

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 Version 2.1 05/15/95
06/30/97 09:54

HNF-SD-WM-DP-265, REV. 0

Page: 1

LABCORE Data Entry Template for Worklist# 19000

Analyst: SL

Instrument: BA000

Book # NAMethod: LO-160-103 Rev/Mod C-0

Worklist Comment: T-105 C205 SEG # 2 RISER 3 EXTRUSION

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 INSTCHK01			EXTRUD01	SOLID	<u>20</u>	<u>2002</u>	N/A	
		2 INSTCHK02			EXTRUD01	SOLID	<u>500</u>	<u>500.13</u>	N/A	
97000434	T-105	3 SAMPLE	S97T001534	0	DLIQVOLT	SOLID	N/A	<u>35</u>		ml
97000434	T-105	4 SAMPLE	S97T001534	0	DLIQWT01	SOLID	N/A	<u>41.1</u>		g
97000434	T-105	5 SAMPLE	S97T001534	0	EST..G/ML	SOLID	N/A	<u>1.17</u>		g/ml
97000434	T-105	6 SAMPLE	S97T001534	0	EXTRUD01	SOLID	N/A	<u>complete</u>		
97000434	T-105	7 SAMPLE	S97T001534	0	LLIQWT01	SOLID	N/A	<u>81.0</u>		g
97000434	T-105	8 SAMPLE	S97T001534	0	NOTEBOOK	SOLID	N/A	<u>N-650</u>		
97000434	T-105	9 SAMPLE	S97T001534	0	SLDVOL01	SOLID	N/A	<u>NA</u>		ml
97000434	T-105	10 SAMPLE	S97T001534	0	SLOWT-01	SOLID	N/A	<u>81.6</u>		g
97000434	T-105	11 SAMPLE	S97T001534	0	APPEAR01	SOLID	N/A	<u>complete</u>		
97000434	T-105	12 SAMPLE	S97T001534	0	ORGVOL01	SOLID	N/A	<u>0</u>		ml

Final page for worklist # 19000

Analyst Signature SLDate 7/7/97Analyst Signature A. HurnDate 7/11/97

Data Entry Comments:

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

worklist rpt Version 2.1 05/15/95
07/08/97 08:34

HNF-SD-WM-DP-265, REV. 0

Page: 1

LABCORE Data Entry Template for Worklist# 19049

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

Worklist Comment: T-105 C207 Seg # 1 RISER 7 EXTRUSION

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 INSTCHK01			EXTRUD01	SOLID	<u>20.00</u>	<u>19.996</u>	<u>N/A</u>	
		2 INSTCHK02			EXTRUD01	SOLID	<u>500.00</u>	<u>500.12</u>	<u>N/A</u>	
97000435	T-105	3 SAMPLE	S97T001625	0	DLIGVOL1	SOLID	<u>N/A</u>	<u>160</u>		ml
97000435	T-105	4 SAMPLE	S97T001625	0	DLIGWT01	SOLID	<u>N/A</u>	<u>183.8</u>		g
97000435	T-105	5 SAMPLE	S97T001625	0	EST.G/ML	SOLID	<u>N/A</u>	<u>1.15</u>		g/ml
97000435	T-105	6 SAMPLE	S97T001625	0	EXTRUD01	SOLID	<u>N/A</u>	<u>Complete</u>		
97000435	T-105	7 SAMPLE	S97T001625	0	LLIGHT01	SOLID	<u>N/A</u>	<u>< 5</u>		g
97000435	T-105	8 SAMPLE	S97T001625	0	NOTEBOOK	SOLID	<u>N/A</u>	<u>HNF-N-650</u>		
97000435	T-105	9 SAMPLE	S97T001625	0	SLDVOL01	SOLID	<u>N/A</u>	<u>NA</u>		ml
97000435	T-105	10 SAMPLE	S97T001625	0	SLDWT-01	SOLID	<u>N/A</u>	<u>723</u>		g
97000435	T-105	11 SAMPLE	S97T001625	0	APPEAR01	SOLID	<u>N/A</u>	<u>Complete</u>		
97000435	T-105	12 SAMPLE	S97T001625	0	ORGVOL01	SOLID	<u>N/A</u>	<u>8</u>		ml

Final page for worklist # 19049

Analyst Signature Don B Campbell Date 7/8/97Analyst Signature Don B Campbell Date 7/8/97

Data Entry Comments:

Validated
7/14/97
BKH/elle

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-265, REV. 0

worklist: Version 2.1 05/15/95

07/08/97 08:35

Page: 1

LABCORE Data Entry Template for Worklist# 19050

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

Worklist Comment: T-105 C207 SEG # 2 RISER 7 EXTRUSION

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	INSTCHK01		EXTRUD01	SOLID	<u>2000</u>	<u>19.996</u>	<u>N/A</u>	
		2	INSTCHK02		EXTRUD01	SOLID	<u>500.00</u>	<u>500.12</u>	<u>N/A</u>	
97000435	T-105	3	SAMPLE	S97T001626	0	DLIQVOL1	SOLID	<u>N/A</u>	<u>0</u>	ml
97000435	T-105	4	SAMPLE	S97T001626	0	DLIQWT01	SOLID	<u>N/A</u>	<u>0</u>	g
97000435	T-105	5	SAMPLE	S97T001626	0	EST.G/ML	SOLID	<u>N/A</u>	<u>0</u>	g/mL
97000435	T-105	6	SAMPLE	S97T001626	0	EXTRUD01	SOLID	<u>N/A</u>	<u>Complete</u>	
97000435	T-105	7	SAMPLE	S97T001626	0	LLIQWT01	SOLID	<u>N/A</u>	<u>10.3</u>	g
97000435	T-105	8	SAMPLE	S97T001626	0	NOTEBOOK	SOLID	<u>N/A</u>	<u>N-650</u>	
97000435	T-105	9	SAMPLE	S97T001626	0	SLDVOL01	SOLID	<u>N/A</u>	<u>NA</u>	ml
97000435	T-105	10	SAMPLE	S97T001626	0	SLDWT-01	SOLID	<u>N/A</u>	<u>374.7</u>	g
97000435	T-105	11	SAMPLE	S97T001626	0	APPEAR01	SOLID	<u>N/A</u>	<u>Complete</u>	
97000435	T-105	12	SAMPLE	S97T001626	0	ORGVOL01	SOLID	<u>N/A</u>	<u>0</u>	ml

Final page for worklist # 19050

Alan B Campbell 7-10-97
Analyst Signature Date

G. Hanson 7/11/97
Analyst Signature Date

Validated
7/14/97
RKH

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-265, REV. 0

SAMPLE PREPARATIONS

HNF-SD-WM-DP-265, REV. 0

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LABCORE Data Entry Template for Worklist# 19214

Analyst: SLH Instrument: FUS01 Book # NA

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

Worklist Comment: T105, FUSION01 skm

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			FUSION01	SOLID	<u>1</u>	<u>2.500</u>	<u>N/A</u>	<u>g/L</u>
97000434	T-105	2 SAMPLE	S97T001686	0 F	FUSION01	SOLID	<u>N/A</u>	<u>2.024</u>		<u>g/L</u>
		<i>0.5060g → 0.5082g → 0.250L</i>								
97000434	T-105	3 SAMPLE	S97T001686	0 F	DOSE-02	SOLID	<u>N/A</u>	<u>170</u>		<u>mrad/hour</u>
		<i>2.51-97</i>								
97000434	T-105	4 DUP	S97T001686	0 F	FUSION01	SOLID	<u>2.024</u>	<u>2.033</u>	<u>N/A</u>	<u>g/L</u>
		<i>0.5082g → 0.250L</i>								
97000434	T-105	5 DUP	S97T001686	0 F	DOSE-02	SOLID	<u>170</u>	<u>170</u>	<u>N/A</u>	<u>mrad/hour</u>
97000435	T-105	6 SAMPLE	S97T001698	0 F	FUSION01	SOLID	<u>N/A</u>	<u>2.020</u>		<u>g/L</u>
		<i>0.5051g → 0.250L</i>								
97000435	T-105	7 SAMPLE	S97T001698	0 F	DOSE-02	SOLID	<u>N/A</u>	<u>150</u>		<u>mrad/hour</u>
97000435	T-105	8 DUP	S97T001698	0 F	FUSION01	SOLID	<u>2.020</u>	<u>1.996</u>	<u>N/A</u>	<u>g/L</u>
		<i>0.4970g → 0.250L</i>								
97000435	T-105	9 DUP	S97T001698	0 F	DOSE-02	SOLID	<u>150</u>	<u>150</u>	<u>N/A</u>	<u>mrad/hour</u>
97000435	T-105	10 SAMPLE	S97T001704	0 F	FUSION01	SOLID	<u>N/A</u>	<u>1.966</u>		<u>g/L</u>
		<i>0.4916g → 0.250L</i>								
97000435	T-105	11 SAMPLE	S97T001704	0 F	DOSE-02	SOLID	<u>N/A</u>	<u>25</u>		<u>mrad/hour</u>
97000435	T-105	12 DUP	S97T001704	0 F	FUSION01	SOLID	<u>1.966</u>	<u>1.977</u>	<u>N/A</u>	<u>g/L</u>
		<i>0.4943g → 0.250L</i>								
97000435	T-105	13 DUP	S97T001704	0 F	DOSE-02	SOLID	<u>25</u>	<u>25</u>	<u>N/A</u>	<u>mrad/hour</u>
97000435	T-105	14 SAMPLE	S97T001711	0 F	FUSION01	SOLID	<u>N/A</u>	<u>2.012</u>		<u>g/L</u>
		<i>0.5030g → 0.250L</i>								
97000435	T-105	15 SAMPLE	S97T001711	0 F	DOSE-02	SOLID	<u>N/A</u>	<u>150</u>		<u>mrad/hour</u>
97000435	T-105	16 DUP	S97T001711	0 F	FUSION01	SOLID	<u>2.012</u>	<u>2.010</u>	<u>N/A</u>	<u>g/L</u>
		<i>0.5025g → 0.250L</i>								
97000435	T-105	17 DUP	S97T001711	0 F	DOSE-02	SOLID	<u>150</u>	<u>150</u>	<u>N/A</u>	<u>mrad/hour</u>

Sandra Ethel Boatright
8-1-97

Data Entry Comments:

Samples weighed by SM Felton

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.

<i>[Signature]</i>	8-2-97
REVIEWER SIGNATURE	DATE

LABCORE Data Entry Template for Worklist# 19216

Analyst: SLH Instrument: H2O01 Book # NA

Method: LA-504-101 Rev/Mod _____

Worklist Comment: T105, H2ODIG01 skm

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			H2ODIG01	SOLID	<u>1</u>	<u>.100L</u>	<u>N/A</u>	g/L
97000434	T-105	2 SAMPLE	S97T001688	0	W	H2ODIG01	SOLID	<u>N/A</u>	<u>4.964</u>	g/L
		<u>0.4964g</u> → <u>.100L</u>								
97000434	T-105	3 SAMPLE	S97T001688	0	W	DOSE-02	SOLID	<u>N/A</u>	<u>15</u>	mrad/hour
97000434	T-105	4 DUP	S97T001688	0	W	H2ODIG01	SOLID	<u>4.964</u>	<u>4.939</u>	<u>N/A</u> g/L
		<u>0.4934g</u> → <u>.100L</u>								
97000434	T-105	5 DUP	S97T001688	0	W	DOSE-02	SOLID	<u>15</u>	<u>15</u>	<u>N/A</u> mrad/hour
97000435	T-105	6 SAMPLE	S97T001700	0	W	H2ODIG01	SOLID	<u>N/A</u>	<u>4.968</u>	g/L
		<u>0.4968g</u> → <u>.100L</u>								
97000435	T-105	7 SAMPLE	S97T001700	0	W	DOSE-02	SOLID	<u>N/A</u>	<u>20</u>	mrad/hour
97000435	T-105	8 DUP	S97T001700	0	W	H2ODIG01	SOLID	<u>4.968</u>	<u>5.047</u>	<u>N/A</u> g/L
		<u>0.5047g</u> → <u>.100L</u>								
97000435	T-105	9 DUP	S97T001700	0	W	DOSE-02	SOLID	<u>20</u>	<u>15</u>	<u>N/A</u> mrad/hour

Final page for worklist # 19216

Sandra Hild Bratright
Analyst Signature Date

Susan Bee 8/02/97
Analyst Signature Date

SLH 8-2-97
REVIEWER SIGNATURE DATE

Data Entry Comments:
Samples weighed by Bratright

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# 19217

Analyst: SLH Instrument: H2001 Book # NA

Method: LA-504-101 Rev/Mod _____

Worklist Comment: T105, H2ODIG01 skm

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			H2ODIG01	SOLID	<u>1</u>	<u>1000</u>	<u>N/A</u>	g/L
97000435	T-105	2 SAMPLE	S97T001706	0 W	H2ODIG01	SOLID	<u>N/A</u>	<u>5061</u>		g/L
97000435	T-105	3 SAMPLE	S97T001706	0 W	DOSE-02	SOLID	<u>N/A</u>	<u>10</u>		mrad/hour
97000435	T-105	4 DUP	S97T001706	0 W	H2ODIG01	SOLID	<u>5.061</u>	<u>5.050</u>	<u>N/A</u>	g/L
97000435	T-105	5 DUP	S97T001706	0 W	DOSE-02	SOLID	<u>10</u>	<u>10</u>	<u>N/A</u>	mrad/hour
97000435	T-105	6 SAMPLE	S97T001713	0 W	H2ODIG01	SOLID	<u>N/A</u>	<u>4.951</u>		g/L
97000435	T-105	7 SAMPLE	S97T001713	0 W	DOSE-02	SOLID	<u>N/A</u>	<u>10</u>		mrad/hour
97000435	T-105	8 DUP	S97T001713	0 W	H2ODIG01	SOLID	<u>4.951</u>	<u>5.008</u>	<u>N/A</u>	g/L
97000435	T-105	9 DUP	S97T001713	0 W	DOSE-02	SOLID	<u>10</u>	<u>10</u>	<u>N/A</u>	mrad/hour

Final page for worklist # 19217

Sandra L. Ford Boatright
Analyst Signature Date

Susan Bee 8/02/97
Analyst Signature Date

[Signature] 8-2-97
REVIEWER SIGNATURE DATE

Data Entry Comments:
Samples Weighed by Saulton.

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# 20130

Analyst: ADP Instrument: H2O01 Book # N/AMethod: LA-504-101 Rev/Mod F.O.

Worklist Comment: T105, H2ODIG01 skm

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			H2ODIG01	SOLID	<u>1</u>	<u>0.100</u>	<u>N/A</u>	g/L
97000434	T-105	2 SAMPLE .6557 → .1008	S97T002008 0 W		H2ODIG01	SOLID	<u>N/A</u>	<u>6.557</u>		g/L
97000434	T-105	3 SAMPLE	S97T002008 0 W		DOSE-02	SOLID	<u>N/A</u>	<u><.1</u>		mrad/hour
97000434	T-105	4 DUP .2468 → .1008	S97T002008 0 W		H2ODIG01	SOLID	<u>6.557</u>	<u>2.468</u>	<u>N/A</u>	g/L
97000434	T-105	5 DUP	S97T002008 0 W		DOSE-02	SOLID	<u><.1</u>	<u><.1</u>	<u>N/A</u>	mrad/hour
97000434	T-105	6 SAMPLE .4362 → .1008	S97T002017 0 W		H2ODIG01	SOLID	<u>N/A</u>	<u>4.362</u>		g/L
97000434	T-105	7 SAMPLE	S97T002017 0 W		DOSE-02	SOLID	<u>N/A</u>	<u>1.5</u>		mrad/hour
97000434	T-105	8 DUP .3026 → .1008	S97T002017 0 W		H2ODIG01	SOLID	<u>4.362</u>	<u>3.026</u>	<u>N/A</u>	g/L
97000434	T-105	9 DUP	S97T002017 0 W		DOSE-02	SOLID	<u>1.5</u>	<u>1.0</u>	<u>N/A</u>	mrad/hour

Final page for worklist # 20130

Handed for AD Purinton
09-08-97
 Analyst Signature _____ Date _____

AD Jones
9-9-97
 Analyst Signature _____ Date _____

This sample consists of small hard pieces of material including some clear crystals. Please try to take only the clear crystals. Be aware that the customer was informed & that duplicate analyses will not matter due to difficulty in subsampling, therefore do not be highly concerned if equal sample sizes cannot be obtained. SKM
 Contact Ruth Esch before starting. SKM

Data Entry Comments:

HPT Joe Valdez

Validated by
JK Fuller 9/9/97

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

Parent *Daughter*
 S97T002006 → S97T002008
 S97T002015 → S97T002017

worklistpi Version 2.1 05/15/95
07/09/97 14:10

LABCORE Data Entry Template for Worklist# 19215

Analyst: R Sato Instrument: ACD01 Book # WHC-1A } 2.5 ml each to 30 ml
WHC-2 } final volume

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

Worklist Comment: T105, ACIDIG01 skm

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			ACIDIG01	SOLID	<u>201</u>	<u>20.050</u>	<u>N/A</u>	<u>g/L</u>
		2 STD-PREP			ACIDIG01	SOLID	<u>120</u>	<u>5020</u>	<u>N/A</u>	<u>g/L</u>
97000434	T-105	3 SAMPLE	S97T001687	0 A	ACIDIG01	SOLID	<u>N/A</u>	<u>6.914</u>	<u>N/A</u>	<u>g/L</u>
		<u>0.3457g</u> → <u>0.050L</u>								
97000434	T-105	4 SAMPLE	S97T001687	0 A	DOSE-02	SOLID	<u>N/A</u>	<u>250</u>	<u>N/A</u>	<u>mrad/hour</u>
97000434	T-105	5 DUP	S97T001687	0 A	ACIDIG01	SOLID	<u>6.914</u>	<u>6.860</u>	<u>N/A</u>	<u>g/L</u>
		<u>0.3430g</u> → <u>0.050L</u>								
97000434	T-105	6 DUP	S97T001687	0 A	DOSE-02	SOLID	<u>250</u>	<u>250</u>	<u>N/A</u>	<u>mrad/hour</u>
97000434	T-105	7 SPK	S97T001687	0 A	ACIDIG01	SOLID	<u>N/A</u>	<u>6.856</u>	<u>N/A</u>	<u>g/L</u> *
		<u>0.3428g</u> → <u>0.050L</u>								
97000434	T-105	8 SPK	S97T001687	0 A	DOSE-02	SOLID	<u>N/A</u>	<u>250</u>	<u>N/A</u>	<u>mrad/hour</u>
97000435	T-105	9 SAMPLE	S97T001699	0 A	ACIDIG01	SOLID	<u>N/A</u>	<u>6.956</u>	<u>N/A</u>	<u>g/L</u>
		<u>0.3478g</u> → <u>0.050L</u>								
97000435	T-105	10 SAMPLE	S97T001699	0 A	DOSE-02	SOLID	<u>N/A</u>	<u>250</u>	<u>N/A</u>	<u>mrad/hour</u>
97000435	T-105	11 DUP	S97T001699	0 A	ACIDIG01	SOLID	<u>6.956</u>	<u>6.918</u>	<u>N/A</u>	<u>g/L</u>
		<u>0.3459g</u> → <u>0.050L</u>								
97000435	T-105	12 DUP	S97T001699	0 A	DOSE-02	SOLID	<u>250</u>	<u>250</u>	<u>N/A</u>	<u>mrad/hour</u>
97000435	T-105	13 SAMPLE	S97T001705	0 A	ACIDIG01	SOLID	<u>N/A</u>	<u>7.008</u>	<u>N/A</u>	<u>g/L</u>
		<u>0.3504g</u> → <u>0.050L</u>								
97000435	T-105	14 SAMPLE	S97T001705	0	DOSE-02	SOLID	<u>N/A</u>	<u>30</u>	<u>N/A</u>	<u>mrad/hour</u>
97000435	T-105	15 DUP	S97T001705	0 A	ACIDIG01	SOLID	<u>7.008</u>	<u>6.978</u>	<u>N/A</u>	<u>g/L</u>
		<u>0.3489g</u> → <u>0.050L</u>								
97000435	T-105	16 DUP	S97T001705	0	DOSE-02	SOLID	<u>30</u>	<u>30</u>	<u>N/A</u>	<u>mrad/hour</u>
97000435	T-105	17 SPK	S97T001705	0 A	ACIDIG01	SOLID	<u>N/A</u>	<u>6.988</u>	<u>N/A</u>	<u>g/L</u> *
		<u>0.3494g</u> → <u>0.050L</u>								
97000435	T-105	18 SPK	S97T001705	0	DOSE-02	SOLID	<u>N/A</u>	<u>20</u>	<u>N/A</u>	<u>mrad/hour</u>

Data Entry Comments:

Samples weighed by S. Hultgren.

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
07/09/97 14:10

Page: 2

LABCORE Data Entry Template for Worklist# 19215

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
97000435	T-105	19 SAMPLE	S97T001712	0 A	ACIDIG01	SOLID	N/A	7.020		g/L
		0.3510g → 0.0501								
97000435	T-105	20 SAMPLE	S97T001712	0 A	DOSE-02	SOLID	N/A	200		mrads/hour
97000435	T-105	21 DUP	S97T001712	0 A	ACIDIG01	SOLID	7.020	7.058	N/A	g/L
		0.3529g → 0.0501								
97000435	T-105	22 DUP	S97T001712	0 A	DOSE-02	SOLID	200	200	N/A	mrads/hour

Final page for worklist # 19215

JK *[Signature]* 08-01-97
 Analyst Signature Date

[Signature] 8/01/97
 Analyst Signature Date

* Spikes - 2.5 ml each 6HC10+2 in 50 ml

[Signature] 8-29-97
 REVIEWER 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# 20129

Analyst: NR Instrument: ACD01 Book # WHC-1A ^{RR 9/5/97} → 2.5ml
Method: LA-505-159 Rev/Mold A-0
LA-505-163 T105 ^{RR 9/2/97} → 2.5ml
Worklist Comment: T205, ACIDIG03 skm

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			ACIDIG03	SOLID	<u>1</u>	<u>.050</u>	N/A	g/L
		2 STD-PREP			ACIDIG03	SOLID	<u>20</u>	<u>2.0</u>	N/A	g/L ^{RR 9/5/97} <u>→ 2.5ml</u>
97000434	T-105	3 SAMPLE	S97T002007 0 A		ACIDIG03	SOLID	N/A	<u>10.200</u>		g/L
97000434	T-105	4 SAMPLE	S97T002007 0 A		DOSE-02	SOLID	N/A	<u>4.5</u>		mmrad/hour
97000434	T-105	5 DUP	S97T002007 0 A		ACIDIG03	SOLID	<u>10.200</u>	<u>6.352</u>	N/A	g/L
97000434	T-105	6 DUP	S97T002007 0 A		DOSE-02	SOLID	<u>4.5</u>	<u>4.5</u>	N/A	mmrad/hour
97000434	T-105	7 SPK	S97T002007 0 A		ACIDIG03	SOLID	<u>NA</u>	<u>5.010</u>	N/A	g/L
97000434	T-105	8 SPK	S97T002007 0 A		DOSE-02	SOLID	<u>4.5</u>	<u>4.5</u>	N/A	mmrad/hour
97000434	T-105	9 SAMPLE	S97T002016 0 A		ACIDIG03	SOLID	N/A	<u>4.834</u>		g/L
97000434	T-105	10 SAMPLE	S97T002016 0 A		DOSE-02	SOLID	N/A	<u>5</u>		mmrad/hour
97000434	T-105	11 DUP	S97T002016 0 A		ACIDIG03	SOLID	<u>4.834</u>	<u>6.430</u>	N/A	g/L
97000434	T-105	12 DUP	S97T002016 0 A		DOSE-02	SOLID	<u>5</u>	<u>5</u>	N/A	mmrad/hour
97000434	T-105	13 SPK	S97T002016 0 A		ACIDIG03	SOLID	<u>NA</u>	<u>6.076</u>	N/A	g/L
97000434	T-105	14 SPK	S97T002016 0 A		DOSE-02	SOLID	<u>NA</u>	<u>5</u>	N/A	mmrad/hour

Final page for worklist # 20129

Analyst Signature RR Date 9/7/97 Analyst Signature Susan Bee Date 9/07/97

Data Entry Comments: Parrot Daughen
S97T002006 → S97T002007
S97T002015 → S97T002016 ^{9/1/97} ^{RR}
Filled S97T002016, DAP, spike with whatman # 41 filter paper
S97T002016, DAP had left over undissolved sample chunks
Used 2.5ml of WHC-1A-WHC-2 for std + spikes

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.

This sample consists of small hard pieces of material including some clear crystals. Please try to take only the clear crystals. Be aware that the customer was informed & that duplicate analyses will not match due to difficulty in subsampling, therefore ^{see 9/2/97} ~~analyses~~ do not be highly concerned if equal sample size cannot be obtained. SKM
Contact Ruth Esch before starting. SKM 54
Validated on 9/18/97 RR Fuller

HNF-SD-WM-DP-265, REV. 0

BULK DENSITY WORKSHEETS

HNF-SD-WM-DP-265, REV. 0

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Bulk Density Worksheet

Requestor: L. Esch

Date: 7-14-97

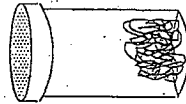
Tank: T-105

Core: 205

Seg: 2 LH (Settled Solids)

Auger:

Sample ID: DP 678-597001685



Start Time:
End Time: 10:41
Homogenization Time (Min.):

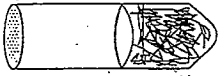
Jar#: 13045

Jar/Vial Size: mL

Initial Weight: g

Final Weight: g

Net Weight: g



Cone#: 45

Final Vol: 6.5 mL

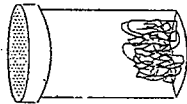
Initial Weight: 7.65 g

Final Weight: 16.38 g

Net Weight: 8.73 g

Sample ID:

Appearance/Narrative:



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

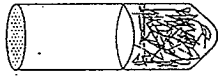
Jar#:

Jar/Vial Size: mL

Initial Weight: g

Final Weight: g

Net Weight: g



Cone#:

Final Vol: mL

Initial Weight: g

Final Weight: g

Net Weight: g

Sample ID:

Appearance/Narrative:

Bulk Den = 8.23/6.5 = 1.34 g/mL

1 mL of Liquid

Bulk Density Worksheet

Requestor: R. Esch

Date: 7-11-97

Tank: T-105

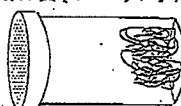
Core: 207

Seg: 1 LH

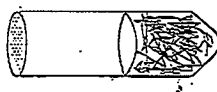
Auger: ---

Sample ID: 5477001695

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



Jar#: 11905 mL
Jar/Vial Size: _____ mL
Initial Weight: _____ g
Final Weight: _____ g
Net Weight: _____ g



Cone#: 05
Final Vol: 10.4 mL
Initial Weight: 7.65 g
Final Weight: 21.35 g
Net Weight: 13.70 g

Sample ID: _____

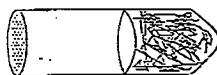
Appearance/Narrative: _____

Bulk Density = 13.70 / 10.4 = 1.32 g/mL

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



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



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

Sample ID: _____

Appearance/Narrative: _____

Bulk Density Worksheet

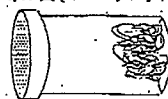
Date: 7-16-97Requestor: P-EscK

Tank: F-105
 Core: 207
 Seg: 24H
 Auger: —
 Sample ID: 5977601702



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

Jar#: 12702
 Jar/Vial Size: _____ mL
 Initial Weight: _____ g
 Final Weight: 0.7 g
 Net Weight: 416.8 g



Cone#: 03
 Final Vol: 15.0 mL
 Initial Weight: 2.22 g
 Final Weight: 20.64 g
 Net Weight: 22.92 g

Sample ID: _____

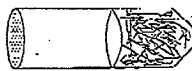
Appearance/Narrative:

AKDEN05 = 22.92g / 15.0mL = 1.53g/mL

Tank: F-105
 Core: 207
 Seg: 24H
 Auger: —
 Sample ID: 5977601708

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

Jar#: 12599
 Jar/Vial Size: _____ mL
 Initial Weight: _____ g
 Final Weight: 15.0 g
 Net Weight: 87-16-97 g



Cone#: 99
 Final Vol: 13.5 mL
 Initial Weight: 7.75 g
 Final Weight: 27.84 g
 Net Weight: 20.09 g

Sample ID: _____

Appearance/Narrative:

AKDEN01 = 20.09g / 13.5mL = 1.49g/mL

HNF-SD-WM-DP-265, REV. 0

INORGAINC ANALYSIS

HNH-SD-WM-DP-265, REV. 0

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LABCORE Data Entry Template for Worklist# 18956

Analyst: Rom Instrument: DSC0 3 Book # 12V14B

Method: LA-514-114 Rev/Mod 0-1

Worklist Comment: T-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> 24.85	<u>28.81</u> 28.81	<u>N/A</u>	Joules/g
97000434	T-105	2 SAMPLE	S97T001505	0	DSC-03	LIQUID	<u>N/A</u>	<u>0</u>		Joules/g
97000434	T-105	3 DUP	S97T001505	0	DSC-03	LIQUID	<u>0</u>	<u>0</u>	<u>N/A</u>	Joules/g

Final page for worklist # 18956

Rom 8/12/97
Analyst Signature Date

SLP 8-14-97
Analyst Signature Date

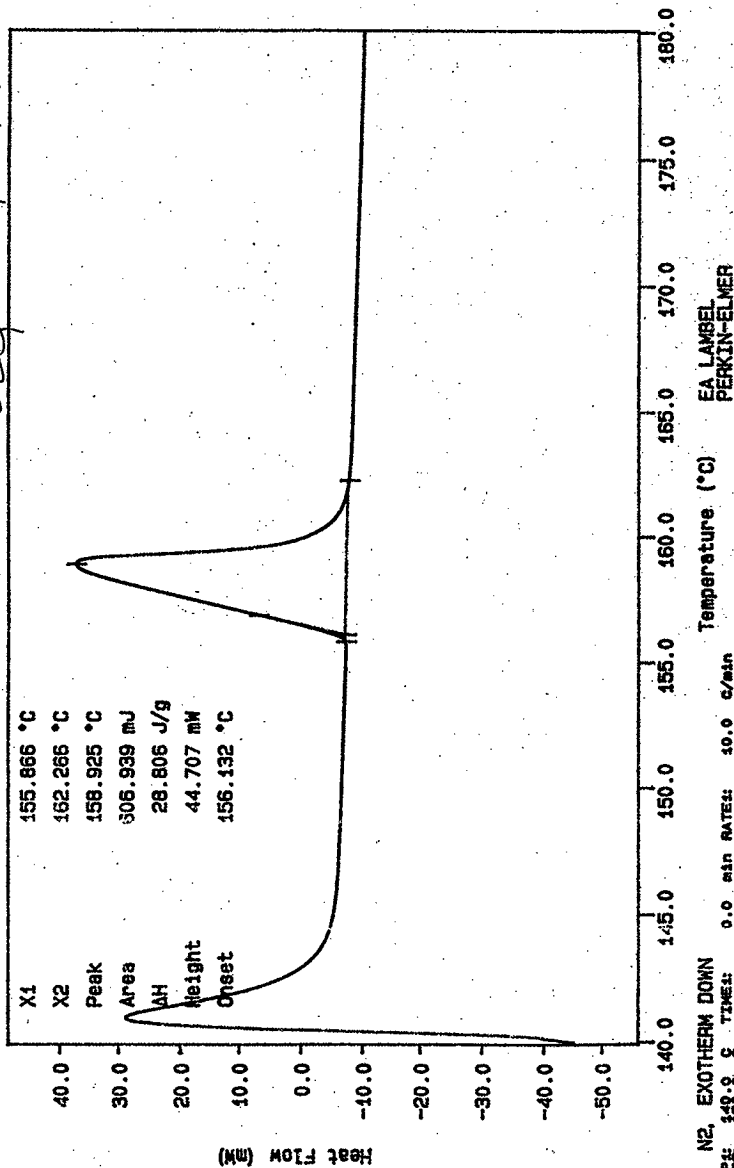
Data Entry Comments:

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.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 163 TO 165

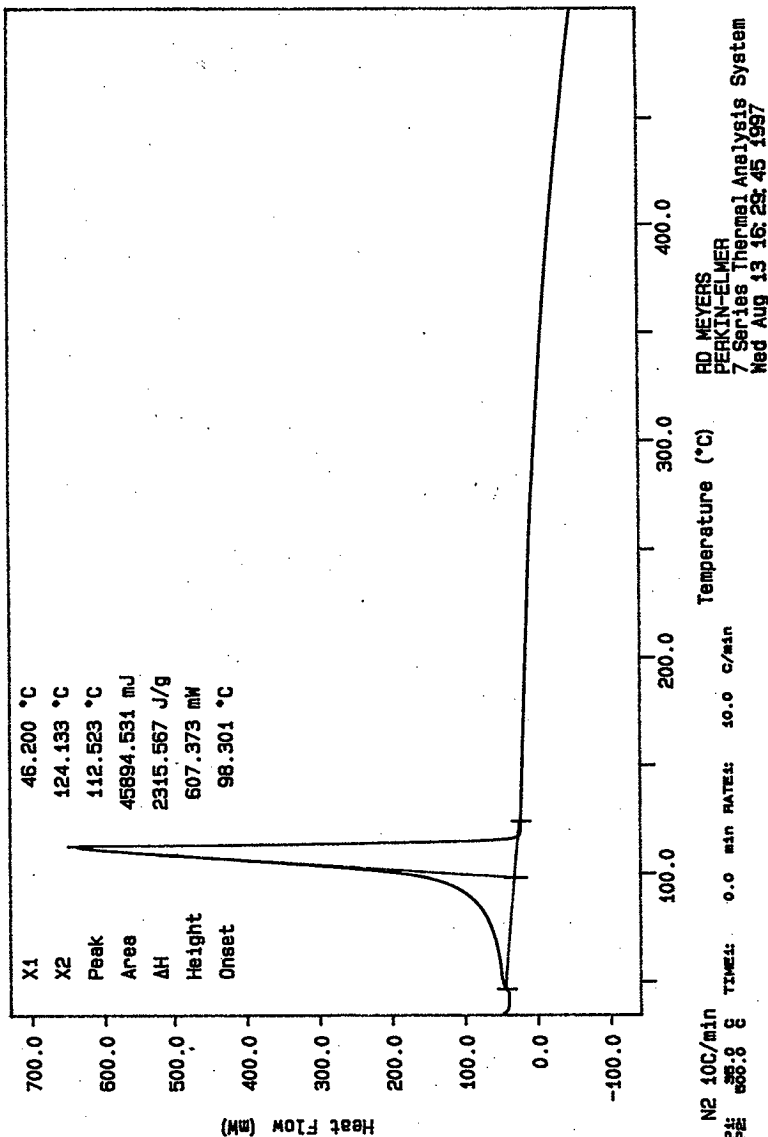
EA Lambel 08/11/97

Curve 1: DSC
File info: IND081101 Mon Aug 11 08:29:59 1997
Sample Weight: 21.070 mg
12N14-B

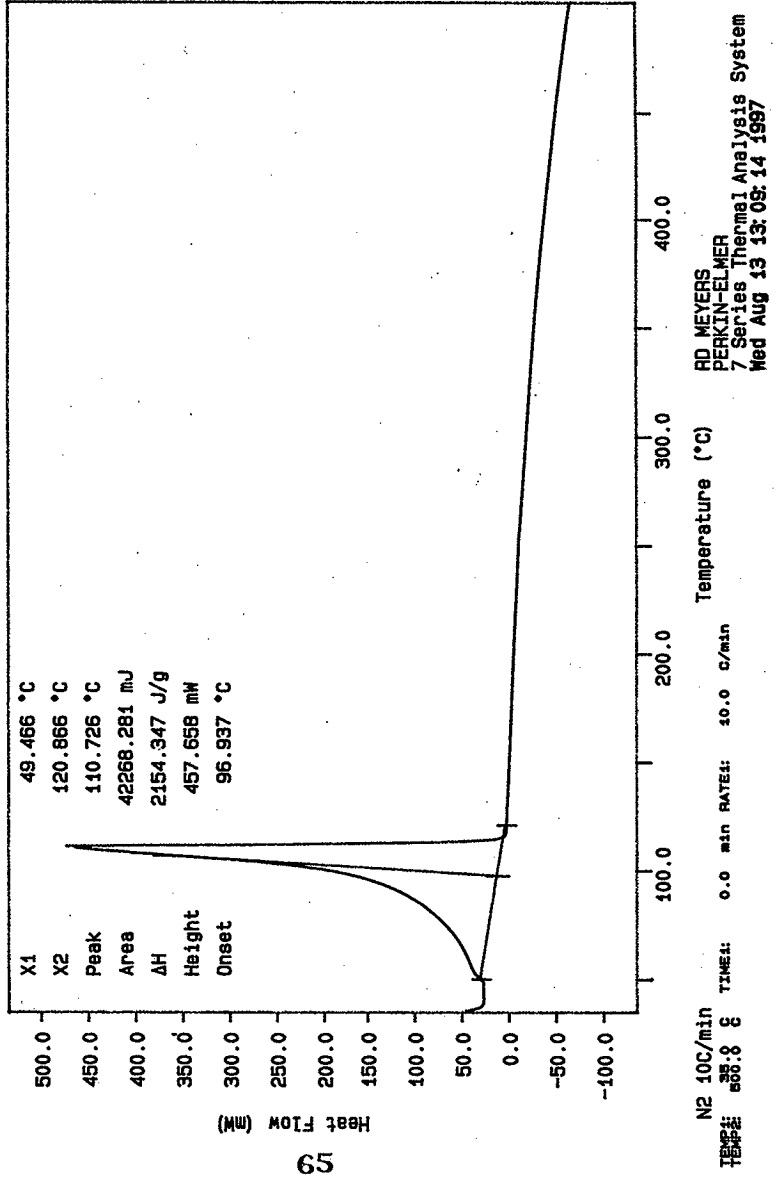


EA LAMBEL
PERKIN-ELMER
7 Series Thermal Analysis System
Mon Aug 11 11:21:20 1997

Curve 1: DSC
 File Info: SAM081111 Mon Aug 11 23:46:55 1997
 Sample Weight: 19.820 mg
 S97T001505



Curve 1: DSC
 File Info: SAM081112 Tue Aug 12 00: 41: 41 1997
 Sample Weight: 19.620 mg
 S97T001505DUP



LABCORE Data Entry Template for Worklist# 19359

Analyst: Blue Instrument: DSC0 3 Book # 12014B

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

Worklist Comment: T-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>28.79</u>	<u>N/A</u>	Joules/g
97000434	T-105	2 SAMPLE	S97T001675	0	DSC-03	LIQUID	<u>N/A</u>	<u>0</u>		Joules/g
97000434	T-105	3 DUP	S97T001675	0	DSC-03	LIQUID	<u>0</u>	<u>0</u>	<u>N/A</u>	Joules/g
97000434	T-105	4 SAMPLE	S97T001679	0	DSC-03	LIQUID	<u>N/A</u>	<u>0</u>		Joules/g
97000434	T-105	5 DUP	S97T001679	0	DSC-03	LIQUID	<u>0</u>	<u>0</u>	<u>N/A</u>	Joules/g

Final page for worklist # 19359

Blue 8/10/97
Analyst Signature Date

John Hemmuth 8-11-97
Analyst Signature Date

Validated 8/14/97 Blue

Data Entry Comments:

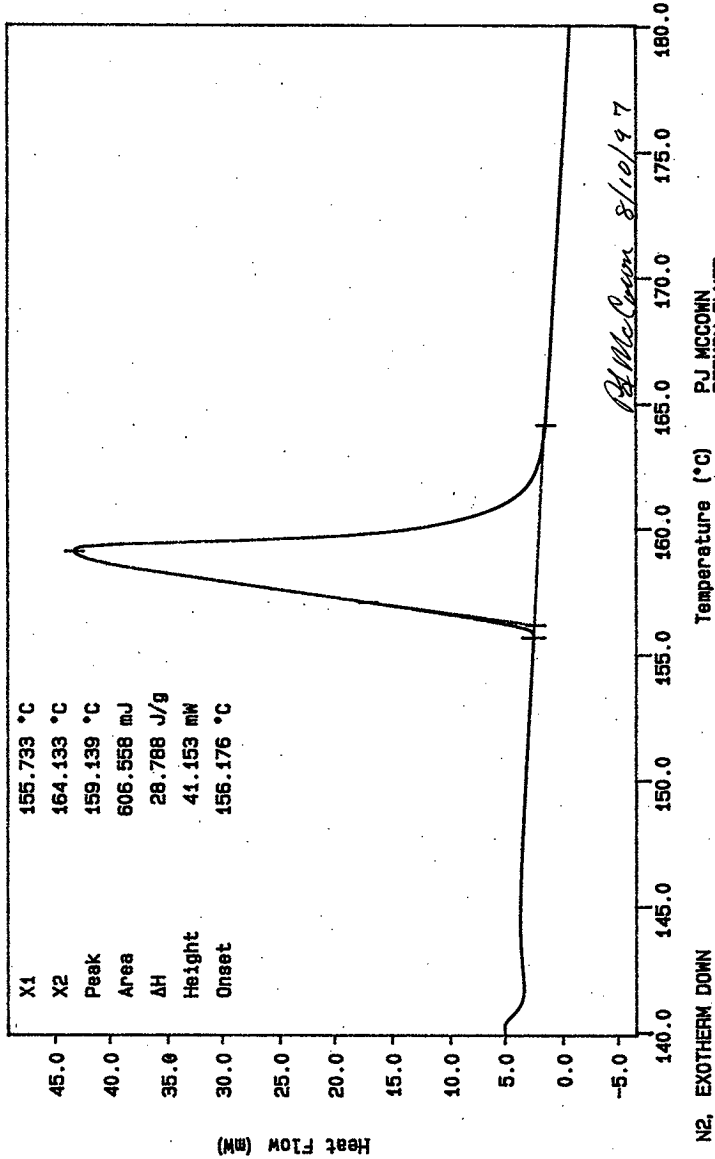
Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

Curve 1: DSC

File info: IND081001 Sun Aug 10 06:54:50 1997

Sample Weight: 21.070 mg

12N14-B

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 47 TO 47

N2, EXOTHERM DOWN

TEMP: 140.0 °C

TIME: 0.0 min

RATE: 10.0 °C/min

Temperature (°C)

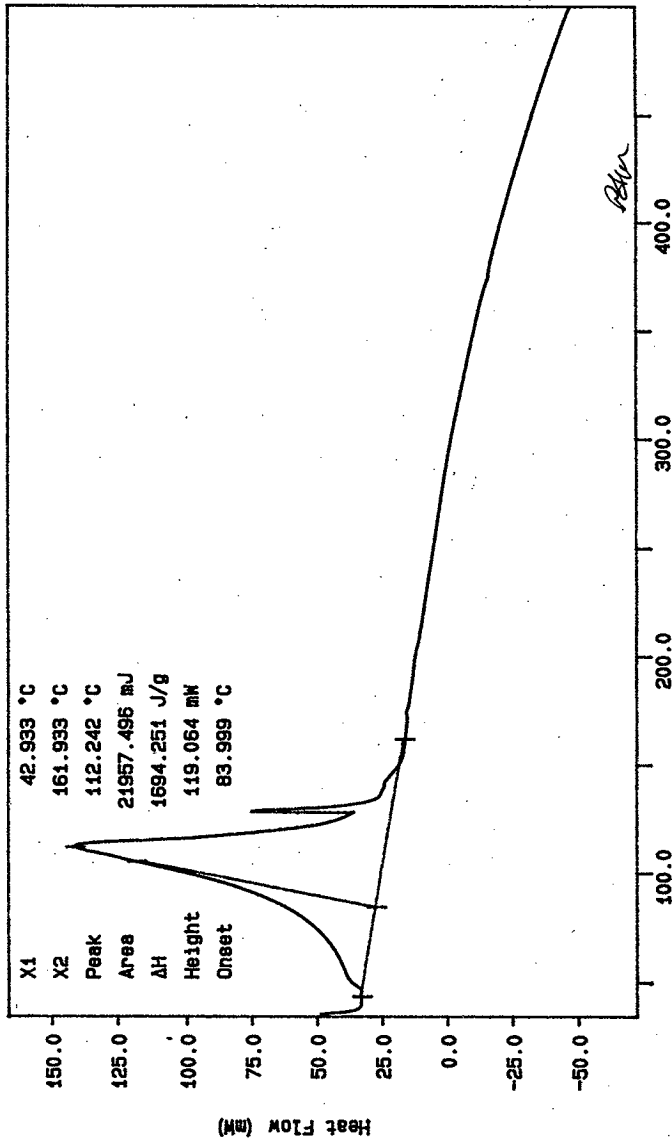
PJ MCCANN

PERKIN-ELMER

7 Series Thermal Analysis System

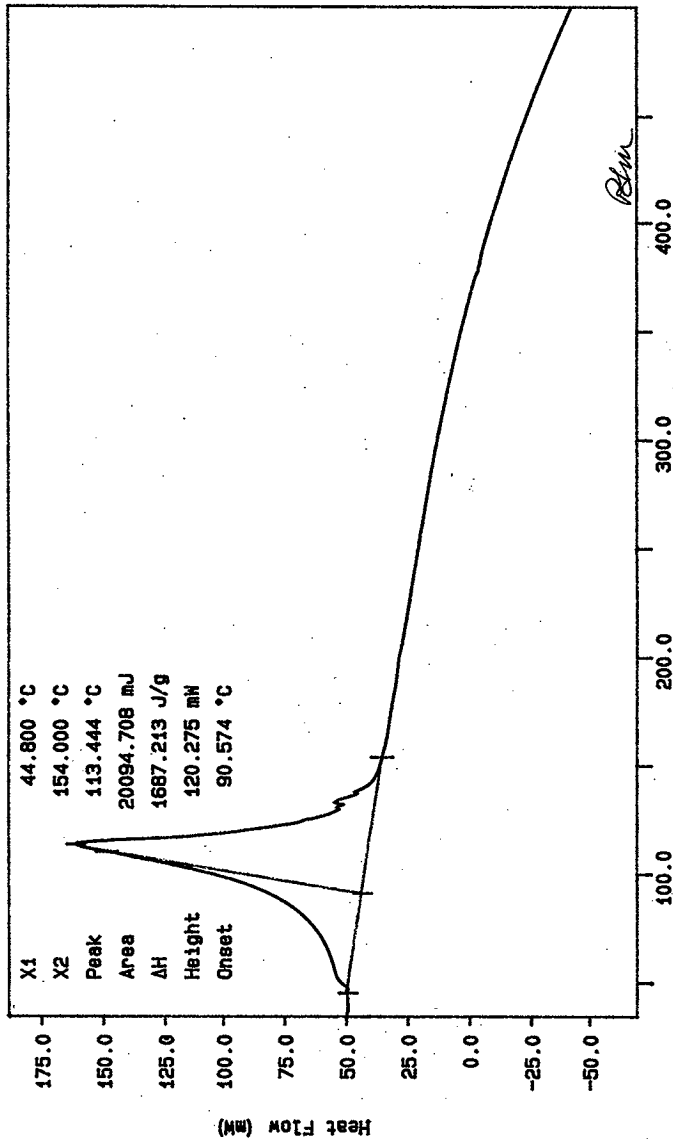
Sun Aug 10 07:01:25 1997

Curve 1: DSC
 File info: SAM081002 Sun Aug 10 08: 34: 29 1997
 Sample Weight: 12.960 mg
 S97T001675



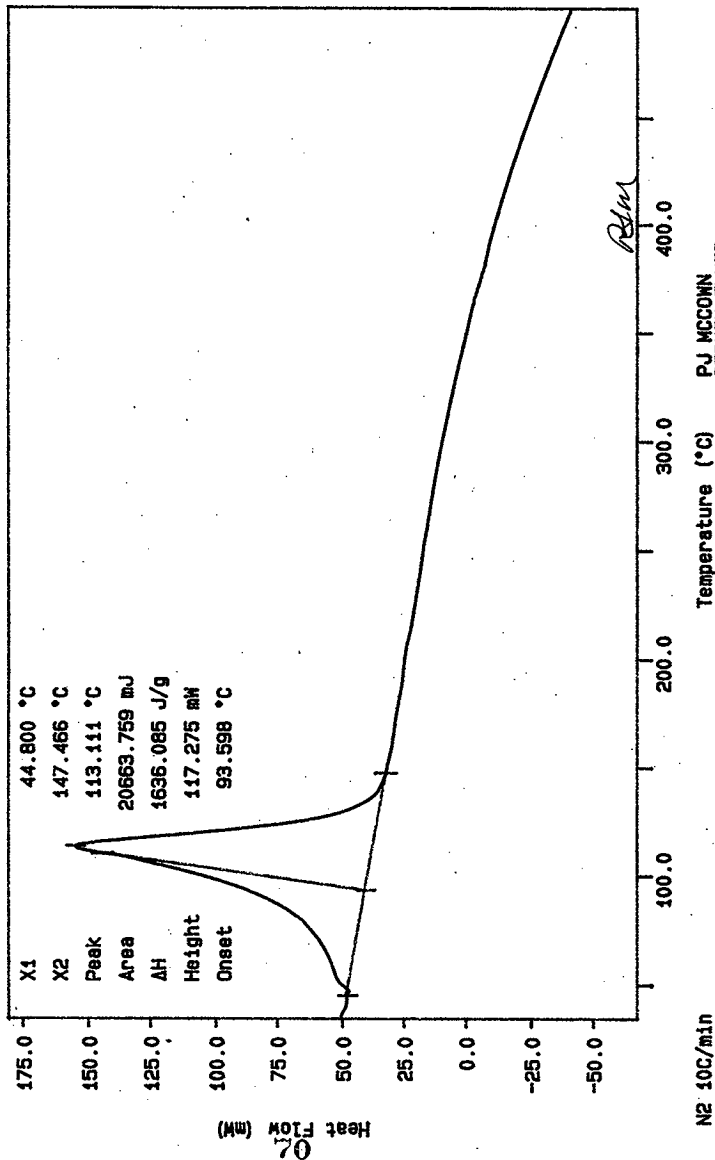
N2 10C/min
 TIME: 35.8 s
 RATE: 0.0 min RATE: 10.0 C/min
 PJ MCCOWN
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Aug 10 09: 38: 31 1997

Curve 1: DSC
 File info: SAM081003 Sun Aug 10 10:47:59 1997
 Sample Weight: 11.910 mg
 S97T001675 DUP



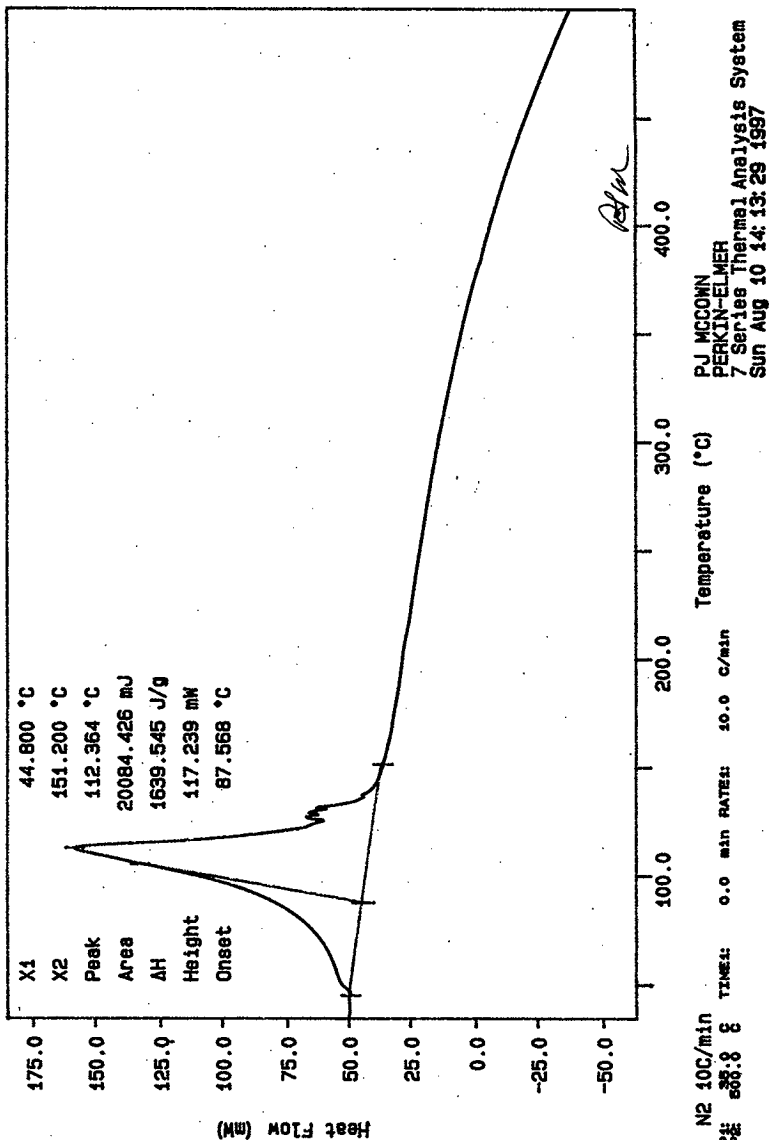
N2 100/min
 TEMPERATURE 50.0 °C
 TIME 11: 0.0 min RATE: 10.0 °C/min
 PJ MCCOMB
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Aug 10 10:48:39 1997

Curve 1: DSC
 File info: SAM081004 Sun Aug 10 11: 48: 15 1997
 Sample Weight: 12.630 mg
 S97T001679



N2 10C/min
 TIME: 35.8 s
 RATE: 10.0 C/min
 PJ MCCONN
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Aug 10 13: 15: 47 1997

Curve 1: DSC
 File info: SAM081005 Sun Aug 10 14:10:18 1997
 Sample Weight: 12.250 mg
 S97T001679 DUP



LABCORE Data Entry Template for Worklist# 19360

Analyst: RLM Instrument: DSC0 3 Book # 12N14B

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

Worklist Comment: T-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>28.70*</u>	<u>N/A</u>	Joules/g
97000434	T-105	2 SAMPLE	S97T001681	0	DSC-03	LIQUID	<u>N/A</u>	<u>0</u>		Joules/g
97000434	T-105	3 DUP	S97T001681	0	DSC-03	LIQUID	<u>0</u>	<u>0</u>	<u>N/A</u>	Joules/g
97000435	T-105	4 SAMPLE	S97T001691	0	DSC-03	LIQUID	<u>N/A</u>	<u>0</u>		Joules/g
97000435	T-105	5 DUP	S97T001691	0	DSC-03	LIQUID	<u>0</u>	<u>0</u>	<u>N/A</u>	Joules/g

Final page for worklist # 19360

RLM 8/10/97
Analyst Signature Date

RLM 8-11-97
Analyst Signature Date

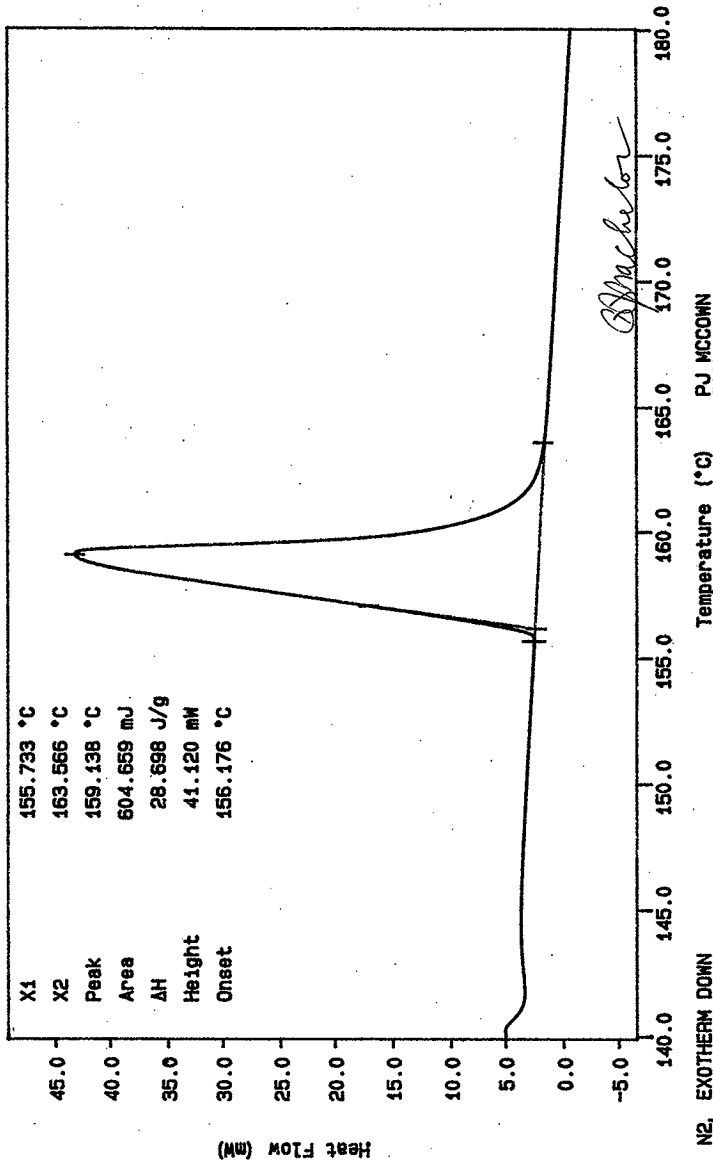
Validated 8/14/97 RLM

Data Entry Comments:

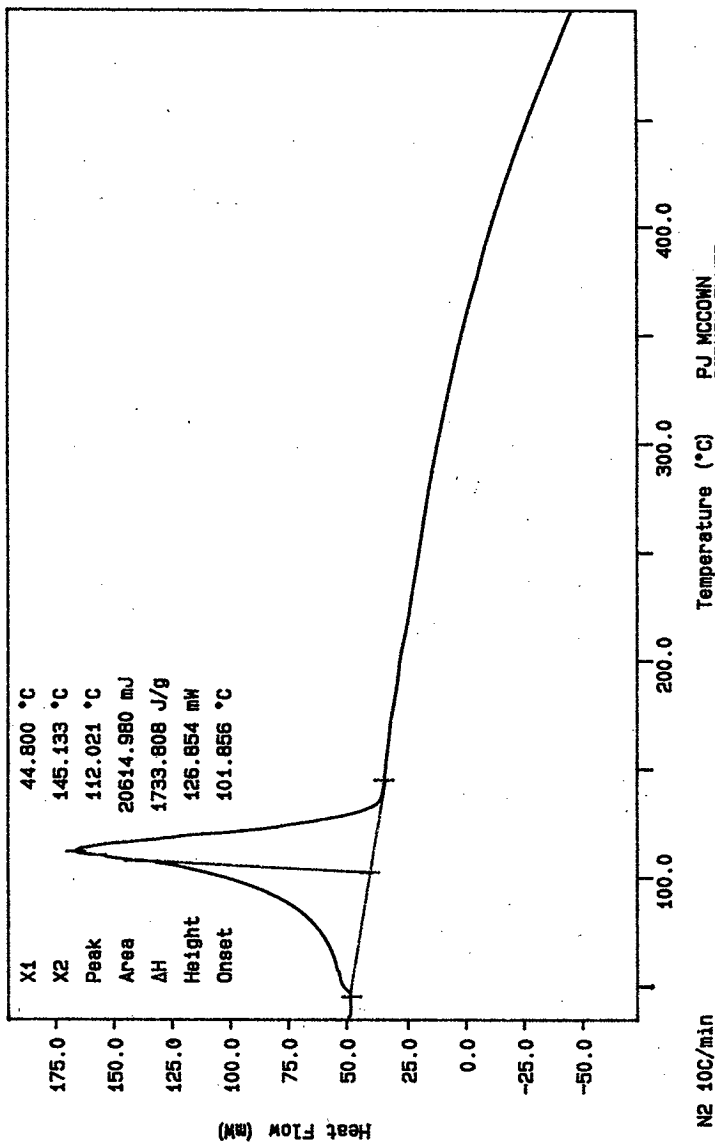
Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

Curve 1: DSC
 File info: IND081001 Sun Aug 10 06:54:50 1997
 Sample Weight: 21.070 mg
 12N14-B

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 78 TO 78.



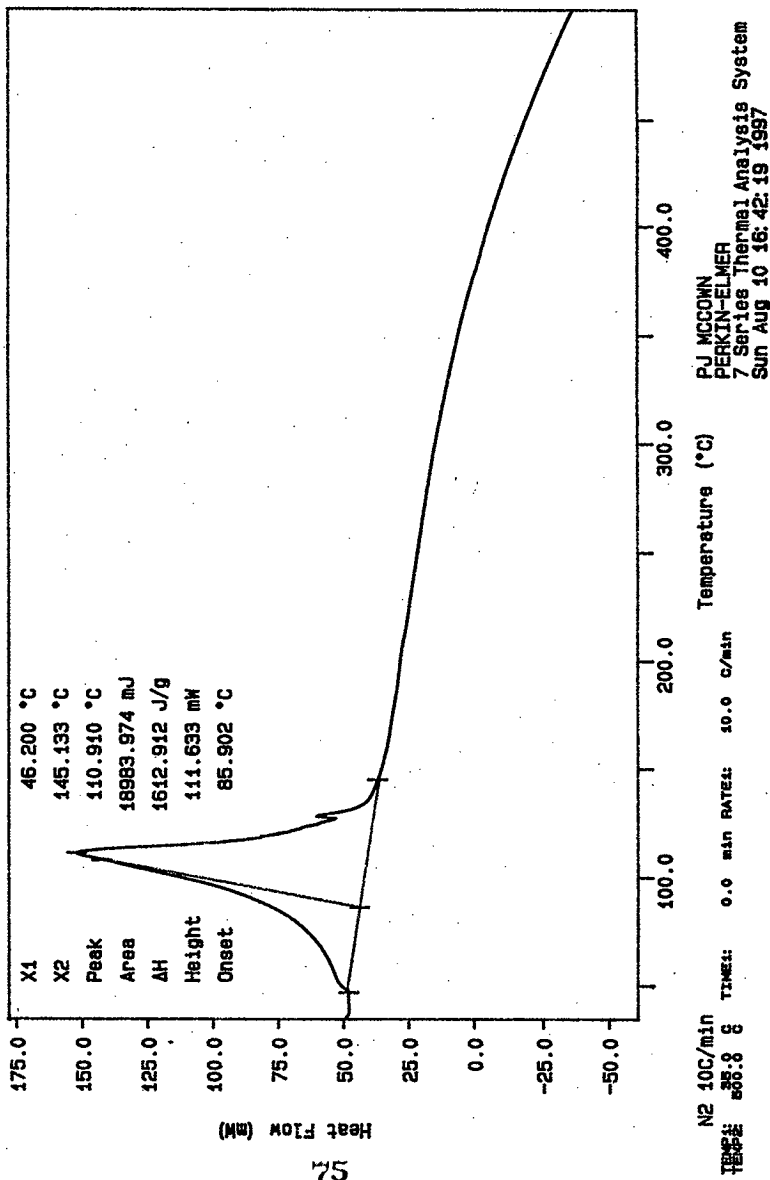
N2, EXOTHERM DOWN
 TEMPERATURE 140.0 °C
 TIME: 0.0 min RATE: 10.0 C/min
 P.J. MCCORN
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Aug 10 13:32:39 1997



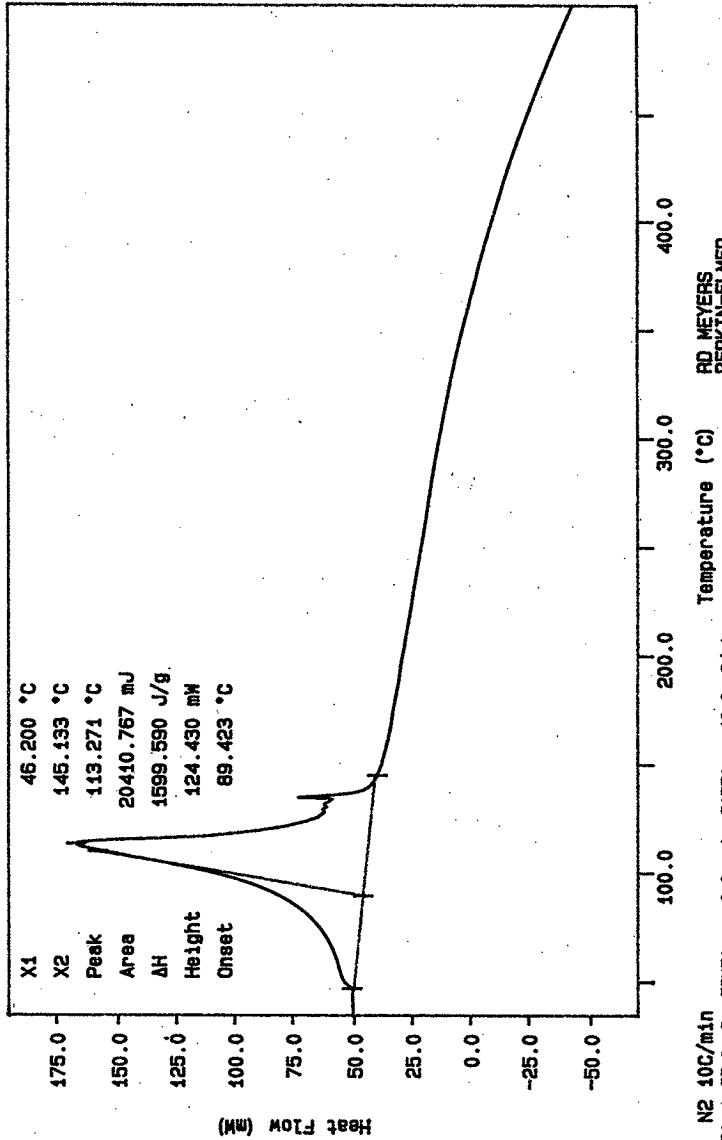
PJ MCCOWN
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Aug 10 15:41:16 1997

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

Curve 1: DSC
 File info: SAM081007 Sun Aug 10 16:34:54 1997
 Sample Weight: 11.770 mg
 S97T001681 DUP

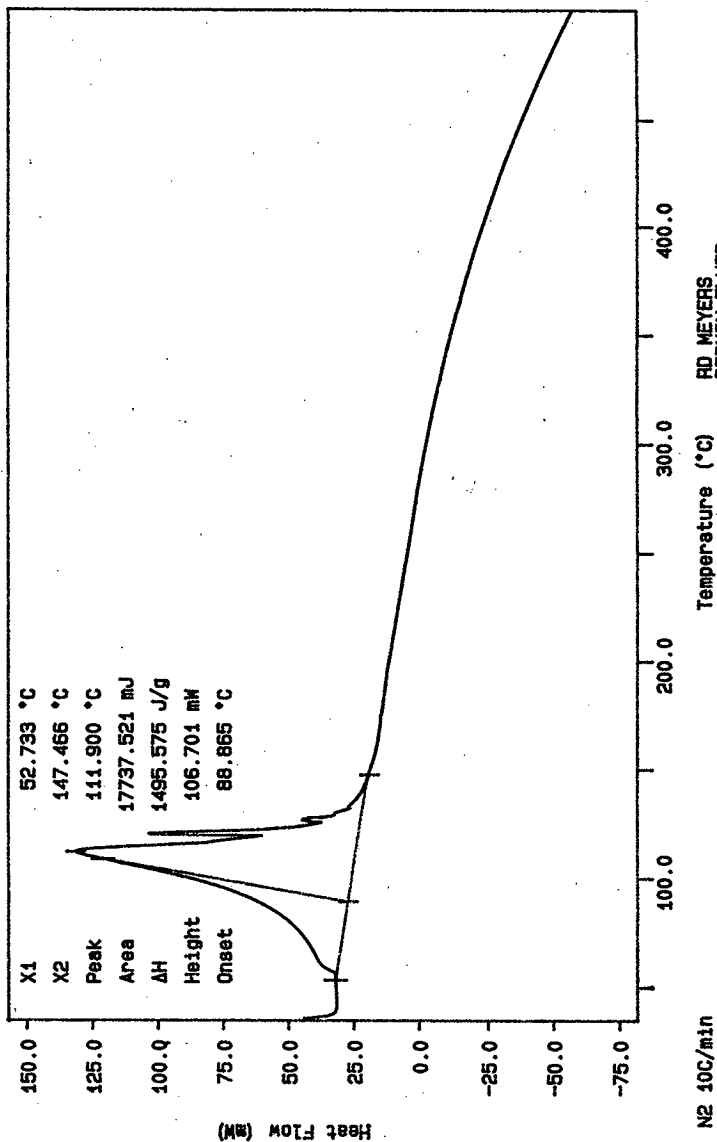


Curve 1: DSC
 File Info: SAM081008 Sun Aug 10 20:12:21 1997
 Sample Weight: 12.760 mg
 S97T001691



N2 10C/min
 T001691 88.0 g
 TIME: 0.0 min RATE: 10.0 C/min
 RD MEYERS
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Aug 10 20:12:48 1997

Curve 1: DSC
 File info: SAM081011 Sun Aug 10 21:03:34 1997
 Sample Weight: 11.860 mg
 S97T001691DUP



N2 10C/min
 TIME: 0.0 min RATE: 10.0 C/min
 RD MEYERS
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Aug 10 22:17:04 1997

LABCORE Data Entry Template for Worklist# 19362

Analyst: RDM Instrument: DSC0 3 Book # 12N14B

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

Worklist Comment: T-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>28.79*</u>	<u>N/A</u>	Joules/g
97000434	T-105	2 SAMPLE	S97T001685	0	DSC-03	SOLID	<u>N/A</u>	<u>0</u>		Joules/g
97000434	T-105	3 DUP	S97T001685	0	DSC-03	SOLID	<u>0</u>	<u>0</u>	<u>N/A</u>	Joules/g
97000435	T-105	4 SAMPLE	S97T001697	0	DSC-03	SOLID	<u>N/A</u>	<u>0</u>		Joules/g
97000435	T-105	5 DUP	S97T001697	0	DSC-03	SOLID	<u>0</u>	<u>0</u>	<u>N/A</u>	Joules/g

Final page for worklist # 19362

RDM 8/11/97
Analyst Signature Date
Validated 8/14/97 B. Schelton

Ray Hammond 8-11-97
Analyst Signature Date

Data Entry Comments:

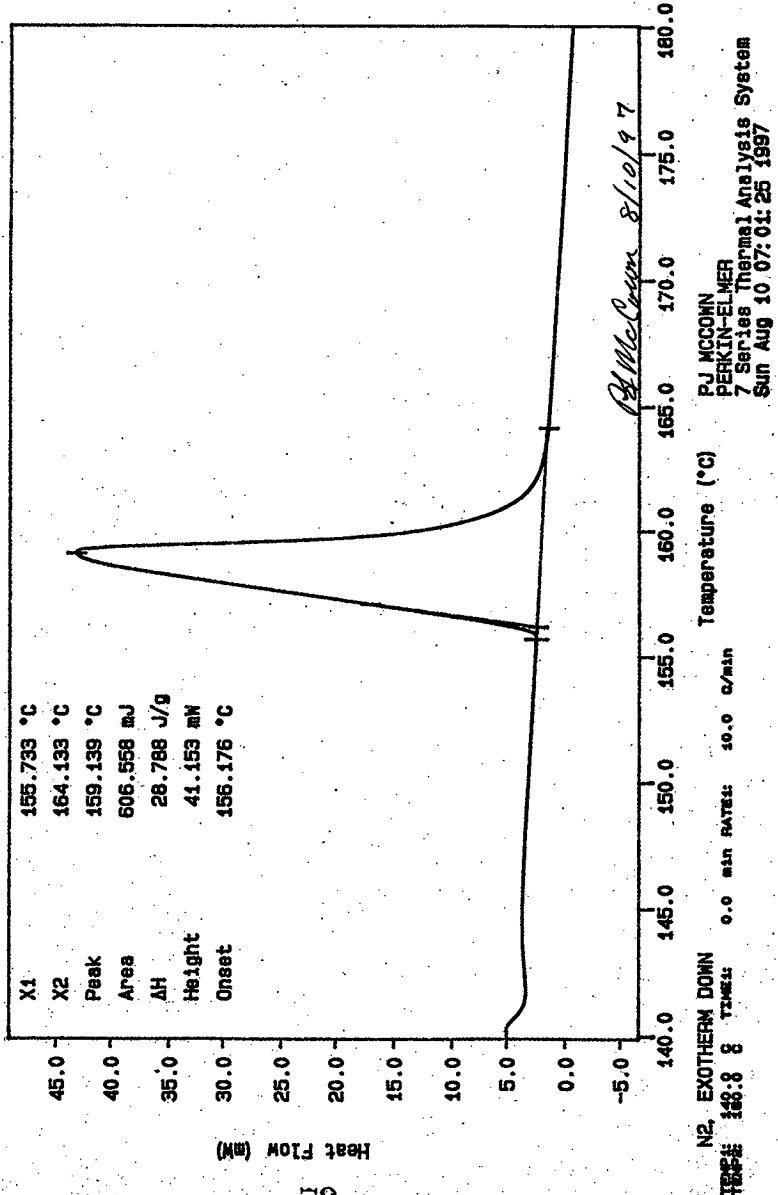
Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

Curve 1: DSC

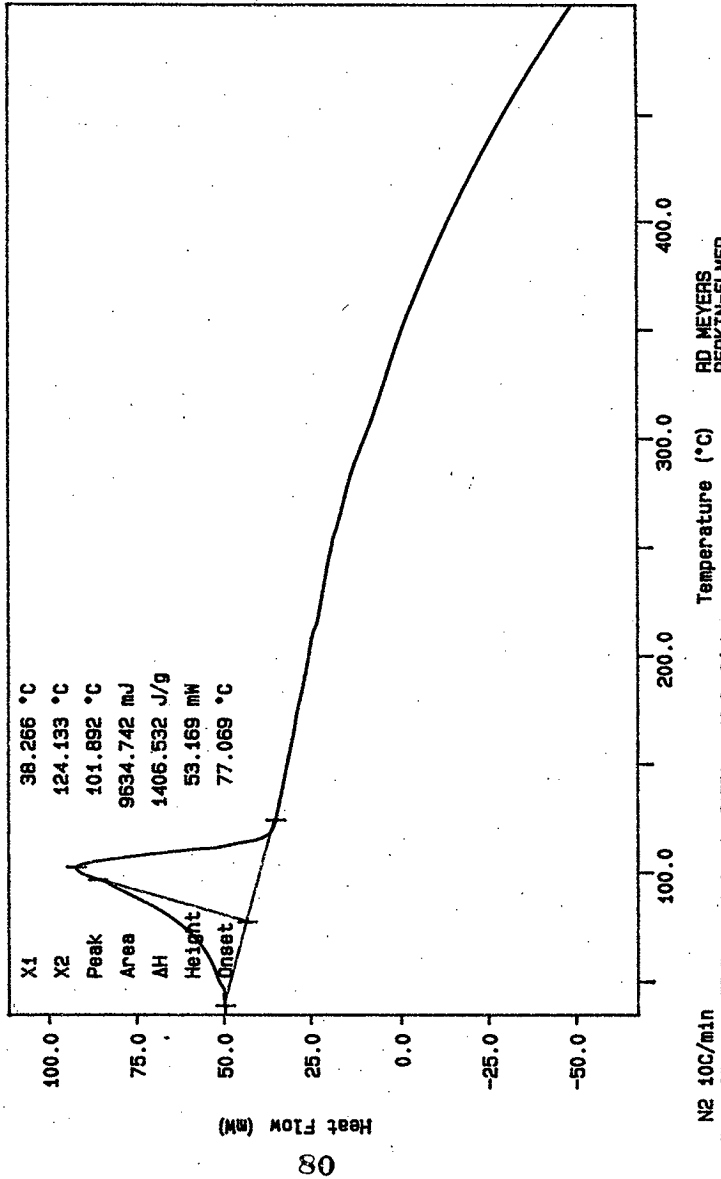
File Info: IND081001 Sun Aug 10 06:54:50 1997

Sample Weight: 21.070 mg

12N14-B

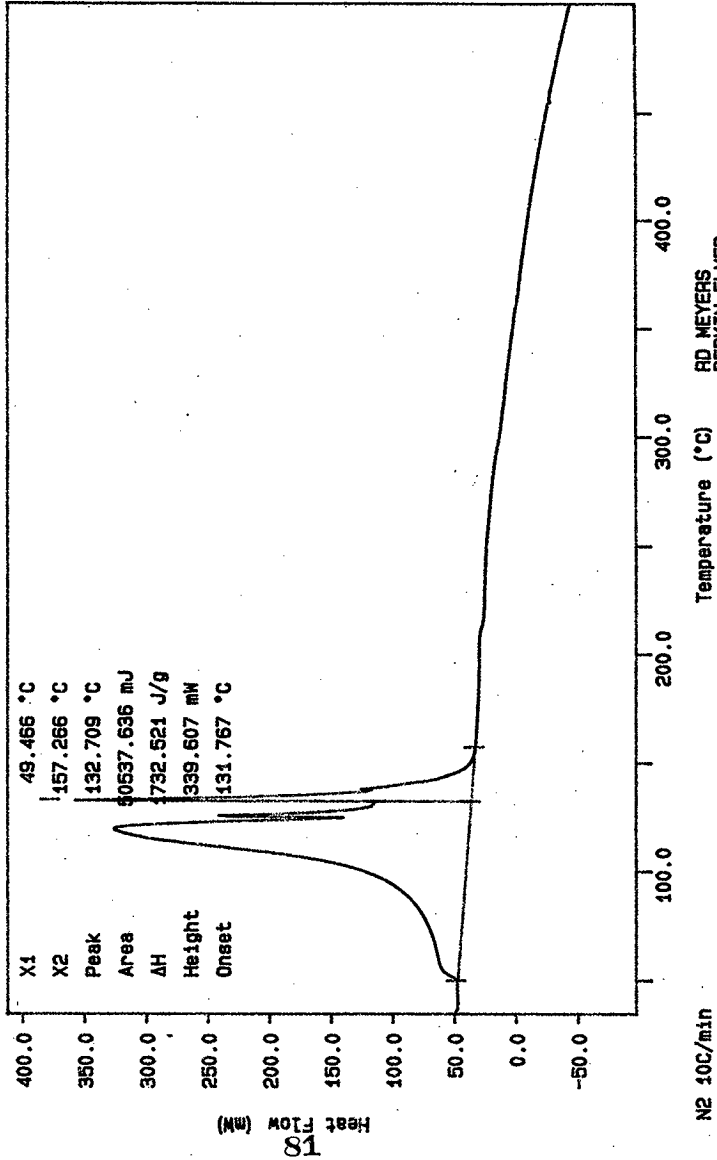
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 79 TO 83.

Curve 1: DSC
 File info: SAM081012 Sun Aug 10 23: 08: 39 1997
 Sample Weight: 6.850 mg
 S97T001685



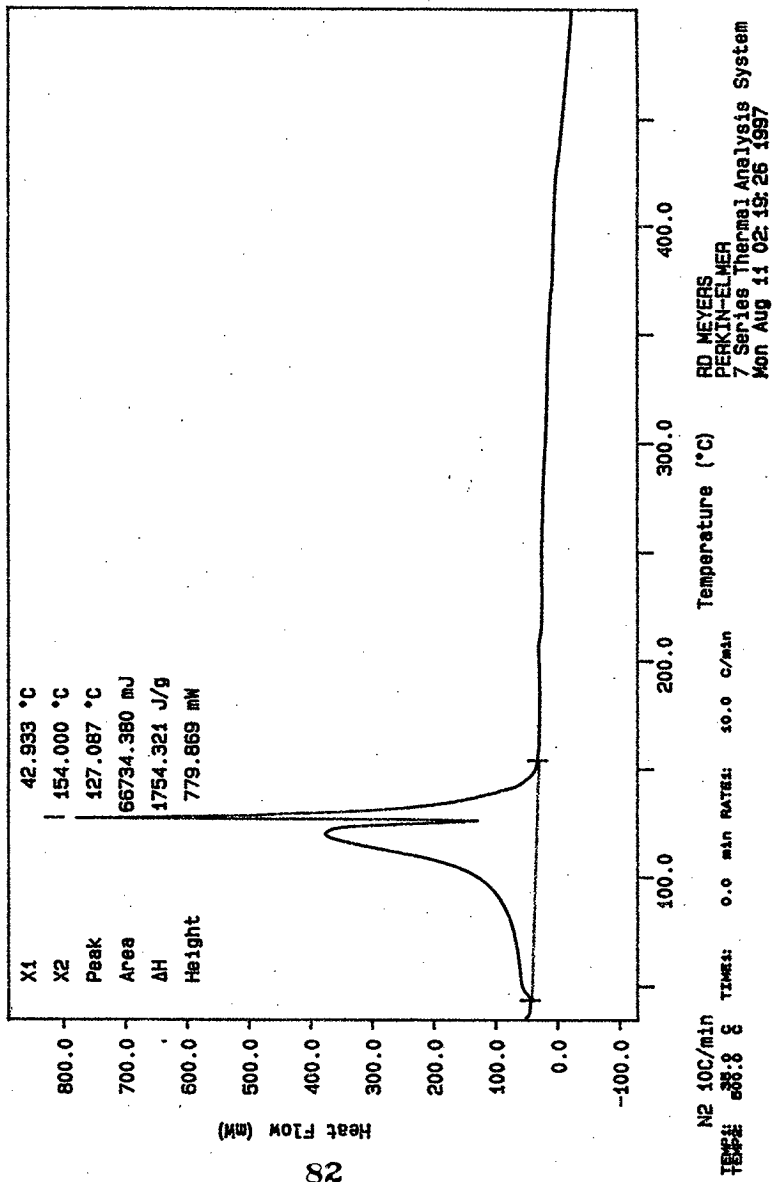
N2 10C/min
 TEMPERATURE 38.0 °C
 TIME: 0.0 min RATE: 10.0 C/min
 RD MEYERS
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Aug 10 23: 10: 52 1997

Curve 1: DSC
 File info: SAM081013 Mon Aug 11 00:01:58 1997
 Sample Weight: 29.170 mg
 S97T001685DUP

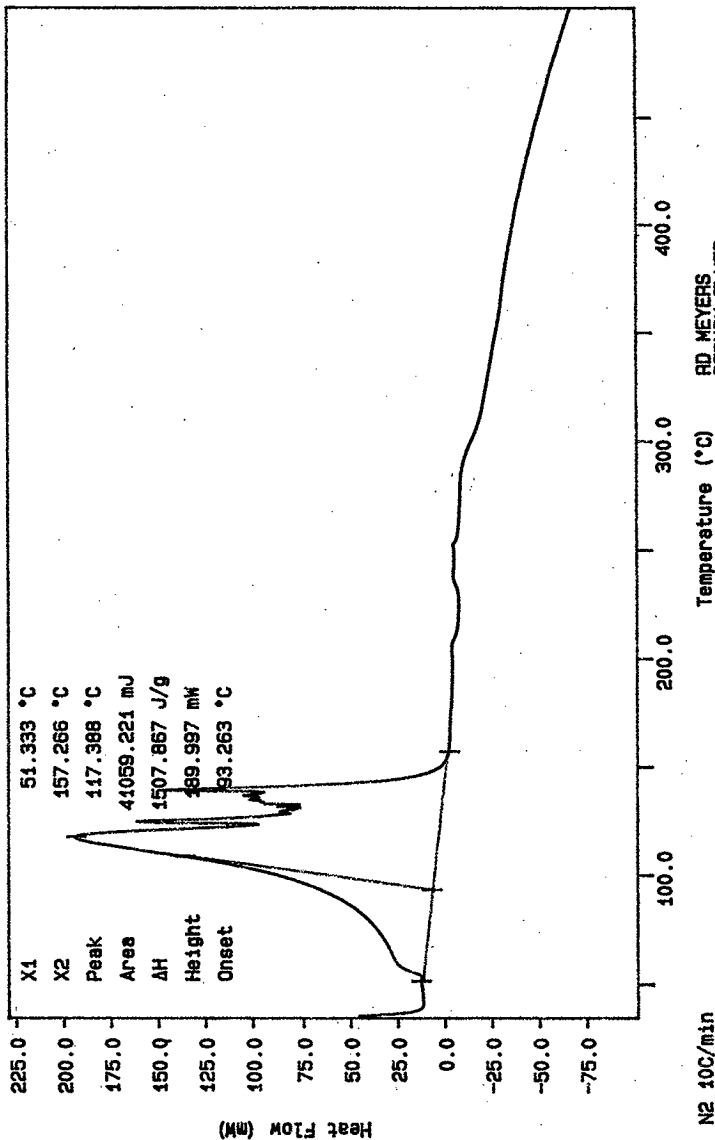


RD MEYERS
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Mon Aug 11 01:25:49 1997

Curve 1: DSC
File info: SAM081101 Mon Aug 11 02:19:01 1997
Sample Weight: 38.040 mg
SS7T001697



Curve 1: DSC
 File Info: S4W081102 Mon Aug 11 03: 11: 13 1997
 Sample Weight: 27.230 mg
 S97T001697DUP



N2 100/min
 TEMPERATURE 88.8 °C
 TIME: 0.0 min RATE: 10.0 °C/min
 RD MEYERS
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Mon Aug 11 04: 28: 49 1997

LABCORE Data Entry Template for Worklist# 19363

Analyst: EAL Instrument: DSC0 3 Book # 12N14.B

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

Worklist Comment: T-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>28.81</u>	<u>N/A</u>	Joules/g
97000435	T-105	2 SAMPLE	S97T001703	0	DSC-03	SOLID	<u>N/A</u>	<u>0</u>		Joules/g
97000435	T-105	3 DUP	S97T001703	0	DSC-03	SOLID	<u>0</u>	<u>0</u>	<u>N/A</u>	Joules/g
97000435	T-105	4 SAMPLE	S97T001709	0	DSC-03	SOLID	<u>N/A</u>	<u>0</u>		Joules/g
97000435	T-105	5 DUP	S97T001709	0	DSC-03	SOLID	<u>0</u>	<u>0</u>	<u>N/A</u>	Joules/g

Final page for worklist # 19363

E. Lamber 08-11-97
Analyst Signature Date

J. De 8-14-97
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.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 85 TO 89.

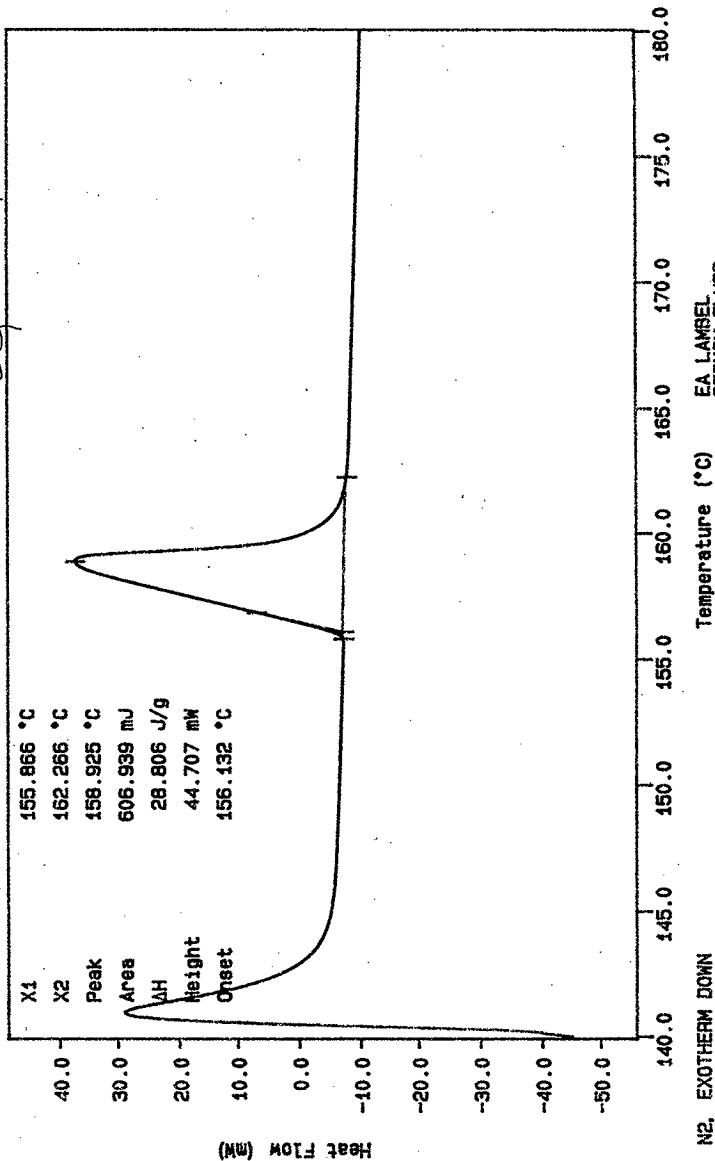
Curve 1: DSC

File Info: IND081101 Mon Aug 11 06:28:59 1997

Sample Weight: 21.070 mg

12N14-B

EA LAMBEL 08/11/97



N2, EXOTHERM DOWN

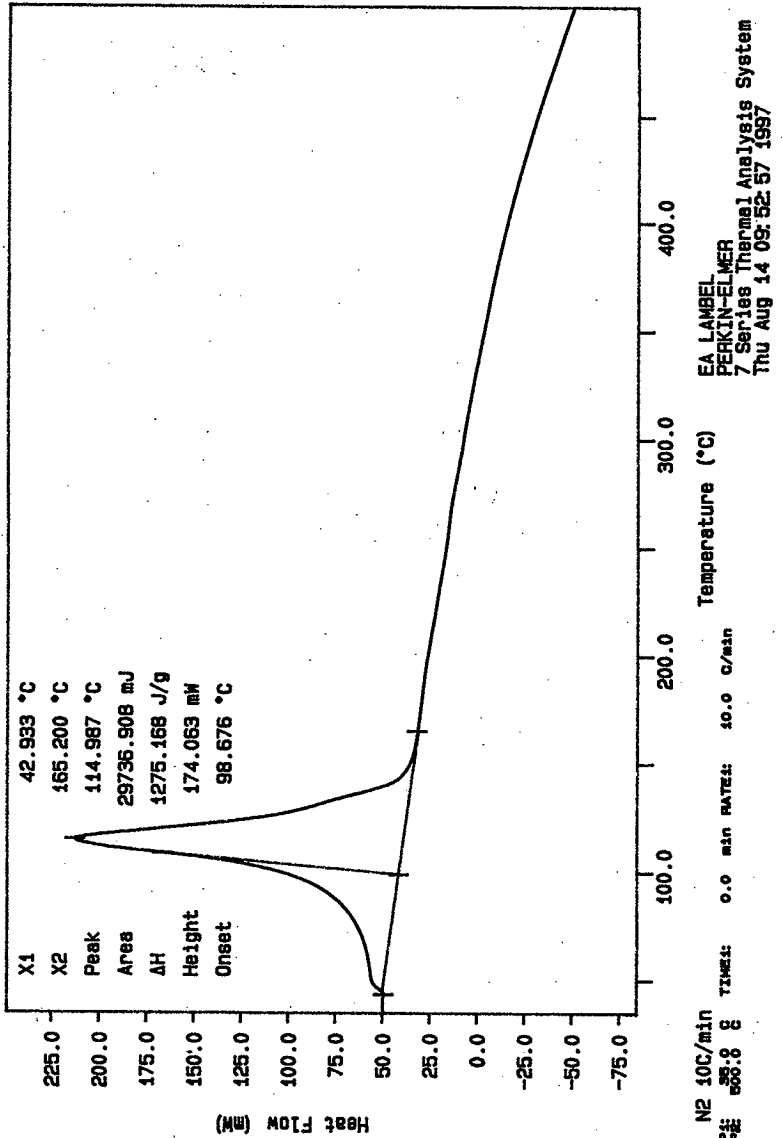
TEMP: 149.8 °C TIMES: 0.0 min RATE: 10.0 °C/min

EA LAMBEL

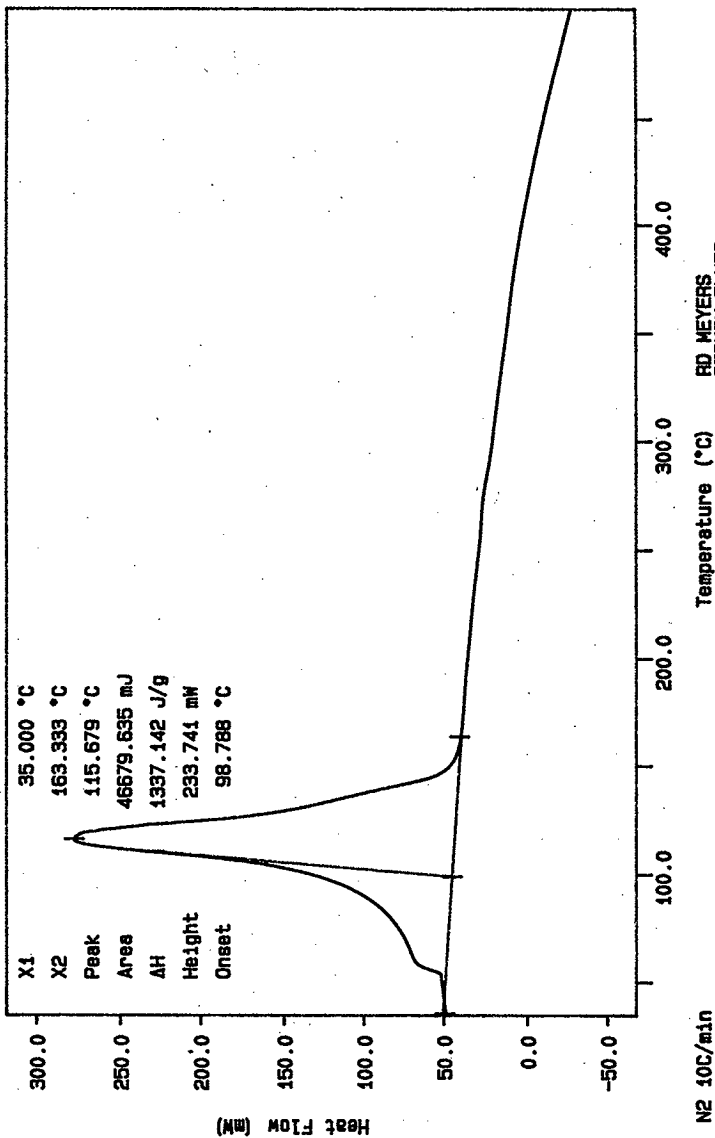
PERKIN-ELMER

7 Series Thermal Analysis System
Mon Aug 11 14:21:20 1997

Curve 1: DSC
File info: SAM081105 Mon Aug 11 15:19:05 1997
Sample Weight: 23.320 mg
S97T001703



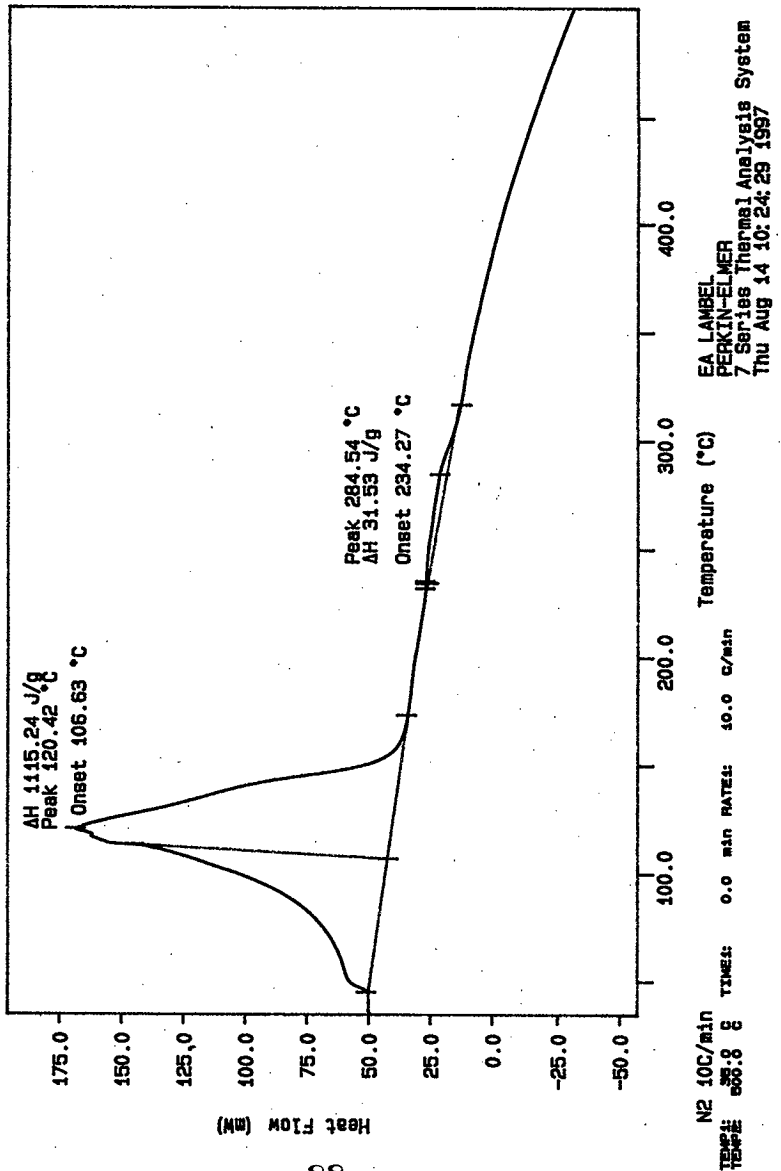
Curve 1: DSC
File info: SAM081201 Tue Aug 12 01:33:51 1997
Sample Weight: 34.910 mg
S97T001703DUP



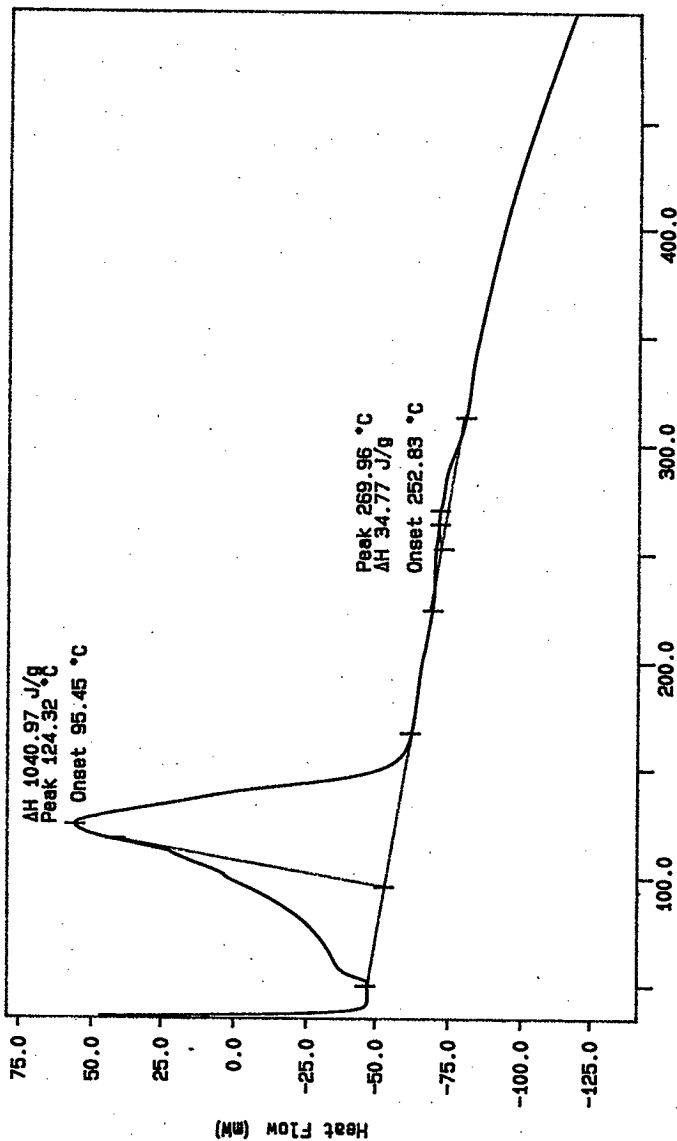
RD MEYERS
PERKIN-ELMER
7 Series Thermal Analysis System
Thu Aug 14 10:07:11 1997

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

Curve 1: DSC
File Info: SAN081106 Mon Aug 11 17:12:22 1997
Sample Weight: 29.790 mg
S97T001709



Curve 1: DSC
 File Info: SAM081107 Mon Aug 11 18:05:21 1997
 Sample Weight: 28.470 mg
 S97T001709 DUP



N2 100/min
 Temp: 50.0 °C
 TIME: 0.0 min RATE: 10.0 °C/min
 EA LABEL
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Thu Aug 14 10:42:26 1997

LABCORE Data Entry Template for Worklist# 19791Analyst: ppb Instrument: DSC0 2 Book # NAMethod: LA-514-113 Rev/Mod ppb 8/14/97**Worklist Comment:**

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
97000434	T-105	1 SAMPLE	S97T001675	0	DSC-02	LIQUID	<u>N/A</u>	<u>0</u>		Joules/g Dry
97000434	T-105	2 DUP	S97T001675	0	DSC-02	LIQUID	<u>0</u>	<u>0</u>	<u>N/A</u>	Joules/g Dry
97000434	T-105	3 SAMPLE	S97T001679	0	DSC-02	LIQUID	<u>N/A</u>	<u>0</u>		Joules/g Dry
97000434	T-105	4 DUP	S97T001679	0	DSC-02	LIQUID	<u>0</u>	<u>0</u>	<u>N/A</u>	Joules/g Dry
97000434	T-105	5 SAMPLE	S97T001681	0	DSC-02	LIQUID	<u>N/A</u>	<u>0</u>		Joules/g Dry
97000434	T-105	6 DUP	S97T001681	0	DSC-02	LIQUID	<u>0</u>	<u>0</u>	<u>N/A</u>	Joules/g Dry
97000435	T-105	7 SAMPLE	S97T001691	0	DSC-02	LIQUID	<u>N/A</u>	<u>0</u>		Joules/g Dry
97000435	T-105	8 DUP	S97T001691	0	DSC-02	LIQUID	<u>0</u>	<u>0</u>	<u>N/A</u>	Joules/g Dry

Final page for worklist # 19791

B. Sachdev 8/14/97
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# 19792Analyst: ppb Instrument: DSC0 2 Book # N/AMethod: ~~LA-514-113~~ Rev/Mod Q82 8/14/97**Worklist Comment:**

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
97000434	T-105	1 SAMPLE	S97T001685	0	DSC-02	SOLID	<u>N/A</u>	<u>0</u>		Joules/g Dry
97000434	T-105	2 DUP	S97T001685	0	DSC-02	SOLID	<u>0</u>	<u>0</u>	<u>N/A</u>	Joules/g Dry
97000435	T-105	3 SAMPLE	S97T001697	0	DSC-02	SOLID	<u>N/A</u>	<u>0</u>		Joules/g Dry
97000435	T-105	4 DUP	S97T001697	0	DSC-02	SOLID	<u>0</u>	<u>0</u>	<u>N/A</u>	Joules/g Dry
97000435	T-105	5 SAMPLE	S97T001703	0	DSC-02	SOLID	<u>N/A</u>	<u>0</u>		Joules/g Dry
97000435	T-105	6 DUP	S97T001703	0	DSC-02	SOLID	<u>0</u>	<u>0</u>	<u>N/A</u>	Joules/g Dry
97000435	T-105	7 SAMPLE	S97T001709	0	DSC-02	SOLID	<u>N/A</u>	<u>0</u>		Joules/g Dry
97000435	T-105	8 DUP	S97T001709	0	DSC-02	SOLID	<u>0</u>	<u>0</u>	<u>N/A</u>	Joules/g Dry

Final page for worklist # 19792

PPB 8/14/97
 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# 19809

Analyst: Hea Instrument: DSC01 _____ Book # N/AMethod: LA-514-113 Rev/Mod D-1

Worklist Comment: Dry DSC for T-105 hla

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
97000434	T-105	1 SAMPLE	S97T001505	0	DSC-02	LIQUID	<u>N/A</u>	<u>Ø</u>		Joules/g Dry
97000434	T-105	2 DUP	S97T001505	0	DSC-02	LIQUID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g Dry

Final page for worklist # 19809

Heather Anastas 8.15.97

Analyst Signature

Date

Analyst Signature

Date

Data entry & validation
Hea 8.15.97

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 18957

Analyst: RMM Instrument: TGA0 3 Book # 103N8A

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

Worklist Comment: T-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>58.54*</u>	<u>N/A</u>	%
97000434	T-105	2 SAMPLE	S97T001505	0	TGA-03	LIQUID	<u>N/A</u>	<u>99.60</u>		%
97000434	T-105	3 DUP	S97T001505	0	TGA-03	LIQUID	<u>99.60</u>	<u>99.60</u>	<u>N/A</u>	%

Final page for worklist # 18957

RMM 8/12/97
Analyst Signature Date

St. Peter 8-14-97
Analyst Signature Date

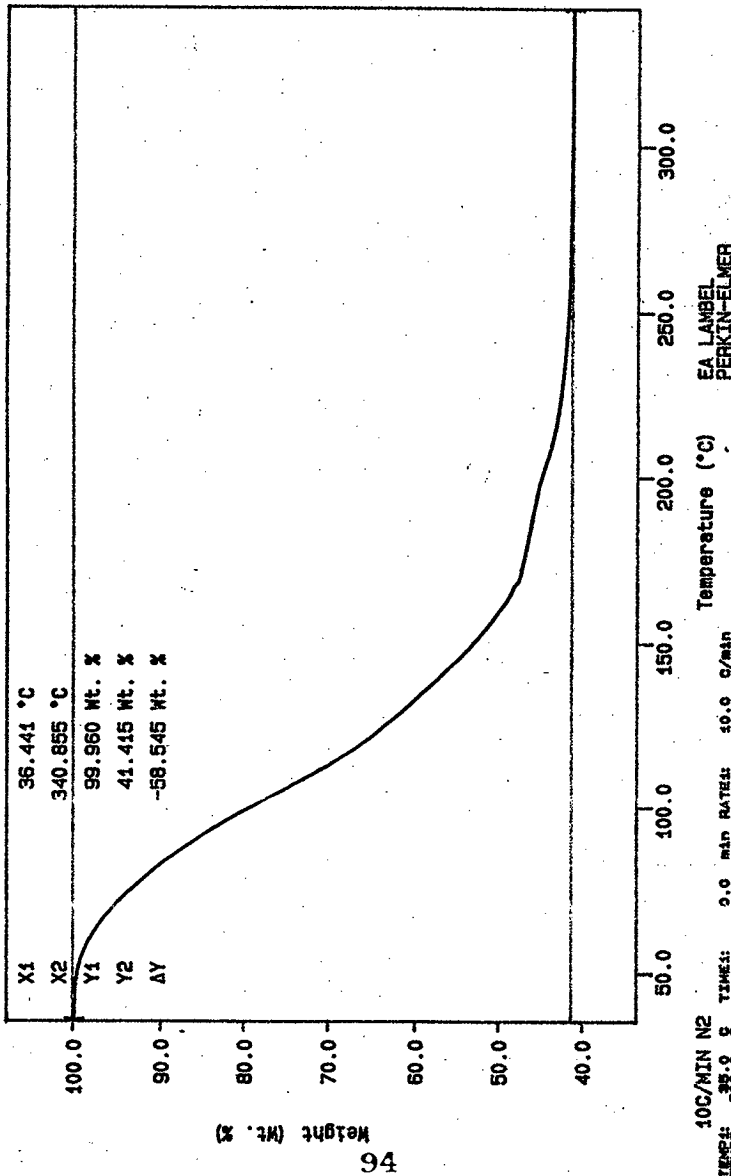
Data Entry Comments:

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.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 74 TO 92

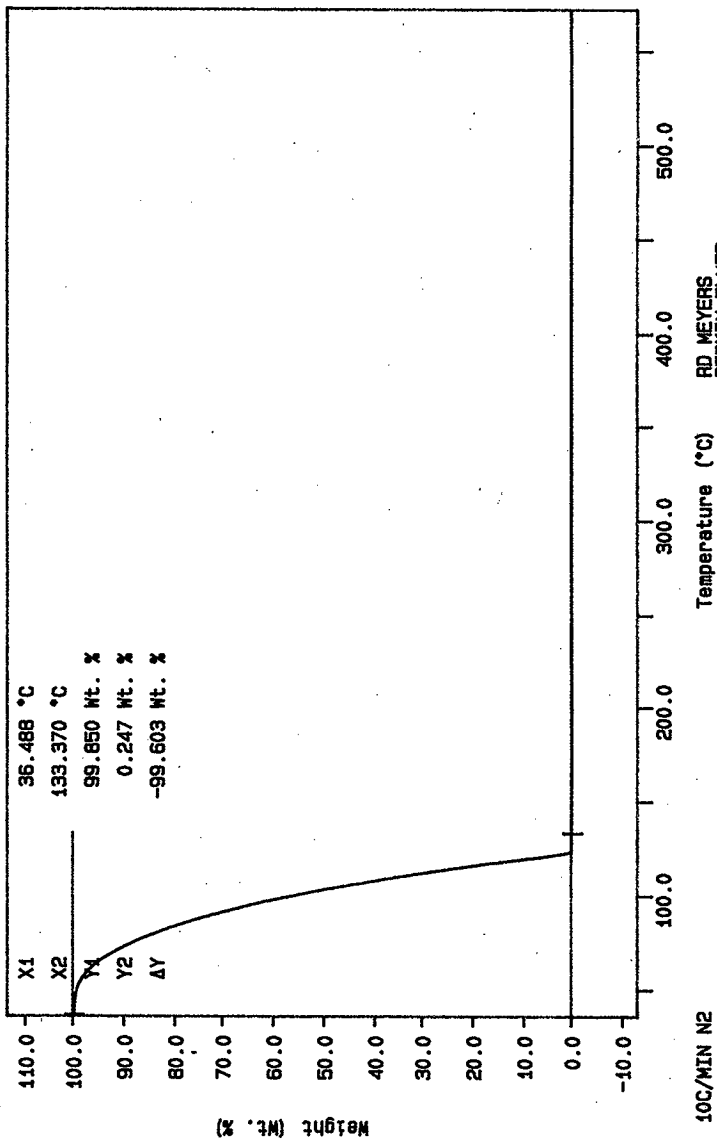
EA LAMBEL 08/11/97

Curve 1: TGA
File Info: TER081101 Mon Aug 11 06:59:01 1997
Sample Weight: 20.923 mg
STD 103NB-A



EA LAMBEL
PERKIN-ELMER
7 Series Thermal Analysis System
Mon Aug 11 11:17:25 1997

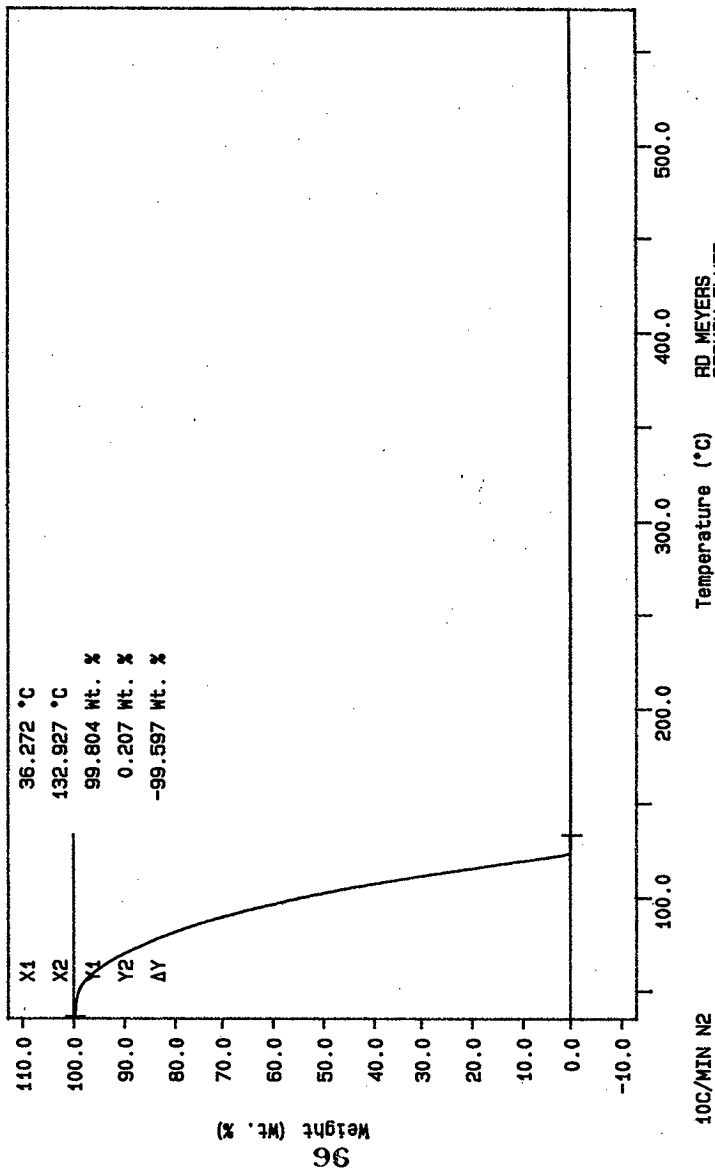
Curve 1: TGA
 File info: SAM081106 Mon Aug 11 20:39:52 1997
 Sample Weight: 9.981 mg
 S97T001505



RD MEYERS
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Wed Aug 13 16:22:32 1997

10C/MIN N2
 THERM: 800.0 g TIME: 0.0 min RATE: 10.0 C/min

Curve 1: TGA
 File info: SAM081110 Mon Aug 11 21:48:07 1997
 Sample Weight: 10.018 mg
 S97T001505DUP



10C/MIN N2
 TEMPERATURE: 35.0 °C
 TIME: 0.0 min RATE: 10.0 °C/min
 RD MEYERS
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Wed Aug 13 13:08:12 1997

LABCORE Data Entry Template for Worklist# 19355

Analyst: RLM Instrument: TGA0 3 Book # 10328A

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

Worklist Comment: T-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>58.91</u>	<u>N/A</u>	%
97000434	T-105	2 SAMPLE	S97T001675	0	TGA-03	LIQUID	<u>N/A</u>	<u>76.10</u> <u>76.92</u>	<u>76.81</u>	<u>17</u> %
97000434	T-105	3 DUP	S97T001675	0	TGA-03	LIQUID	<u>76.10</u> <u>76.92</u>	<u>76.30</u>	<u>N/A</u>	%
97000434	T-105	4 SAMPLE	S97T001679	0	TGA-03	LIQUID	<u>N/A</u>	<u>76.92</u>		%
97000434	T-105	5 DUP	S97T001679	0	TGA-03	LIQUID	<u>76.92</u>	<u>76.91</u>	<u>N/A</u>	%

Final page for worklist # 19355

RLM 8/10/97
Analyst Signature Date

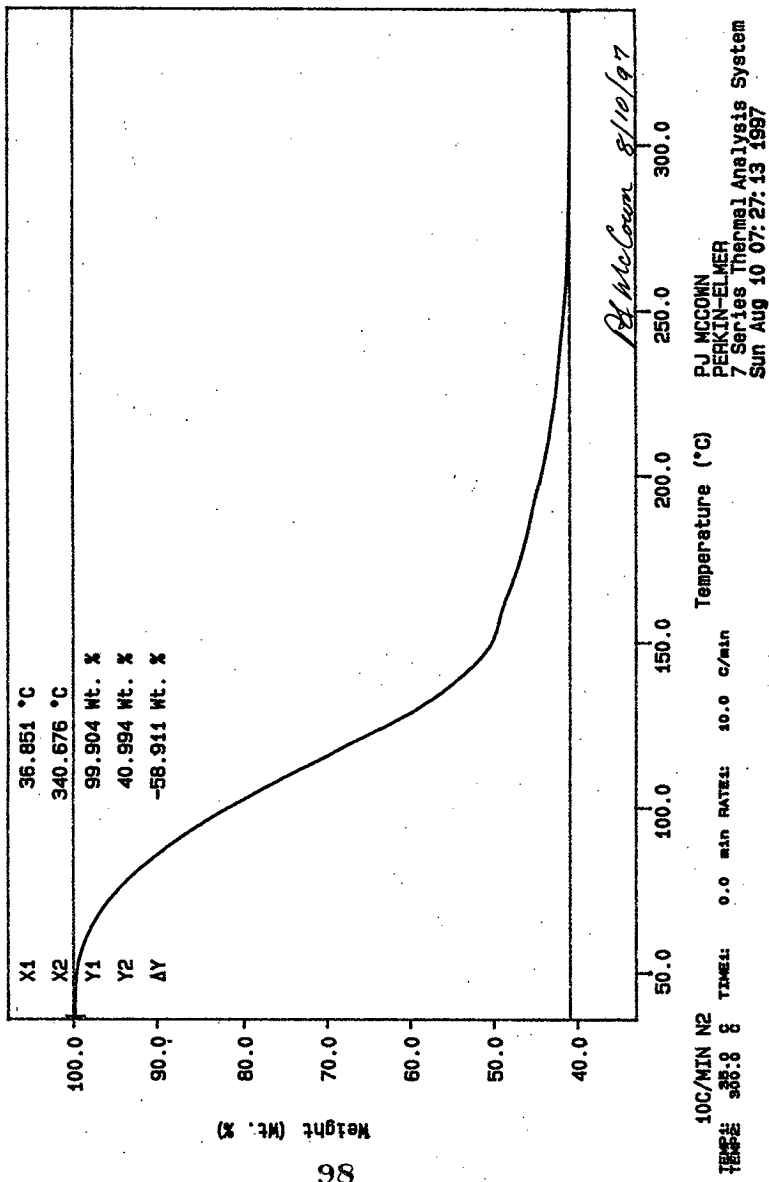
Jay Hammit 8-11-97
Analyst Signature Date

Validated 8/14/97 gfm

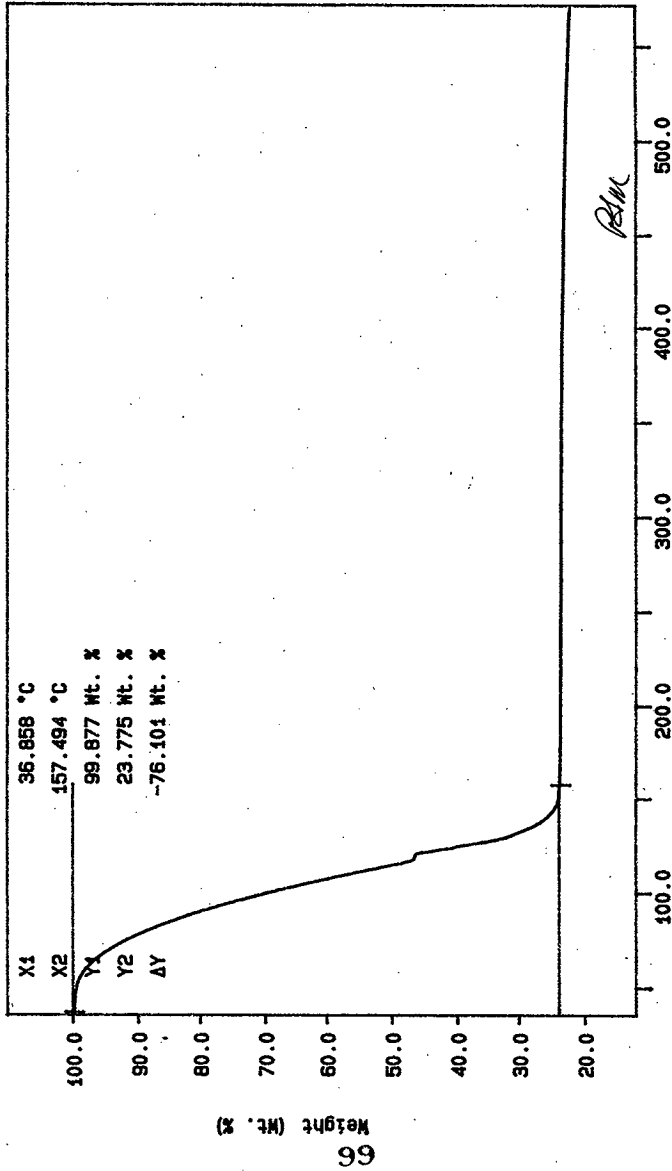
Data Entry Comments:

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: TER081001 Sun Aug 10 07:26:33 1997
Sample Weight: 14.356 mg
STD 103NB-A

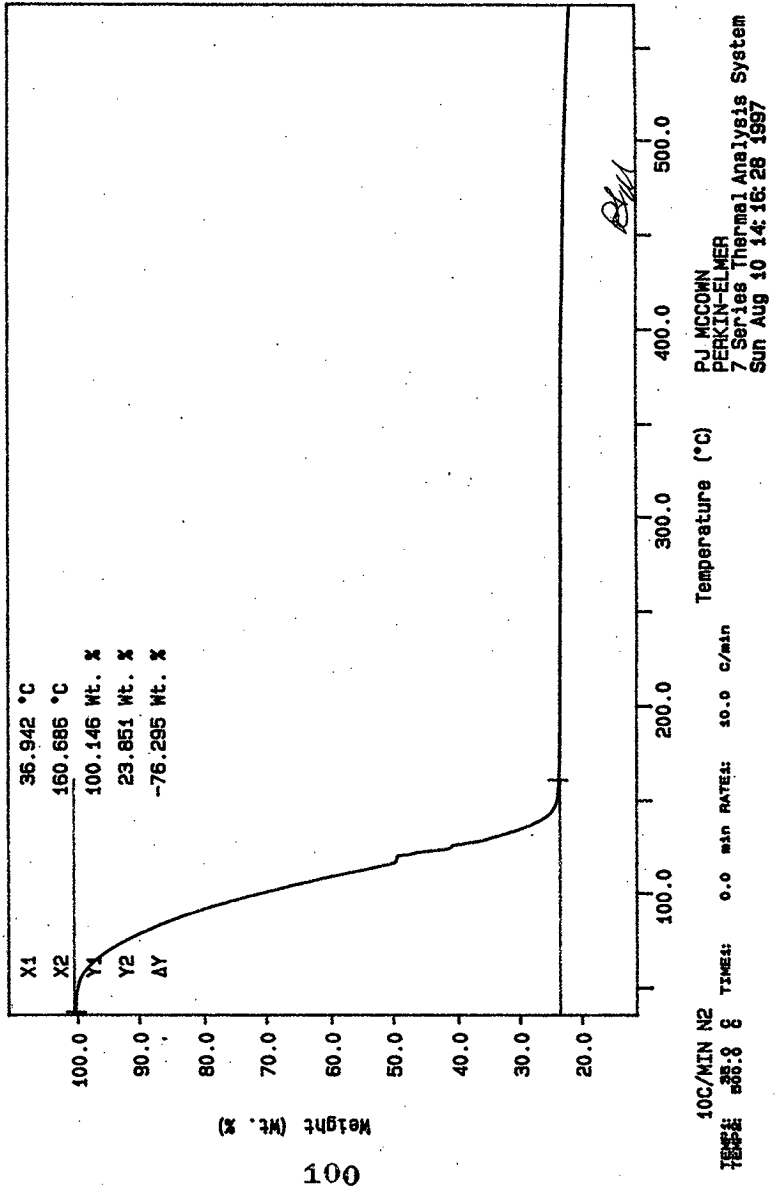


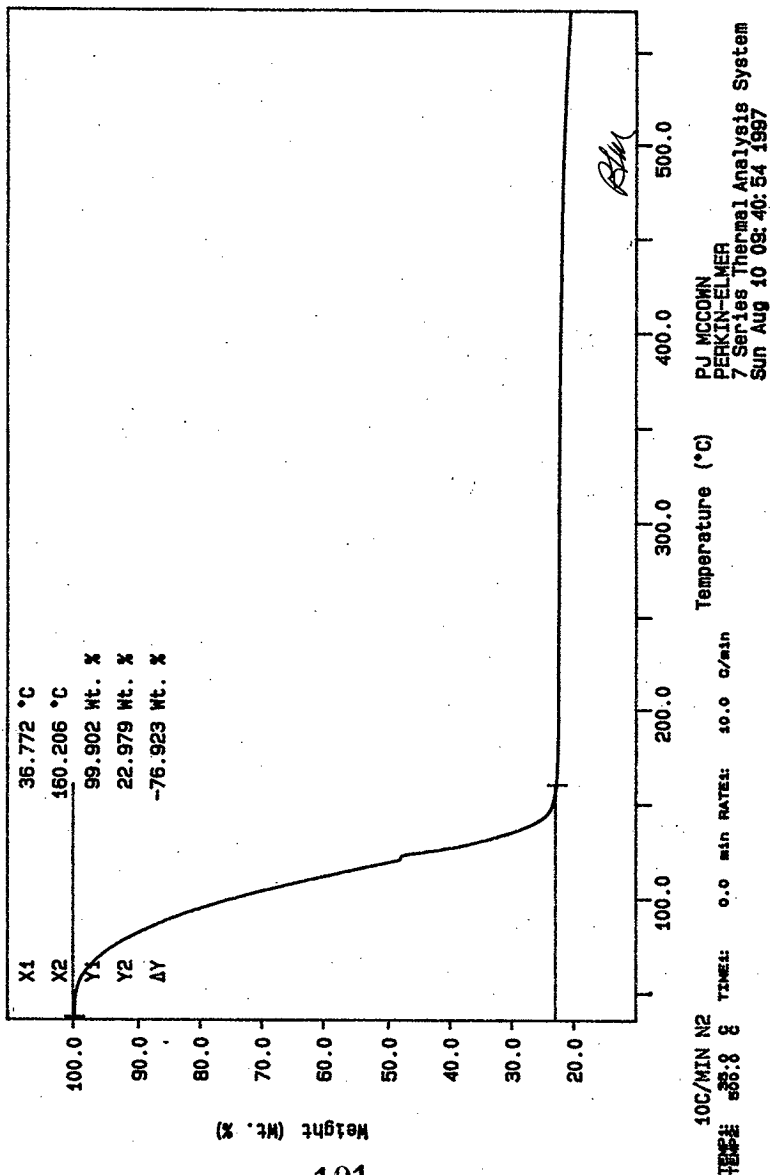
Curve 1: TGA
 File Info: SAM081003 Sun Aug 10 11:58:36 1997
 Sample Weight: 12.336 mg
 SS97T001675



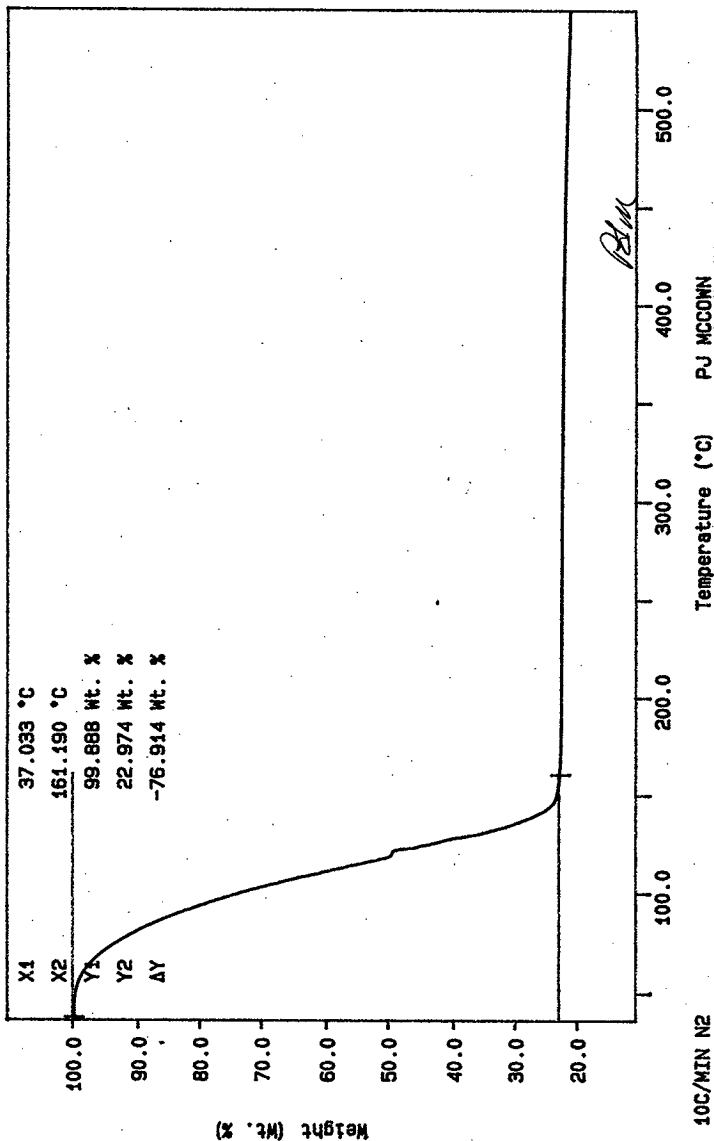
10C/MIN N2
 TGA: 35.8 g TIME: 0.0 min RATE: 10.0 C/min
 PJ MCCOWN
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Aug 10 13:13:29 1997

Curve 1: TGA
 File info: SAM081004 Sun Aug 10 14:13:05 1997
 Sample Weight: 12.915 mg
 S97T001675 DUP





Curve 1: TGA
 File Info: SAM081002 Sun Aug 10 10:50:40 1997
 Sample Weight: 13.448 mg
 S97T001679 DUP



PJ MCCONN
 PERKIN-ELMER
 7 Ser188 Thermal Analysis System
 Sun Aug 10 10:51:33 1997

LABCORE Data Entry Template for Worklist# 19356

Analyst: RLM Instrument: TGA0 3 Book # 103N8A

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

Worklist Comment: T-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>58.91*</u>	<u>N/A</u>	%
97000434	T-105	2 SAMPLE	S97T001681 0		TGA-03	LIQUID	<u>N/A</u>	<u>77.21</u>		%
97000434	T-105	3 DUP	S97T001681 0		TGA-03	LIQUID	<u>77.21</u>	<u>77.62</u>	<u>N/A</u>	%
97000435	T-105	4 SAMPLE	S97T001691 0		TGA-03	LIQUID	<u>N/A</u>	<u>76.43</u>		%
97000435	T-105	5 DUP	S97T001691 0		TGA-03	LIQUID	<u>76.43</u>	<u>76.19</u>	<u>N/A</u>	%

Final page for worklist # 19356

RLM 8/10/97
Analyst Signature Date

[Signature] 8-11-97
Analyst Signature Date

Validated 8/14/97 [Signature]

Data Entry Comments:

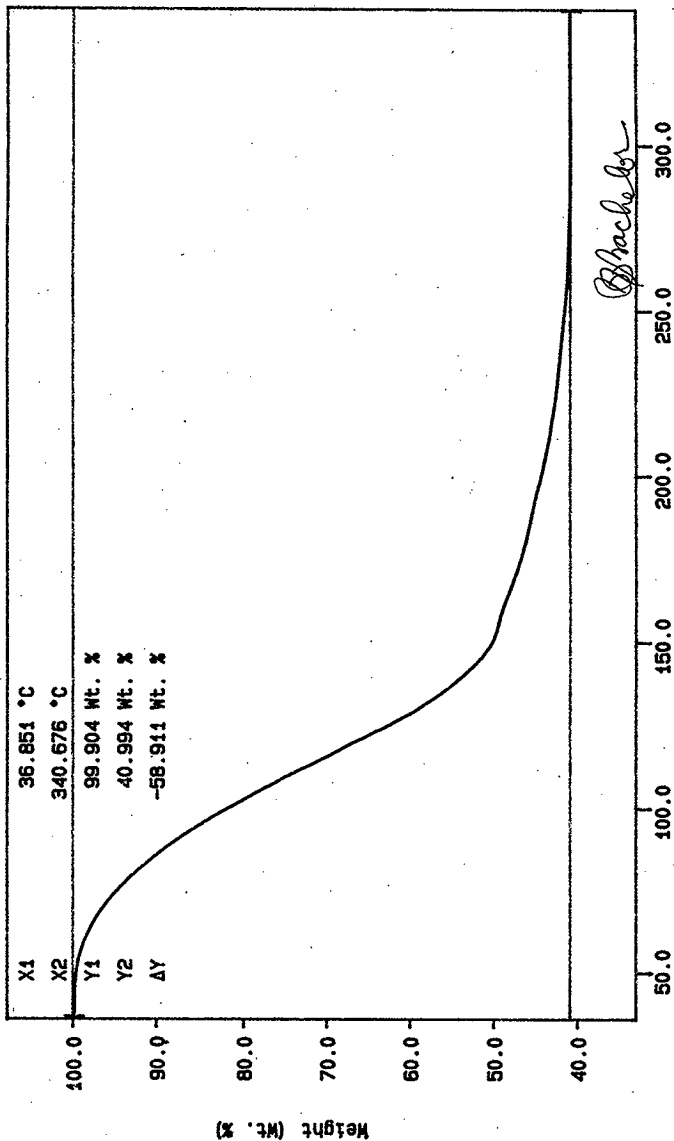
Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

Curve 1: T6A

File info: TER081001 Sun Aug 10 07:28:33 1997

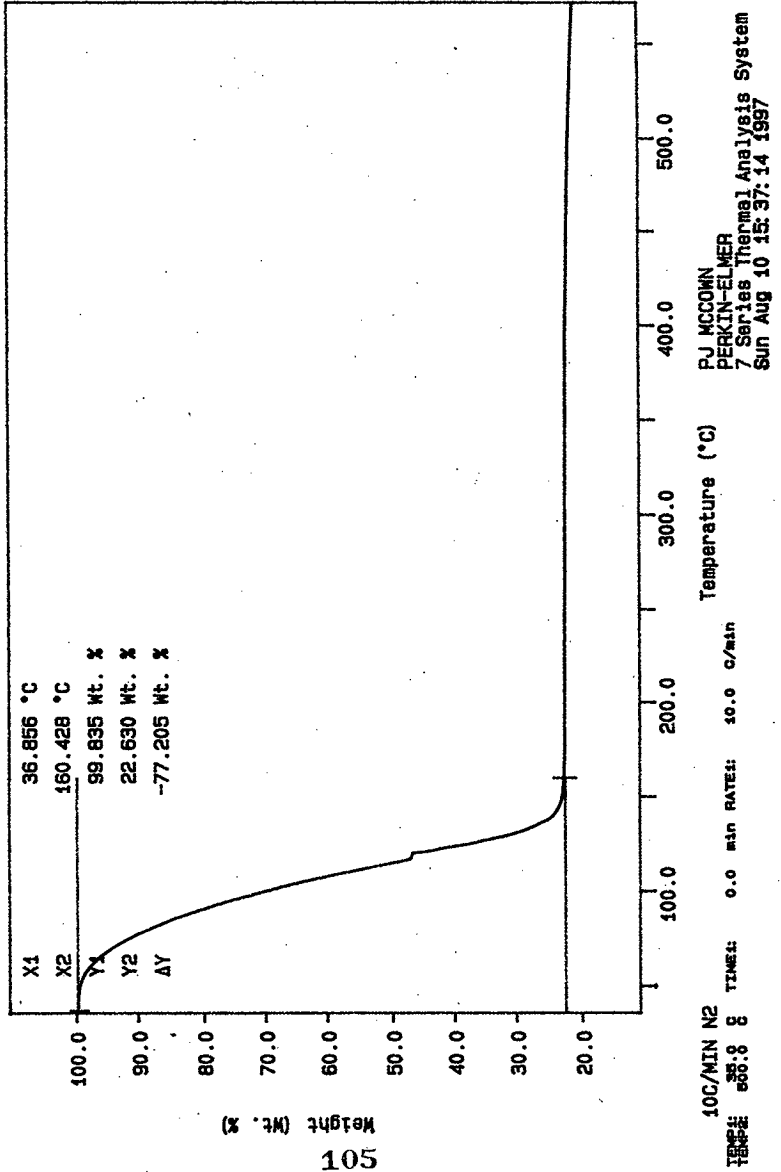
Sample Weight: 14.356 mg

STD 103N8-A

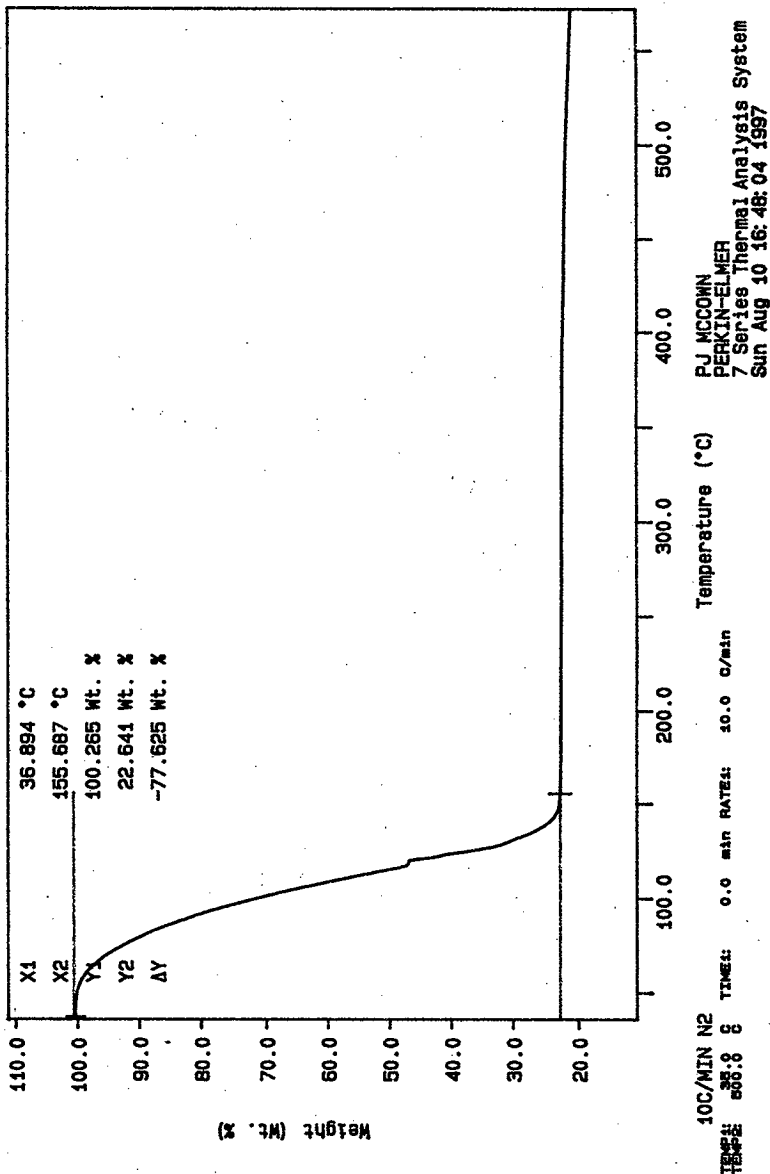
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 104 TO 108

PJ MCCOHN
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Aug 10 13:36:29 1997

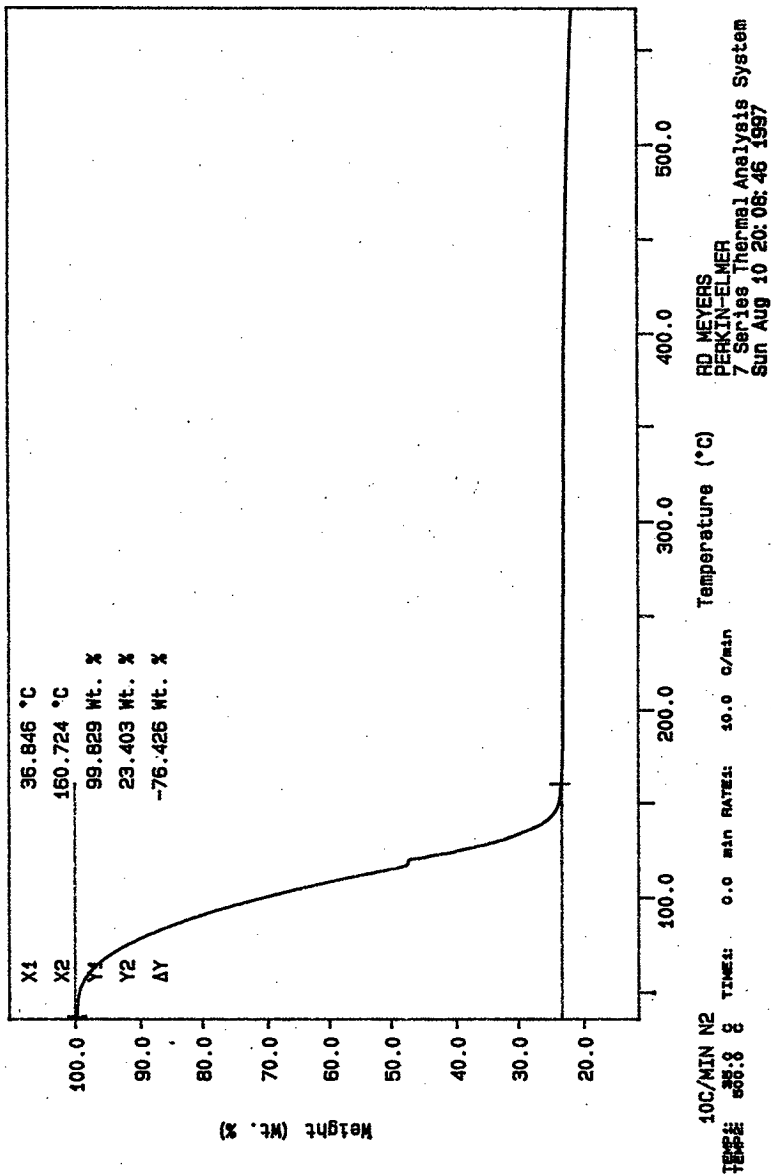
Curve 1: TGA
 File Info: SAM081005 Sun Aug 10 15:20:22 1997
 Sample Weight: 12.501 mg
 S97T001681



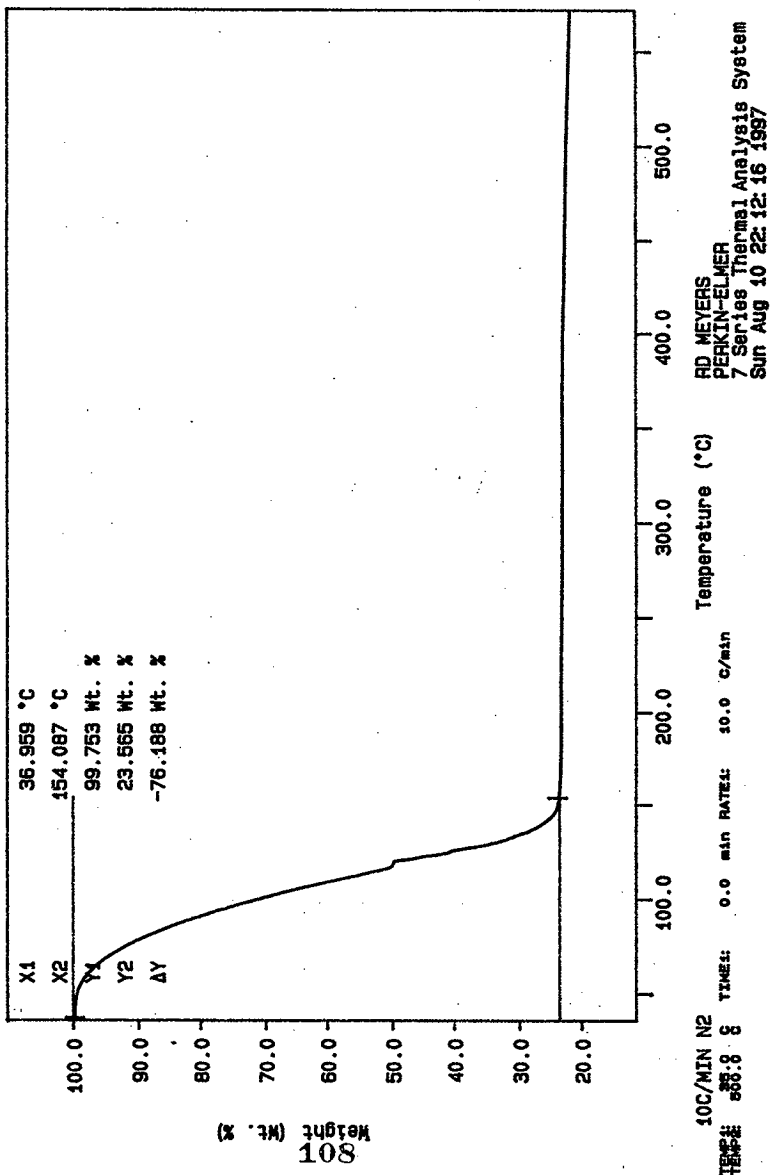
Curve 1: TGA
 File Info: SAM081006 Sun Aug 10 16: 37: 30 1997
 Sample Weight: 12.128 mg
 S97T001681 DUP



• Curve 1: TGA
 File Info: SAM081010 Sun Aug 10 20: 05: 27 1997
 Sample Weight: 12.883 mg
 S97T001691



Curve 1: TGA
File info: SAM081011 Sun Aug 10 21:11:46 1997
Sample Weight: 13.622 mg
S97T001691DUP



LABCORE Data Entry Template for Worklist# 19357

Analyst: RM Instrument: TGA0 3 Book # 103N8A

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

Worklist Comment: T-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>58.91*</u>	N/A	%
97000434	T-105	2 SAMPLE	S97T001685	0	TGA-03	SOLID	N/A	<u>68.99</u> <u>61.65</u>	<u>81.14</u>	<u>97</u> %
97000434	T-105	3 DUP	S97T001685	0	TGA-03	SOLID	<u>68.99</u> <u>61.65</u>	<u>55.51</u> <u>71.70</u>	<u>81.14</u>	<u>97</u> %
97000435	T-105	4 SAMPLE	S97T001697	0	TGA-03	SOLID	N/A	<u>61.65</u>		%
97000435	T-105	5 DUP	S97T001697	0	TGA-03	SOLID	<u>61.65</u>	<u>71.70</u>	N/A	%

Final page for worklist # 19357

RM 8/11/97
Analyst Signature Date

RM 8-11-97
Analyst Signature Date

Comments: S97T001697 and duplicate exhibited weight loss above 200°C. S97T001685 and duplicate exhibited weight loss above 200°C. High RPD S97T001685 due to sample inhomogeneities. Rerun only at customer request. RM 8/11/97

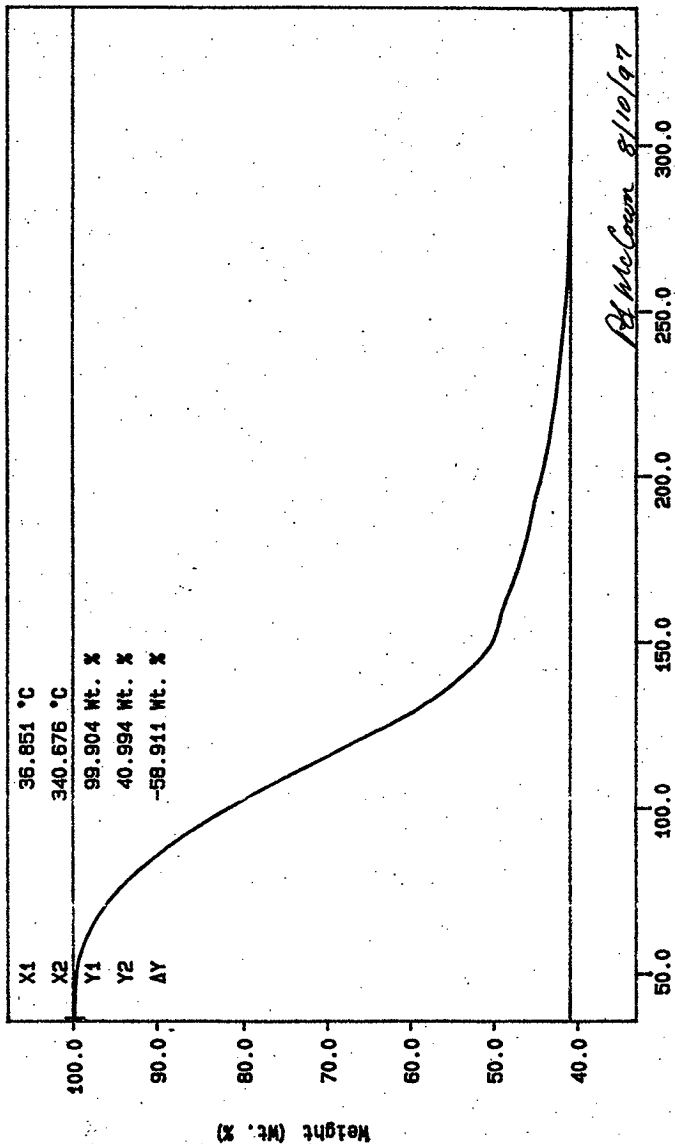
Validated 8/14/97 RM

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: TER081001 Sun Aug 10 07:26:33 1997
 Sample Weight: 14.356 mg
 STD 103NB-A

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 110 TO 114

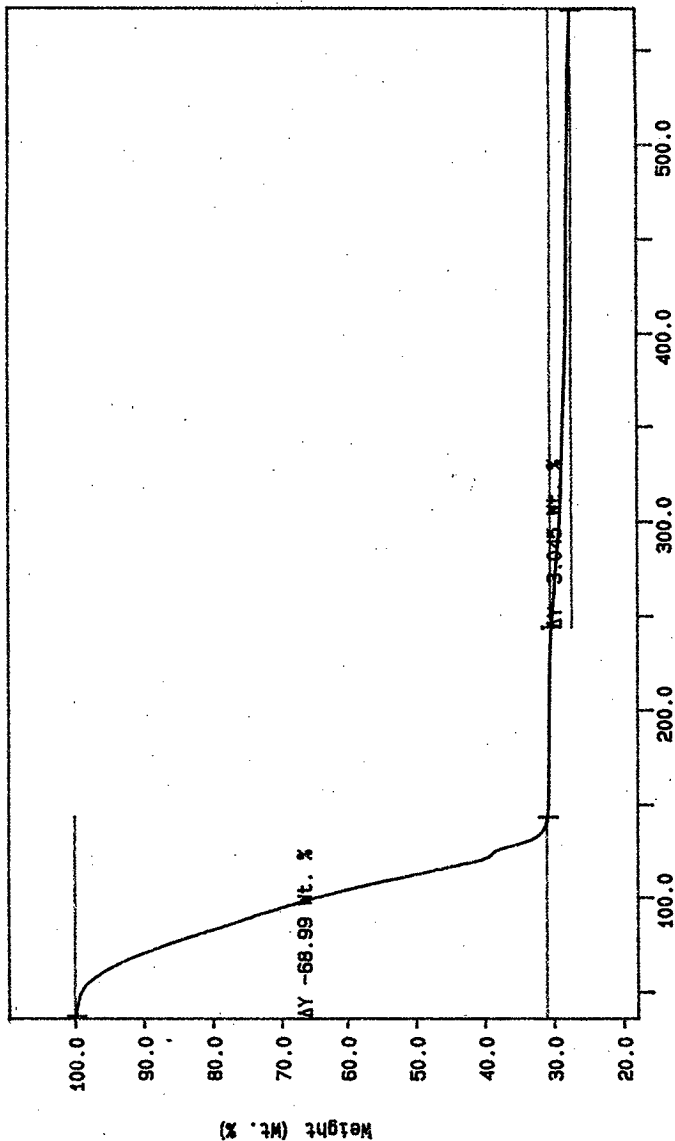


PJ McCOMM
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Aug 10 07:27:13 1997

100/MIN N2
 0.0 min RATE: 10.0 C/min

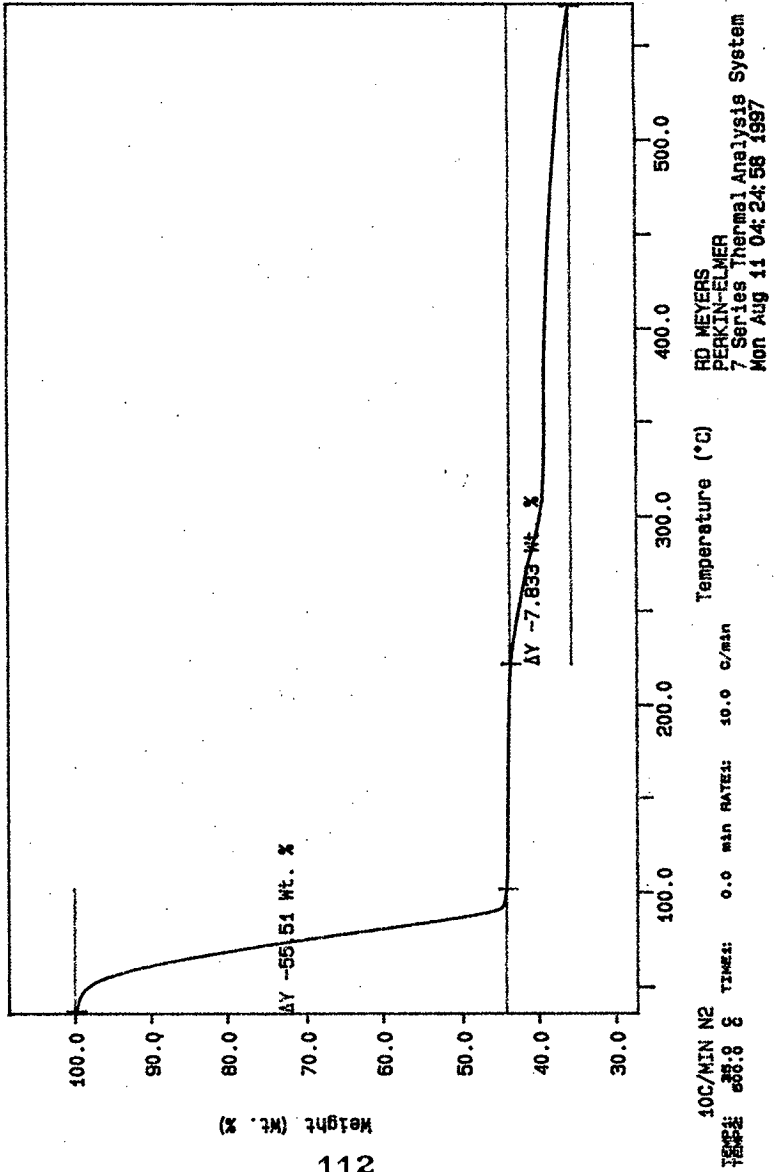
TIME: 358.8 s

Curve 1: TGA
 File info: SAM081101 Mon Aug 11 02:24:21 1997
 Sample Weight: 13.367 mg
 S97T001685

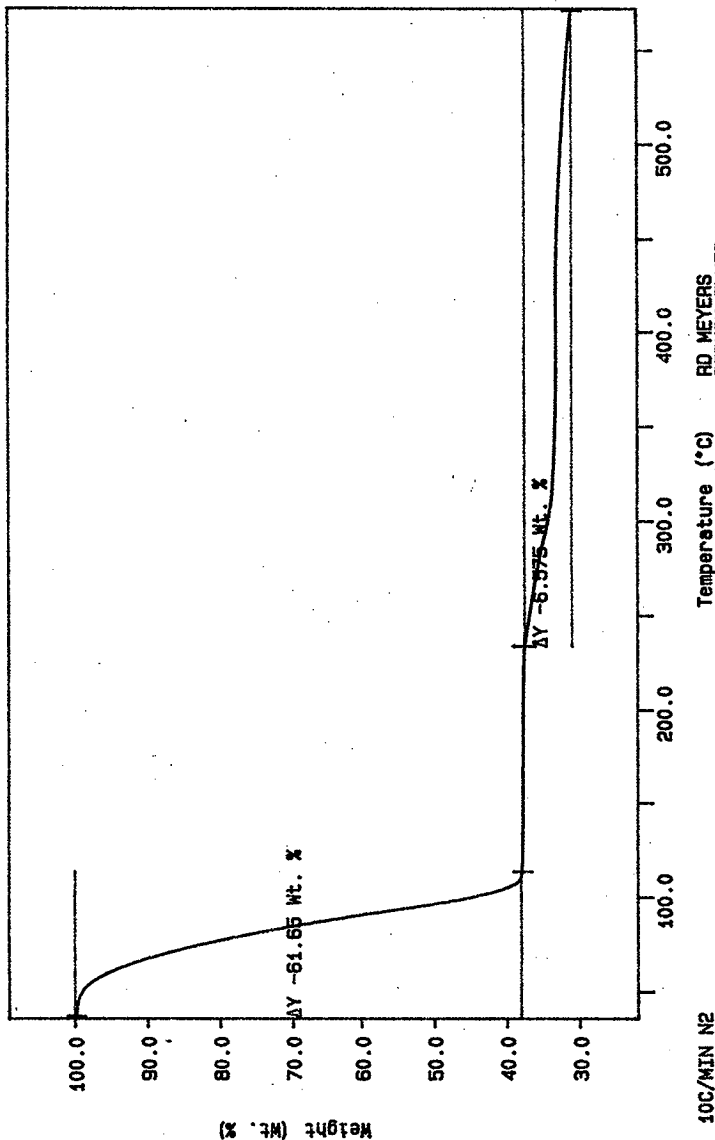


10C/MIN N2
 TEMP: 500.0 °C
 TIME: 0.0 min RATE: 10.0 °/min
 RD MEYERS
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Mon Aug 11 02:25:42 1997

Curve 1: TGA
File info: SAM081102 Mon Aug 11 03:37:15 1997
Sample Weight: 4.400 mg
S97T001685DUP

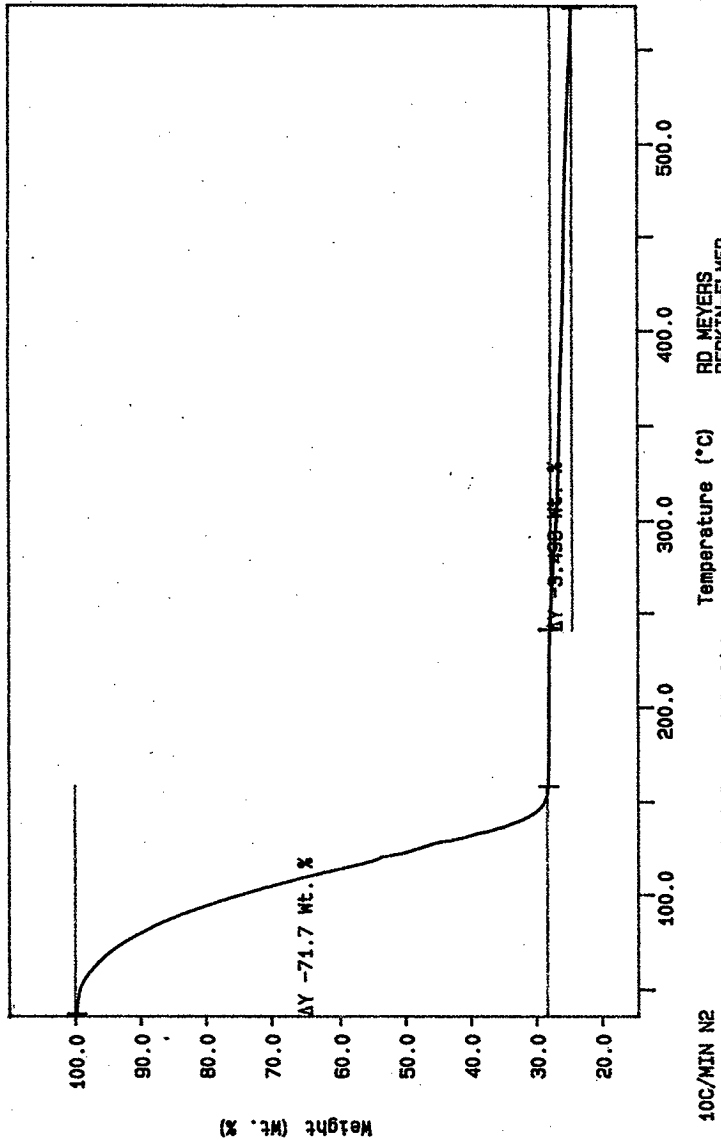


Curve 1: TGA
 File Info: SAM081012 Sun Aug 10 23: 15: 34 1997
 Sample Weight: 4.930 mg
 S97T001697



10C/MIN N2
 TGA: 886.8 g TIME: 0.0 min RATE: 10.0 C/min
 RD MEYERS
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Aug 10 23: 16: 22 1997

Curve 1: TGA
 File info: SAM081013 Mon Aug 11 00:23:28 1997
 Sample Weight: 13.548 mg
 S97T001697DUP



10C/MIN N2
 TIME: 500.0 s
 RATE: 10.0 C/min
 RD MEYERS
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Mon Aug 11 04:17:53 1997

LABCORE Data Entry Template for Worklist# 19358

Analyst: EAK Instrument: TGA0 3 Book # 103NBA

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

Worklist Comment: T-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>58.54</u>	N/A	%
97000435	T-105	2 SAMPLE	S97T001703	0	TGA-03	SOLID	<u>N/A</u>	<u>56.22</u>	<u>53.78</u>	<u>N/A</u> 10/11/97
97000435	T-105	3 DUP	S97T001703	0	TGA-03	SOLID	<u>56.22</u>	<u>53.78</u>	<u>56.22</u>	<u>N/A</u> 10/11/97
97000435	T-105	4 SAMPLE	S97T001709	0	TGA-03	SOLID	<u>N/A</u>	<u>54.67</u>		%
97000435	T-105	5 DUP	S97T001709	0	TGA-03	SOLID	<u>54.67</u>	<u>49.20</u>	N/A	%

Final page for worklist # 19358

E. Lambel 08-11-97
Analyst Signature Date

St. John 8-14-97
Analyst Signature Date

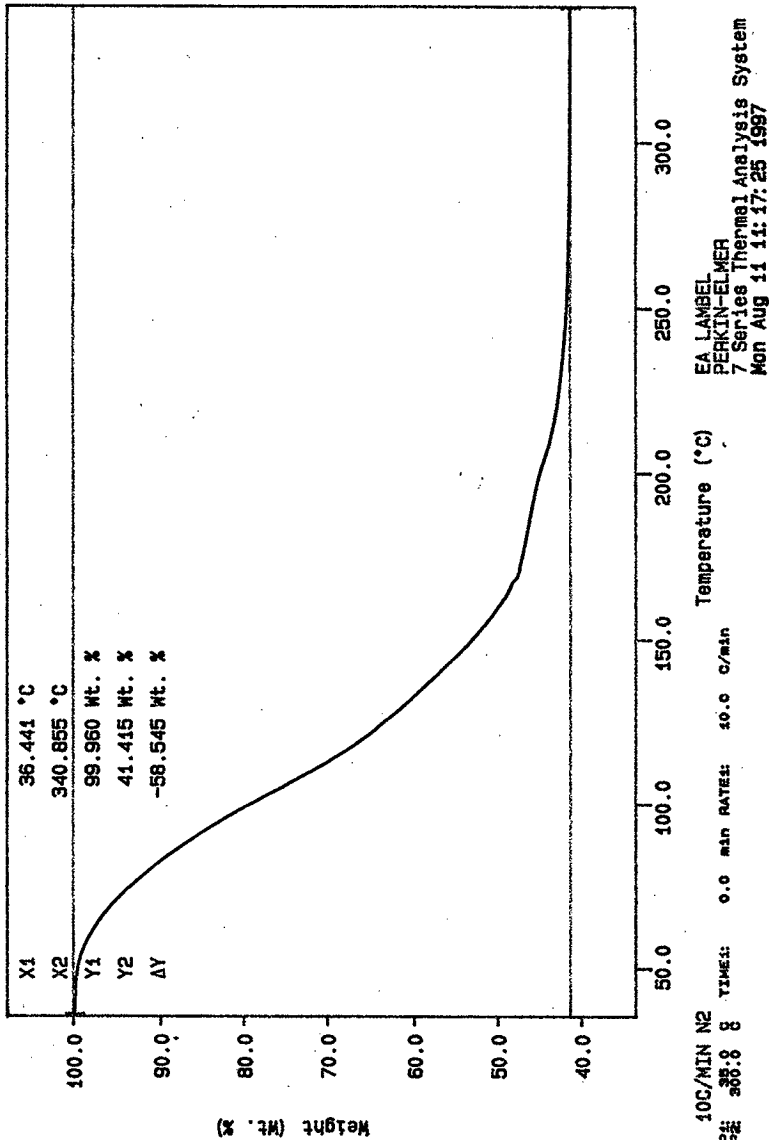
Data Entry Comments:

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.

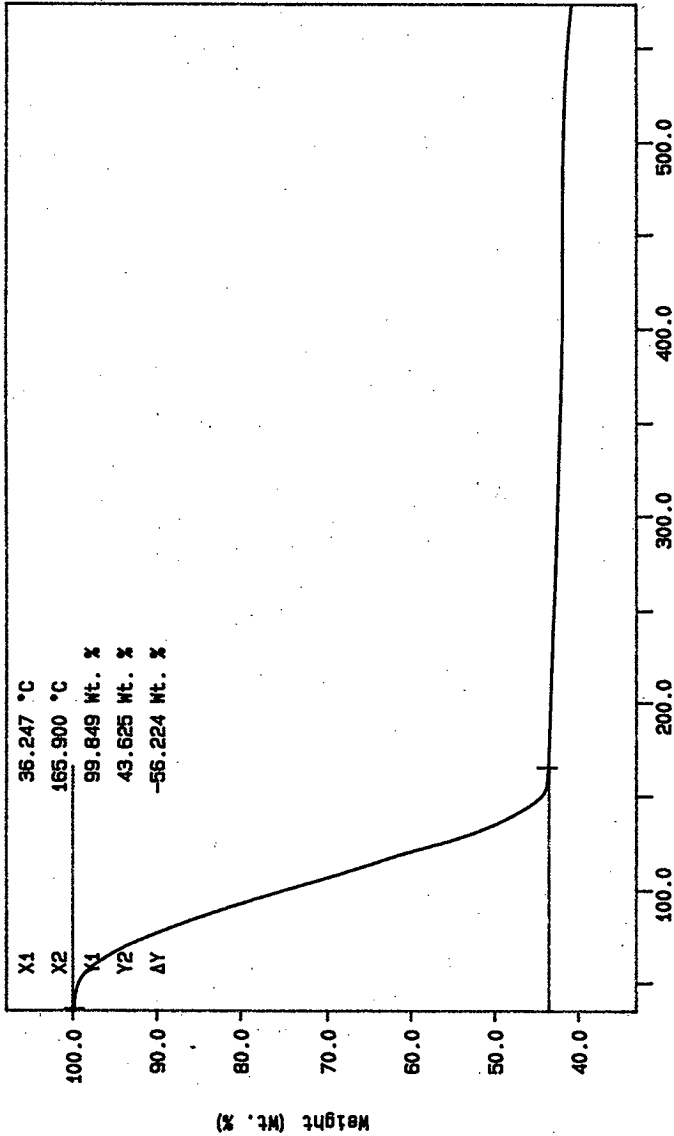
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 116 TO 120.

Curve 1: TGA
File Info: TER081101 Mon Aug 11 06:59:01 1997
Sample Weight: 20.923 mg
STD 103NB-A

EA LAMBEL 08/11/97



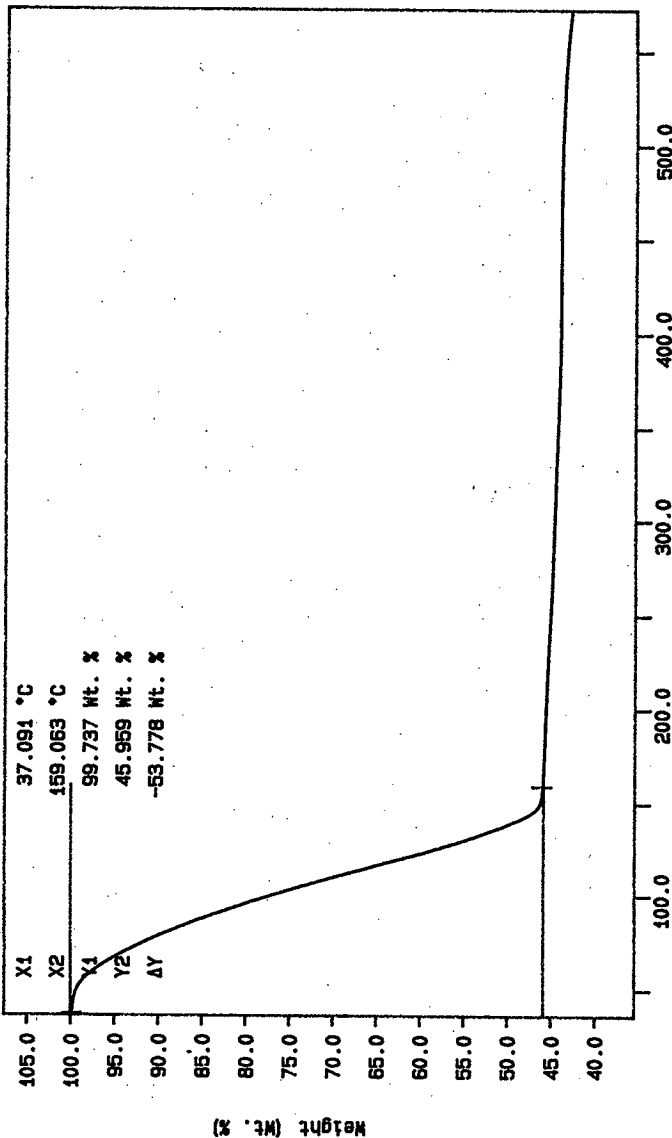
Curve 1: TGA
 File Info: SA081103 Mon Aug 11 12:20:14 1997
 Sample Weight: 28.319 mg
 S97T001703



10C/MIN N2
 TEMP: 350.0 °C
 TIME: 0.0 min RATE: 10.0 °/min
 EA LABEL
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Thu Aug 14 09:47:20 1997

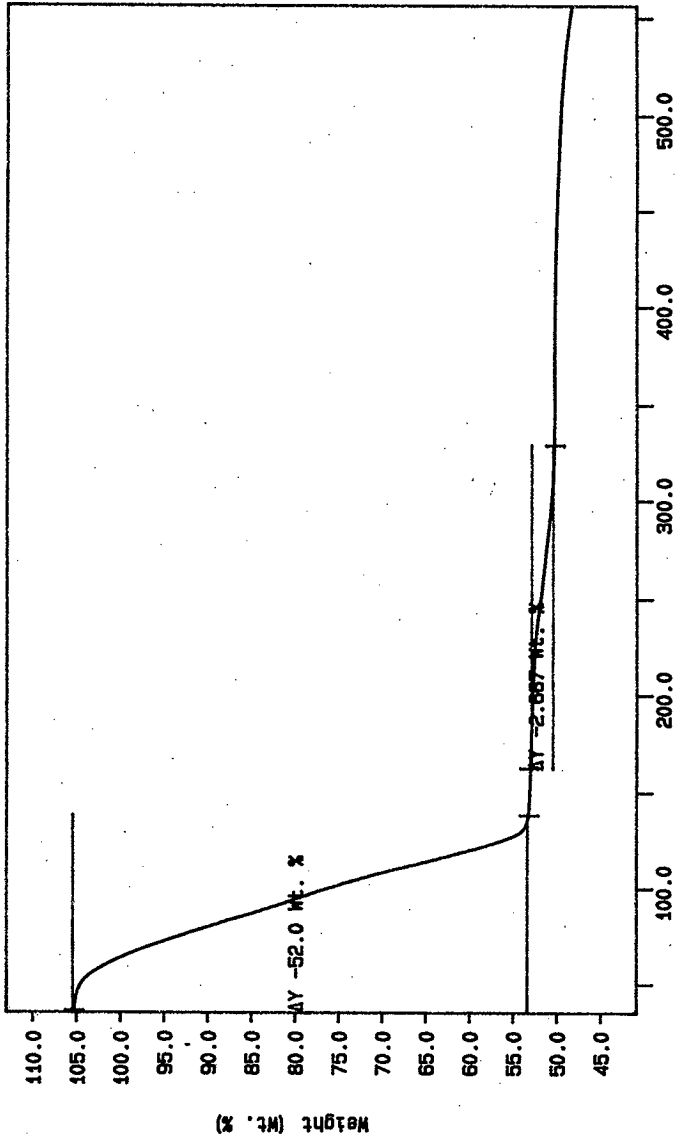
Curve 1: TGA
 File info: SAK081105 Mon Aug 11 15:29:02 1997
 Sample Weight: 16.966 mg
 S97T001703 Dup

9/26/97 14:19:07



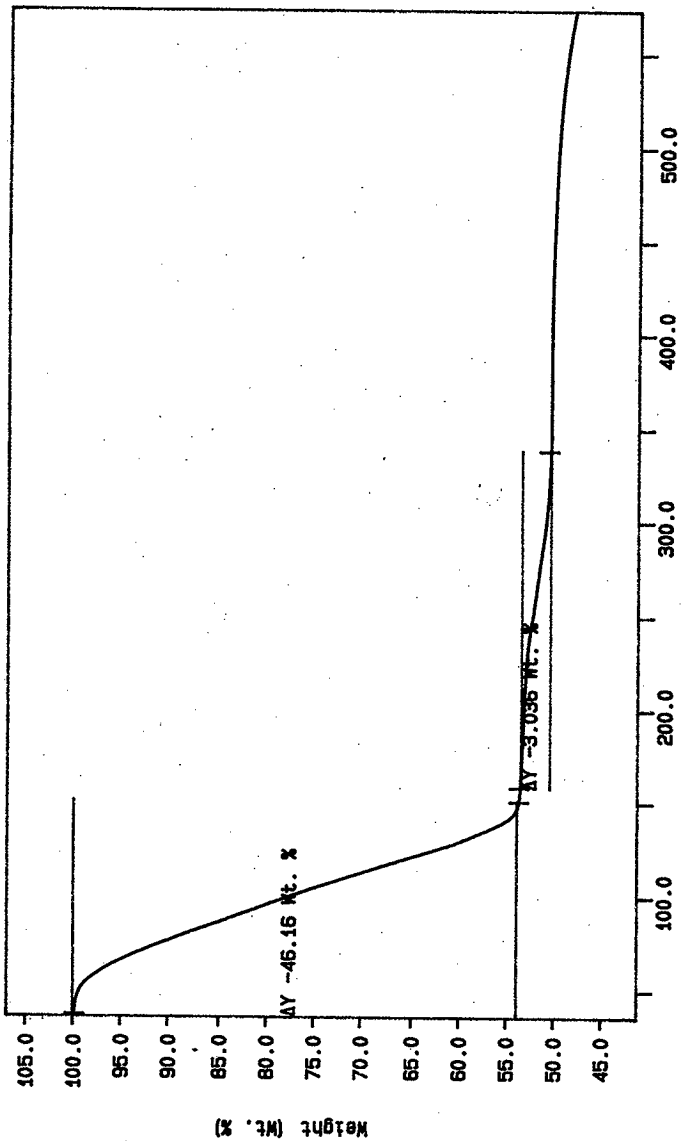
10C/MIN N2
 TEMP: 35.0 °C
 TIME: 000.0 s
 10C/MIN N2
 TIME: 0.0 min RATE: 10.0 C/min
 EA LAMBEL
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Thu Aug 14 09:59:08 1997

Curve 1: TGA
 File info: sam081106 Mon Aug 11 17:05:51 1997
 Sample Weight: 15.769 mg
 8975001709



10C/MIN N2
 TEMP: 35.8 °C
 TIME: 0.0 min RATE: 10.0 G/min
 EA LAMBEL
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Thu Aug 14 10:16:00 1997

Curve 1: TGA
 File info: SAM081107 Mon Aug 11 18:11:42 1997
 Sample Weight: 22.248 mg
 S97T001709 DUP



10C/MIN N2
 TEMP 50.0 C
 TIME 500.0 S
 10C/MIN RATE: 10.0 C/min
 EA LABEL
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Thu Aug 14 10:37:18 1997

LABCORE Data Entry Template for Worklist# 19364

Analyst: Rm Instrument: BA001 Book # 133N16AMethod: LA-510-112 Rev/Mod JD-1

Worklist Comment: T-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>1.376</u>	<u>N/A</u>	Sp.G.
97000434	T-105	2 SAMPLE	S97T001675	0	SPG-01	LIQUID	<u>N/A</u>	<u>1.174</u>	<u>0.010</u>	Sp.G.
97000434	T-105	3 DUP	S97T001675	0	SPG-01	LIQUID	<u>1.174</u>	<u>1.176</u>	<u>N/A</u>	Sp.G.
97000434	T-105	4 SAMPLE	S97T001679	0	SPG-01	LIQUID	<u>N/A</u>	<u>1.204</u>	<u>0.010</u>	Sp.G.
97000434	T-105	5 DUP	S97T001679	0	SPG-01	LIQUID	<u>1.204</u>	<u>1.194</u>	<u>N/A</u>	Sp.G.
97000434	T-105	6 SAMPLE	S97T001681	0	SPG-01	LIQUID	<u>N/A</u>	<u>1.162</u>	<u>0.010</u>	Sp.G.
97000434	T-105	7 DUP	S97T001681	0	SPG-01	LIQUID	<u>1.162</u>	<u>1.175</u>	<u>N/A</u>	Sp.G.
97000435	T-105	8 SAMPLE	S97T001691	0	SPG-01	LIQUID	<u>N/A</u>	<u>1.148</u>	<u>0.010</u>	Sp.G.
97000435	T-105	9 DUP	S97T001691	0	SPG-01	LIQUID	<u>1.148</u>	<u>1.176</u>	<u>N/A</u>	Sp.G.

Final page for worklist # 19364

Rm 7/18/97
 Analyst Signature Date

RJ 7-18-97
 Analyst Signature Date

Approved RW Schmedt 7/21/97

Data Entry Comments:

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

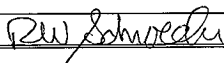
PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

Type		STANDARD	STANDARD
STANDARD	Gross Weight (W2)	2.0404	2.0392
Work List	Tare Weight (W1)	1.9373	1.9365
19364	Weight of Solution (W2-W1)	0.10313	0.10275
Test Code	Volume of Solution μ L	74.8300	74.8300
SPG-01	Specific Gravity	1.3782	1.3731
Matrix	Specific Gravity (Average)	1.3757	
LIQUID			
Sample #			
133N16A			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
RDM	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
Date			
07/18/97	$\checkmark$ RESULT $\checkmark$		
Time	Specific Gravity Average =	1.376	
10:15 AM			

Data Entry by: 

Date: 07/18/97

Approved by: 

Date: 7/21/97

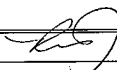
Form 510112L1 Rev. 1.1

Page 1 of 1

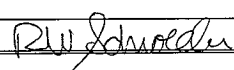
PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

Type		SAMPLE	REPLICATE
SAMPLE	Gross Weight (W2)	1.9661	1.9583
Work List	Tare Weight (W1)	1.8780	1.8706
19364	Weight of Solution (W2-W1)	0.08808	0.08767
Test Code	Volume of Solution μ L	74.8300	74.8300
SPG-01	Specific Gravity	1.1771	1.1716
Matrix	Specific Gravity (Average)	1.1743	
LIQUID			
Sample #			
S97T001675			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
RDM	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
Date			
07/18/97	v RESULT v		
Time	Specific Gravity Average =	1.174	
10:15 AM			

Data Entry by: 

Date: 07/18/97

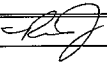
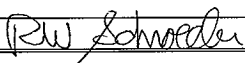
Approved by: 

Date: 7/21/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

Type		DUPLICATE	REPLICATE
DUPLICATE	Gross Weight (W2)	2.0446	1.9525
Work List	Tare Weight (W1)	1.9566	1.8645
19364	Weight of Solution (W2-W1)	0.08794	0.08802
Test Code	Volume of Solution μ L	74.8300	74.8300
SPG-01	Specific Gravity	1.1752	1.1763
Matrix	Specific Gravity (Average)	1.1757	
LIQUID			
Sample #			
S97T001675			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
RDM	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
Date			
07/18/97	v RESULT v		
Time	Specific Gravity Average =	1.176	
10:15 AM			

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)	1.9878	1.9367
Work List	Tare Weight (W1)	1.8990	1.8453
19364	Weight of Solution (W2-W1)	0.08879	0.09141
Test Code	Volume of Solution μ L	74.8300	74.8300
SPG-01	Specific Gravity	1.1866	1.2216
Matrix	Specific Gravity (Average)	1.2041	
LIQUID			
Sample #			
S97T001679			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
RDM	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
Date			
07/18/97	v RESULT v		
Time	Specific Gravity Average =	1.204	
10:15 AM			

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		DUPLICATE	REPLICATE
DUPLICATE	Gross Weight (W2)	1.9690	2.0054
Work List	Tare Weight (W1)	1.8785	1.9171
19364	Weight of Solution (W2-W1)	0.09047	0.08829
Test Code	Volume of Solution μ L	74.8300	74.8300
SPG-01	Specific Gravity	1.2090	1.1799
Matrix	Specific Gravity (Average)	1.1944	
LIQUID			
Sample #			
S97T001679			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
RDM	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
Date			
07/18/97	$\checkmark$ RESULT $\checkmark$		
Time	Specific Gravity Average =	1.194	
10:15 AM			

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)

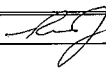
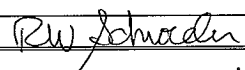
Type		SAMPLE	REPLICATE
SAMPLE	Gross Weight (W2)	1.9513	1.9742
Work List	Tare Weight (W1)	1.8648	1.8868
19364	Weight of Solution (W2-W1)	0.08649	0.0874
Test Code	Volume of Solution μ L	74.8300	74.8300
SPG-01	Specific Gravity	1.1558	1.1680
Matrix	Specific Gravity (Average)	1.1619	
LIQUID			
Sample #			
S97T001681			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
RDM	Specific Gravity = [(W2-W1) * 1000 μ L/mL] / [Vol. of Solution μ L * 1.000 g/mL]		
Date			
07/18/97	v RESULT v		
Time	Specific Gravity Average =	1.162	
10:15 AM			

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

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

Type		DUPLICATE	REPLICATE
DUPLICATE	Gross Weight (W2)	2.0074	1.9497
Work List	Tare Weight (W1)	1.9191	1.8620
19364	Weight of Solution (W2-W1)	0.08823	0.08768
Test Code	Volume of Solution μ L	74.8300	74.8300
SPG-01	Specific Gravity	1.1791	1.1717
Matrix	Specific Gravity (Average)	1.1754	
LIQUID			
Sample #			
S97T001681			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
RDM	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
Date			
07/18/97	$\checkmark$ RESULT $\checkmark$		
Time	Specific Gravity Average =	1.175	
10:15 AM			

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)	1.9965	1.8934
Work List	Tare Weight (W1)	1.9097	1.8085
19364	Weight of Solution (W2-W1)	0.08687	0.08488
Test Code	Volume of Solution μL	74.8300	74.8300
SPG-01	Specific Gravity	1.1609	1.1343
Matrix	Specific Gravity (Average)	1.1476	
LIQUID			
Sample #			
S97T001691			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
RDM	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
Date			
07/18/97	v RESULT v		
Time	Specific Gravity Average =	1.148	
10:15 AM			

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		DUPLICATE	REPLICATE
DUPLICATE	Gross Weight (W2)	2.0049	1.9038
Work List	Tare Weight (W1)	1.9187	1.8140
19364	Weight of Solution (W2-W1)	0.08614	0.08986
Test Code	Volume of Solution μ L	74.8300	74.8300
SPG-01	Specific Gravity	1.1511	1.2009
Matrix	Specific Gravity (Average)	1.1760	
LIQUID			
Sample #			
S97T001691			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
RDM	Specific Gravity = $[(W2-W1) \times 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} \times 1.000 \text{ g/mL}]$		
Date			
07/18/97	v RESULT v		
Time	Specific Gravity Average =	1.176	
10:15 AM			

Data Entry by:

Date:

07/18/97

Approved by:

Date:

7/21/97

LABCORE Completed Worklist Report for Worklist# 18958

Analyst: eal

Instrument: IC01

Book# 72120A

Method: 14-533-05 Rev/Mod D-1

Worklist Comment: T-105 IC. RCJ

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	CCB	0	①IC-QC	F	QC	1	<1.20e-2	ug/mL
1	CCB	0	①IC-QC	CL	QC	1	<1.70e-2	ug/mL
1	CCB	0	①IC-QC	NO2	QC	1	<1.08e-1	ug/mL
1	CCB	0	①IC-QC	BR	QC	1	<1.25e-1	ug/mL
1	CCB	0	①IC-QC	NO3	QC	1	1.93e-01	0.193 ug/mL
1	CCB	0	①IC-QC	PO4	QC	1	<1.20e-1	ug/mL
1	CCB	0	①IC-QC	SO4	QC	1	<1.38e-1	ug/mL
1	CCB	0	①IC-QC	OxALATE2	QC	1	<1.05e-1	ug/mL
2	CCV	0	①IC-QC	F	QC	5.90e01	6.01e+01	101.864 % Recovery
2	CCV	0	①IC-QC	CL	QC	7.90e01	7.42e+01	93.924 % Recovery
2	CCV	0	①IC-QC	NO2	QC	5.43e02	5.43e+02	100.000 % Recovery
2	CCV	0	①IC-QC	BR	QC	5.89e02	5.87e+02	99.660 % Recovery
2	CCV	0	①IC-QC	NO3	QC	5.94e02	5.92e+02	99.663 % Recovery
2	CCV	0	①IC-QC	PO4	QC	5.45e02	5.06e+02	92.844 % Recovery
2	CCV	0	①IC-QC	SO4	QC	6.32e02	6.15e+02	97.468 % Recovery
2	CCV	0	①IC-QC	OxALATE2	QC	5.34e02	5.39e+02	100.936 % Recovery
3	SAMPLE	S97T001505	0	①IC-01	F-02	LIQUID	N/A < 1.200e-02	1.20e-002 ug/mL
3	SAMPLE	S97T001505	0	①IC-01	CL-02	LIQUID	N/A < 1.700e-02	1.70e-002 ug/mL
3	SAMPLE	S97T001505	0	①IC-01	NO2-02	LIQUID	N/A < 1.080e-01	0.108 ug/mL
3	SAMPLE	S97T001505	0	①IC-01	BR-02	LIQUID	N/A < 1.250e-01	0.125 ug/mL
3	SAMPLE	S97T001505	0	①IC-01	NO3-02	LIQUID	N/A < 2.060e-01	0.139 ug/mL
3	SAMPLE	S97T001505	0	①IC-01	PO4-02	LIQUID	N/A < 1.200e-01	0.120 ug/mL
3	SAMPLE	S97T001505	0	①IC-01	SO4-02	LIQUID	N/A < 1.380e-01	0.138 ug/mL
3	SAMPLE	S97T001505	0	①IC-01	OxALATE2	LIQUID	N/A < 1.050e-01	0.105 ug/mL
4	DUP	S97T001505	0	①IC-01	F-02	LIQUID	<1.20e-2	<1.20e-2 RPD
4	DUP	S97T001505	0	①IC-01	CL-02	LIQUID	<1.70e-2	<1.70e-2 RPD
4	DUP	S97T001505	0	①IC-01	NO2-02	LIQUID	<1.08e-1	<1.08e-1 RPD
4	DUP	S97T001505	0	①IC-01	BR-02	LIQUID	<1.25e-1	<1.25e-1 RPD
4	DUP	S97T001505	0	①IC-01	NO3-02	LIQUID	2.06e-01	1.91e-01 7.557 RPD
4	DUP	S97T001505	0	①IC-01	PO4-02	LIQUID	<1.20e-1	<1.20e-1 RPD
4	DUP	S97T001505	0	①IC-01	SO4-02	LIQUID	<1.38e-1	<1.38e-1 RPD
4	DUP	S97T001505	0	①IC-01	OxALATE2	LIQUID	<1.05e-1	<1.05e-1 RPD

Final page for worklist# 18958

Analyst Signature

Date

Jean M. Faye 7/1/97

Analyst Signature

Date

06/27/97 07:58
A-0004-1

HNF-SD-WM-DP-265, REV. 0

Page: 1

LABCORE Data Entry Template for Worklist# 18958

Analyst: gll Instrument: IC0 1 Book# 72020A
Method: LA-533-105 Rev/Mod D.1
Worklist Comment: T-105 IC. RCJ

S Type	Sample#	R A	Test	Matrix	Group#	Project
1	CCB		@IC-QC	QC		
2	CCV		@IC-QC	QC		
3	SAMPLE	S97T001505 0	@IC-01	LIQUID	97000434	T-105
		Analytes Requested:	BR-02	CL-02	F-02	NO2-02
			OXALATE2	PO4-02	SO4-02	NO3-02
4	DUP	S97T001505 0	@IC-01	LIQUID		

Final page for worklist # 18958

A. Lambel 06-27-97
Analyst Signature Date

Analyst Signature Date

uploaded 6-30-97

John Wouell
18958JUN.CSV

Validated 6/30/97 JmFrye

Data Entry Comments:

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

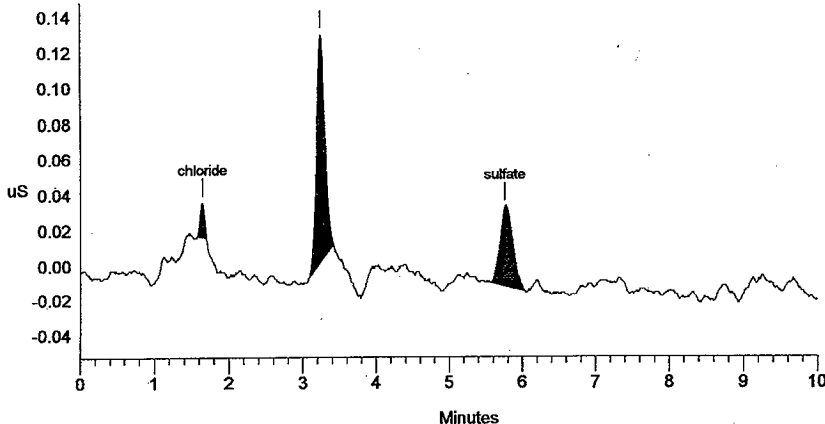
Sample Name: INST. BLANK Date: 06/27/1997 19:41:27
 Data File : C:\DX\DATA\97062701.D01
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 1 Detector: CDM-1
 Analyst : *Janis J. [Signature]* Column: AG4A/AS4A anion column

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	1.65	chloride	0.001	20	79	1	3.35
2	3.24	nitrate	0.193	128	992	1	-0.31
3	5.76	sulfate	-0.020	44	543	1	-4.42
Totals			0.174	191	1614		

File: 97062701.D01 Sample: INST. BLANK



SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 133 TO 136.

```

=====
Sample Name: 72N20-A STD.          Date: 06/27/1997 19:53:33
Data File  : C:\DX\DATA\97062701.D02
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 2 Detector: CDM-1
Analyst    :                      Column: AG4A/AS4A anion column
=====

```

```

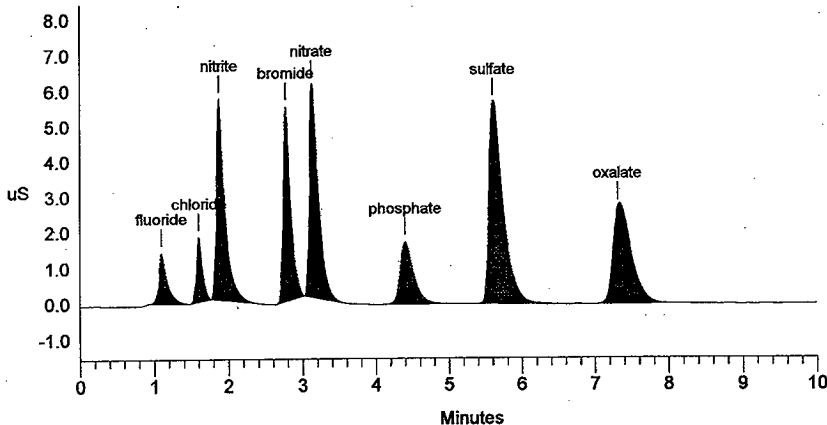
=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          101    3000  5Hz   0.00 10.00      30
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.10	fluoride	60.063	1435	10866	1	-1.79
2	1.60	chloride	74.193	1810	9681	1	0.42
3	1.87	nitrite	543.041	5648	42920	1	-2.77
4	2.77	bromide	587.215	5486	36710	1	1.59
5	3.13	nitrate	592.344	5984	49327	1	-3.79
6	4.40	phosphate	505.869	1741	22388	1	-4.62
7	5.60	sulfate	615.624	5670	75562	1	-7.08
8	7.31	oxalate	538.981	2729	47661	1	-6.80
Totals			3517.329	30503	295117		

File: 97062701.D02 Sample: 72N20-A STD.



```

=====
Sample Name: S97T001505                      Date: 06/27/1997 22:13:38
Data File  : C:\DX\DATA\97062701.D04
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 4           Detector: CDM-1
Analyst    :                               Column: AG4A/AS4A anion column
=====

```

```

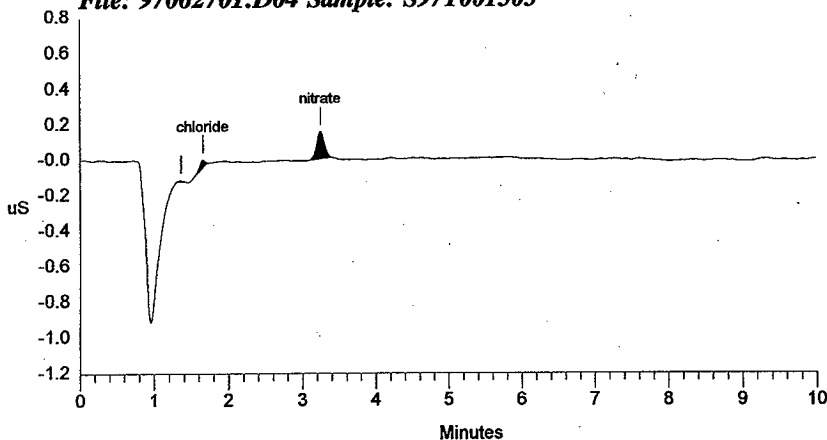
=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          1    3000  5Hz   0.00 10.00          30
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.36		0.000	11	60	1	
2	1.66	chloride	0.012	43	230	1	4.18
3	3.25	nitrate	0.206	155	1103	1	-0.10
Totals			0.219	208	1393		

File: 97062701.D04 Sample: S97T001505



```

=====
Sample Name: S97T001505 DUP      Date: 06/27/1997 22:24:23
Data File  : C:\DX\DATA\97062701.D05
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 5 Detector: CDM-1
Analyst    :      Column: AG4A/AS4A anion column
=====

```

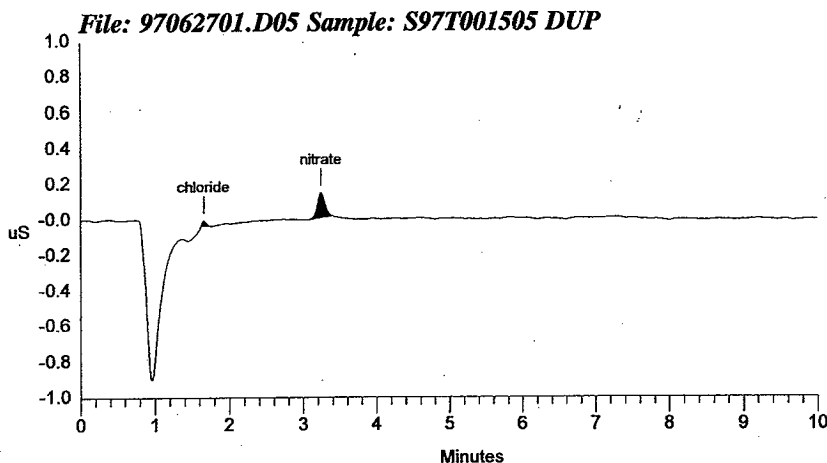
```

=====
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	1.66	chloride	0.002	30	101	1	4.18
2	3.25	nitrate	0.191	138	974	1	-0.10
Totals			0.193	168	1075		



LABCORE Completed Worklist Report for Worklist# 18903

Analyst: rag

Instrument: IC02

Book# 72N20A

Method: LA533105 Rev/Mod D-1

Worklist Comment: AW-104 AND T-105 FIELD BLNK AND LIBR BLNK FOR IC. RCJ

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	CCB	0	⊖IC-QC F	QC	1	<1.20e-2		ug/mL
1	CCB	0	⊖IC-QC CL	QC	1	<1.70e-2		ug/mL
1	CCB	0	⊖IC-QC NO2	QC	1	<1.08e-1		ug/mL
1	CCB	0	⊖IC-QC BR	QC	1	<1.25e-1		ug/mL
1	CCB	0	⊖IC-QC NO3	QC	1	<1.39e-1		ug/mL
1	CCB	0	⊖IC-QC PO4	QC	1	<1.20e-1		ug/mL
1	CCB	0	⊖IC-QC SO4	QC	1	<1.38e-1		ug/mL
1	CCB	0	⊖IC-QC OXALATE2	QC	1	<1.05e-1		ug/mL
2	CCV	0	⊖IC-QC F	QC	5.90e01	5.68e+01	96.271 % Recovery	
2	CCV	0	⊖IC-QC CL	QC	7.90e01	7.37e+01	93.291 % Recovery	
2	CCV	0	⊖IC-QC NO2	QC	5.43e02	5.05e+02	93.002 % Recovery	
2	CCV	0	⊖IC-QC BR	QC	5.89e02	5.41e+02	91.851 % Recovery	
2	CCV	0	⊖IC-QC NO3	QC	5.94e02	5.74e+02	96.633 % Recovery	
2	CCV	0	⊖IC-QC PO4	QC	5.45e02	5.36e+02	98.349 % Recovery	
2	CCV	0	⊖IC-QC SO4	QC	6.32e02	6.18e+02	97.785 % Recovery	
2	CCV	0	⊖IC-QC OXALATE2	QC	5.34e02	5.23e+02	97.940 % Recovery	
3	SAMPLE	S97T001425	0	⊖IC-01 F-02	LIQUID	N/A <	1.200e-02	1.20e-002 ug/mL
3	SAMPLE	S97T001425	0	⊖IC-01 CL-02	LIQUID	N/A <	3.780e-01	1.70e-002 ug/mL
3	SAMPLE	S97T001425	0	⊖IC-01 NO2-02	LIQUID	N/A <	1.440e-01	0.108 ug/mL
3	SAMPLE	S97T001425	0	⊖IC-01 BR-02	LIQUID	N/A <	1.250e-01	0.125 ug/mL
3	SAMPLE	S97T001425	0	⊖IC-01 NO3-02	LIQUID	N/A <	1.760e-01	0.139 ug/mL
3	SAMPLE	S97T001425	0	⊖IC-01 PO4-02	LIQUID	N/A <	1.200e-01	0.120 ug/mL
3	SAMPLE	S97T001425	0	⊖IC-01 SO4-02	LIQUID	N/A <	3.400e-01	0.138 ug/mL
3	SAMPLE	S97T001425	0	⊖IC-01 OXALATE2	LIQUID	N/A <	1.050e-01	0.105 ug/mL
4	DUP	S97T001425	0	⊖IC-01 F-02	LIQUID	<1.20e-2	<1.20e-2	RPD
4	DUP	S97T001425	0	⊖IC-01 CL-02	LIQUID	3.78e-01	4.14e-01	9.091 RPD
4	DUP	S97T001425	0	⊖IC-01 NO2-02	LIQUID	1.44e-01	1.46e-01	1.379 RPD
4	DUP	S97T001425	0	⊖IC-01 BR-02	LIQUID	<1.25e-1	<1.25e-1	RPD
4	DUP	S97T001425	0	⊖IC-01 NO3-02	LIQUID	3.76e-01	4.43e-01	16.361 RPD
4	DUP	S97T001425	0	⊖IC-01 PO4-02	LIQUID	<1.20e-1	<1.20e-1	RPD
4	DUP	S97T001425	0	⊖IC-01 SO4-02	LIQUID	3.40e-01	3.62e-01	11.634 RPD
4	DUP	S97T001425	0	⊖IC-01 OXALATE2	LIQUID	<1.05e-1	<1.05e-1	RPD
5	SAMPLE	S97T001443	0	⊖IC-01 F-02	LIQUID	N/A <	1.333e+01	13.330 ug/mL
5	SAMPLE	S97T001443	0	⊖IC-01 CL-02	LIQUID	N/A <	2.403e+01	18.890 ug/mL
5	SAMPLE	S97T001443	0	⊖IC-01 NO2-02	LIQUID	N/A <	1.200e+02	120.000 ug/mL
5	SAMPLE	S97T001443	0	⊖IC-01 BR-02	LIQUID	N/A <	1.848e+04	138.900 ug/mL
5	SAMPLE	S97T001443	0	⊖IC-01 NO3-02	LIQUID	N/A <	2.138e+02	154.400 ug/mL
5	SAMPLE	S97T001443	0	⊖IC-01 PO4-02	LIQUID	N/A <	1.333e+02	133.300 ug/mL
5	SAMPLE	S97T001443	0	⊖IC-01 SO4-02	LIQUID	N/A <	1.533e+02	153.300 ug/mL
5	SAMPLE	S97T001443	0	⊖IC-01 OXALATE2	LIQUID	N/A <	1.167e+02	116.700 ug/mL
6	DUP	S97T001443	0	⊖IC-01 F-02	LIQUID	<1.33e1	<1.33e1	RPD

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

LABCORE Completed Worklist Report for Worklist# 18903

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit	t
6 DUP	S97T001443	0	⊖IC-01 CL-02	LIQUID	2.40e+01	2.57e+01	6.841	RPD	
6 DUP	S97T001443	0	⊖IC-01 NO2-02	LIQUID	<1.20e2	<1.20e2		RPD	
6 DUP	S97T001443	0	⊖IC-01 BR-02	LIQUID	1.85e+04	1.83e+04	1.087	RPD	
6 DUP	S97T001443	0	⊖IC-01 NO3-02	LIQUID	2.14e+02	2.07e+02	3.325	RPD	
6 DUP	S97T001443	0	⊖IC-01 PO4-02	LIQUID	<1.33e2	<1.33e2		RPD	
6 DUP	S97T001443	0	⊖IC-01 SO4-02	LIQUID	<1.53e2	<1.53e2		RPD	
6 DUP	S97T001443	0	⊖IC-01 OXALATE2	LIQUID	<1.17e2	<1.17e2		RPD	
7 SAMPLE	S97T001506	0	⊖IC-01 F-02	LIQUID	N/A	< 1.333e+01	13.330	ug/mL	
7 SAMPLE	S97T001506	0	⊖IC-01 CL-02	LIQUID	N/A	4.052e+01	18.890	ug/mL	
7 SAMPLE	S97T001506	0	⊖IC-01 NO2-02	LIQUID	N/A	< 1.200e+02	120.000	ug/mL	
7 SAMPLE	S97T001506	0	⊖IC-01 BR-02	LIQUID	N/A	2.547e+04	138.900	ug/mL	
7 SAMPLE	S97T001506	0	⊖IC-01 NO3-02	LIQUID	N/A	2.044e+02	154.400	ug/mL	
7 SAMPLE	S97T001506	0	⊖IC-01 PO4-02	LIQUID	N/A	< 1.333e+02	133.300	ug/mL	
7 SAMPLE	S97T001506	0	⊖IC-01 SO4-02	LIQUID	N/A	1.737e+02	153.300	ug/mL	
7 SAMPLE	S97T001506	0	⊖IC-01 OXALATE2	LIQUID	N/A	< 1.167e+02	116.700	ug/mL	
8 DUP	S97T001506	0	⊖IC-01 F-02	LIQUID	<1.33e1	<1.33e1		RPD	
8 DUP	S97T001506	0	⊖IC-01 CL-02	LIQUID	4.05e+01	6.41e+01	45.124	RPD	
8 DUP	S97T001506	0	⊖IC-01 NO2-02	LIQUID	<1.20e2	<1.20e2		RPD	
8 DUP	S97T001506	0	⊖IC-01 BR-02	LIQUID	2.55e+04	2.60e+04	1.942	RPD	
8 DUP	S97T001506	0	⊖IC-01 NO3-02	LIQUID	2.04e+02	1.76e+02	14.737	RPD	
8 DUP	S97T001506	0	⊖IC-01 PO4-02	LIQUID	<1.33e2	<1.33e2		RPD	
8 DUP	S97T001506	0	⊖IC-01 SO4-02	LIQUID	1.74e+02	1.73e+02	0.576	RPD	
8 DUP	S97T001506	0	⊖IC-01 OXALATE2	LIQUID	<1.17e2	<1.17e2		RPD	

Final page for worklist# 18903

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

W. Anasta 8.8.97
Reviewer Signature Date

LABCORE Data Entry Template for Worklist# 18903

Analyst: RAG Instrument: IC0 2 Book# 72N2DA

Method: LA-533-105 Rev/Mod D-1

Worklist Comment: AW-104 AND T-105 FIELD BLNK AND LIBR BLNK FOR IC. RCJ

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC-QC	QC		
2 CCV			@IC-QC	QC		
3 SAMPLE	S97T001425 0		@IC-01	LIQUID	97000426	AW-104
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
4 DUP	S97T001425 0		@IC-01	LIQUID		
5 SAMPLE	S97T001443 0		@IC-01	LIQUID	97000426	AW-104
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
6 DUP	S97T001443 0		@IC-01	LIQUID		
7 SAMPLE	S97T001506 0		@IC-01	LIQUID	97000434	T-105
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
8 DUP	S97T001506 0		@IC-01	LIQUID		

Final page for worklist # 18903

H Anastro for RAG 8/8/97
Analyst Signature Date

Analyst Signature Date

Validated 8/8/97 by H Anastro

Data Entry Comments:

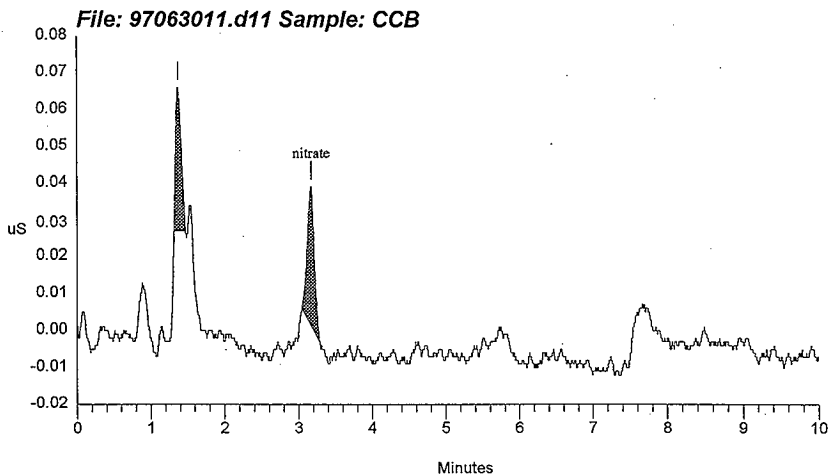
Data Reprocessed On 08/08/1997 14:18:29

```
=====
Sample Name: CCB                               Date: 06/30/1997 14:00:35
Data File  : E:\DATA\97063011.d11
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 11           Detector: CPM-1
Analyst    : Trace 25 for R16 Column: AG4A/AS4A anion column
=====
```

```
=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          1 3000 5Hz 0.00 10.00          50
=====
```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.37		0.000	39	212	1	
2	3.17	nitrate	0.135	38	252	1	0.11
Totals			0.135	77	464		



SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 140 TO 143.

Data Reprocessed On 08/08/1997 14:18:29

```

=====
Sample Name: CCV 72N20-A                      Date: 06/30/1997 14:11:46
Data File  : E:\DATA\97063011.d12
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 12           Detector: CPM-1
Analyst    :                               Column: AG4A/AS4A anion column
=====

```

```

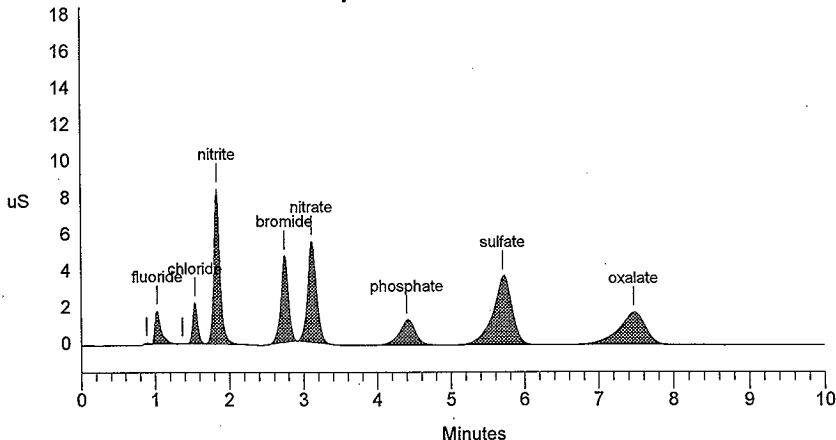
=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          101    3000  5Hz   0.00 10.00          50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.89		0.000	65	250	2	
2	1.03	fluoride	56.755	1788	10327	2	1.65
3	1.37		0.000	25	102	1	
4	1.54	chloride	73.691	2225	10438	1	0.00
5	1.84	nitrite	505.482	8488	48967	1	-1.43
6	2.75	bromide	541.455	4733	33815	1	-1.55
7	3.11	nitrate	574.260	5533	46851	1	-1.79
8	4.40	phosphate	536.198	1348	20982	1	-1.20
9	5.71	sulfate	618.192	3742	67972	1	-0.06
10	7.47	oxalate	523.347	1765	43913	1	-6.08
Totals			3429.380	29711	283618		

File: 97063011.d12 Sample: CCV 72N20-A



Data Reprocessed On 08/08/1997 14:18:34

```

=====
Sample Name: S97T001506                      Date: 06/30/1997 15:33:10
Data File  : E:\DATA\97063011.d20
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 20          Detector: CDM-1
Analyst    :                               Column: AG4A/AS4A anion column
=====

```

```

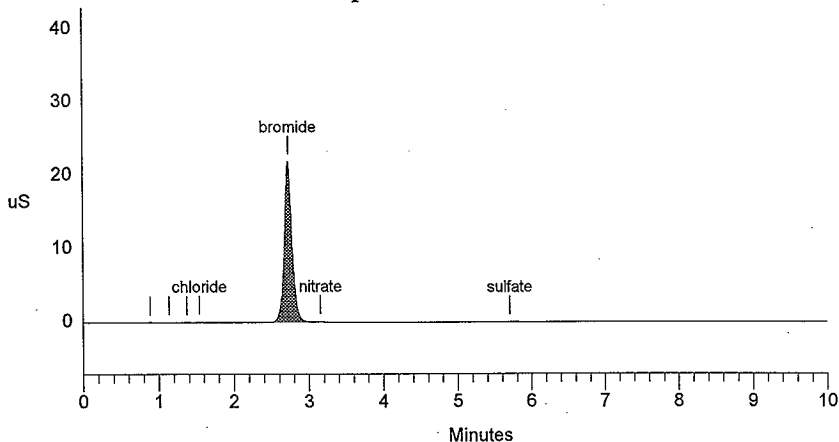
=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          1111  3000  5Hz  0.00 10.00          50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.89		0.000	58	341	1	
2	1.14		0.000	38	163	1	
3	1.37		0.000	44	236	1	
4	1.54	chloride	40.516	84	366	1	0.00
5	2.73	bromide	25472.351	21854	158549	1	-2.27
6	3.15	nitrate	204.433	105	659	1	-0.53
7	5.71	sulfate	173.741	79	1545	1	-0.06
Totals			25891.041	22262	161859		

File: 97063011.d20 Sample: S97T001506



Data Reprocessed On 08/08/1997 14:18:34

```

=====
Sample Name: S97T001506 DUP                      Date: 06/30/1997 15:45:30
Data File  : E:\DATA\97063011.d21
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 21              Detector: CPM-1
Analyst    :                      Column: AG4A/AS4A anion column
=====

```

```

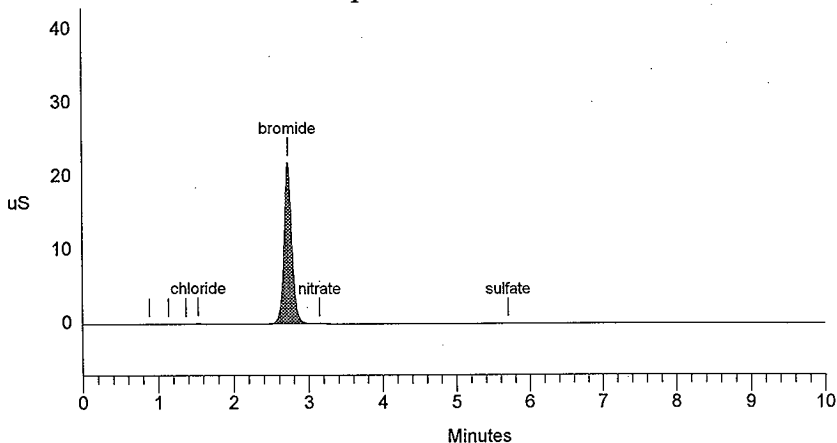
=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          1111    3000  5Hz   0.00 10.00          50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.89		0.000	57	333	1	
2	1.14		0.000	37	152	1	
3	1.37		0.000	53	273	1	
4	1.53	chloride	64.096	143	672	1	-0.43
5	2.73	bromide	25996.288	21876	162194	1	-2.27
6	3.15	nitrate	175.889	72	447	1	-0.74
7	5.71	sulfate	173.467	78	1542	1	-0.06
Totals			26409.740	22316	165614		

File: 97063011.d21 Sample: S97T001506 DUP



LABCORE Completed Worklist Report for Worklist# 19349

Analyst: dgg

Instrument: IC02

Book# 95N20A

Method: 1A-533-105 Rev/Mod D-1

Worklist Comment: T-105 IC. RCJ

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit	
1	CCB	0	QIC-QC	F	QC	1	<1.20e-2	ug/mL	
1	CCB	0	QIC-QC	CL	QC	1	<1.70e-2	ug/mL	
1	CCB	0	QIC-QC	NO2	QC	1	<1.08e-1	ug/mL	
1	CCB	0	QIC-QC	BR	QC	1	<1.25e-1	ug/mL	
1	CCB	0	QIC-QC	NO3	QC	1	<1.39e-1	ug/mL	
1	CCB	0	QIC-QC	P04	QC	1	<1.20e-1	ug/mL	
1	CCB	0	QIC-QC	S04	QC	1	<1.38e-1	ug/mL	
1	CCB	0	QIC-QC	OXALATE2	QC	1	<1.05e-1	ug/mL	
2	CCV	0	QIC-QC	F	QC	5.90e01	5.62e+01	95.254 % Recovery	
2	CCV	0	QIC-QC	CL	QC	8.00e01	7.50e+01	93.750 % Recovery	
2	CCV	0	QIC-QC	NO2	QC	5.43e02	5.48e+02	100.921 % Recovery	
2	CCV	0	QIC-QC	BR	QC	5.89e02	5.55e+02	94.228 % Recovery	
2	CCV	0	QIC-QC	NO3	QC	5.94e02	5.56e+02	93.603 % Recovery	
2	CCV	0	QIC-QC	P04	QC	5.45e02	5.32e+02	97.615 % Recovery	
2	CCV	0	QIC-QC	S04	QC	6.32e02	6.271e02	99.225 % Recovery	
2	CCV	0	QIC-QC	OXALATE2	QC	5.33e02	5.302e02	99.475 % Recovery	
3	SAMPLE	S97T001676	0	QIC-01	F-02	LIQUID	N/A	6.375e+02	122.400 ug/mL
3	SAMPLE	S97T001676	0	QIC-01	CL-02	LIQUID	N/A	3.410e+02	173.400 ug/mL
3	SAMPLE	S97T001676	0	QIC-01	NO2-02	LIQUID	N/A	5.693e+04	1102.000 ug/mL
3	SAMPLE	S97T001676	0	QIC-01	BR-02	LIQUID	N/A	< 1.275e+03	1275.000 ug/mL
3	SAMPLE	S97T001676	0	QIC-01	NO3-02	LIQUID	N/A	3.901e+04	1418.000 ug/mL
3	SAMPLE	S97T001676	0	QIC-01	P04-02	LIQUID	N/A	4.597e+03	1224.000 ug/mL
3	SAMPLE	S97T001676	0	QIC-01	S04-02	LIQUID	N/A	1.706e+04	1408.000 ug/mL
3	SAMPLE	S97T001676	0	QIC-01	OXALATE2	LIQUID	N/A	< 1.071e+03	1071.000 ug/mL
4	DUP	S97T001676	0	QIC-01	F-02	LIQUID	6.38e+02	6.24e+02	2.219 RPD
4	DUP	S97T001676	0	QIC-01	CL-02	LIQUID	3.41e+02	3.73e+02	8.964 RPD
4	DUP	S97T001676	0	QIC-01	NO2-02	LIQUID	5.69e+04	5.87e+04	3.114 RPD
4	DUP	S97T001676	0	QIC-01	BR-02	LIQUID	<1.28e3	<1.28e3	RPD
4	DUP	S97T001676	0	QIC-01	NO3-02	LIQUID	3.90e+04	3.88e+04	0.514 RPD
4	DUP	S97T001676	0	QIC-01	P04-02	LIQUID	4.60e+03	4.44e+03	3.540 RPD
4	DUP	S97T001676	0	QIC-01	S04-02	LIQUID	1.71e+04	1.72e+04	0.583 RPD
4	DUP	S97T001676	0	QIC-01	OXALATE2	LIQUID	<1.07e3	<1.07e3	RPD
5	SPK	S97T001676	0	QIC-01	F-02	LIQUID	5.90e01	5.36e+01	90.847 % Recovery
5	SPK	S97T001676	0	QIC-01	CL-02	LIQUID	8.00e01	7.59e+01	94.875 % Recovery
5	SPK	S97T001676	0	QIC-01	NO2-02	LIQUID	5.43e02	5.66e+02	104.236 % Recovery
5	SPK	S97T001676	0	QIC-01	BR-02	LIQUID	5.89e02	5.45e+02	92.530 % Recovery
5	SPK	S97T001676	0	QIC-01	NO3-02	LIQUID	5.94e02	5.95e+02	100.168 % Recovery
5	SPK	S97T001676	0	QIC-01	P04-02	LIQUID	5.45e02	5.38e+02	98.716 % Recovery
5	SPK	S97T001676	0	QIC-01	S04-02	LIQUID	6.32e02	6.20e+02	98.101 % Recovery
5	SPK	S97T001676	0	QIC-01	OXALATE2	LIQUID	5.33e02	5.42e+02	101.689 % Recovery
6	SAMPLE	S97T001679	0	QIC-01	F-02	LIQUID	N/A	6.598e+02	122.400 ug/mL

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

LABCORE Completed Worklist Report for Worklist# 19349

Seq Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
6 SAMPLE	S97T001679	0	0	0IC-01	CL-02	LIQUID	N/A	3.188e+02	173.400 ug/mL
6 SAMPLE	S97T001679	0	0	0IC-01	NO2-02	LIQUID	N/A	5.602e+04	1102.000 ug/mL
6 SAMPLE	S97T001679	0	0	0IC-01	BR-02	LIQUID	N/A	1.782e+03	1275.000 ug/mL
6 SAMPLE	S97T001679	0	0	0IC-01	NO3-02	LIQUID	N/A	3.675e+04	1418.000 ug/mL
6 SAMPLE	S97T001679	0	0	0IC-01	PO4-02	LIQUID	N/A	5.225e+03	1224.000 ug/mL
6 SAMPLE	S97T001679	0	0	0IC-01	SO4-02	LIQUID	N/A	1.687e+04	1408.000 ug/mL
6 SAMPLE	S97T001679	0	0	0IC-01	OXALATE2	LIQUID	N/A	1.071e+03	1071.000 ug/mL
7 DUP	S97T001679	0	0	0IC-01	F-02	LIQUID	6.60e+02	5.96e+02	10.191 RPD
7 DUP	S97T001679	0	0	0IC-01	CL-02	LIQUID	3.19e+02	3.05e+02	4.487 RPD
7 DUP	S97T001679	0	0	0IC-01	NO2-02	LIQUID	5.60e+04	5.38e+04	4.007 RPD
7 DUP	S97T001679	0	0	0IC-01	BR-02	LIQUID	1.78e+03	1.80e+03	1.117 RPD
7 DUP	S97T001679	0	0	0IC-01	NO3-02	LIQUID	3.68e+04	3.64e+04	1.093 RPD
7 DUP	S97T001679	0	0	0IC-01	PO4-02	LIQUID	5.22e+03	6.01e+03	14.069 RPD
7 DUP	S97T001679	0	0	0IC-01	SO4-02	LIQUID	1.69e+04	1.71e+04	1.176 RPD
7 DUP	S97T001679	0	0	0IC-01	OXALATE2	LIQUID	<1.07e3	<1.07e3	RPD

Final page for worklist# 19349

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Jean M. Lutz
Reviewer Signature _____ Date 9/9/97

LABCORE Data Entry Template for Worklist# 19349

Analyst: ABB Instrument: IC0 2 Book# 95N20-A

Method: LA-533-105 Rev/Mod D-1

Worklist Comment: T-105 IC. RCJ

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC-QC	QC		
2 CCV			@IC-QC	QC		
3 SAMPLE	S97T001676 0		@IC-01	LIQUID	97000434	T-105
	Analytes Requested:		BR-02	CL-02	F-02	NO2-02
			OXALATE2	PO4-02	SO4-02	NO3-02
4 DUP	S97T001676 0		@IC-01	LIQUID		
5 SPK	S97T001676 0		@IC-01	LIQUID		
6 SAMPLE	S97T001679 0		@IC-01	LIQUID	97000434	T-105
	Analytes Requested:		BR-02	CL-02	F-02	NO2-02
			OXALATE2	PO4-02	SO4-02	NO3-02
7 DUP	S97T001679 0		@IC-01	LIQUID		

Final page for worklist # 19349

ABB 9-1-97
Analyst Signature Date

Analyst Signature Date

uploaded 9-4-97
J. W. Warrill
19349SEP.CSV

Validated 9/8/97 SMD

Data Entry Comments:

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

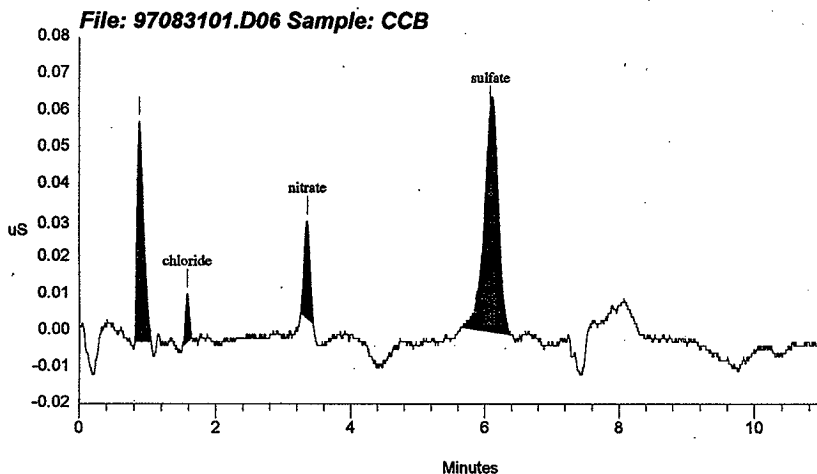
Sample Name: CCB Date: 08/31/1997 22:31:40
 Data File : C:\DX\DATA\97083101.D06
 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 6 Detector: CDM-1
 Analyst : *Janis Fure* Column: AG4A/AS4A anion column
for DSD 9/9/97

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	0.88		0.000	60	395	1	
2	1.58	chloride	-0.034	13	51	1	-2.47
3	3.35	nitrate	0.008	27	159	1	2.65
4	6.08	sulfate	0.055	60	934	1	-6.56
Totals			0.029	160	1539		



SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 147 TO 153.

Data Reprocessed On 09/08/1997 12:53:21

```

=====
Sample Name: STD 95N20-A                      Date: 08/31/1997 22:45:40
Data File  : E:\DATA\97083101.D07
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 7           Detector: CDM-1
Analyst    :                               Column: AG4A/AS4A anion column
=====

```

```

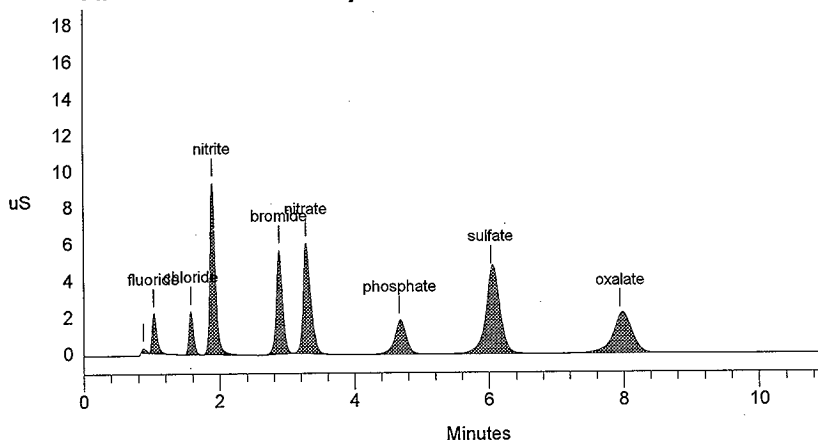
=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          101    3300  5Hz   0.00 11.00          50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.87		0.000	231	1030	2	
2	1.03	fluoride	56.235	2153	10815	2	-0.65
3	1.57	chloride	74.984	2363	11113	1	-2.88
4	1.89	nitrite	548.334	9388	52669	1	-5.02
5	2.88	bromide	554.978	5658	36819	1	-2.04
6	3.28	nitrate	556.453	6026	47690	1	0.41
7	4.67	phosphate	532.483	1818	22614	1	-3.85
8	6.03	sulfate	627.166	4540	70522	1	-0.06
9	7.95	oxalate	530.231	2122	44465	1	-0.04
Totals			3480.864	34299	297736		

File: 97083101.D07 Sample: STD 95N20-A



```

=====
Sample Name: S97T001676                      Date: 08/31/1997 23:05:56
Data File  : C:\DX\DATA\97083101.D08
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 8           Detector: CDM-1
Analyst    :                               Column: AG4A/AS4A anion column
=====

```

```

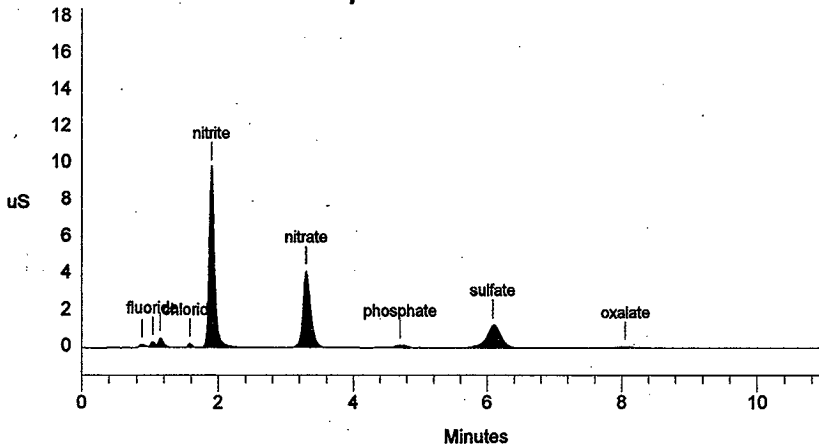
=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
=====
External          1       10201   3300  5Hz   0.00 11.00       50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	103	501	2	
2	1.03	fluoride	637.538	270	1217	2	0.00
3	1.15		0.000	503	2598	2	
4	1.58	chloride	340.958	219	994	1	-2.47
5	1.89	nitrite	56930.134	9782	54178	1	-5.02
6	3.30	nitrate	39008.930	4133	32967	1	1.02
7	4.69	phosphate	4597.006	138	1804	1	-3.30
8	6.08	sulfate	17059.519	1231	18968	1	-6.56
9	8.05	oxalate	317.230	63	1564	1	-6.21
Totals			118891.316	16443	114792		

File: 97083101.D08 Sample: S97T001676



```

=====
Sample Name: S97T001676-DUP          Date: 08/31/1997 23:22:01
Data File : C:\DX\DATA\97083101.D09
Method    : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 9      Detector:CDM-1
Analyst   :                          Column: AG4A/AS4A anion column
=====

```

```

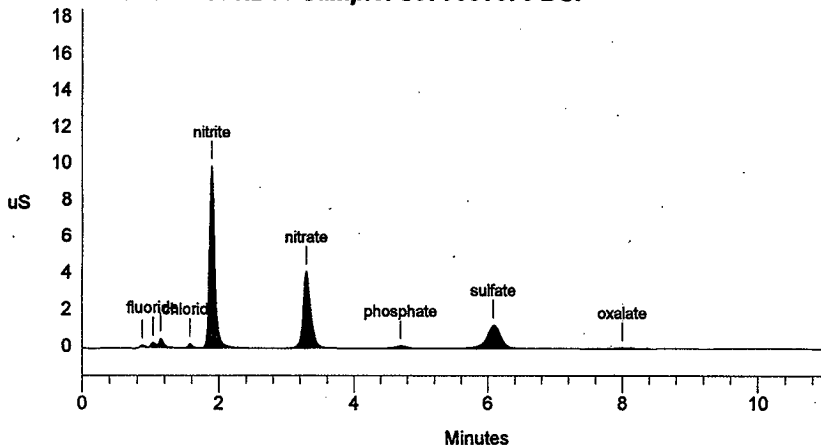
=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1      10201   3300  5Hz  0.00 11.00      50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	106	486	2	
2	1.03	fluoride	624.486	258	1193	2	0.00
3	1.15		0.000	489	2367	2	
4	1.57	chloride	372.767	227	1038	1	-2.88
5	1.89	nitrite	58706.552	9922	55909	1	-5.02
6	3.29	nitrate	38821.616	4145	32808	1	0.82
7	4.69	phosphate	4438.669	138	1738	1	-3.30
8	6.08	sulfate	17225.587	1265	19151	1	-6.56
9	8.00	oxalate	222.495	61	1488	1	-6.83
Totals			120412.172	16610	116179		

File: 97083101.D09 Sample: S97T001676-DUP



```

=====
Sample Name: S97T001676-SPK      Date: 08/31/1997 23:35:42
Data File  : C:\DX\DATA\97083101.D10
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 10      Detector: CDM-1
Analyst    :                      Column: AG4A/AS4A anion column
=====

```

```

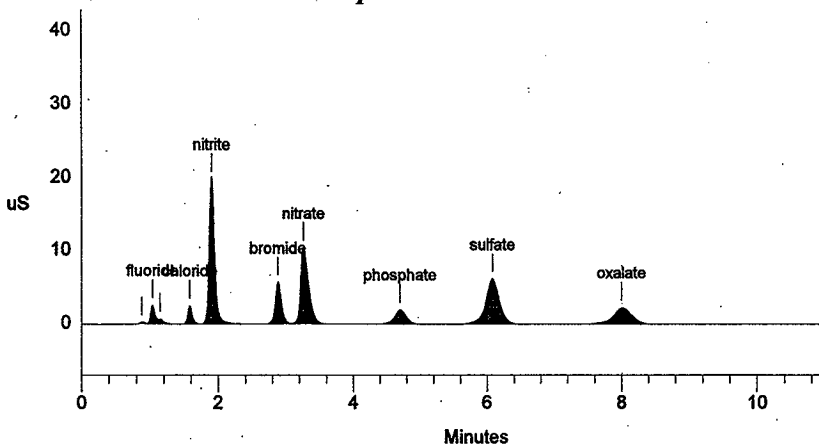
=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1      10201   3300 5Hz   0.00 11.00      50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	182	826	2	
2	1.03	fluoride	6051.344	2529	11533	2	0.00
3	1.15		0.000	673	3368	2	
4	1.58	chloride	8006.144	2515	11729	1	-2.47
5	1.90	nitrite	114098.623	19885	110510	1	-4.68
6	2.88	bromide	55068.820	5638	36152	1	-2.04
7	3.26	nitrate	99147.141	10367	85127	1	-0.20
8	4.69	phosphate	58963.200	2003	24851	1	-3.30
9	6.08	sulfate	79661.160	6170	89053	1	-6.56
10	8.00	oxalate	54729.461	2268	45422	1	-6.83
Totals			475725.893	52231	418571		

File: 97083101.D10 Sample: S97T001676-SPK



```

=====
Sample Name: S97T001679                      Date: 09/01/1997 01:51:45
Data File : C:\DX\DATA\97083101.D11
Method    : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 11          Detector: CDM-1
Analyst   :                               Column: AG4A/AS4A anion column
=====

```

```

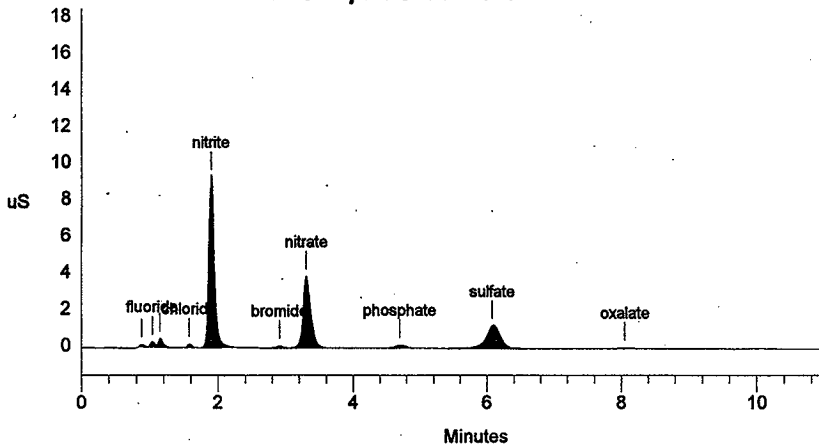
=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1       10201   3300 5Hz   0.00 11.00       50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	118	570	2	
2	1.03	fluoride	659.776	280	1259	2	0.00
3	1.15		0.000	466	2247	2	
4	1.57	chloride	318.806	205	964	1	-2.88
5	1.89	nitrite	56015.095	9318	53286	1	-5.02
6	2.91	bromide	1781.928	116	708	1	-1.13
7	3.31	nitrate	36753.958	3900	31047	1	1.22
8	4.69	phosphate	5225.125	164	2065	1	-3.30
9	6.08	sulfate	16872.674	1228	18763	1	-6.56
10	8.05	oxalate	-374.184	55	1012	1	-6.21
Totals			117253.177	15849	111921		

File: 97083101.D11 Sample: S97T001679



```

=====
Sample Name: S97T001679-DUP      Date: 09/01/1997 02:08:30
Data File  : C:\DX\DATA\97083101.D12
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 12      Detector: CDM-1
Analyst    :                      Column: AG4A/AS4A anion column
=====

```

```

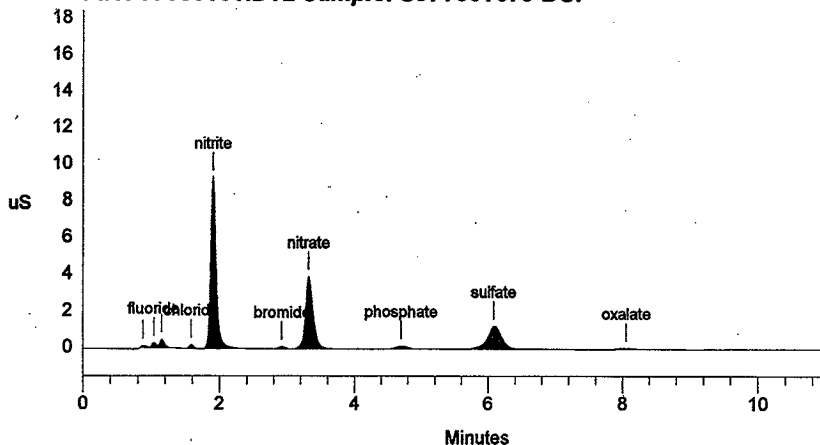
=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          10201  3300 5Hz  0.00 11.00          50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	104	466	2	
2	1.03	fluoride	596.389	269	1140	2	0.00
3	1.15		0.000	455	2157	2	
4	1.58	chloride	304.787	215	944	1	-2.47
5	1.90	nitrite	53803.978	9316	51133	1	-4.68
6	2.92	bromide	1801.060	116	721	1	-0.68
7	3.32	nitrate	36430.305	3889	30772	1	1.63
8	4.69	phosphate	6006.815	175	2390	1	-3.30
9	6.08	sulfate	17073.541	1238	18984	1	-6.56
10	8.05	oxalate	238.535	59	1501	1	-6.21
Totals			116255.410	15836	110207		

File: 97083101.D12 Sample: S97T001679-DUP



LABCORE Completed Worklist Report for Worklist# 19350

Analyst: slh

Instrument: IC01

Book# 83N20B

Method: 1A-533-105 Rev/Mod D-1

Worklist Comment: T-105 IC. RCJ

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	CCB	0	QIC-QC F	QC	1	2.10e-02	0.021	ug/mL
1	CCB	0	QIC-QC CL	QC	1	<1.70e-2		ug/mL
1	CCB	0	QIC-QC NO2	QC	1	<1.08e-1		ug/mL
1	CCB	0	QIC-QC BR	QC	1	<1.25e-1		ug/mL
1	CCB	0	QIC-QC NO3	QC	1	<1.39e-1		ug/mL
1	CCB	0	QIC-QC P04	QC	1	<1.20e-1		ug/mL
1	CCB	0	QIC-QC S04	QC	1	<1.38e-1		ug/mL
1	CCB	0	QIC-QC OXALATE2	QC	1	<1.05e-1		ug/mL
2	CCV	0	QIC-QC F	QC	5.90e01	5.65e+01	95.763 %	Recovery
2	CCV	0	QIC-QC CL	QC	7.90e01	7.49e+01	94.810 %	Recovery
2	CCV	0	QIC-QC NO2	QC	5.44e02	5.27e+02	96.875 %	Recovery
2	CCV	0	QIC-QC BR	QC	5.89e02	5.86e+02	99.491 %	Recovery
2	CCV	0	QIC-QC NO3	QC	5.94e02	5.64e+02	94.949 %	Recovery
2	CCV	0	QIC-QC P04	QC	5.45e02	5.61e+02	102.936 %	Recovery
2	CCV	0	QIC-QC S04	QC	6.32e02	6.02e+02	95.253 %	Recovery
2	CCV	0	QIC-QC OXALATE2	QC	5.33e02	5.25e+02	98.499 %	Recovery
4	DUP	S97T001682	QIC-01 F-02	LIQUID	7.59e+02	7.63e+02	0.526	RPD
4	DUP	S97T001682	QIC-01 CL-02	LIQUID	6.02e+02	5.78e+02	4.068	RPD
4	DUP	S97T001682	QIC-01 NO2-02	LIQUID	5.42e+04	5.45e+04	0.735	RPD
4	DUP	S97T001682	QIC-01 BR-02	LIQUID	1.54e+03	1.56e+03	1.290	RPD
4	DUP	S97T001682	QIC-01 NO3-02	LIQUID	3.63e+04	3.62e+04	0.276	RPD
4	DUP	S97T001682	QIC-01 P04-02	LIQUID	4.83e+03	4.77e+03	1.250	RPD
4	DUP	S97T001682	QIC-01 S04-02	LIQUID	1.46e+04	1.44e+04	1.379	RPD
4	DUP	S97T001682	QIC-01 OXALATE2	LIQUID	1.20e+03	1.19e+03	0.837	RPD
5	SPK	S97T001682	QIC-01 F-02	LIQUID	5.90e01	-3.30e0	-5.593 %	Recovery
5	SPK	S97T001682	QIC-01 CL-02	LIQUID	7.90e01	-4.48e0	-5.671 %	Recovery
5	SPK	S97T001682	QIC-01 NO2-02	LIQUID	5.44e02	-2.93e2	-53.860 %	Recovery
5	SPK	S97T001682	QIC-01 BR-02	LIQUID	5.89e02	-5.72e0	-0.971 %	Recovery
5	SPK	S97T001682	QIC-01 NO3-02	LIQUID	5.94e02	-1.85e2	-31.145 %	Recovery
5	SPK	S97T001682	QIC-01 P04-02	LIQUID	5.45e02	-2.35e1	-4.312 %	Recovery
5	SPK	S97T001682	QIC-01 S04-02	LIQUID	6.32e02	-7.80e1	-12.342 %	Recovery
5	SPK	S97T001682	QIC-01 OXALATE2	LIQUID	5.33e02	-6.07e0	-1.139 %	Recovery
7	DUP	S97T001692	QIC-01 F-02	LIQUID	7.24e+02	7.29e+02	0.688	RPD
7	DUP	S97T001692	QIC-01 CL-02	LIQUID	6.86e+02	6.36e+02	7.564	RPD
7	DUP	S97T001692	QIC-01 NO2-02	LIQUID	5.69e+04	5.73e+04	0.701	RPD
7	DUP	S97T001692	QIC-01 BR-02	LIQUID	<2.65e2	<2.65e2		RPD
7	DUP	S97T001692	QIC-01 NO3-02	LIQUID	3.93e+04	3.91e+04	0.510	RPD
7	DUP	S97T001692	QIC-01 P04-02	LIQUID	4.24e+03	4.10e+03	3.357	RPD
7	DUP	S97T001692	QIC-01 S04-02	LIQUID	1.56e+04	1.56e+04	0.000	RPD
7	DUP	S97T001692	QIC-01 OXALATE2	LIQUID	1.23e+03	1.24e+03	0.810	RPD
8	SPK	S97T001692	QIC-01 F-02	LIQUID	5.90e01	-2.08e0	-3.525 %	Recovery

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

LABCORE Completed Worklist Report for Worklist# 19350

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
8 SPK	S97T001692	0	QIC-01	CL-02	LIQUID	7.90e01	-3.47e0	-4.392 % Recovery
8 SPK	S97T001692	0	QIC-01	NO2-02	LIQUID	5.44e02	-1.24e2	-22.794 % Recovery
8 SPK	S97T001692	0	QIC-01	BR-02	LIQUID	5.89e02	0.00e+00	0.000 % Recovery
8 SPK	S97T001692	0	QIC-01	NO3-02	LIQUID	5.94e02	-1.15e2	-19.360 % Recovery
8 SPK	S97T001692	0	QIC-01	PO4-02	LIQUID	5.45e02	-1.30e1	-2.385 % Recovery
8 SPK	S97T001692	0	QIC-01	SO4-02	LIQUID	6.32e02	-3.16e1	-5.000 % Recovery
8 SPK	S97T001692	0	QIC-01	OXALATE2	LIQUID	5.33e02	-5.67e0	-1.064 % Recovery
9 SAMPLE	S97T001696	0	QIC-01	F-02	LIQUID	N/A	2.280e+02	49.690 ug/mL
9 SAMPLE	S97T001696	0	QIC-01	CL-02	LIQUID	N/A	7.040e+01	70.400 ug/mL
9 SAMPLE	S97T001696	0	QIC-01	NO2-02	LIQUID	N/A	7.542e+03	447.200 ug/mL
9 SAMPLE	S97T001696	0	QIC-01	BR-02	LIQUID	N/A	2.009e+04	517.600 ug/mL
9 SAMPLE	S97T001696	0	QIC-01	NO3-02	LIQUID	N/A	5.117e+03	575.600 ug/mL
9 SAMPLE	S97T001696	0	QIC-01	PO4-02	LIQUID	N/A	4.969e+02	496.900 ug/mL
9 SAMPLE	S97T001696	0	QIC-01	SO4-02	LIQUID	N/A	1.716e+03	571.500 ug/mL
9 SAMPLE	S97T001696	0	QIC-01	OXALATE2	LIQUID	N/A	4.348e+02	434.800 ug/mL
10 DUP	S97T001696	0	QIC-01	F-02	LIQUID	2.28e+02	2.14e+02	6.335 RPD
10 DUP	S97T001696	0	QIC-01	CL-02	LIQUID	<7.04e1	<7.04e1	RPD
10 DUP	S97T001696	0	QIC-01	NO2-02	LIQUID	7.54e+03	7.51e+03	0.399 RPD
10 DUP	S97T001696	0	QIC-01	BR-02	LIQUID	2.01e+04	2.00e+04	0.499 RPD
10 DUP	S97T001696	0	QIC-01	NO3-02	LIQUID	5.12e+03	5.12e+03	0.000 RPD
10 DUP	S97T001696	0	QIC-01	PO4-02	LIQUID	<4.97e2	5.15e+02	RPD
10 DUP	S97T001696	0	QIC-01	SO4-02	LIQUID	1.72e+03	1.71e+03	0.583 RPD
10 DUP	S97T001696	0	QIC-01	OXALATE2	LIQUID	<4.35e2	<4.35e2	RPD

Final page for worklist# 19350

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

John M. Luy 8/27/97
 Reviewer Signature Date

LABCORE Data Entry Template for Worklist# 19350

Analyst: SLH Instrument: IC0 1 Book# 83N20-BMethod: LA-533-105 Rev/Mod D-1

Worklist Comment: T-105 IC: RCJ

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	CCB				@IC-QC	QC		
2	CCV				@IC-QC	QC		
3	SAMPLE	S97T001682 0			@IC-01	LIQUID	97000434	T-105
		Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
4	DUP	S97T001682 0			@IC-01	LIQUID		
5	SPK	S97T001682 0			@IC-01	LIQUID		
6	SAMPLE	S97T001692 0			@IC-01	LIQUID	97000435	T-105
		Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
7	DUP	S97T001692 0			@IC-01	LIQUID		
8	SPK	S97T001692 0			@IC-01	LIQUID		
9	SAMPLE	S97T001696 0			@IC-01	LIQUID	97000435	T-105
		Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
10	DUP	S97T001696 0			@IC-01	LIQUID		

Final page for worklist # 19350

Analyst Signature

Date

Analyst Signature

Date

Data Entry Comments:

S97T001682 & 1692 will be re-run, no
spike was added. Rest will be validated.
JMF 8/27/97

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

Rerun on WKL 20051

=====

Sample Name: BLK	Date: 08/24/1997, 19:36:09
Data File: C:\DX\DATA\97082491.D02	
Method: C:\DX\METHOD\KIT.MET	
ACI Address: 1 System: 1 Inject#: 2	Detector: CDM-1
Analyst: <i>Janet</i>	Column: AG4A/AS4A anion column

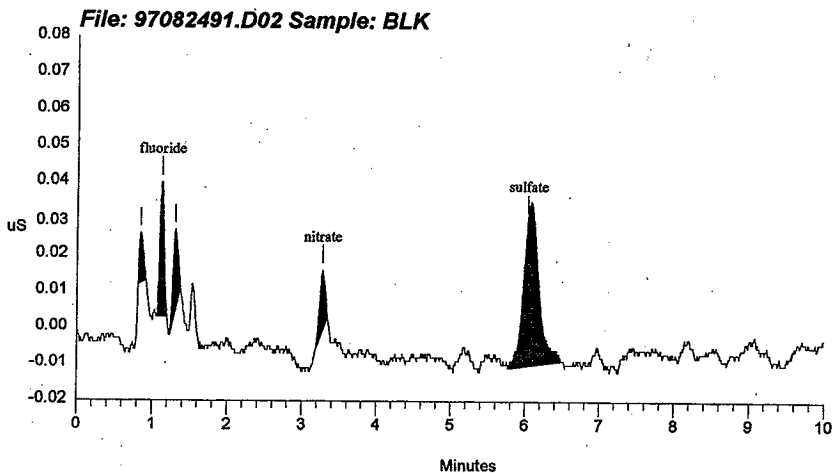
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Calibration Volume Dilution Points Rate Start Stop Area Reject

External	1	1	3000	5Hz	0.00	10.00	30
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***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.84		0.000	14	49	1	
2	1.12	fluoride	0.021	37	142	1	6.67
3	1.30		0.000	23	100	1	
4	3.27	nitrate	-0.054	17	82	1	0.72
5	6.03	sulfate	-0.233	40	643	1	-5.83
Totals			-0.266	130	1017		



SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 157 TO 11de

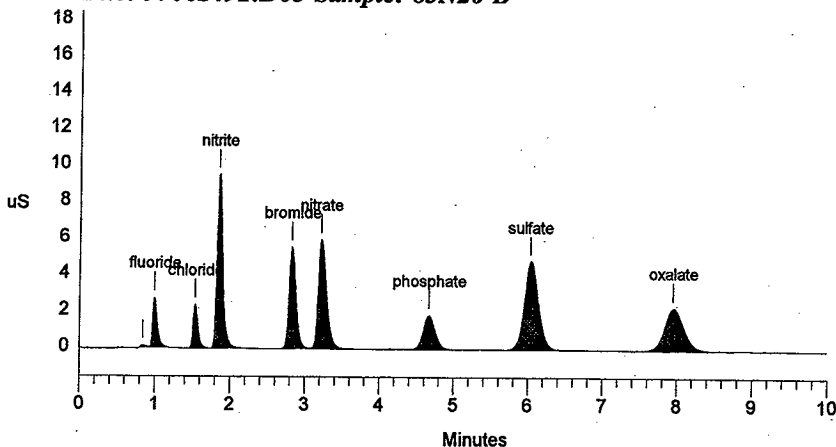
Sample Name: 83N20-B Date: 08/24/1997 19:50:42
 Data File : C:\DX\DATA\97082491.D03
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 3 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

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	0.84		0.000	110	454	2	
2	0.99	fluoride	56.479	2710	11363	2	-5.40
3	1.53	chloride	74.913	2381	10395	1	-5.35
4	1.85	nitrite	526.648	9503	48063	1	-5.78
5	2.82	bromide	585.824	5544	34905	1	-1.05
6	3.21	nitrate	563.548	5959	44919	1	-1.13
7	4.67	phosphate	561.171	1850	20907	1	-5.41
8	6.03	sulfate	602.326	4829	63109	1	-5.83
9	7.95	oxalate	524.675	2318	41200	1	-6.29
Totals			3495.584	35205	275316		

File: 97082491.D03 Sample: 83N20-B



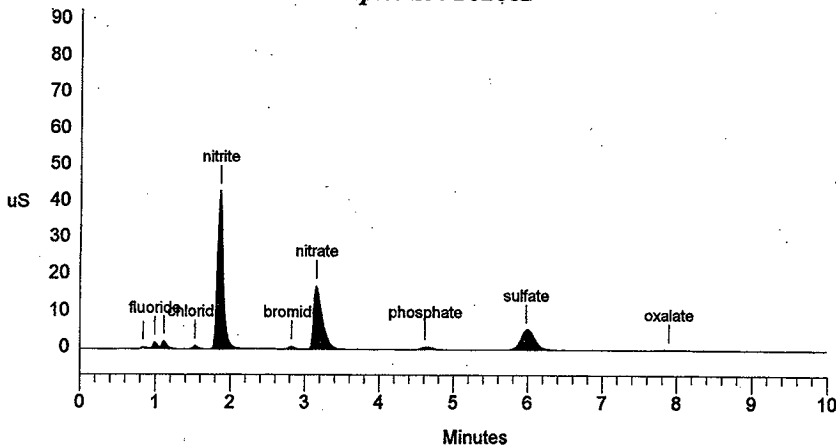
Sample Name: S97T01682 Date: 08/24/1997 23:01:05
 Data File : C:\DX\DATA\97082491.D08
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 8 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	2121	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	353	1674	2	
2	0.99	fluoride	759.297	1705	7168	2	-5.40
3	1.11		0.000	2083	10186	2	
4	1.53	chloride	602.452	877	4200	1	-5.76
5	1.86	nitrite	54153.816	43181	234347	1	-5.10
6	2.82	bromide	1542.621	697	4121	1	-1.05
7	3.15	nitrate	36295.126	17151	140236	1	-2.97
8	4.61	phosphate	4832.442	713	8409	1	-6.49
9	5.97	sulfate	14576.508	5347	72568	1	-6.67
10	7.89	oxalate	1201.974	245	4609	1	-6.92
Totals			113964.237	72353	487518		

File: 97082491.D08 Sample: S97T01682



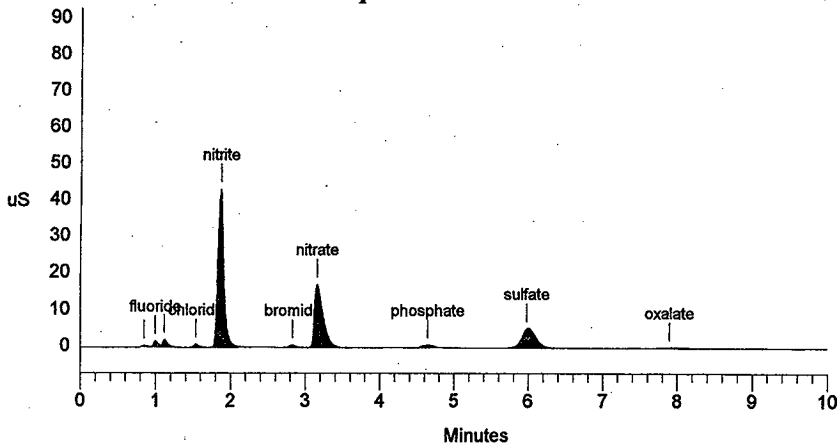
Sample Name: S97T01682.DUP Date: 08/24/1997 23:12:28
 Data File : C:\DX\DATA\97082491.D09
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 9 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	2121	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	337	1526	2	
2	0.99	fluoride	762.825	1683	7203	2	-5.40
3	1.11		0.000	2067	9969	2	
4	1.53	chloride	577.996	884	4045	1	-5.35
5	1.86	nitrite	54629.832	43284	236382	1	-5.10
6	2.83	bromide	1555.692	701	4158	1	-0.82
7	3.15	nitrate	36178.447	17176	139769	1	-2.97
8	4.64	phosphate	4768.227	758	8295	1	-5.95
9	5.97	sulfate	14412.695	5299	71761	1	-6.67
10	7.89	oxalate	1186.022	239	4551	1	-6.92
Totals			114071.736	72427	487659		

File: 97082491.D09 Sample: S97T01682.DUP



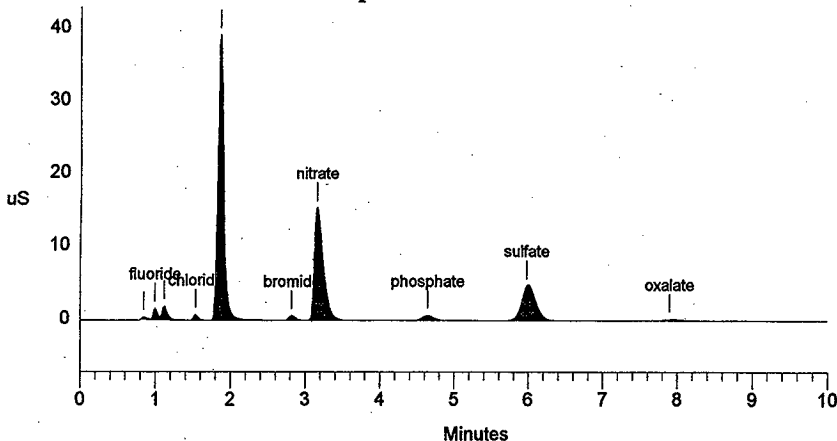
Sample Name: S97T01682 SPK Date: 08/24/1997 23:26:27
 Data File : C:\DX\DATA\97082491.D10
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 10 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	2121	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	337	1636	2	
2	0.99	fluoride	692.577	1537	6513	2	-5.40
3	1.11		0.000	1904	9467	2	
4	1.53	chloride	511.877	789	3627	1	-5.35
5	1.85	nitrite	48237.749	39147	209016	1	-5.44
6	2.81	bromide	1427.092	615	3796	1	-1.29
7	3.15	nitrate	32551.757	15337	125320	1	-2.97
8	4.64	phosphate	4356.981	679	7567	1	-5.95
9	5.97	sulfate	13000.410	4775	64828	1	-6.67
10	7.89	oxalate	1079.415	223	4160	1	-6.92
Totals			101857.858	65344	435930		

File: 97082491.D10 Sample: S97T01682 SPK



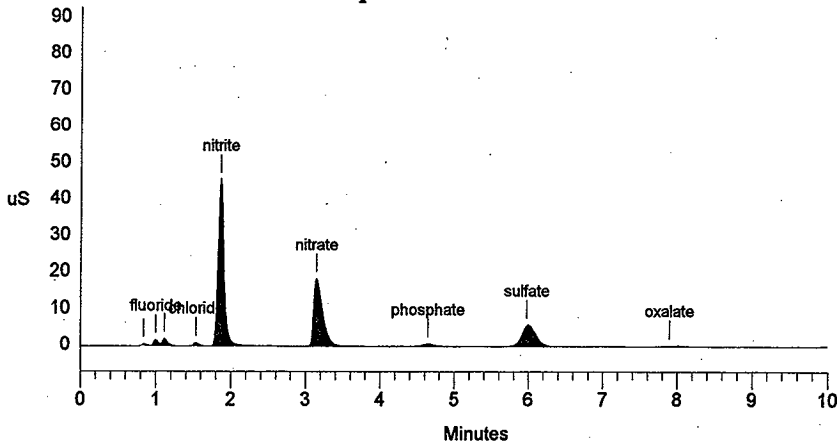
Sample Name: S97T01692 Date: 08/25/1997 00:59:20
 Data File : C:\DX\DATA\97082491.D13
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 13 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	2121	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	370	1754	2	
2	1.00	fluoride	723.940	1604	6821	2	-4.76
3	1.11		0.000	1988	9789	2	
4	1.53	chloride	686.145	947	4730	1	-5.35
5	1.85	nitrite	56944.512	45547	246270	1	-5.44
6	3.14	nitrate	39268.041	18361	152171	1	-3.38
7	4.64	phosphate	4241.750	650	7363	1	-5.95
8	5.97	sulfate	15556.768	5713	77410	1	-6.67
9	7.89	oxalate	1228.031	248	4704	1	-6.92
Totals			118649.187	75427	511012		

File: 97082491.D13 Sample: S97T01692



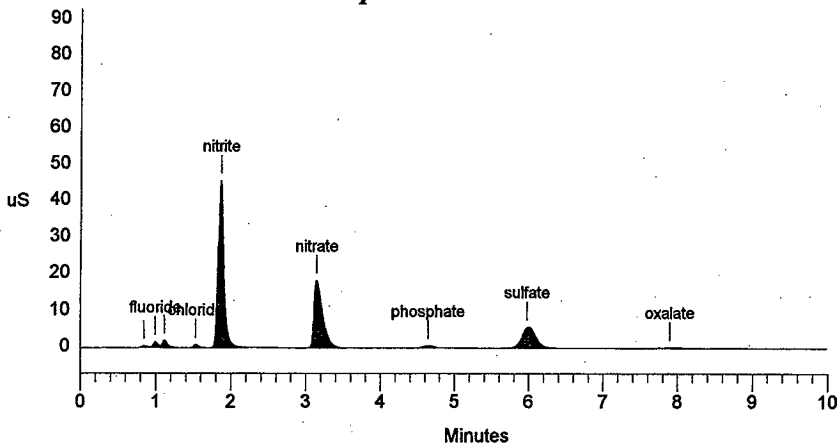
Sample Name: S97T01692 DUP Date: 08/25/1997 01:15:07
 Data File : C:\DX\DATA\97082491.D14
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 14 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	2121	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	1865	2	
2	0.99	fluoride	729.407	1559	6875	2	-5.40
3	1.11		0.000	1964	10048	2	
4	1.53	chloride	636.025	939	4413	1	-5.76
5	1.86	nitrite	57344.891	45710	247979	1	-5.10
6	3.14	nitrate	39092.919	18342	151466	1	-3.38
7	4.64	phosphate	4095.061	648	7104	1	-5.95
8	5.97	sulfate	15622.194	5777	77734	1	-6.67
9	7.89	oxalate	1243.107	253	4760	1	-6.92
Totals			118763.604	75578	512242		

File: 97082491.D14 Sample: S97T01692 DUP



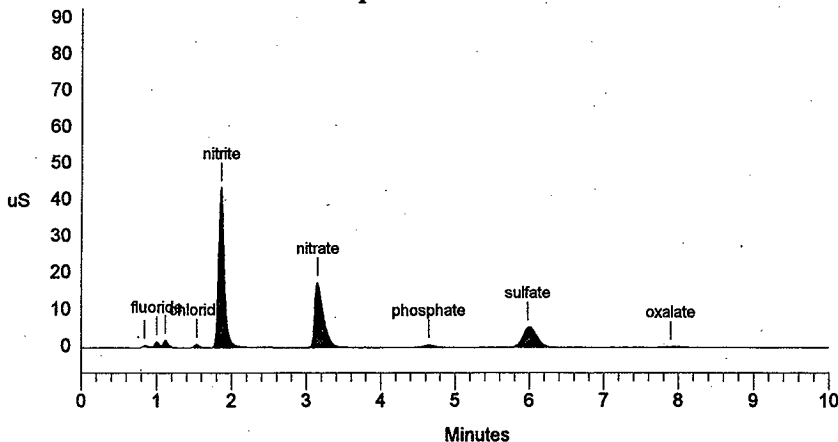
Sample Name: S97T01692.SPK Date: 08/25/1997 01:27:04
 Data File : C:\DX\DATA\97082491.D15
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 15 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	2121	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	341	1639	2	
2	1.00	fluoride	681.965	1505	6408	2	-4.76
3	1.11		0.000	1862	9145	2	
4	1.53	chloride	615.972	889	4286	1	-5.35
5	1.85	nitrite	54444.549	43484	235590	1	-5.44
6	3.15	nitrate	36945.749	17521	142841	1	-3.18
7	4.64	phosphate	3978.406	614	6898	1	-5.95
8	5.97	sulfate	14917.673	5416	74251	1	-6.67
9	7.89	oxalate	1113.543	234	4285	1	-6.92
Totals			112697.858	71865	485344		

File: 97082491.D15 Sample: S97T01692.SPK



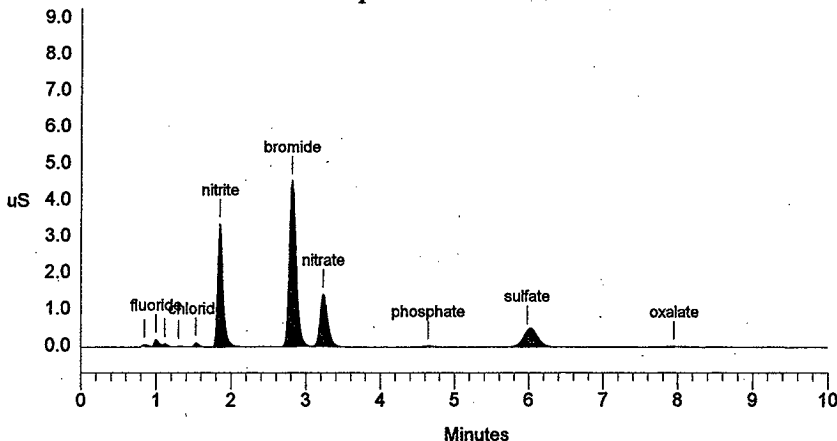
Sample Name: S97T01696 Date: 08/25/1997 01:42:18
 Data File : C:\DX\DATA\97082491.D16
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 16 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	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	52	242	2	
2	1.00	fluoride	227.988	193	856	2	-4.76
3	1.11		0.000	81	351	2	
4	1.30		0.000	19	69	1	
5	1.53	chloride	13.590	106	448	1	-5.76
6	1.85	nitrite	7542.422	3358	16547	1	-5.78
7	2.81	bromide	20094.456	4531	29078	1	-1.52
8	3.23	nitrate	5116.811	1420	10250	1	-0.72
9	4.64	phosphate	459.794	30	335	1	-5.95
10	5.97	sulfate	1716.255	444	7013	1	-6.67
11	7.95	oxalate	137.996	24	476	1	-6.29
Totals			35309.312	10258	65666		

File: 97082491.D16 Sample: S97T01696



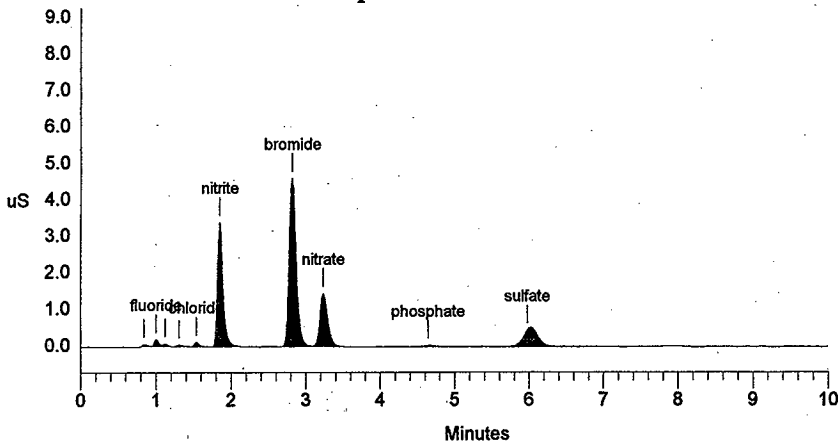
Sample Name: S97T01696 DUP Date: 08/25/1997 01:56:14
 Data File : C:\DX\DATA\97082491.D17
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 17 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	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	53	240	2	
2	1.00	fluoride	214.310	188	787	2	-4.76
3	1.12		0.000	73	285	2	
4	1.31		0.000	36	210	1	
5	1.53	chloride	27.600	119	493	1	-5.35
6	1.85	nitrite	7509.495	3396	16473	1	-5.78
7	2.81	bromide	20010.553	4603	28953	1	-1.29
8	3.23	nitrate	5117.230	1442	10251	1	-0.51
9	4.64	phosphate	514.529	34	384	1	-5.95
10	5.97	sulfate	1711.890	451	7003	1	-6.67
Totals			35105.607	10397	65080		

File: 97082491.D17 Sample: S97T01696 DUP



LABCORE Completed Worklist Report for Worklist# 19627

Analyst: krq

Instrument: IC02

Book# 83A208

Method: LA-533-105 Rev/Mod D-1

Worklist Comment: T-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	<1.08e-1	ug/mL	
1	CCB	0	④IC-QC	BR	QC	1	<1.25e-1	ug/mL	
1	CCB	0	④IC-QC	NO3	QC	1	<1.39e-1	ug/mL	
1	CCB	0	④IC-QC	PO4	QC	1	<1.20e-1	ug/mL	
1	CCB	0	④IC-QC	SO4	QC	1	<1.38e-1	ug/mL	
1	CCB	0	④IC-QC	OXALATE2	QC	1	<1.05e-1	ug/mL	
2	CCV	0	④IC-QC	F	QC	5.90e01	5.93e+01	100.508 % Recovery	
2	CCV	0	④IC-QC	CL	QC	7.90e01	7.68e+01	97.215 % Recovery	
2	CCV	0	④IC-QC	NO2	QC	5.44e02	5.31e+02	97.610 % Recovery	
2	CCV	0	④IC-QC	BR	QC	5.89e02	5.62e+02	95.416 % Recovery	
2	CCV	0	④IC-QC	NO3	QC	5.94e02	5.68e+02	95.623 % Recovery	
2	CCV	0	④IC-QC	PO4	QC	5.45e02	5.29e+02	97.064 % Recovery	
2	CCV	0	④IC-QC	SO4	QC	6.32e02	6.24e+02	98.734 % Recovery	
2	CCV	0	④IC-QC	OXALATE2	QC	5.33e02	5.29e+02	99.250 % 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	1.41e-01	0.141 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	<1.39e-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	S97T001688	0 W	④IC-01	F-02	SOLID	N/A	4.992e+02	50.760 ug/g
4	SAMPLE	S97T001688	0 W	④IC-01	CL-02	SOLID	N/A	4.182e+02	71.920 ug/g
4	SAMPLE	S97T001688	0 W	④IC-01	NO2-02	SOLID	N/A	3.761e+04	457.000 ug/g
4	SAMPLE	S97T001688	0 W	④IC-01	BR-02	SOLID	N/A	1.092e+03	528.800 ug/g
4	SAMPLE	S97T001688	0 W	④IC-01	NO3-02	SOLID	N/A	2.560e+04	588.000 ug/g
4	SAMPLE	S97T001688	0 W	④IC-01	PO4-02	SOLID	N/A	4.012e+03	507.600 ug/g
4	SAMPLE	S97T001688	0 W	④IC-01	SO4-02	SOLID	N/A	1.060e+04	583.800 ug/g
4	SAMPLE	S97T001688	0 W	④IC-01	OXALATE2	SOLID	N/A	< 4.442e+02	444.100 ug/g
5	DUP	S97T001688	0 W	④IC-01	F-02	SOLID	4.99e+02	4.54e+02	9.444 RPD
5	DUP	S97T001688	0 W	④IC-01	CL-02	SOLID	4.18e+02	3.79e+02	9.787 RPD
5	DUP	S97T001688	0 W	④IC-01	NO2-02	SOLID	3.76e+04	3.57e+04	5.184 RPD
5	DUP	S97T001688	0 W	④IC-01	BR-02	SOLID	1.09e+03	1.06e+03	2.791 RPD
5	DUP	S97T001688	0 W	④IC-01	NO3-02	SOLID	2.56e+04	2.47e+04	3.579 RPD
5	DUP	S97T001688	0 W	④IC-01	PO4-02	SOLID	4.01e+03	3.79e+03	5.641 RPD
5	DUP	S97T001688	0 W	④IC-01	SO4-02	SOLID	1.06e+04	1.06e+04	0.000 RPD
5	DUP	S97T001688	0 W	④IC-01	OXALATE2	SOLID	<4.44e2	<4.47e2	RPD
6	SPK	S97T001688	0 W	④IC-01	F-02	SOLID	5.90e01	5.07e+01	85.932 % Recovery

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

LABCORE Completed Worklist Report for Worklist# 19627

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
6 SPK	S97T001688	0 W	@IC-01	CL-02	SOLID	7.90e01	7.55e-01	95.570 % Recovery
6 SPK	S97T001688	0 W	@IC-01	NO2-02	SOLID	5.44e02	5.58e-02	102.574 % Recovery
6 SPK	S97T001688	0 W	@IC-01	BR-02	SOLID	5.89e02	5.47e-02	92.863 % Recovery
6 SPK	S97T001688	0 W	@IC-01	NO3-02	SOLID	5.94e02	6.34e-02	106.734 % Recovery
6 SPK	S97T001688	0 W	@IC-01	PO4-02	SOLID	5.45e02	5.37e-02	98.532 % Recovery
6 SPK	S97T001688	0 W	@IC-01	SO4-02	SOLID	6.32e02	6.38e-02	100.949 % Recovery
6 SPK	S97T001688	0 W	@IC-01	OXALATE2	SOLID	5.33e02	5.52e-02	103.565 % Recovery
7 SAMPLE	S97T001700	0 W	@IC-01	F-02	SOLID	N/A	4.213e+02	50.720 ug/g
7 SAMPLE	S97T001700	0 W	@IC-01	CL-02	SOLID	N/A	5.781e+02	71.860 ug/g
7 SAMPLE	S97T001700	0 W	@IC-01	NO2-02	SOLID	N/A	3.774e+04	456.500 ug/g
7 SAMPLE	S97T001700	0 W	@IC-01	BR-02	SOLID	N/A	5.284e+02	528.400 ug/g
7 SAMPLE	S97T001700	0 W	@IC-01	NO3-02	SOLID	N/A	2.581e+04	587.600 ug/g
7 SAMPLE	S97T001700	0 W	@IC-01	PO4-02	SOLID	N/A	2.915e+03	507.100 ug/g
7 SAMPLE	S97T001700	0 W	@IC-01	SO4-02	SOLID	N/A	1.113e+04	583.400 ug/g
7 SAMPLE	S97T001700	0 W	@IC-01	OXALATE2	SOLID	N/A	4.438e+02	443.900 ug/g
8 DUP	S97T001700	0 W	@IC-01	F-02	SOLID	4.21e+02	3.81e+02	9.975 RPD
8 DUP	S97T001700	0 W	@IC-01	CL-02	SOLID	5.78e+02	4.00e+02	36.401 RPD
8 DUP	S97T001700	0 W	@IC-01	NO2-02	SOLID	3.77e+04	3.68e+04	2.416 RPD
8 DUP	S97T001700	0 W	@IC-01	BR-02	SOLID	<5.28e2	<5.20e2	RPD
8 DUP	S97T001700	0 W	@IC-01	NO3-02	SOLID	2.58e+04	2.56e+04	0.778 RPD
8 DUP	S97T001700	0 W	@IC-01	PO4-02	SOLID	2.92e+03	3.10e+03	5.380 RPD
8 DUP	S97T001700	0 W	@IC-01	SO4-02	SOLID	1.11e+04	1.08e+04	2.740 RPD
8 DUP	S97T001700	0 W	@IC-01	OXALATE2	SOLID	<4.44e2	<4.37e2	RPD

Final page for worklist# 19627

Analyst Signature

Date

Analyst Signature

Date

Reviewer Signature

Date

LABCORE Data Entry Template for Worklist# 19627

Analyst: KRP Instrument: IC0 2 Book# 83N20-B

Method: LA-533-105 Rev/Mod D-1

Worklist Comment: T-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	S97T001688 0 W		@IC-01	SOLID	97000434	T-105
Analytes Requested:			BR-02	CL-02	F-02	NO2-02 , NO3-02 ,
			OXALATE2	PO4-02	SO4-02	
5 DUP	S97T001688 0 W		@IC-01	SOLID		
6 SPK	S97T001688 0 W		@IC-01	SOLID		
7 SAMPLE	S97T001700 0 W		@IC-01	SOLID	97000435	T-105
Analytes Requested:			BR-02	CL-02	F-02	NO2-02 , NO3-02 ,
			OXALATE2	PO4-02	SO4-02	
8 DUP	S97T001700 0 W		@IC-01	SOLID		

Final page for worklist # 19627

Analyst Signature

Date

Analyst Signature

Date

uploaded 8-27-97
John Wonnell
19627 AUG. CSV
Reuploaded to correct spike calculation 9/4/97 JML
Validated 9/4/97 JML

Data Entry Comments:

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

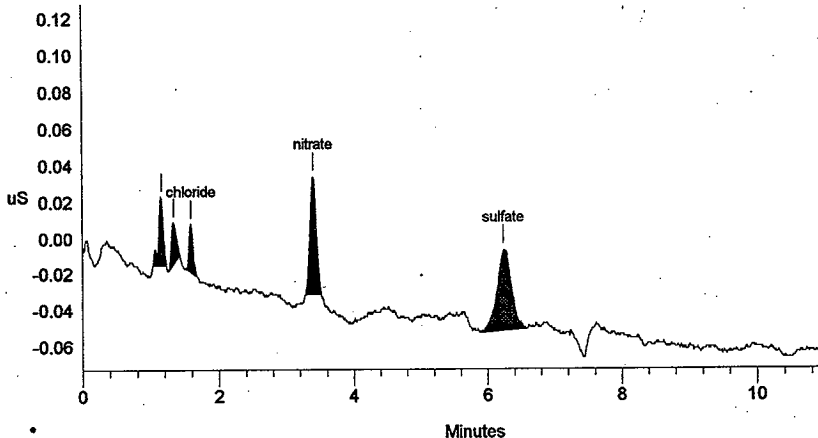
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 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 1 Detector: CDM-1
 Analyst : *[Signature]* Column: AG4A/AS4A anion column

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	1.16		0.000	37	181	1	
2	1.34		0.000	22	115	1	
3	1.59	chloride	-0.030	26	106	1	-1.65
4	3.40	nitrate	0.039	64	425	1	4.08
5	6.24	sulfate	0.030	44	662	1	-4.10
Totals			0.040	193	1490		

File: 97082431.D01 Sample: CCB



SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 170 TO 177

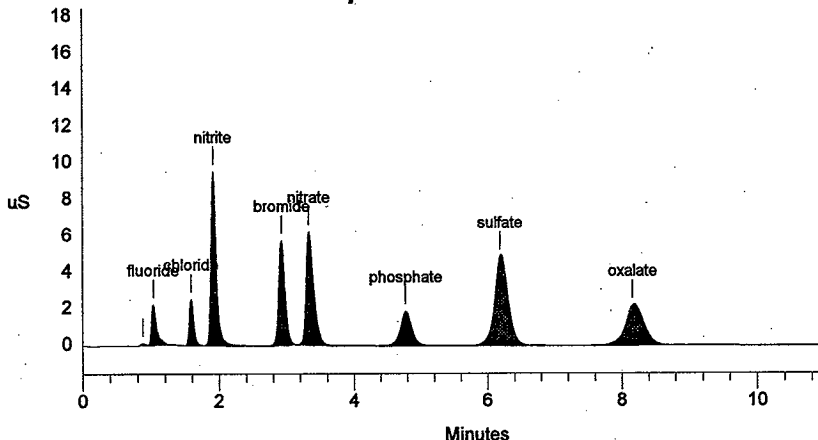
Sample Name: CCV 83N20-B Date: 08/24/1997 16:15:43
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 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 2 Detector: CDM-1
 Analyst *[Signature]* Column: AG4A/AS4A anion column

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	81	333	2	
2	1.03	fluoride	59.336	2187	11420	2	0.00
3	1.59	chloride	76.823	2508	11377	1	-2.06
4	1.91	nitrite	531.361	9521	51000	1	-4.01
5	2.93	bromide	562.171	5740	37312	1	-0.45
6	3.33	nitrate	567.769	6214	48674	1	2.04
7	4.77	phosphate	528.562	1878	22443	1	-1.65
8	6.19	sulfate	623.906	4884	70150	1	-4.92
9	8.16	oxalate	528.518	2226	44324	1	-4.97
Totals			3478.446	35239	297033		

File: 97082431.D02 Sample: CCV 83N20-B



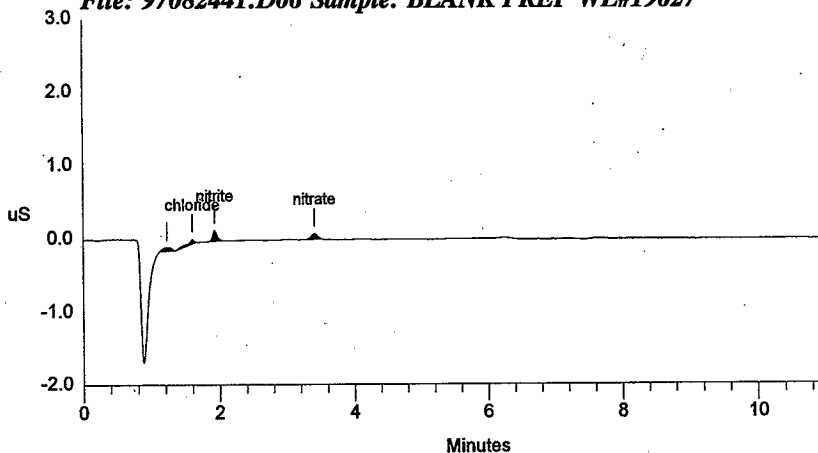
Sample Name: BLANK PREP WL#19627 Date: 08/24/1997 17:08:51
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 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 6 Detector: CDM-1
 Analyst: *[Signature]* Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	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	1.23		0.000	47	413	1	
2	1.60	chloride	-0.004	57	463	1	-1.23
3	1.93	nitrite	0.141	144	658	1	-3.34
4	3.41	nitrate	0.048	77	499	1	4.29
Totals			0.185	325	2033		

File: 97082441.D06 Sample: BLANK PREP WL#19627



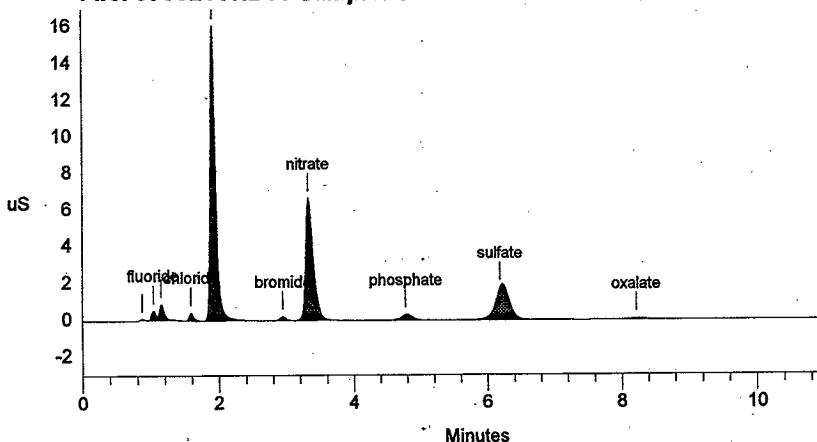
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 Data File : C:\DX\DATA\97082441.D03
 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 3 Detector: CDM-1
 Analyst: *[Signature]* Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	21	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	65	280	1	
2	1.03	fluoride	2.478	507	2281	2	0.00
3	1.15		0.000	841	4062	2	
4	1.59	chloride	2.076	428	1915	1	-2.06
5	1.91	nitrite	186.720	16082	87304	1	-4.01
6	2.95	bromide	5.420	207	1264	1	0.23
7	3.33	nitrate	127.054	6672	52445	1	1.84
8	4.77	phosphate	19.916	313	3918	1	-1.65
9	6.19	sulfate	52.625	1779	28331	1	-4.92
10	8.21	oxalate	1.198	88	1775	1	-4.35
Totals			397.487	26982	183575		

File: 97082441.D03 Sample: S97T001688 SAMPLE



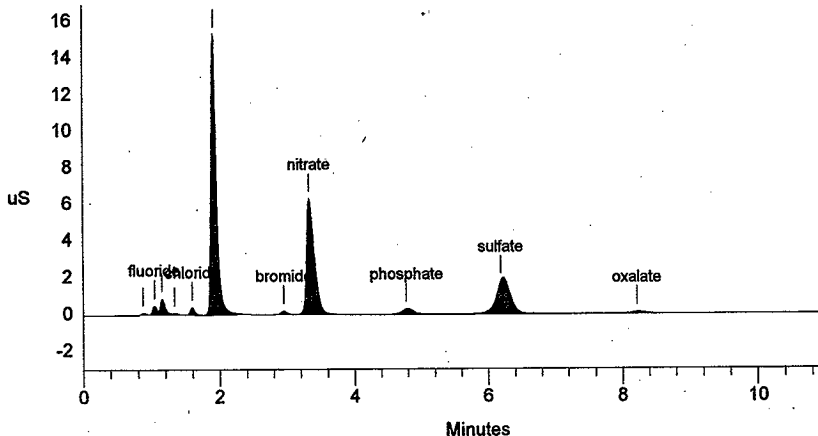
Sample Name: S97T001688 DUP Date: 08/24/1997 16:42:31
 Data File : C:\DX\DATA\97082441.D04
 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 4 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	21	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	83	399	2	
2	1.04	fluoride	2.240	475	2064	2	0.65
3	1.15		0.000	835	4219	3	
4	1.33		0.000	63	401	4	
5	1.59	chloride	1.870	392	1776	1	-1.65
6	1.92	nitrite	175.997	15318	82166	1	-3.68
7	2.95	bromide	5.238	198	1206	1	0.23
8	3.33	nitrate	121.779	6317	50235	1	2.04
9	4.77	phosphate	18.683	297	3668	1	-1.65
10	6.19	sulfate	52.283	1769	28148	1	-4.92
11	8.21	oxalate	1.061	83	1722	1	-4.35
Totals			379.150	25831	176004		

File: 97082441.D04 Sample: S97T001688 DUP



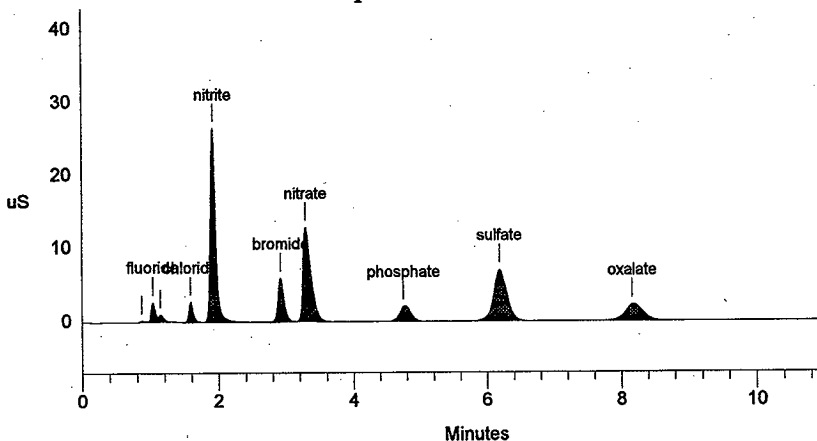
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 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 5 Detector: CDM-1
 Analyst: *[Signature]* Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	21	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	680	1	
2	1.03	fluoride	12.615	2652	11682	2	0.00
3	1.15		0.000	950	4595	2	
4	1.59	chloride	17.178	2709	12211	1	-2.06
5	1.92	nitrite	298.230	26488	141361	1	-3.68
6	2.92	bromide	114.832	5881	36635	1	-0.68
7	3.29	nitrate	253.845	12785	106625	1	0.82
8	4.75	phosphate	127.347	2071	26106	1	-2.20
9	6.19	sulfate	180.151	7043	98036	1	-4.92
10	8.16	oxalate	110.311	2258	44491	1	-4.97
Totals			1114.508	62997	482421		

File: 97082441.D05 Sample: S97T001688 SPIKE



Sample Name: S97T001700 SAMPLE

Date: 08/24/1997 17:22:38

Data File : C:\DX\DATA\97082441.D07

Method : C:\DX\METHOD\ANIONS.MET

ACI Address: 1 System: 1 Inject#: 7

Detector: CDM-1

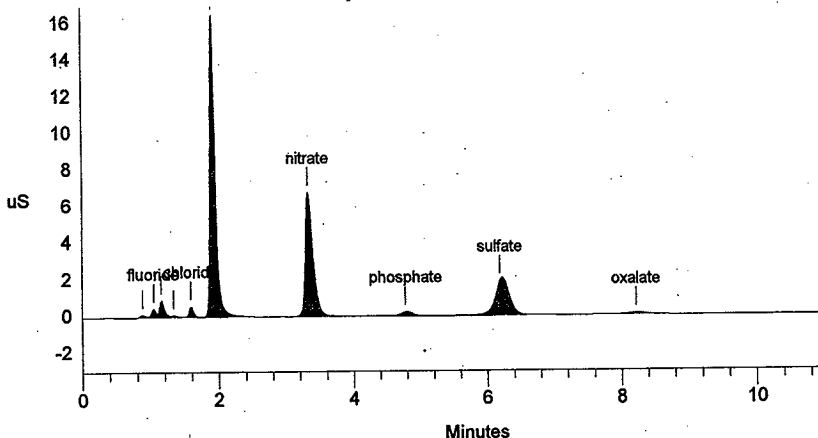
Analyst *John P. Jones* Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	21	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	444	2	
2	1.04	fluoride	2.093	439	1929	2	0.65
3	1.15		0.000	871	4466	3	
4	1.33		0.000	57	368	4	
5	1.59	chloride	2.872	556	2449	1	-2.06
6	1.91	nitrite	187.513	16427	87684	1	-4.01
7	3.33	nitrate	128.241	6782	52943	1	1.84
8	4.77	phosphate	14.484	224	2818	1	-1.65
9	6.19	sulfate	55.312	1889	29773	1	-4.92
10	8.21	oxalate	1.047	92	1716	1	-4.35
Totals			391.562	27427	184591		

File: 97082441.D07 Sample: S97T001700 SAMPLE



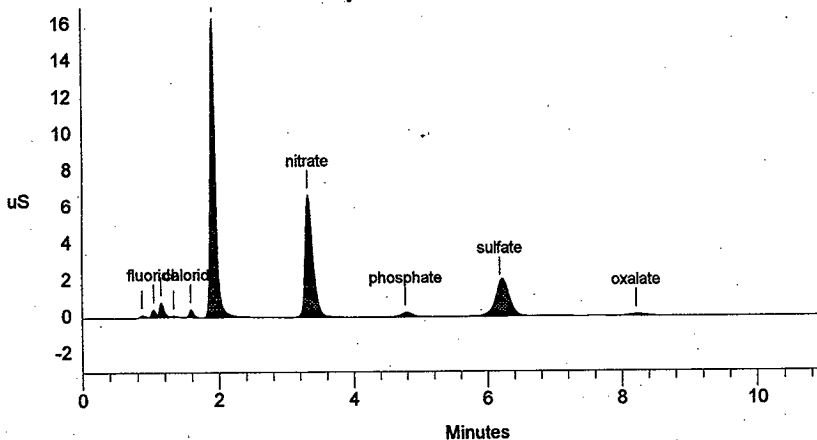
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Data File : C:\DX\DATA\97082441.D08
Method : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 8 Detector: CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	21	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	413	2	
2	1.04	fluoride	1.925	409	1776	2	0.65
3	1.15		0.000	806	4031	3	
4	1.33		0.000	65	421	4	
5	1.59	chloride	2.021	423	1878	1	-2.06
6	1.92	nitrite	185.677	16351	86803	1	-3.68
7	3.32	nitrate	128.986	6651	53256	1	1.63
8	4.77	phosphate	15.641	232	3052	1	-1.65
9	6.19	sulfate	54.464	1853	29318	1	-4.92
10	8.21	oxalate	0.843	91	1637	1	-4.35
Totals			389.556	26967	182585		

File: 97082441.D08 Sample: S97T001700 DUP



LABCORE Completed Worklist Report for Worklist# 19628

Analyst: krq

Instrument: IC01

Book# 83020B

Method: A-533-105 Rev/Mod D-1

Worklist Comment: T-105 IC. RCJ

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit	
1	CCB	0	•IC-QC	F	QC	1	2.90e-02	0.029 ug/mL	
1	CCB	0	•IC-QC	CL	QC	1	<1.70e-2	ug/mL	
1	CCB	0	•IC-QC	NO2	QC	1	<1.08e-1	ug/mL	
1	CCB	0	•IC-QC	BR	QC	1	<1.25e-1	ug/mL	
1	CCB	0	•IC-QC	NO3	QC	1	<1.39e-1	ug/mL	
1	CCB	0	•IC-QC	PO4	QC	1	<1.20e-1	ug/mL	
1	CCB	0	•IC-QC	SO4	QC	1	<1.38e-1	ug/mL	
1	CCB	0	•IC-QC	OxALATE2	QC	1	<1.05e-1	ug/mL	
2	CCV	0	•IC-QC	F	QC	5.90e01	6.12e+01	103.729 % Recovery	
2	CCV	0	•IC-QC	CL	QC	7.90e01	7.52e+01	95.190 % Recovery	
2	CCV	0	•IC-QC	NO2	QC	5.44e02	5.46e+02	100.368 % Recovery	
2	CCV	0	•IC-QC	BR	QC	5.89e02	5.97e+02	101.358 % Recovery	
2	CCV	0	•IC-QC	NO3	QC	5.94e02	5.73e+02	96.465 % Recovery	
2	CCV	0	•IC-QC	PO4	QC	5.45e02	5.67e+02	104.037 % Recovery	
2	CCV	0	•IC-QC	SO4	QC	6.32e02	6.26e+02	99.051 % Recovery	
2	CCV	0	•IC-QC	OxALATE2	QC	5.33e02	5.31e+02	99.625 % 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	1.09e-01	0.109 ug/g	
3	BLNK-PREP	0	•IC-01	BR-02	SOLID	1	<1.25e-1	ug/g	
3	BLNK-PREP	0	•IC-01	NO3-02	SOLID	1	<1.39e-1	ug/g	
3	BLNK-PREP	0	•IC-01	PO4-02	SOLID	1	<1.20e-1	ug/g	
3	BLNK-PREP	0	•IC-01	SO4-02	SOLID	1	<1.38e-1	ug/g	
3	BLNK-PREP	0	•IC-01	OxALATE2	SOLID	1	<1.05e-1	ug/g	
4	SAMPLE	S97T001706	0 W	•IC-01	CL-02	SOLID	N/A	3.489e+02	70.540 ug/g
4	SAMPLE	S97T001706	0 W	•IC-01	NO2-02	SOLID	N/A	3.195e+04	448.100 ug/g
4	SAMPLE	S97T001706	0 W	•IC-01	BR-02	SOLID	N/A	1.032e+03	518.700 ug/g
4	SAMPLE	S97T001706	0 W	•IC-01	NO3-02	SOLID	N/A	2.224e+04	576.700 ug/g
4	SAMPLE	S97T001706	0 W	•IC-01	SO4-02	SOLID	N/A	8.168e+03	572.700 ug/g
5	DUP	S97T001706	0 W	•IC-01	F-02	SOLID	6.86e+02	2.53e+03	114.677 RPD
5	DUP	S97T001706	0 W	•IC-01	CL-02	SOLID	3.43e+02	3.16e+02	9.925 RPD
5	DUP	S97T001706	0 W	•IC-01	NO2-02	SOLID	3.20e+04	2.98e+04	7.120 RPD
5	DUP	S97T001706	0 W	•IC-01	BR-02	SOLID	1.03e+03	9.85e+02	4.467 RPD
5	DUP	S97T001706	0 W	•IC-01	NO3-02	SOLID	2.22e+04	2.09e+04	6.032 RPD
5	DUP	S97T001706	0 W	•IC-01	PO4-02	SOLID	2.94e+03	2.43e+04	156.828 RPD
5	DUP	S97T001706	0 W	•IC-01	SO4-02	SOLID	8.17e+03	7.79e+03	4.762 RPD
5	DUP	S97T001706	0 W	•IC-01	OxALATE2	SOLID	7.02e+02	5.25e+02	28.851 RPD
6	SPK	S97T001706	0 W	•IC-01	F-02	SOLID	5.90e01	5.05e+01	85.593 % Recovery
6	SPK	S97T001706	0 W	•IC-01	CL-02	SOLID	7.90e01	7.75e+01	98.101 % Recovery
6	SPK	S97T001706	0 W	•IC-01	NO2-02	SOLID	5.44e02	5.74e+02	105.515 % Recovery
6	SPK	S97T001706	0 W	•IC-01	BR-02	SOLID	5.89e02	5.65e+02	95.925 % Recovery

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

LABCORE Completed Worklist Report for Worklist# 19628

Seq Type	Sample#	RA	Test	Matrix	Actual	Found	DL or Yield	Unit
6 SPK	S97T001706	0 W @IC-01	NO3-02	SOLID	5.94e02	5.88e+02	98.990 % Recovery	
6 SPK	S97T001706	0 W @IC-01	P04-02	SOLID	5.45e02	5.47e+02	100.367 % Recovery	
6 SPK	S97T001706	0 W @IC-01	S04-02	SOLID	6.32e02	6.30e+02	99.684 % Recovery	
6 SPK	S97T001706	0 W @IC-01	OXALATE2	SOLID	5.33e02	5.14e+02	96.435 % Recovery	
7 SAMPLE	S97T001713	0 W @IC-01	F-02	SOLID	N/A	5.560e+02	26.660	ug/g
7 SAMPLE	S97T001713	0 W @IC-01	CL-02	SOLID	N/A	3.836e+02	37.770	ug/g
7 SAMPLE	S97T001713	0 W @IC-01	NO2-02	SOLID	N/A	3.418e+04	458.000	ug/g
7 SAMPLE	S97T001713	0 W @IC-01	BR-02	SOLID	N/A	4.553e+02	277.800	ug/g
7 SAMPLE	S97T001713	0 W @IC-01	NO3-02	SOLID	N/A	2.476e+04	589.700	ug/g
7 SAMPLE	S97T001713	0 W @IC-01	P04-02	SOLID	N/A	3.393e+03	266.600	ug/g
7 SAMPLE	S97T001713	0 W @IC-01	S04-02	SOLID	N/A	9.401e+03	306.600	ug/g
7 SAMPLE	S97T001713	0 W @IC-01	OXALATE2	SOLID	N/A	5.154e+03	233.300	ug/g
8 DUP	S97T001713	0 W @IC-01	F-02	SOLID	5.56e+02	5.62e+02	1.073	RPD
8 DUP	S97T001713	0 W @IC-01	CL-02	SOLID	3.84e+02	3.98e+02	3.581	RPD
8 DUP	S97T001713	0 W @IC-01	NO2-02	SOLID	2.42e+04	3.40e+04	0.587	RPD
8 DUP	S97T001713	0 W @IC-01	BR-02	SOLID	4.55e+02	4.42e+02	2.899	RPD
8 DUP	S97T001713	0 W @IC-01	NO3-02	SOLID	2.48e+04	2.45e+04	1.217	RPD
8 DUP	S97T001713	0 W @IC-01	P04-02	SOLID	3.39e+03	3.37e+03	0.592	RPD
8 DUP	S97T001713	0 W @IC-01	S04-02	SOLID	9.40e+03	9.36e+03	0.426	RPD
8 DUP	S97T001713	0 W @IC-01	OXALATE2	SOLID	5.15e+03	4.87e+03	5.589	RPD

Final page for worklist# 19628

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____


 Reviewer Signature _____ Date _____

08/04/97 08:52
A-0004-1

Page: 1

LABCORE Data Entry Template for Worklist# 19628

Analyst: ABQ Instrument: IC0 1 Book# 831125-BMethod: LA-533-105 Rev/Mod D-1

Worklist Comment: T-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	S97T001706 0 W	@IC-01	SOLID		97000435	T-105
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
5 DUP	S97T001706 0 W	@IC-01	SOLID			
6 SPK	S97T001706 0 W	@IC-01	SOLID			
7 SAMPLE	S97T001713 0 W	@IC-01	SOLID		97000435	T-105
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
8 DUP	S97T001713 0 W	@IC-01	SOLID			

Final page for worklist # 19628

Analyst Signature

Date

Analyst Signature

Date

uploaded 8-27-97
John Worell
19628AUG.CSV

Validated 8/29/97, F_i OX + PO₄ on 1706 very
poor + this will be removed
WKL# 20113

Data Entry Comments:

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

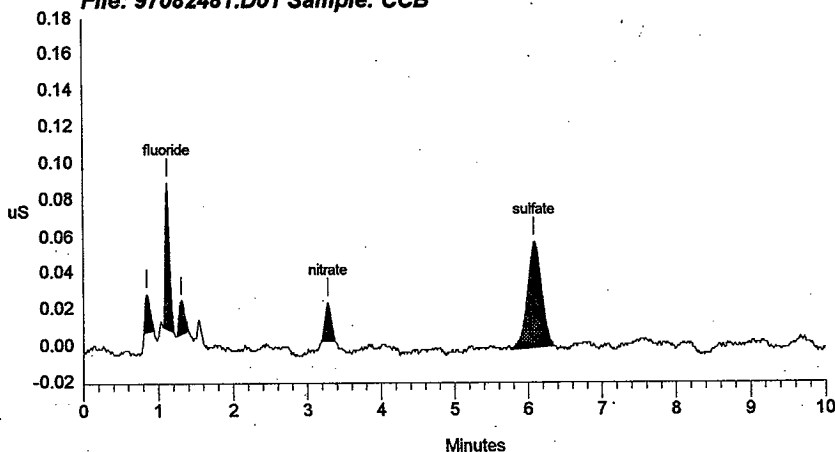
Sample Name: CCB Date: 08/24/1997 07:01:24
 Data File : C:\DX\DATA\97082481.D01
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 1 Detector: CDM-1
 Analyst : *[Signature]* Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	3000	5Hz	0.00	10.00		30

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.85		0.000	21	98	1	
2	1.12	fluoride	0.029	80	311	1	6.67
3	1.31		0.000	18	96	1	
4	3.28	nitrate	-0.048	21	122	1	0.92
5	6.08	sulfate	-0.219	58	776	1	-5.00
Totals			-0.239	198	1404		

File: 97082481.D01 Sample: CCB



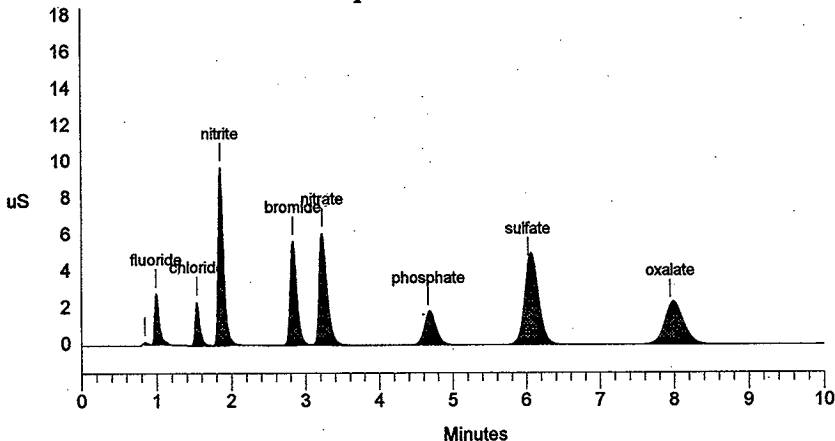
Sample Name: CCV 83N20-B Date: 08/24/1997 07:15:08
 Data File : C:\DX\DATA\97082481.D02
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 2 Detector: CDM-1
 Analyst Column: AG4A/AS4A anion column

Calibration Volume Dilution Points Rate Start Stop Area Reject
 External 1 101 3000 5Hz 0.00 10.00 30

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.85		0.000	109	442	2	
2	0.99	fluoride	61.204	2740	12338	2	-5.40
3	1.54	chloride	75.163	2367	10428	1	-4.94
4	1.85	nitrite	546.359	9732	49873	1	-5.44
5	2.83	bromide	596.819	5674	35577	1	-0.58
6	3.23	nitrate	572.849	6091	45661	1	-0.72
7	4.67	phosphate	566.895	1799	21127	1	-5.41
8	6.03	sulfate	626.227	4484	65564	1	-5.83
9	7.95	oxalate	531.168	2166	41718	1	-6.29
Totals			3576.684	35163	282727		

File: 97082481.D02 Sample: CCV 83N20-B

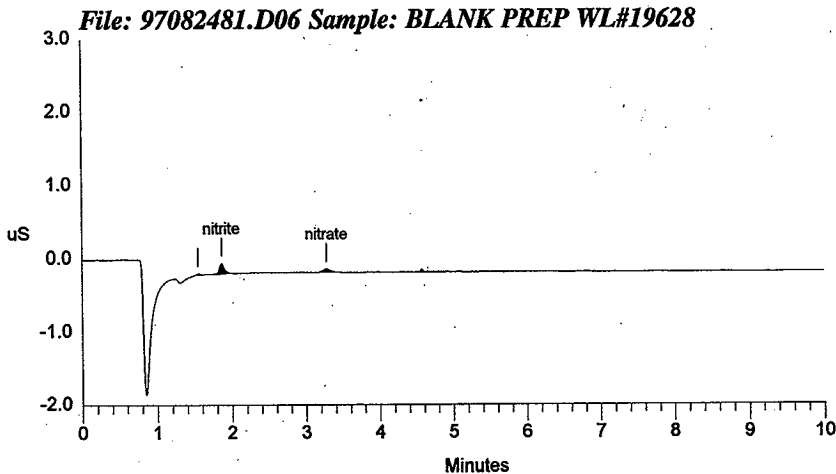


Sample Name: BLANK PREP WL#19628 Date: 08/24/1997 11:27:02
 Data File : C:\DX\DATA\97082481.D06
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 6 Detector: CDM-1
 Analyst Column: AG4A/AS4A anion column

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
2	1.86	nitrite	0.109	139	600	1	-5.10
3	3.27	nitrate	-0.031	44	257	1	0.72
Totals			0.078	182	858		



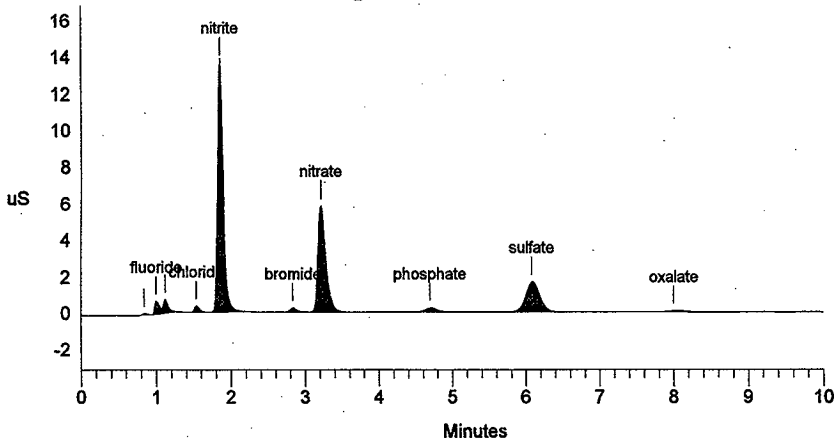
Sample Name: S97T001706 SAMPLE Date: 08/24/1997 11:42:21
 Data File : C:\DX\DATA\97082481.D07
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 7 Detector: CDM-1
 Analyst *[Signature]* Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	21	3000	5Hz	0.00	10.00		30

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.84		0.000	72	302	1	
2	1.00	fluoride	3.470	720	3152	2	-4.76
3	1.12		0.000	738	3520	2	
4	1.53	chloride	1.766	337	1524	1	-5.35
5	1.85	nitrite	161.697	13683	71075	1	-5.44
6	2.83	bromide	5.222	218	1267	1	-0.58
7	3.21	nitrate	112.564	5827	43152	1	-1.13
8	4.69	phosphate	14.896	222	2549	1	-4.86
9	6.08	sulfate	41.340	1675	22449	1	-5.00
10	8.00	oxalate	3.553	79	1527	1	-5.66
Totals			344.507	23572	150517		

File: 97082481.D07 Sample: S97T001706 SAMPLE



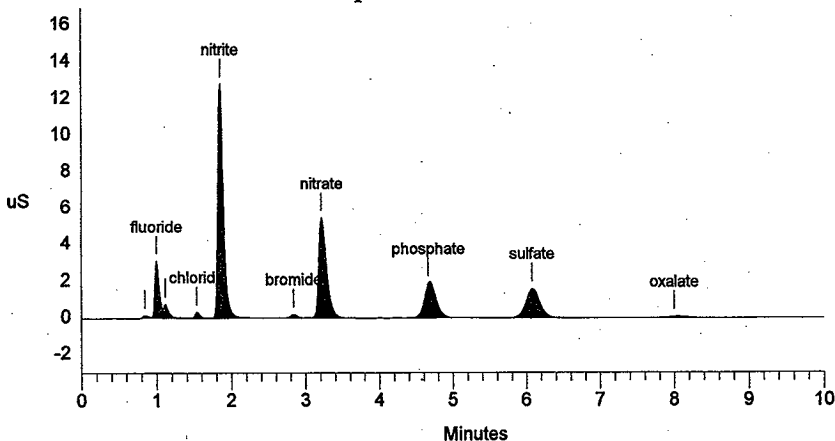
Sample Name: S97T001706 DUP Date: 08/24/1997 12:04:12
 Data File : C:\DX\DATA\97082481.D08
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 8 Detector: CDM-1
 Analyst Column: AG4A/AS4A anion column

Calibration Volume Dilution Points Rate Start Stop Area Reject
 External 1 21 3000 5Hz 0.00 10.00 30

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.85		0.000	108	485	2	
2	1.00	fluoride	12.792	3070	12404	2	-4.76
3	1.11		0.000	740	3354	2	
4	1.53	chloride	1.598	317	1418	1	-5.35
5	1.85	nitrite	150.633	12795	66203	1	-5.44
6	2.84	bromide	4.975	204	1197	1	-0.35
7	3.22	nitrate	105.295	5486	40369	1	-0.92
8	4.67	phosphate	122.724	1885	22022	1	-5.41
9	6.08	sulfate	39.317	1603	21486	1	-5.00
10	8.00	oxalate	2.651	69	1195	1	-5.66
Totals			439.985	26277	170132		

File: 97082481.D08 Sample: S97T001706 DUP



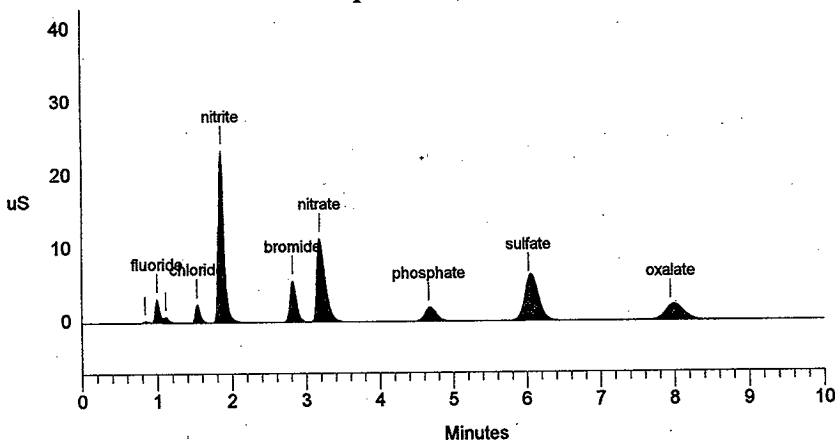
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 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 9 Detector: CDM-1
 Analyst Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	21	3000	5Hz	0.00	10.00		30

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.84		0.000	170	788	2	
2	1.00	fluoride	13.565	3202	13171	2	-4.76
3	1.11		0.000	780	3541	2	
4	1.53	chloride	17.264	2504	11493	1	-5.35
5	1.86	nitrite	276.584	23462	121503	1	-5.10
6	2.82	bromide	118.263	5594	33865	1	-1.05
7	3.19	nitrate	230.188	11369	88780	1	-1.95
8	4.67	phosphate	124.258	1925	22306	1	-5.41
9	6.03	sulfate	167.288	5782	84060	1	-5.83
10	7.95	oxalate	106.277	2079	40122	1	-6.29
Totals			1053.687	56867	419629		

File: 97082481.D09 Sample: S97T001706 SPIKE



Sample Name: S97T001713 SAMPLE Date: 08/24/1997 13:17:09
 Data File : C:\DX\DATA\97082481.D12
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 12 Detector: CDM-1
 Analyst Column: AG4A/AS4A anion column

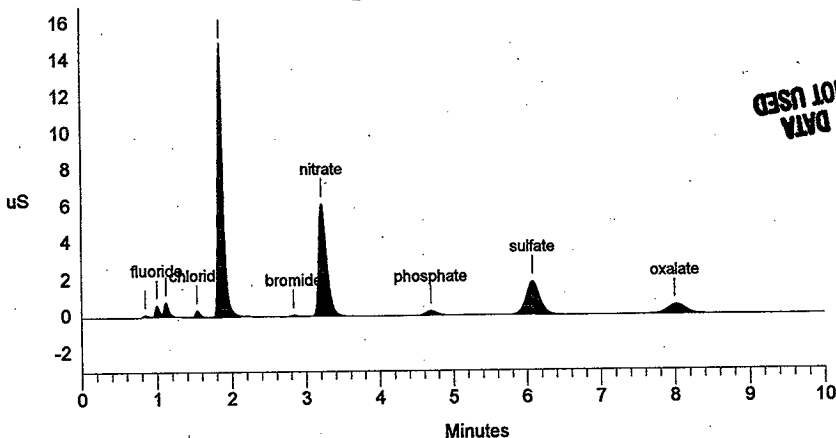
Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	21	3000	5Hz	0.00	10.00		30

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.85		0.000	83	355	2	
2	1.00	fluoride	2.789	609	2475	2	-4.76
3	1.12		0.000	782	3561	2	
4	1.53	chloride	1.886	367	1601	1	-5.35
5	1.85	nitrite	169.245	14883	74398	1	-5.44
6	2.83	bromide	2.403	82	468	1	-0.58
7	3.22	nitrate	122.582	6158	46995	1	-0.92
8	4.69	phosphate	16.020	253	2748	1	-4.86
9	6.08	sulfate	43.986	1831	23709	1	-5.00
10	8.00	oxalate	24.072	513	9119	1	-5.66

Totals 382.984 25561 165430

File: 97082481.D12 Sample: S97T001713 SAMPLE



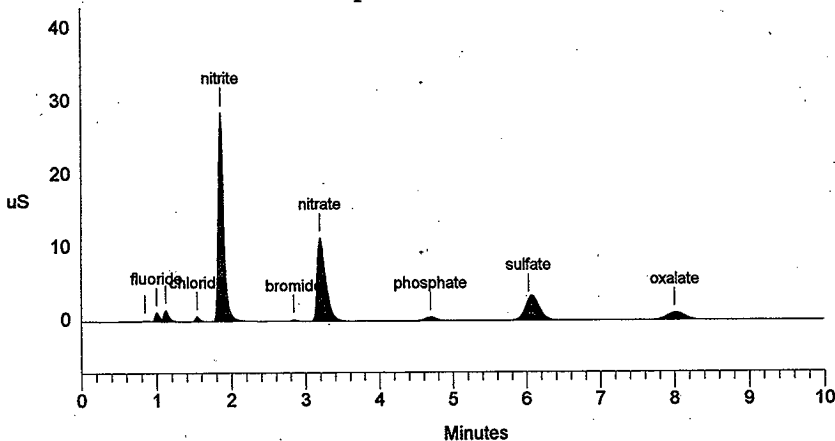
Sample Name: S97T001713 SAMPLE Date: 08/24/1997 17:06:58
 Data File : C:\DX\DATA\97082481.D13
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 13 Detector: CDM-1
 Analyst: *[Signature]* Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	11	3000	5Hz	0.00	10.00		30

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.85		0.000	145	668	2	
2	1.00	fluoride	2.753	1178	4924	2	-4.76
3	1.12		0.000	1471	7101	2	
4	1.54	chloride	1.899	620	2707	1	-4.94
5	1.86	nitrite	173.310	28546	145224	1	-5.10
6	2.84	bromide	2.254	170	1006	1	-0.35
7	3.19	nitrate	122.996	11371	90597	1	-1.74
8	4.69	phosphate	16.799	492	5594	1	-4.86
9	6.03	sulfate	46.545	2933	45299	1	-5.83
10	8.00	oxalate	25.517	1021	18313	1	-5.66
Totals			392.075	47946	321434		

File: 97082481.D13 Sample: S97T001713 SAMPLE



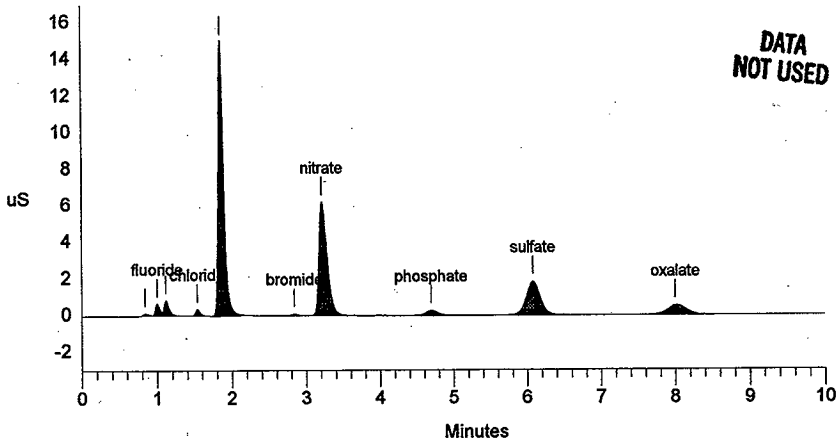
Sample Name: S97T001713 DUP Date: 08/24/1997 13:04:13
 Data File : C:\DX\DATA\97082481.D11
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 11 Detector: CDM-1
 Analyst *[Signature]* Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	21	3000	5Hz	0.00	10.00		30

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.84		0.000	84	380	2	
2	1.00	fluoride	2.840	621	2527	2	-4.76
3	1.11		0.000	811	3869	2	
4	1.53	chloride	1.817	359	1557	1	-5.35
5	1.85	nitrite	170.144	14999	74793	1	-5.44
6	2.84	bromide	2.493	87	494	1	-0.35
7	3.21	nitrate	122.823	6199	47087	1	-1.13
8	4.69	phosphate	17.523	265	3013	1	-4.86
9	6.08	sulfate	45.192	1841	24284	1	-5.00
10	8.00	oxalate	24.239	518	9181	1	-5.66
Totals			387.070	25784	167184		

File: 97082481.D11 Sample: S97T001713 DUP



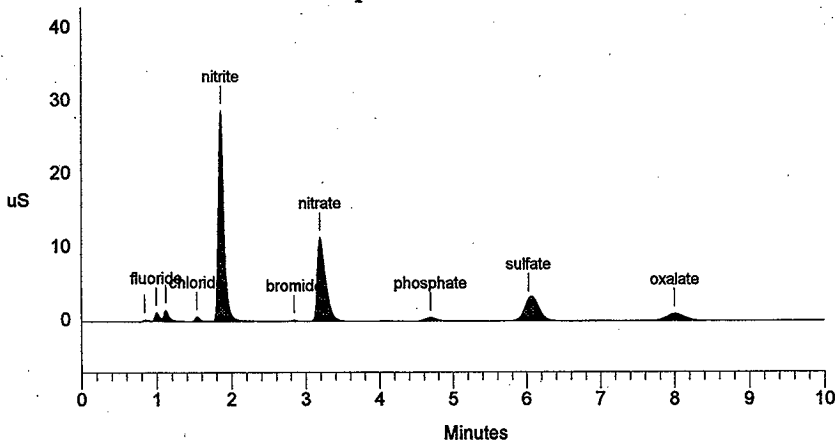
Sample Name: S97T001713 DUP Date: 08/24/1997 17:23:57
 Data File : C:\DX\DATA\97082481.D14
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System 1 Inject#: 14 Detector: CDM-1
 Analyst Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	11	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	154	727	2	
2	0.99	fluoride	2.817	1172	5045	2	-5.40
3	1.12		0.000	1492	7033	2	
4	1.53	chloride	1.992	639	2820	1	-5.35
5	1.86	nitrite	175.601	28807	147132	1	-5.10
6	2.85	bromide	2.216	167	985	1	-0.12
7	3.19	nitrate	120.985	11389	89088	1	-1.74
8	4.69	phosphate	16.865	497	5616	1	-4.86
9	6.03	sulfate	46.884	3099	45614	1	-5.83
10	8.00	oxalate	24.411	988	17522	1	-5.66
Totals			391.770	48403	321582		

File: 97082481.D14 Sample: S97T001713 DUP



LABCORE Completed Worklist Report for Worklist# 20051

Analyst: eal

Instrument: IC01

Book# 95N20A

Method: 1A-533-105 Rev/Mod D-1

Worklist Comment: Rerun T105 IC. Use 2121 df. Spike failed first time.jmf

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	CCB	0	01C-QC	F	QC	1	<1.20e-2	ug/mL
1	CCB	0	01C-QC	CL	QC	1	<1.70e-2	ug/mL
1	CCB	0	01C-QC	NO2	QC	1	<1.08e-1	ug/mL
1	CCB	0	01C-QC	BR	QC	1	<1.25e-1	ug/mL
1	CCB	0	01C-QC	NO3	QC	1	<1.39e-1	ug/mL
1	CCB	0	01C-QC	PO4	QC	1	<1.20e-1	ug/mL
1	CCB	0	01C-QC	SO4	QC	1	<1.38e-1	ug/mL
1	CCB	0	01C-QC	OXALATE2	QC	1	<1.05e-1	ug/mL
2	CCV	0	01C-QC	F	QC	5.90e01	5.70e+01	96.610 % Recovery
2	CCV	0	01C-QC	CL	QC	8.00e01	7.46e+01	93.250 % Recovery
2	CCV	0	01C-QC	NO2	QC	5.43e02	5.31e+02	97.790 % Recovery
2	CCV	0	01C-QC	BR	QC	5.89e02	5.54e+02	94.058 % Recovery
2	CCV	0	01C-QC	NO3	QC	5.94e02	5.79e+02	97.475 % Recovery
2	CCV	0	01C-QC	PO4	QC	5.45e02	5.57e+02	102.202 % Recovery
2	CCV	0	01C-QC	SO4	QC	6.32e02	6.23e+02	98.576 % Recovery
2	CCV	0	01C-QC	OXALATE2	QC	5.33e02	5.22e+02	97.936 % Recovery
3	SAMPLE	S97T001682	01C-01	F-02	LIQUID	N/A	6.711e+02	25.450 ug/mL
3	SAMPLE	S97T001682	01C-01	CL-02	LIQUID	N/A	5.179e+02	36.060 ug/mL
3	SAMPLE	S97T001682	01C-01	NO2-02	LIQUID	N/A	4.541e+04	229.100 ug/mL
3	SAMPLE	S97T001682	01C-01	BR-02	LIQUID	N/A	1.256e+03	265.100 ug/mL
3	SAMPLE	S97T001682	01C-01	NO3-02	LIQUID	N/A	3.125e+04	294.800 ug/mL
3	SAMPLE	S97T001682	01C-01	PO4-02	LIQUID	N/A	4.125e+03	254.500 ug/mL
3	SAMPLE	S97T001682	01C-01	SO4-02	LIQUID	N/A	1.187e+04	292.700 ug/mL
3	SAMPLE	S97T001682	01C-01	OXALATE2	LIQUID	N/A	9.887e+02	222.700 ug/mL
4	DUP	S97T001682	01C-01	F-02	LIQUID	6.711e+02	5.92e+02	12.510 RPD
4	DUP	S97T001682	01C-01	CL-02	LIQUID	5.18e+02	5.23e+02	0.961 RPD
4	DUP	S97T001682	01C-01	NO2-02	LIQUID	4.54e+04	4.71e+04	3.676 RPD
4	DUP	S97T001682	01C-01	BR-02	LIQUID	1.26e+03	1.30e+03	3.125 RPD
4	DUP	S97T001682	01C-01	NO3-02	LIQUID	3.12e+04	3.11e+04	0.321 RPD
4	DUP	S97T001682	01C-01	PO4-02	LIQUID	4.12e+03	4.45e+03	7.701 RPD
4	DUP	S97T001682	01C-01	SO4-02	LIQUID	1.19e+04	1.25e+04	4.918 RPD
4	DUP	S97T001682	01C-01	OXALATE2	LIQUID	9.89e+02	1.06e+03	6.930 RPD
5	SPK	S97T001682	01C-01	F-02	LIQUID	5.90e01	5.46e+01	92.542 % Recovery
5	SPK	S97T001682	01C-01	CL-02	LIQUID	8.00e01	7.89e+01	98.625 % Recovery
5	SPK	S97T001682	01C-01	NO2-02	LIQUID	5.43e02	6.55e+02	120.626 % Recovery
5	SPK	S97T001682	01C-01	BR-02	LIQUID	5.89e02	6.15e+02	104.414 % Recovery
5	SPK	S97T001682	01C-01	NO3-02	LIQUID	5.94e02	6.94e+02	116.835 % Recovery
5	SPK	S97T001682	01C-01	PO4-02	LIQUID	5.45e02	5.81e+02	106.606 % Recovery
5	SPK	S97T001682	01C-01	SO4-02	LIQUID	6.32e02	6.82e+02	107.911 % Recovery
5	SPK	S97T001682	01C-01	OXALATE2	LIQUID	5.33e02	5.46e+02	102.439 % Recovery
6	SAMPLE	S97T001682	01C-01	F-02	LIQUID	N/A	6.327e+02	25.450 ug/mL

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

LABCORE Completed Worklist Report for Worklist# 20051

Seq Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
6 SAMPLE	S97T001692	0	0	0IC-01	CL-02	LIQUID	N/A	5.946e+02	36.060 ug/mL
6 SAMPLE	S97T001692	0	0	0IC-01	NO2-02	LIQUID	N/A	5.150e+04	229.100 ug/mL
6 SAMPLE	S97T001692	0	0	0IC-01	BR-02	LIQUID	N/A	2.651e+02	265.100 ug/mL
6 SAMPLE	S97T001692	0	0	0IC-01	NO3-02	LIQUID	N/A	3.583e+04	294.800 ug/mL
6 SAMPLE	S97T001692	0	0	0IC-01	PO4-02	LIQUID	N/A	3.914e+03	254.500 ug/mL
6 SAMPLE	S97T001692	0	0	0IC-01	SO4-02	LIQUID	N/A	1.440e+04	292.700 ug/mL
6 SAMPLE	S97T001692	0	0	0IC-01	OXALATE2	LIQUID	N/A	1.238e+03	222.700 ug/mL
7 DUP	S97T001692	0	0	0IC-01	F-02	LIQUID	6.33e+02	6.15e+02	2.885 RPD
7 DUP	S97T001692	0	0	0IC-01	CL-02	LIQUID	5.95e+02	5.84e+02	1.866 RPD
7 DUP	S97T001692	0	0	0IC-01	NO2-02	LIQUID	5.15e+04	5.17e+04	0.388 RPD
7 DUP	S97T001692	0	0	0IC-01	BR-02	LIQUID	<2.65e2	<2.65e2	RPD
7 DUP	S97T001692	0	0	0IC-01	NO3-02	LIQUID	3.58e+04	3.59e+04	0.279 RPD
7 DUP	S97T001692	0	0	0IC-01	PO4-02	LIQUID	3.91e+03	3.72e+03	4.980 RPD
7 DUP	S97T001692	0	0	0IC-01	SO4-02	LIQUID	1.44e+04	1.43e+04	0.697 RPD
7 DUP	S97T001692	0	0	0IC-01	OXALATE2	LIQUID	1.24e+03	1.23e+03	0.810 RPD
8 SPK	S97T001692	0	0	0IC-01	F-02	LIQUID	5.90e01	5.65e+01	95.763 % Recovery
8 SPK	S97T001692	0	0	0IC-01	CL-02	LIQUID	8.00e01	7.47e+01	93.375 % Recovery
8 SPK	S97T001692	0	0	0IC-01	NO2-02	LIQUID	5.43e02	5.96e+02	109.761 % Recovery
8 SPK	S97T001692	0	0	0IC-01	BR-02	LIQUID	5.89e02	5.80e+02	98.472 % Recovery
8 SPK	S97T001692	0	0	0IC-01	NO3-02	LIQUID	5.94e02	5.84e+02	98.316 % Recovery
8 SPK	S97T001692	0	0	0IC-01	PO4-02	LIQUID	5.45e02	5.40e+02	99.083 % Recovery
8 SPK	S97T001692	0	0	0IC-01	SO4-02	LIQUID	6.32e02	6.21e+02	98.259 % Recovery
8 SPK	S97T001692	0	0	0IC-01	OXALATE2	LIQUID	5.33e02	5.25e+02	98.499 % Recovery

Final page for worklist# 20051

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____


Reviewer Signature

9/25/97
Date

LABCORE Data Entry Template for Worklist# 20051

Analyst: EM Instrument: IC0 1 Book# 95N20-A

Method: LA-533-105 Rev/Mod D.1

Worklist Comment: Rerun T105 IC. Use 2121 df. Spike failed first time.jmf

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC-QC	QC		
2 CCV			@IC-QC	QC		
3 SAMPLE	S97T001682 0		@IC-01	LIQUID	97000434 T-105	
	Analytes Requested:		BR-02	CL-02	F-02	NO2-02
			OXALATE2	PO4-02	SO4-02	NO3-02
4 DUP	S97T001682 0		@IC-01	LIQUID		
5 SPK	S97T001682 0		@IC-01	LIQUID		
6 SAMPLE	S97T001692 0		@IC-01	LIQUID	97000435 T-105	
	Analytes Requested:		BR-02	CL-02	F-02	NO2-02
			OXALATE2	PO4-02	SO4-02	NO3-02
7 DUP	S97T001692 0		@IC-01	LIQUID		
8 SPK	S97T001692 0		@IC-01	LIQUID		

Final page for worklist # 20051

A. Lambel 8/31/97
Analyst Signature Date

Analyst Signature Date

uploaded 9-16-97

Dr. Worell

20051AUG.CSV

Validated 9/25/97 Dr. Pacheco

Data Entry Comments:

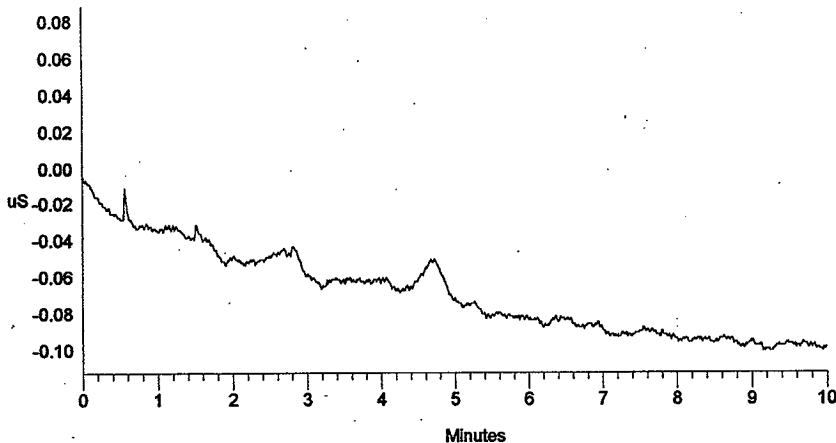
Sample Name: INST. BLANK Date: 08/31/1997 06:55:50
Data File : C:\DX\DATA\97083101.D01
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 1 Detector: CDM-1
Analyst : *John J. [Signature]* Column: AG4A/AS4A anion column

Calibration Volume Dilution Points Rate Start Stop Area Reject
External 1 1 3000 5Hz 0.00 10.00 30

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
Totals			0.000	0	0		

File: 97083101.D01 Sample: INST. BLANK



SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 194 TO 201

Data Reprocessed On 09/16/1997 12:38:46

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=====
Sample Name: 95N20-A STD                      Date: 08/31/1997 07:29:35
Data File  : F:\DATA\97083101.D03
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 3            Detector: CDM-1
Analyst    :                               Column: AG4A/AS4A anion column
=====

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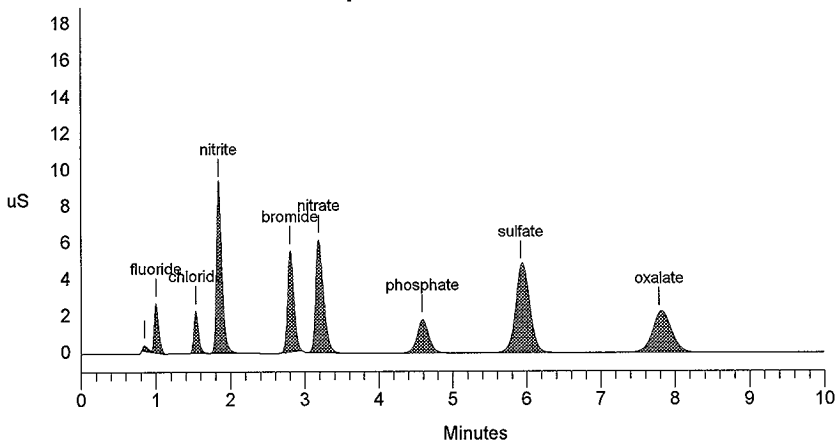
=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          101    3000  5Hz   0.00 10.00          30
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.85		0.000	319	1543	2	
2	1.00	fluoride	57.076	2701	11486	2	-4.76
3	1.53	chloride	74.610	2309	10354	1	-5.35
4	1.84	nitrite	530.731	9304	48438	1	-6.12
5	2.80	bromide	554.191	5507	32975	1	-1.75
6	3.19	nitrate	579.004	6167	46152	1	-1.95
7	4.59	phosphate	557.150	1830	20753	1	-7.03
8	5.92	sulfate	623.080	4756	65241	1	-7.50
9	7.79	oxalate	521.958	2175	40983	1	-8.18
Totals			3497.800	35067	277926		

File: 97083101.D03 Sample: 95N20-A STD



Data Reprocessed On 09/16/1997 12:44:17

```

=====
Sample Name: S97T001682                      Date: 08/31/1997 07:53:53
Data File  : F:\DATA\97083101.D05
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 5           Detector: CDM-1
Analyst    :                               Column: AG4A/AS4A anion column
=====

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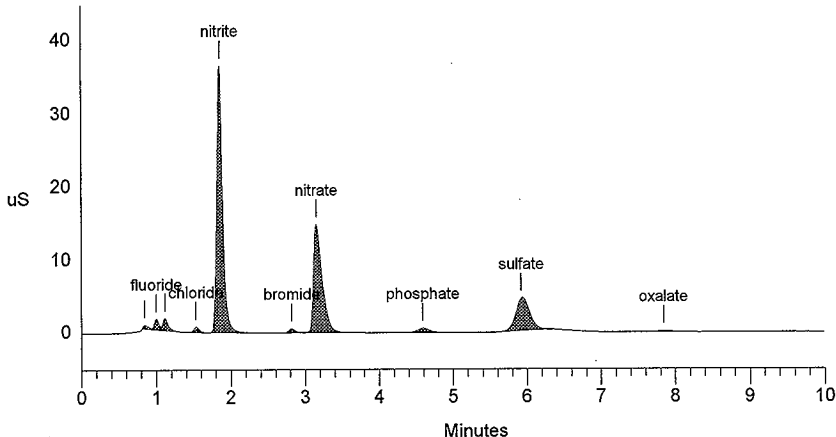
=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          2121   3000  5Hz   0.00 10.00          30
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.85		0.000	501	2429	2	
2	1.00	fluoride	671.143	1456	6302	2	-4.76
3	1.11		0.000	1660	8335	2	
4	1.53	chloride	517.888	760	3665	1	-5.76
5	1.85	nitrite	45406.826	36524	196868	1	-5.44
6	2.81	bromide	1255.788	562	3314	1	-1.29
7	3.15	nitrate	31249.283	14824	120160	1	-2.97
8	4.59	phosphate	4124.881	626	7156	1	-7.03
9	5.92	sulfate	11873.656	4475	59328	1	-7.50
10	7.84	oxalate	988.676	213	3828	1	-7.55
Totals			96088.141	61600	411384		

File: 97083101.D05 Sample: S97T001682



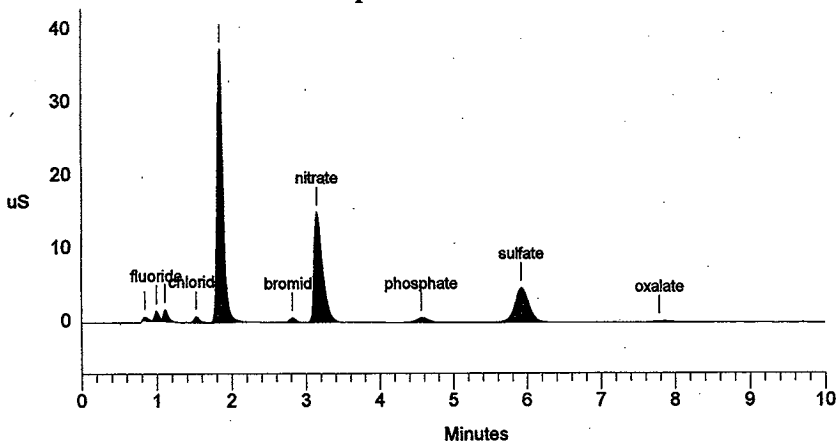
Sample Name: S97T001682 DUP Date: 08/31/1997 10:55:16
 Data File : C:\DX\DATA\97083101.D06
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 6 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	2121	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	483	2096	2	
2	0.99	fluoride	592.329	1371	5528	2	-5.40
3	1.11		0.000	1611	7664	2	
4	1.52	chloride	522.680	784	3695	1	-6.17
5	1.85	nitrite	47077.960	37302	204041	1	-5.78
6	2.81	bromide	1298.516	578	3434	1	-1.29
7	3.15	nitrate	31126.482	15025	119674	1	-3.18
8	4.56	phosphate	4452.044	627	7735	1	-7.57
9	5.92	sulfate	12506.188	4689	62412	1	-7.50
10	7.79	oxalate	1055.804	196	4074	1	-8.18
Totals			98632.002	62666	420353		

File: 97083101.D06 Sample: S97T001682 DUP



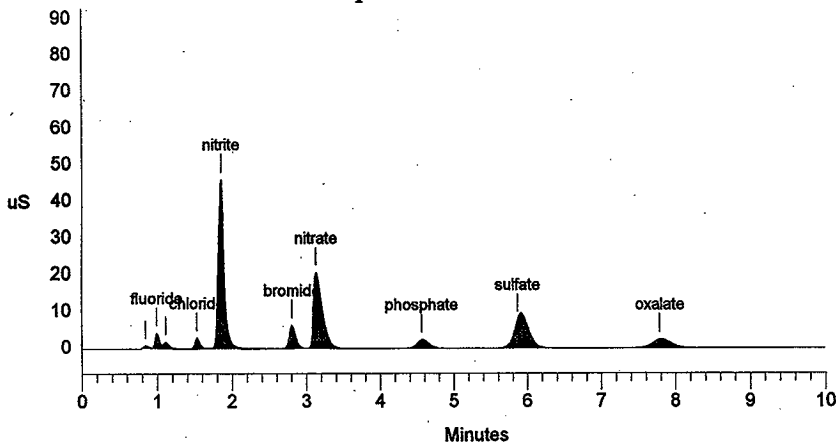
Sample Name: S97T001682 SPIKE Date: 08/31/1997 11:11:27
 Data File : C:\DX\DATA\97083101.D07
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 7 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	2121	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	619	2815	2	
2	0.99	fluoride	1773.679	4137	17140	2	-5.40
3	1.11		0.000	1797	9127	2	
4	1.53	chloride	2110.984	2930	13870	1	-5.76
5	1.85	nitrite	58630.291	46140	253464	1	-5.44
6	2.81	bromide	13684.974	6334	38935	1	-1.52
7	3.13	nitrate	45262.392	20646	176486	1	-3.59
8	4.56	phosphate	15869.602	2451	28424	1	-7.57
9	5.87	sulfate	25657.435	7953	128600	1	-8.33
10	7.79	oxalate	12009.219	2448	44970	1	-8.18
Totals			174998.576	95453	713831		

File: 97083101.D07 Sample: S97T001682 SPIKE



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=====
Sample Name: S97T001692                      Date: 08/31/1997 11:23:09
Data File  : C:\DX\DATA\97083101.D08
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 8           Detector: CDM-1
Analyst    :                               Column: AG4A/AS4A anion column
=====

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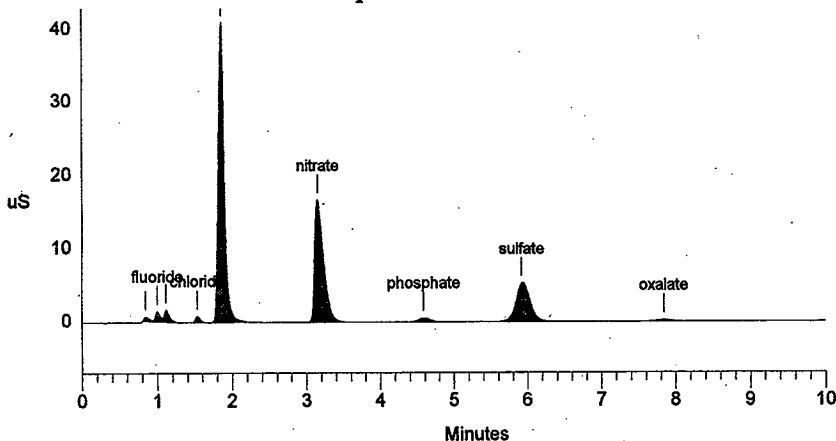
=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          2121  3000  5Hz   0.00 10.00          30
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.85		0.000	572	2854	2	
2	1.00	fluoride	632.661	1379	5924	2	-4.76
3	1.11		0.000	1651	8379	2	
4	1.53	chloride	594.633	865	4151	1	-5.35
5	1.85	nitrite	51499.259	40945	222990	1	-5.44
6	3.15	nitrate	35826.874	16662	138363	1	-2.97
7	4.59	phosphate	3914.198	567	6784	1	-7.03
8	5.92	sulfate	14398.582	5225	71692	1	-7.50
9	7.84	oxalate	1238.246	244	4742	1	-7.55
Totals			108104.452	68109	465879		

File: 97083101.D08 Sample: S97T001692



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=====
Sample Name: S97T001692 DUP      Date: 08/31/1997 11:34:04
Data File  : C:\DX\DATA\97083101.D09
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 9      Detector: CDM-1
Analyst    :                      Column: AG4A/AS4A anion column
=====

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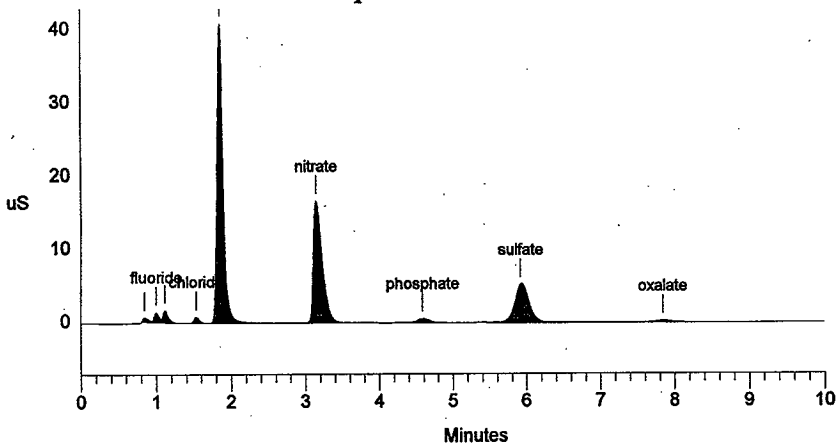
=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          2121  3000  5Hz  0.00 10.00          30
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.85		0.000	513	2402	2	
2	1.00	fluoride	615.160	1341	5752	2	-4.76
3	1.11		0.000	1634	8211	2	
4	1.53	chloride	584.253	863	4085	1	-5.35
5	1.85	nitrite	51745.380	40924	224044	1	-5.44
6	3.15	nitrate	35855.895	16646	138479	1	-3.18
7	4.59	phosphate	3721.814	560	6445	1	-7.03
8	5.92	sulfate	14286.313	5219	71139	1	-7.50
9	7.84	oxalate	1225.955	243	4697	1	-7.55
Totals			108034.770	67944	465253		

File: 97083101.D09 Sample: S97T001692 DUP



```

=====
Sample Name: S97T001692 SPIKE          Date: 08/31/1997 11:45:44
Data File  : C:\DX\DATA\97083101.D10
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 10    Detector: CDM-1
Analyst    :                          Column: AG4A/AS4A anion column
=====

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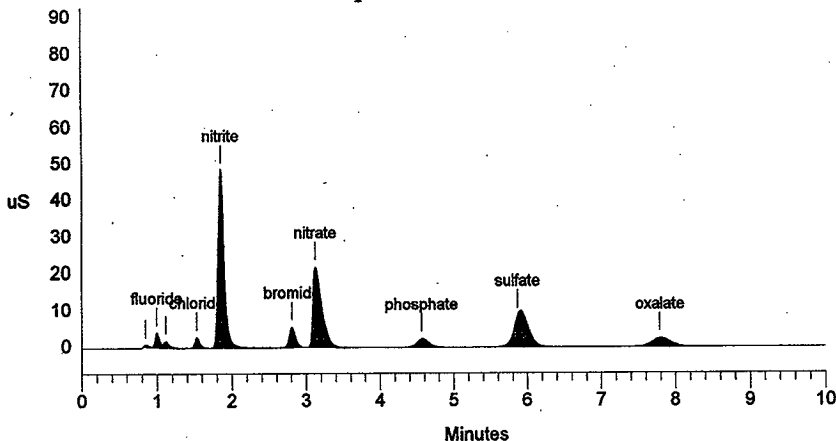
=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          2121  3000  5Hz  0.00 10.00          30
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.85		0.000	573	2461	2	
2	0.99	fluoride	1773.104	4009	17134	2	-5.40
3	1.11		0.000	1735	8385	2	
4	1.53	chloride	2104.220	2911	13826	1	-5.76
5	1.85	nitrite	63531.943	48497	274348	1	-5.44
6	2.81	bromide	11724.819	5603	33227	1	-1.52
7	3.13	nitrate	47634.161	21871	186200	1	-3.79
8	4.56	phosphate	14821.783	2333	26483	1	-7.57
9	5.87	sulfate	26946.166	8813	135313	1	-8.33
10	7.79	oxalate	11837.717	2434	44316	1	-8.18
Totals			180373.914	98778	741693		

File: 97083101.D10 Sample: S97T001692 SPIKE



LABCORE Completed Worklist Report for Worklist# 20113

Analyst: eal

Instrument: IC02

Book# 95N20A

Method: 14-533-705 Rev/Mod D-1

Worklist Comment: Rerun T-105 IC. Use 21 df. Dups poor first time.jmf

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	CCB	0	@IC-QC F	QC	1	<1.20e-2		ug/mL
1	CCB	0	@IC-QC CL	QC	1	<1.70e-2		ug/mL
1	CCB	0	@IC-QC NO2	QC	1	<1.08e-1		ug/mL
1	CCB	0	@IC-QC BR	QC	1	<1.25e-1		ug/mL
1	CCB	0	@IC-QC NO3	QC	1	<1.39e-1		ug/mL
1	CCB	0	@IC-QC PO4	QC	1	<1.20e-1		ug/mL
1	CCB	0	@IC-QC SO4	QC	1	<1.38e-1		ug/mL
1	CCB	0	@IC-QC OXALATE2	QC	1	<1.05e-1		ug/mL
2	CCV	0	@IC-QC F	QC	5.90e01	5.74e+01	97.288 %	Recovery
2	CCV	0	@IC-QC CL	QC	8.00e01	7.59e+01	94.875 %	Recovery
2	CCV	0	@IC-QC NO2	QC	5.43e02	5.52e+02	101.657 %	Recovery
2	CCV	0	@IC-QC BR	QC	5.89e02	5.59e+02	94.907 %	Recovery
2	CCV	0	@IC-QC NO3	QC	5.94e02	5.81e+02	97.811 %	Recovery
2	CCV	0	@IC-QC PO4	QC	5.45e02	5.39e+02	98.899 %	Recovery
2	CCV	0	@IC-QC SO4	QC	6.32e02	6.36e+02	100.633 %	Recovery
2	CCV	0	@IC-QC OXALATE2	QC	5.33e02	5.36e+02	100.563 %	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	1.39e-01	0.139	ug/g
3	BLNK-PREP	0	@IC-01 BR-02	SOLID	1	<1.25e-1		ug/g
3	BLNK-PREP	0	@IC-01 NO3-02	SOLID	1	<1.39e-1		ug/g
3	BLNK-PREP	0	@IC-01 PO4-02	SOLID	1	<1.20e-1		ug/g
3	BLNK-PREP	0	@IC-01 SO4-02	SOLID	1	<1.38e-1		ug/g
3	BLNK-PREP	0	@IC-01 OXALATE2	SOLID	1	<1.05e-1		ug/g
4	SAMPLE	S97T001706	0 W @IC-01 F-02	SOLID	N/A	5.019e+02	49.730	ug/g
4	SAMPLE	S97T001706	0 W @IC-01 PO4-02	SOLID	N/A	2.712e+03	497.900	ug/g
4	SAMPLE	S97T001706	0 W @IC-01 OXALATE2	SOLID	N/A	4.357e+02	435.800	ug/g
5	DUP	S97T001706	0 W @IC-01 F-02	SOLID	5.02e+02	4.64e+02	7.867	RPD
5	DUP	S97T001706	0 W @IC-01 CL-02	SOLID	?	2.42e+02		RPD
5	DUP	S97T001706	0 W @IC-01 NO2-02	SOLID	?	3.14e+04		RPD
5	DUP	S97T001706	0 W @IC-01 BR-02	SOLID	?	1.13e+03		RPD
5	DUP	S97T001706	0 W @IC-01 NO3-02	SOLID	?	2.33e+04		RPD
5	DUP	S97T001706	0 W @IC-01 PO4-02	SOLID	2.71e+03	2.90e+03	6.774	RPD
5	DUP	S97T001706	0 W @IC-01 SO4-02	SOLID	?	9.27e+03		RPD
5	DUP	S97T001706	0 W @IC-01 OXALATE2	SOLID	<4.36e2	<4.37e2		RPD
6	SPK	S97T001706	0 W @IC-01 F-02	SOLID	5.90e01	5.39e+01	91.356 %	Recovery
6	SPK	S97T001706	0 W @IC-01 CL-02	SOLID	8.00e01	0.00e+00	0.000 %	Recovery
6	SPK	S97T001706	0 W @IC-01 NO2-02	SOLID	5.43e02	0.00e+00	0.000 %	Recovery
6	SPK	S97T001706	0 W @IC-01 BR-02	SOLID	5.89e02	0.00e+00	0.000 %	Recovery
6	SPK	S97T001706	0 W @IC-01 NO3-02	SOLID	5.94e02	0.00e+00	0.000 %	Recovery
6	SPK	S97T001706	0 W @IC-01 PO4-02	SOLID	5.45e02	5.42e+02	99.450 %	Recovery

Results are for opportunistic analytes F, po4 and oxalate
only
Mish 10/14/97

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

LABCORE Completed Worklist Report for Worklist# 20113

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
6	SPK	S97T001706	0	W	@IC-01	SO4-02	SOLID	6.32e02	0.00e+00	0.000 % Recovery
6	SPK	S97T001706	0	W	@IC-01	OXALATE2	SOLID	5.33e02	5.48e+02	102.814 % Recovery

Final page for worklist# 20113

Analyst Signature Date

Analyst Signature Date

James M. Lyle 9/9/97
Reviewer Signature Date

LABCORE Data Entry Template for Worklist# 20113

Analyst: SAI Instrument: IC0 2 Book# 95N 20A

Method: LA-533-105 Rev/Mod D.1

Worklist Comment: Rerun T-105 IC. Use 21 df. Dups poor first time.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	S97T001706 0 W		@IC-01	SOLID	97000435	T-105
	Analytes Requested: F-02			, OXALATE2, PO4-02		
5 DUP	S97T001706 0 W		@IC-01	SOLID		
6 SPK	S97T001706 0 W		@IC-01	SOLID		

Final page for worklist # 20113

A. Lambert 08-31-97
Analyst Signature Date

Analyst Signature Date

uploaded 9-4-97

John Worell

20113 AUG.CSV

Validated 9/8/97 mlye

Data Entry Comments:

Sample Name: INST. BLANK Date: 08/31/1997 06:59:03
 Data File : C:\DX\DATA\97083101.D15
 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 15 Detector: CDM-1
 Analyst : *Janet Fyfe* Column: AG4A/AS4A anion column

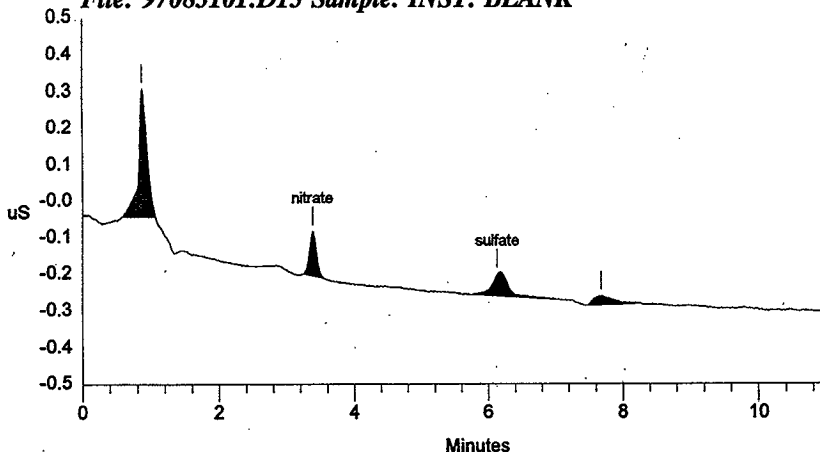
Calibration Volume Dilution Points Rate Start Stop Area Reject

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	0.87		0.000	348	3062	1	
2	3.38	nitrate	0.090	119	859	1	3.47
3	6.13	sulfate	0.066	58	1056	1	-5.74
4	7.68		0.000	23	502	1	
Totals			0.156	548	5479		

File: 97083101.D15 Sample: INST. BLANK



SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 205 TO 210

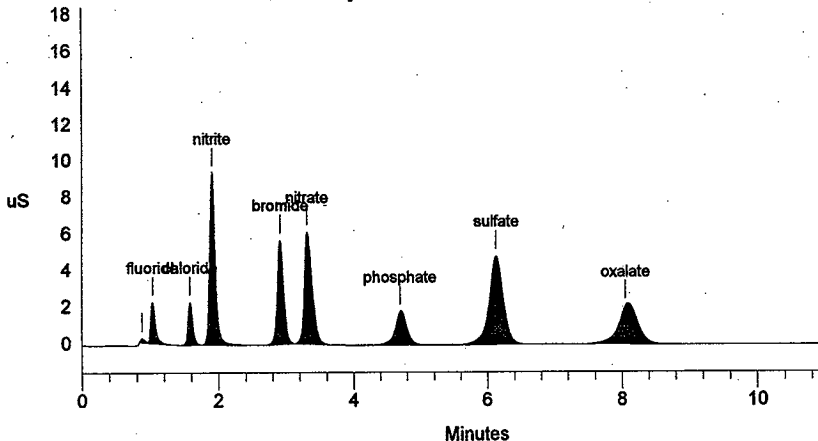
Sample Name: 95N20-A STD Date: 08/31/1997 07:16:37
 Data File : C:\DX\DATA\97083101.D16
 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 16 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	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	240	1060	2	
2	1.03	fluoride	57.370	2224	11036	2	0.00
3	1.58	chloride	75.940	2314	11250	1	-2.47
4	1.91	nitrite	551.745	9398	53005	1	-4.35
5	2.91	bromide	558.773	5675	37079	1	-0.91
6	3.31	nitrate	580.989	6105	49825	1	1.43
7	4.69	phosphate	539.314	1818	22911	1	-3.30
8	6.13	sulfate	635.803	4853	71507	1	-5.74
9	8.05	oxalate	535.946	2103	44935	1	-6.21
Totals			3535.879	34728	302607		

File: 97083101.D16 Sample: 95N20-A STD



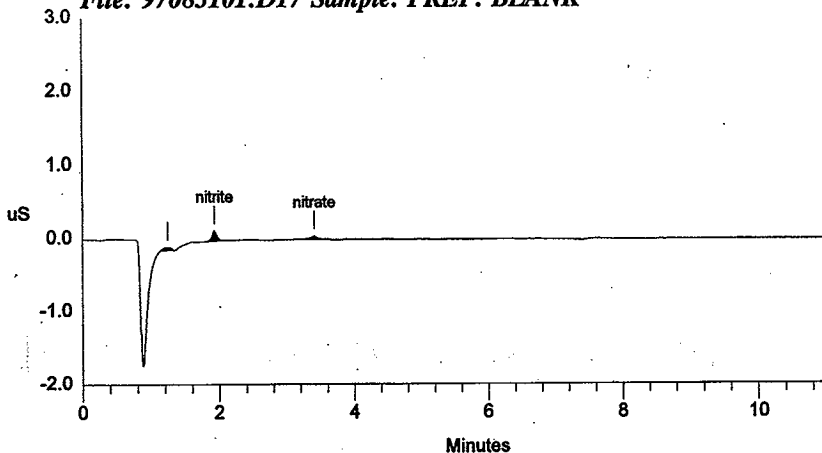
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Sample Name: PREP. BLANK                      Date: 08/31/1997 07:31:43
Data File  : C:\DX\DATA\97083101.D17
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 17          Detector: CDM-1
Analyst    :                               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
=====
```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.25		0.000	42	330	1	
2	1.93	nitrite	0.139	135	640	1	-3.34
3	3.41	nitrate	0.016	36	227	1	4.29
Totals			0.155	213	1197		

File: 97083101.D17 Sample: PREP. BLANK



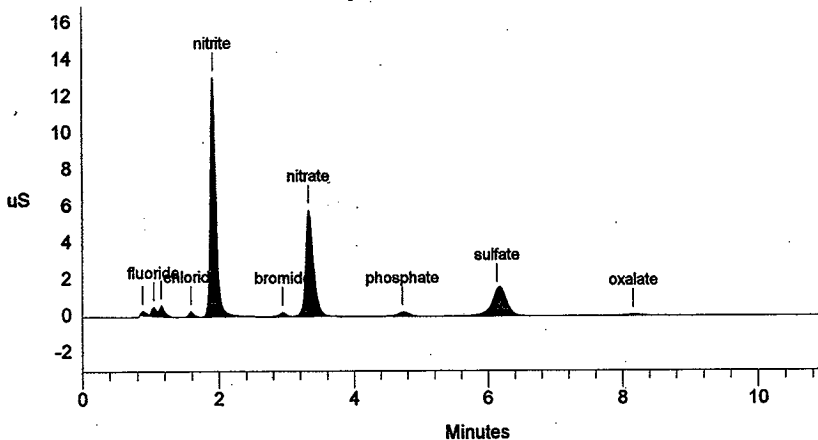
Sample Name: S97T001706 Date: 08/31/1997 07:58:51
 Data File : C:\DX\DATA\97083101.D19
 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 19 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	21	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	217	1079	2	
2	1.04	fluoride	2.540	475	2338	2	0.65
3	1.15		0.000	584	3107	2	
4	1.59	chloride	1.228	282	1346	1	-2.06
5	1.91	nitrite	157.209	13058	73189	1	-4.01
6	2.94	bromide	5.713	212	1357	1	0.00
7	3.33	nitrate	113.649	5796	46834	1	1.84
8	4.72	phosphate	13.727	213	2665	1	-2.75
9	6.13	sulfate	45.139	1468	24322	1	-5.74
10	8.16	oxalate	-0.097	74	1273	1	-4.97
Totals			339.107	22379	157510		

File: 97083101.D19 Sample: S97T001706



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Sample Name: S97T001706 DUP                      Date: 08/31/1997 10:56:34
Data File  : C:\DX\DATA\97083101.D20
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 20              Detector: CDM-1
Analyst    :                                     Column: AG4A/AS4A anion column
=====

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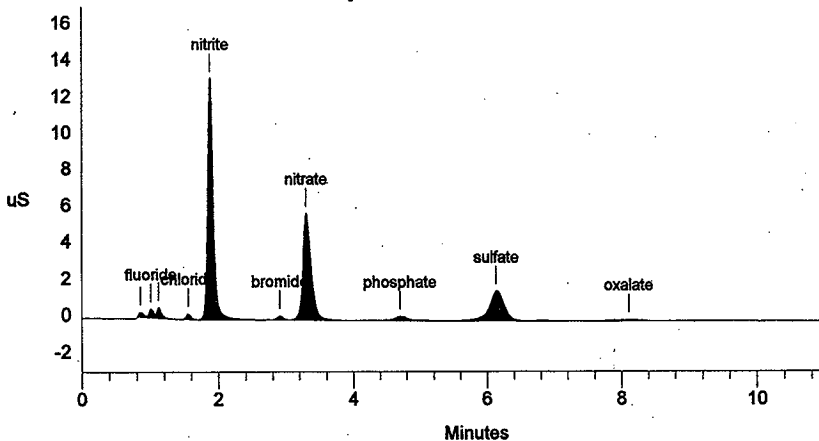
Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
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External	1	21	3300	5Hz	0.00	11.00		50
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***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.85		0.000	252	1265	2	
2	1.01	fluoride	2.345	464	2160	2	-2.58
3	1.12		0.000	560	2819	2	
4	1.55	chloride	1.223	293	1343	1	-4.12
5	1.88	nitrite	158.576	13190	73842	1	-5.69
6	2.91	bromide	5.725	212	1361	1	-1.13
7	3.30	nitrate	117.852	5836	48591	1	1.02
8	4.69	phosphate	14.643	220	2850	1	-3.30
9	6.13	sulfate	46.827	1613	25225	1	-5.74
10	8.11	oxalate	0.103	67	1351	1	-5.59
Totals			347.294	22705	160806		

File: 97083101.D20 Sample: S97T001706 DUP



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Sample Name: S97T001706 SPIKE           Date: 08/31/1997 11:11:36
Data File  : C:\DX\DATA\97083101.D21
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 21      Detector: CDM-1
Analyst    :                          Column: AG4A/AS4A anion column
=====

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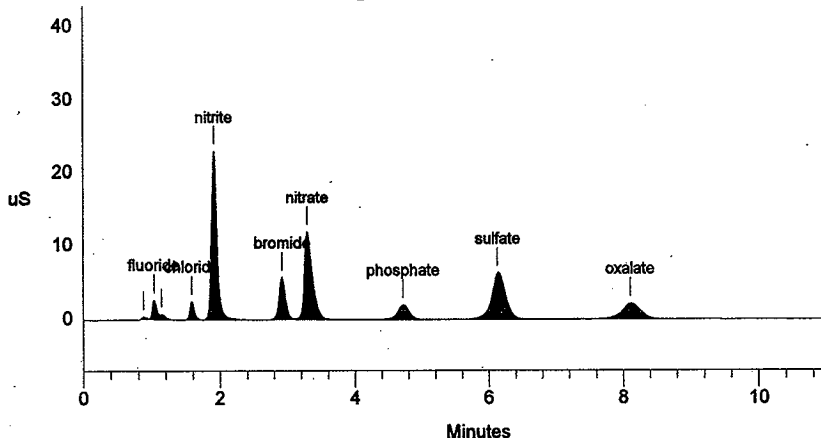
Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
-------------	--------	----------	--------	------	-------	------	------	--------

External	1	21	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	286	1300	2	
2	1.03	fluoride	13.326	2599	12351	2	0.00
3	1.15		0.000	708	3322	2	
4	1.59	chloride	16.520	2486	11755	1	-2.06
5	1.91	nitrite	274.008	23001	129519	1	-4.01
6	2.92	bromide	117.548	5695	37530	1	-0.68
7	3.29	nitrate	234.321	11860	98147	1	0.82
8	4.72	phosphate	122.060	2003	24993	1	-2.75
9	6.13	sulfate	171.924	6258	93457	1	-5.74
10	8.11	oxalate	109.695	2180	44247	1	-5.59
Totals			1059.401	57077	456621		

File: 97083101.D21 Sample: S97T001706 SPIKE



LABCORE Completed Worklist Report for Worklist# 20232

Analyst: ~~dmr~~ PJM *9NF* *11/29/97* Instrument: IC01

Book# 95N20C

Method: LA-533-105 Rev/Mod D-1

Worklist Comment: T-105 IC, RUN QC FOR Br ONLY. RCJ

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	CCB	0	①IC-QC	F	QC	1	<1.20e-2	ug/mL
1	CCB	0	①IC-QC	CL	QC	1	<1.70e-2	ug/mL
1	CCB	0	①IC-QC	NO2	QC	1	<1.08e-1	ug/mL
1	CCB	0	①IC-QC	BR	QC	1	<1.25e-1	ug/mL
1	CCB	0	①IC-QC	NO3	QC	1	<1.39e-1	ug/mL
1	CCB	0	①IC-QC	P04	QC	1	<1.20e-1	ug/mL
1	CCB	0	①IC-QC	S04	QC	1	<1.38e-1	ug/mL
1	CCB	0	①IC-QC	OxALATE2	QC	1	<1.05e-1	ug/mL
2	CCV	0	①IC-QC	F	QC	5.90e01	5.27e+01	89.322 % Recovery
2	CCV	0	①IC-QC	CL	QC	8.00e01	7.35e+01	91.875 % Recovery
2	CCV	0	①IC-QC	NO2	QC	5.43e02	4.88e+02	89.871 % Recovery
2	CCV	0	①IC-QC	BR	QC	5.89e02	5.33e+02	90.492 % Recovery
2	CCV	0	①IC-QC	NO3	QC	5.94e02	5.36e+02	90.236 % Recovery
2	CCV	0	①IC-QC	P04	QC	5.45e02	4.83e+02	88.624 % Recovery
2	CCV	0	①IC-QC	S04	QC	6.32e02	5.84e+02	92.405 % Recovery
2	CCV	0	①IC-QC	OxALATE2	QC	5.33e02	4.82e+02	90.432 % Recovery
3	BLNK-PREP	0	①IC-01	F-02	SOLID	1	<1.20e-2	ug/g
3	BLNK-PREP	0	①IC-01	CL-02	SOLID	1	8.40e-02	0.084 ug/g
3	BLNK-PREP	0	①IC-01	NO2-02	SOLID	1	4.24e-01	0.424 ug/g
3	BLNK-PREP	0	①IC-01	BR-02	SOLID	1	<1.25e-1	ug/g
3	BLNK-PREP	0	①IC-01	NO3-02	SOLID	1	2.66e-01	0.266 ug/g
3	BLNK-PREP	0	①IC-01	P04-02	SOLID	1	2.13e-01	0.213 ug/g
3	BLNK-PREP	0	①IC-01	S04-02	SOLID	1	<1.38e-1	ug/g
3	BLNK-PREP	0	①IC-01	OxALATE2	SOLID	1	<1.05e-1	ug/g
4	SAMPLE	S97T002008	0 W	①IC-01	F-02	SOLID	N/A	2.267e+04
4	SAMPLE	S97T002008	0 W	①IC-01	CL-02	SOLID	N/A	2.978e+02
4	SAMPLE	S97T002008	0 W	①IC-01	NO2-02	SOLID	N/A	1.303e+03
4	SAMPLE	S97T002008	0 W	①IC-01	BR-02	SOLID	N/A	< 7.816e+02
4	SAMPLE	S97T002008	0 W	①IC-01	NO3-02	SOLID	N/A	1.525e+03
4	SAMPLE	S97T002008	0 W	①IC-01	P04-02	SOLID	N/A	2.211e+05
4	SAMPLE	S97T002008	0 W	①IC-01	S04-02	SOLID	N/A	1.621e+03
4	SAMPLE	S97T002008	0 W	①IC-01	OxALATE2	SOLID	N/A	< 6.566e+02
5	DUP	S97T002008	0 W	①IC-01	F-02	SOLID	2.27e+04	2.30e+04
5	DUP	S97T002008	0 W	①IC-01	CL-02	SOLID	2.98e+02	3.42e+02
5	DUP	S97T002008	0 W	①IC-01	NO2-02	SOLID	1.30e+03	2.99e+03
5	DUP	S97T002008	0 W	①IC-01	BR-02	SOLID	<7.82e2	<2.08e3
5	DUP	S97T002008	0 W	①IC-01	NO3-02	SOLID	1.52e+03	3.91e+03
5	DUP	S97T002008	0 W	①IC-01	P04-02	SOLID	2.21e+05	2.31e+05
5	DUP	S97T002008	0 W	①IC-01	S04-02	SOLID	1.62e+03	2.33e+03
5	DUP	S97T002008	0 W	①IC-01	OxALATE2	SOLID	<6.57e2	<1.74e3
6	SPK	S97T002008	0 W	①IC-01	F-02	SOLID	5.90e01	6.31e+01

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

LABCORE Completed Worklist Report for Worklist# 20232

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
6 SPK	S97T002008	0 W	QIC-01	CL-02	SOLID	8.00e01	6.84e+01	85.500 % Recovery
6 SPK	S97T002008	0 W	QIC-01	NO2-02	SOLID	5.43e02	4.75e+02	87.477 % Recovery
6 SPK	S97T002008	0 W	QIC-01	BR-02	SOLID	5.89e02	5.34e+02	90.662 % Recovery
6 SPK	S97T002008	0 W	QIC-01	NO3-02	SOLID	5.94e02	5.25e+02	88.384 % Recovery
6 SPK	S97T002008	0 W	QIC-01	FO4-02	SOLID	5.45e02	5.85e+02	107.339 % Recovery
6 SPK	S97T002008	0 W	QIC-01	SO4-02	SOLID	6.32e02	5.61e+02	88.766 % Recovery
6 SPK	S97T002008	0 W	QIC-01	OXALATE2	SOLID	5.33e02	4.81e+02	90.244 % Recovery
8 DUP	S97T002017	0 W	QIC-01	F-02	SOLID	2.93e+02	4.67e+02	45.789 RPD
8 DUP	S97T002017	0 W	QIC-01	CL-02	SOLID	2.23e+02	4.21e+02	61.491 RPD
8 DUP	S97T002017	0 W	QIC-01	NO2-02	SOLID	2.64e+03	3.97e+03	40.242 RPD
8 DUP	S97T002017	0 W	QIC-01	BR-02	SOLID	<1.18e3	<1.69e3	RPD
8 DUP	S97T002017	0 W	QIC-01	NO3-02	SOLID	3.10e+03	4.33e+03	33.109 RPD
8 DUP	S97T002017	0 W	QIC-01	FO4-02	SOLID	2.98e+03	3.86e+03	25.731 RPD
8 DUP	S97T002017	0 W	QIC-01	SO4-02	SOLID	2.30e+03	2.46e+03	6.723 RPD
8 DUP	S97T002017	0 W	QIC-01	OXALATE2	SOLID	<9.87e2	<1.42e3	RPD
9 SPK	S97T002017	0 W	QIC-01	F-02	SOLID	5.90e01	5.28e+01	89.492 % Recovery
9 SPK	S97T002017	0 W	QIC-01	CL-02	SOLID	8.00e01	7.00e+01	87.500 % Recovery
9 SPK	S97T002017	0 W	QIC-01	NO2-02	SOLID	5.43e02	4.76e+02	87.661 % Recovery
9 SPK	S97T002017	0 W	QIC-01	BR-02	SOLID	5.89e02	5.32e+02	90.323 % Recovery
9 SPK	S97T002017	0 W	QIC-01	NO3-02	SOLID	5.94e02	5.23e+02	88.047 % Recovery
9 SPK	S97T002017	0 W	QIC-01	FO4-02	SOLID	5.45e02	4.67e+02	85.688 % Recovery
9 SPK	S97T002017	0 W	QIC-01	SO4-02	SOLID	6.32e02	5.62e+02	88.924 % Recovery
9 SPK	S97T002017	0 W	QIC-01	OXALATE2	SOLID	5.33e02	4.82e+02	90.432 % Recovery

Final page for worklist# 20232

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

James M. Lutz 9/29/97
Reviewer Signature Date

LABCORE Data Entry Template for Worklist# 20232

Analyst: RLM Instrument: IC0 1 Book# 95N20C

Method: LA-533-105 Rev/Mod D-1

Worklist Comment: T-105 IC, (RUN QC FOR Br ONLY.) 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	S97T002008 0 W	@IC-01	SOLID	97000434 T-105		
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
5 DUP	S97T002008 0 W	@IC-01	SOLID			
6 SPK	S97T002008 0 W	@IC-01	SOLID			
7 SAMPLE	S97T002017 0 W	@IC-01	SOLID	97000434 T-105		
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
8 DUP	S97T002017 0 W	@IC-01	SOLID			
9 SPK	S97T002017 0 W	@IC-01	SOLID			

Final page for worklist # 20232

RL McCann 9/11/97
Analyst Signature Date

Analyst Signature Date

uploaded 9-16-97
JH Warrall
20232 JS 9-16-97
20232 SEP.CSV

S97T002008 validated, S97T002017 rejected was
run too dilute. Will be run on wkt#20593

Data Entry Comments:

JM Egan
9/29/97

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

Sample Name: CCB ELUENT BLNK Date: 09/10/1997 23:30:51
 Data File : C:\DX\DATA\97091001.D27
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 27 Detector: CDM-1
 Analyst *John L. Lipp* Column: AG4A/AS4A anion column

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 1 3000 5Hz 0.00 10.00 30

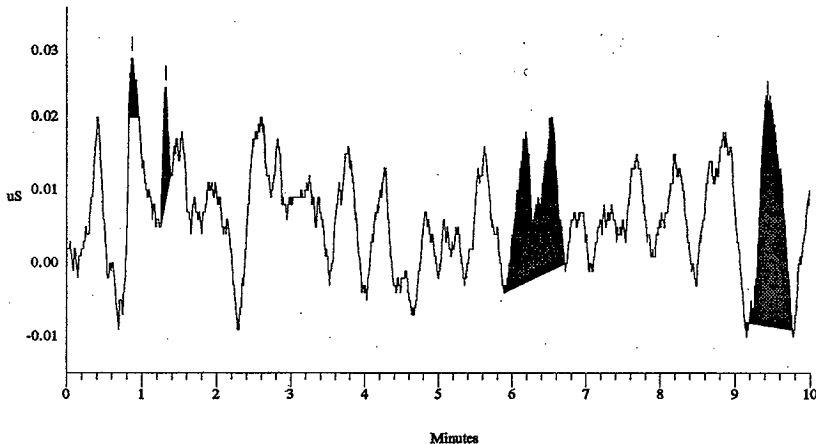
***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.87		0.000	8	38	1	
2	1.32		0.000	15	69	1	
3	6.51		0.000	18	558	1	
4	9.44		0.000	30	582	1	

Totals 0.000 72 1246

DIRECT RML

File: 97091001.D27 Sample: CCB ELUENT BLNK



SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 214 TO 222.

```

=====
Sample Name: CCV 95N20C                      Date: 09/10/1997 23:41:41
Data File  : C:\DX\DATA\97091001.D28
Method     : C:\DX\METHOD\KIT.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          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	0.84		0.000	98	410	2	
2	1.00	fluoride	52.686	2739	11455	2	1.01
3	1.53	chloride	73.464	2313	10397	1	0.88
4	1.84	nitrite	488.196	9569	49158	1	0.00
5	2.80	bromide	533.031	5669	35040	1	1.08
6	3.18	nitrate	535.753	6007	45553	1	0.95
7	4.53	phosphate	483.282	1847	20626	1	3.66
8	5.92	sulfate	583.703	4182	65423	1	5.71
9	7.84	oxalate	482.496	2293	41578	1	6.52

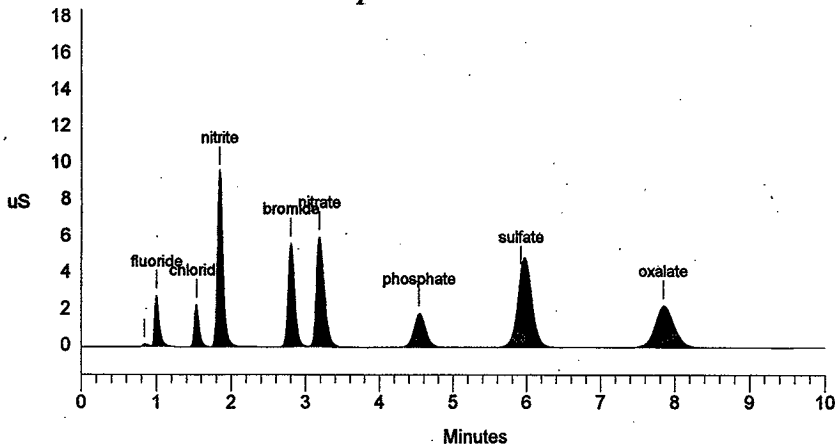
```

-----
Totals          3232.612          34717          279639
-----

```

100 mL - 10 mL R1 McCann 9/11/97

File: 97091001.D28 Sample: CCV 95N20C



Sample Name: BLNK PREP

Date: 09/10/1997 23:58:55

Data File : C:\DX\DATA\97091001.D29

Method : C:\DX\METHOD\KIT.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	1	3000	5Hz	0.00	10.00		30

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

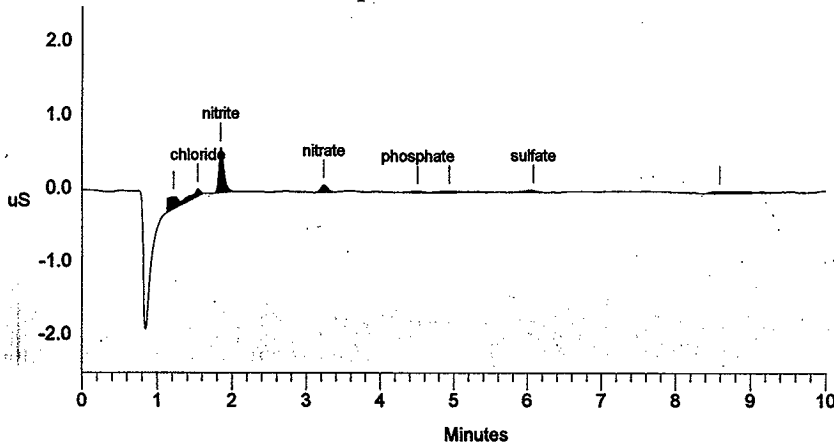
Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.22		0.000	163	1556	2	
2	1.54	chloride	0.084	90	1008	2	1.32
3	1.85	nitrite	0.424	602	2819	1	0.36
4	3.23	nitrate	0.266	95	610	1	2.65
5	4.51	phosphate	0.213	18	209	1	3.05
6	4.93		0.000	19	345	1	
7	6.08	sulfate	0.104	24	307	1	8.57
8	8.59		0.000	25	787	1	

Totals

1.091

1036

7641

*DIRECT RUN***File: 97091001.D29 Sample: BLNK PREP**

```

=====
Sample Name: S97T002008 SMPL                      Date: 09/11/1997 00:10:03
Data File  : C:\DX\DATA\97091101.D30
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 30                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    3000  5Hz   0.00 10.00          30
=====

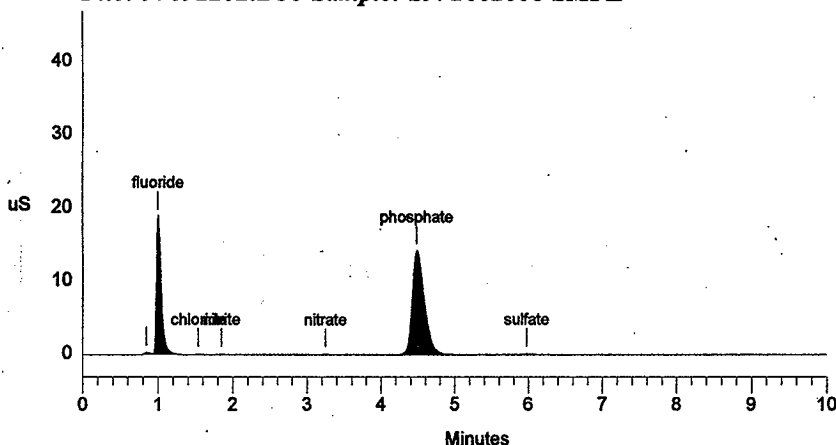
```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.85		0.000	182	744	2	
2	1.00	fluoride	148.664	18729	80422	2	1.01
3	1.53	chloride	1.953	110	473	1	0.88
4	1.85	nitrite	8.541	107	518	1	0.36
5	3.25	nitrate	10.000	59	414	1	3.07
6	4.48	phosphate	1449.804	14127	162974	1	2.44
7	5.97	sulfate	10.626	123	2079	1	6.67
Totals			1629.588	33437	247624		

.250 mL - 10 mL Rm

File: 97091101.D30 Sample: S97T002008 SMPL



Sample Name: S97T002008 DUP Date: 09/11/1997 01:55:40
 Data File : C:\DX\DATA\97091101.D31
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 31 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

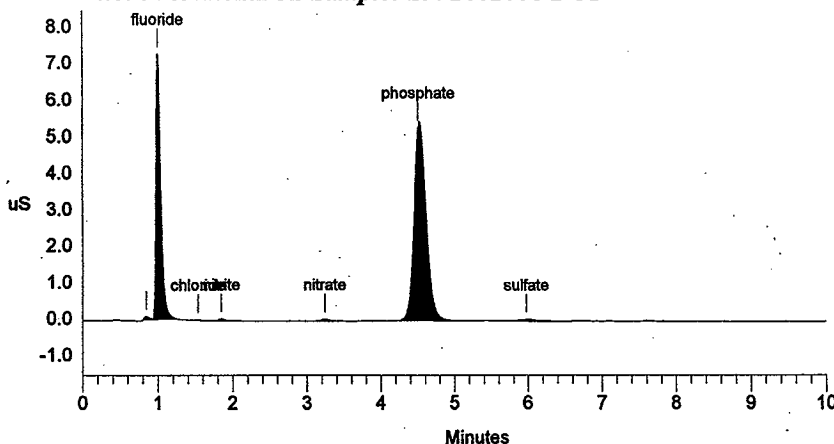
Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	3000	5Hz	0.00	10.00		30

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.85		0.000	72	284	2	
2	1.00	fluoride	56.884	7268	31047	2	1.01
3	1.53	chloride	0.843	20	77	1	0.88
4	1.85	nitrite	7.379	46	216	1	0.36
5	3.24	nitrate	9.645	48	337	1	2.86
6	4.51	phosphate	569.901	5310	61968	1	3.05
7	5.97	sulfate	5.761	47	724	1	6.67
Totals			650.413	12810	94654		

• 250ml - 10ml RSM

File: 97091101.D31 Sample: S97T002008 DUP



Sample Name: S97T002008 SPK Date: 09/11/1997 02:10:09
 Data File : C:\DX\DATA\97091101.D32
 Method : C:\DX\METHOD\KIT.MBT
 ACI Address: 1 System: 1 Inject#: 32 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

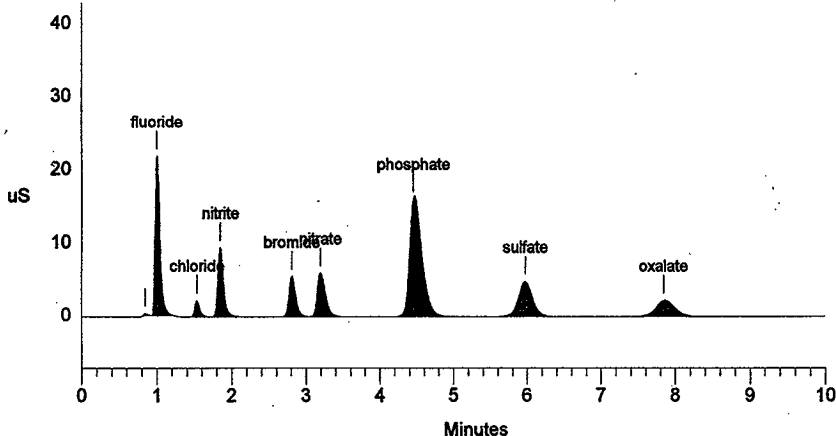
Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	3000	5Hz	0.00	10.00		30

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.85		0.000	287	1172	2	
2	1.00	fluoride	173.903	21748	93694	2	1.01
3	1.53	chloride	29.323	2209	10220	1	0.88
4	1.85	nitrite	198.383	9442	49209	1	0.36
5	2.81	bromide	213.542	5499	34561	1	1.32
6	3.19	nitrate	219.855	5941	46070	1	1.38
7	4.45	phosphate	1683.985	16103	190805	1	1.83
8	5.97	sulfate	235.071	4813	64896	1	6.67
9	7.84	oxalate	192.513	2217	40855	1	6.52

Totals 2946.576 68259 531481

• 250 mL - 100 mL 95% 20C
 9.9 mL ELUENT RMC
 File: 97091101.D32 Sample: S97T002008 SPK



=====

Sample Name: S97T002017 SMPL	Date: 09/11/1997 02:27:32
Data File : C:\DX\DATA\97091101.D33	
Method : C:\DX\METHOD\KIT.MET	
ACI Address: 1 System: 1 Inject#: 33	Detector: CDM-1
Analyst :	Column: AG4A/AS4A anion column

=====

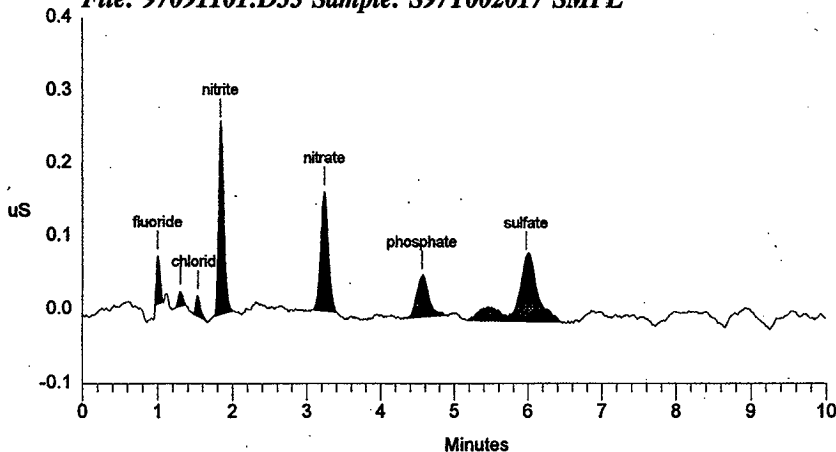
Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	3000	5Hz	0.00	10.00		30

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.00	fluoride	1.277	65	225	1	1.01
2	1.31		0.000	20	86	1	
3	1.54	chloride	0.972	28	124	1	1.32
4	1.84	nitrite	11.493	262	1286	1	0.00
5	3.24	nitrate	13.543	163	1183	1	2.86
6	4.56	phosphate	13.021	56	675	1	4.27
7	5.97	sulfate	10.009	88	1907	1	6.67
Totals			50.314	683	5486		

-250ml - 10ml RDU

File: 97091101.D33 Sample: S97T002017 SMPL



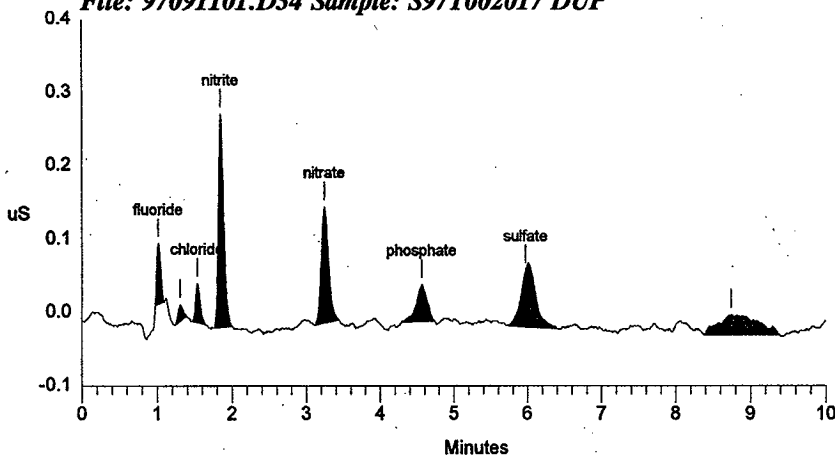
Sample Name: S97T002017 DUP Date: 09/11/1997 02:38:15
 Data File : C:\DX\DATA\97091101.D34
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 34 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	3000	5Hz	0.00	10.00		30

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.01	fluoride	1.412	82	301	1	2.36
2	1.31		0.000	23	104	1	
3	1.53	chloride	1.275	54	231	1	0.88
4	1.85	nitrite	12.024	291	1424	1	0.36
5	3.25	nitrate	13.110	158	1089	1	3.07
6	4.56	phosphate	11.688	50	531	1	4.27
7	5.97	sulfate	7.438	78	1191	1	6.67
8	8.75		0.000	28	1025	1	
Totals			46.947	764	5896		

• 250mL - 10mL *Plu*
 File: 97091101.D34 Sample: S97T002017 DUP



Sample Name: S97T002017 SPK Date: 09/11/1997 02:49:08
 Data File : C:\DX\DATA\97091101.D35
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 35 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

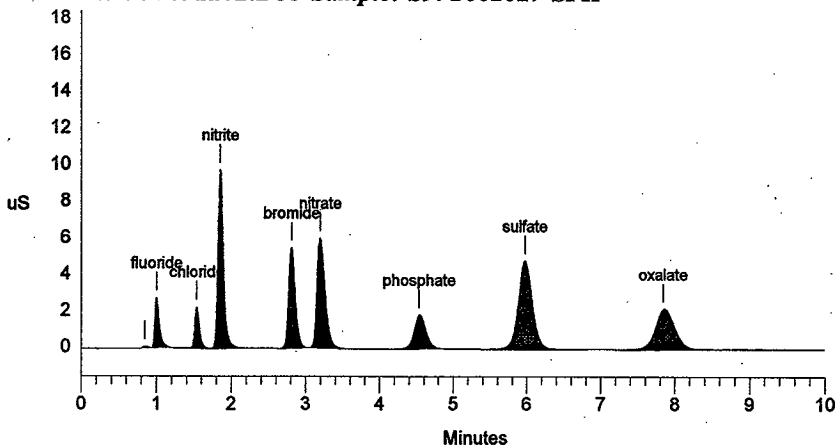
Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	3000	5Hz	0.00	10.00		30

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.85		0.000	93	416	2	
2	1.00	fluoride	22.386	2767	12010	2	1.01
3	1.53	chloride	28.968	2294	10093	1	0.88
4	1.85	nitrite	201.799	9790	50073	1	0.36
5	2.81	bromide	212.928	5511	34458	1	1.32
6	3.19	nitrate	222.775	6047	46707	1	1.38
7	4.53	phosphate	199.660	1862	21006	1	3.66
8	5.97	sulfate	234.843	4852	64831	1	6.67
9	7.84	oxalate	192.917	2225	40942	1	6.52

Totals 1316.275 35441 280537

.250ML $\times$.100ML 95N20C
 9.9ML ELUENT RLL
 File: 97091101.D35 Sample: S97T002017 SPK



LABCORE Completed Worklist Report for Worklist# 20593

Analyst: vlm

Instrument: IC01

Book# 95A20-D

Method: 1A-533-105 Rev/Mod D-1

Worklist Comment: Rerun T-105 IC. Use 11df.jmf

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	CCB	0	@IC-QC	F	QC	1	<1.20e-2	ug/mL
1	CCB	0	@IC-QC	CL	QC	1	<1.70e-2	ug/mL
1	CCB	0	@IC-QC	NO2	QC	1	<1.08e-1	ug/mL
1	CCB	0	@IC-QC	BR	QC	1	<1.25e-1	ug/mL
1	CCB	0	@IC-QC	NO3	QC	1	<1.39e-1	ug/mL
1	CCB	0	@IC-QC	PO4	QC	1	<1.20e-1	ug/mL
1	CCB	0	@IC-QC	SO4	QC	1	1.59e-01	0.159 ug/mL
1	CCB	0	@IC-QC	OXALATE2	QC	1	<1.05e-1	ug/mL
2	CCV	0	@IC-QC	F	QC	5.90e01	5.47e+01	92.712 % Recovery
2	CCV	0	@IC-QC	CL	QC	9.00e01	7.49e+01	93.625 % Recovery
2	CCV	0	@IC-QC	NO2	QC	5.42e02	4.86e+02	89.668 % Recovery
2	CCV	0	@IC-QC	BR	QC	5.89e02	5.46e+02	92.699 % Recovery
2	CCV	0	@IC-QC	NO3	QC	5.94e02	5.32e+02	89.562 % Recovery
2	CCV	0	@IC-QC	PO4	QC	5.45e02	5.02e+02	92.110 % Recovery
2	CCV	0	@IC-QC	SO4	QC	6.32e02	5.81e+02	91.930 % Recovery
2	CCV	0	@IC-QC	OXALATE2	QC	5.29e02	4.85e+02	91.682 % Recovery
3	BLNK-PREP	0	@IC-01	F-02	SOLID	1	<1.20e-2	ug/g
3	BLNK-PREP	0	@IC-01	CL-02	SOLID	1	2.30e-02	0.023 ug/g
3	BLNK-PREP	0	@IC-01	NO2-02	SOLID	1	4.66e-01	0.466 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	2.32e-01	0.232 ug/g
3	BLNK-PREP	0	@IC-01	PO4-02	SOLID	1	2.45e-01	0.245 ug/g
3	BLNK-PREP	0	@IC-01	SO4-02	SOLID	1	<1.38e-1	ug/g
3	BLNK-PREP	0	@IC-01	OXALATE2	SOLID	1	<1.05e-1	ug/g
4	SAMPLE	S97T002017	0 W	@IC-01	F-02	SOLID	N/A	1.551e+02 30.260 ug/g
4	SAMPLE	S97T002017	0 W	@IC-01	CL-02	SOLID	N/A	7.497e+01 42.870 ug/g
4	SAMPLE	S97T002017	0 W	@IC-01	NO2-02	SOLID	N/A	1.610e+03 272.400 ug/g
4	SAMPLE	S97T002017	0 W	@IC-01	BR-02	SOLID	N/A	5.215e+02 315.300 ug/g
4	SAMPLE	S97T002017	0 W	@IC-01	NO3-02	SOLID	N/A	1.658e+03 350.600 ug/g
4	SAMPLE	S97T002017	0 W	@IC-01	PO4-02	SOLID	N/A	1.430e+03 302.600 ug/g
4	SAMPLE	S97T002017	0 W	@IC-01	SO4-02	SOLID	N/A	6.662e+02 348.000 ug/g
4	SAMPLE	S97T002017	0 W	@IC-01	OXALATE2	SOLID	N/A	5.977e+02 264.800 ug/g
5	DUP	S97T002017	0 W	@IC-01	F-02	SOLID	1.53e+02	1.94e+02 23.631 RPD
5	DUP	S97T002017	0 W	@IC-01	CL-02	SOLID	7.50e+01	2.02e+02 91.697 RPD
5	DUP	S97T002017	0 W	@IC-01	NO2-02	SOLID	1.61e+03	2.47e+03 42.157 RPD
5	DUP	S97T002017	0 W	@IC-01	BR-02	SOLID	5.22e+02	<4.54e2 RPD
5	DUP	S97T002017	0 W	@IC-01	NO3-02	SOLID	1.66e+03	2.21e+03 28.424 RPD
5	DUP	S97T002017	0 W	@IC-01	PO4-02	SOLID	1.43e+03	2.29e+03 46.237 RPD
5	DUP	S97T002017	0 W	@IC-01	SO4-02	SOLID	6.66e+02	1.12e+03 50.840 RPD
5	DUP	S97T002017	0 W	@IC-01	OXALATE2	SOLID	5.98e+02	<3.82e2 RPD
6	SPK	S97T002017	0 W	@IC-01	F-02	SOLID	5.90e01	5.70e+01 96.610 % Recovery

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

LABCORE Completed Worklist Report for Worklist# 20593

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
6	SPK	S97T002017	0	W	@IC-01	CL-02	SOLID	8.00e01	7.03e+01	87.875 % Recovery
6	SPK	S97T002017	0	W	@IC-01	NO2-02	SOLID	5.42e02	4.62e+02	85.240 % Recovery
6	SPK	S97T002017	0	W	@IC-01	BR-02	SOLID	5.83e02	5.06e+02	85.968 % Recovery
6	SPK	S97T002017	0	W	@IC-01	NO3-02	SOLID	5.94e02	5.19e+02	87.374 % Recovery
6	SPK	S97T002017	0	W	@IC-01	PO4-02	SOLID	5.45e02	4.76e+02	87.339 % Recovery
6	SPK	S97T002017	0	W	@IC-01	SO4-02	SOLID	6.32e02	5.56e+02	87.975 % Recovery
6	SPK	S97T002017	0	W	@IC-01	OXALATE2	SOLID	5.29e02	4.49e+02	84.877 % Recovery

Final page for worklist# 20593

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____


Reviewer Signature _____ Date _____

HNF-SD-WM-DP-265, REV. 0

Page: 1

09/29/97 09:20
A-0004-1

LABCORE Data Entry Template for Worklist# 20593

Analyst: VLW Instrument: IC0 IC01 Book# 95N20-DMethod: LA-533-105 Rev/Mod D-1

Worklist Comment: Rerun T-105 IC. Use 11df.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	S97T002017 0 W	@IC-01	SOLID		97000434	T-105
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
5 DUP	S97T002017 0 W	@IC-01	SOLID			
6 SPK	S97T002017 0 W	@IC-01	SOLID			

Final page for worklist # 20593

Valerie Massi 10-01-97
Analyst Signature Date

Analyst Signature Date

uploaded 10-3-97

John Warell

205930CT.CSV

Validated 10/6/97 gm Lye RPD'S still poor,
if better are needed
a reprep should be done
with more homogenization
of the sample. gm Lye

Data Entry Comments:

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

Sample Name: CCB

Date: 10/02/1997 12:06:53

Data File : C:\DX\DATA\97100201.D02

Method : C:\DX\METHOD\KIT.MET

ACI Address: 1 System: 1 Inject#: 2

Detector: CDM-1

Analyst : Valerie L. Mason Column: AG4A/AS4A anion column

10-01-97

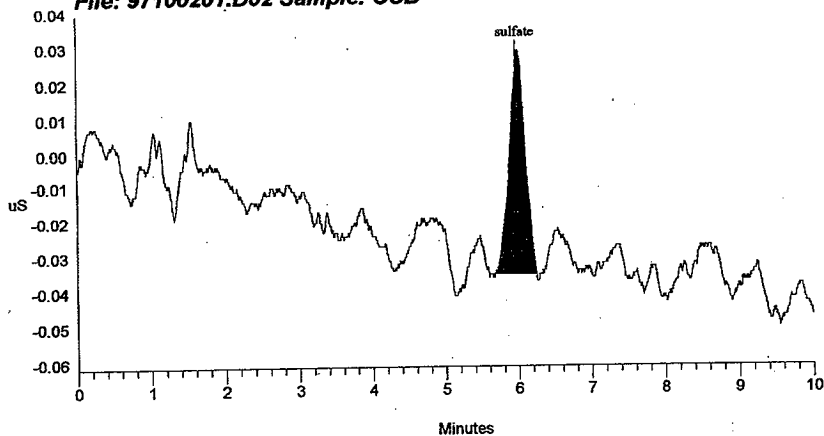
Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 1 3000 5Hz 0.00 10.00 30

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.97	sulfate	0.159	59	934	1	6.67
Totals			0.159	59	934		

File: 97100201.D02 Sample: CCB



Sample Name: 95N20-D CCV Date: 10/02/1997 12:20:59
 Data File : C:\DX\DATA\97100201.D03
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1, Inject#: 3 Detector: CDM-1
 Analyst : *Valerie Mason* Column: AG4A/AS4A anion column

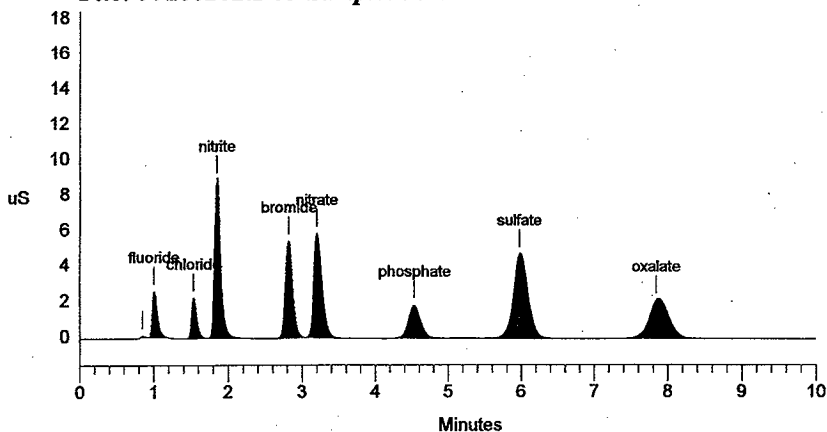
10-01-97

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	89	333	1	
2	1.00	fluoride	54.680	2563	11905	1	1.01
3	1.53	chloride	74.917	2244	10607	1	0.88
4	1.85	nitrite	486.063	8897	48938	1	0.36
5	2.81	bromide	546.093	5419	35934	1	1.56
6	3.20	nitrate	532.113	5837	45231	1	1.59
7	4.53	phosphate	502.048	1831	21460	1	3.66
8	5.97	sulfate	581.316	4719	65151	1	6.67
9	7.84	oxalate	484.533	2133	41756	1	6.52
Totals			3261.763	33731	281316		

File: 97100201.D03 Sample: 95N20-D CCV



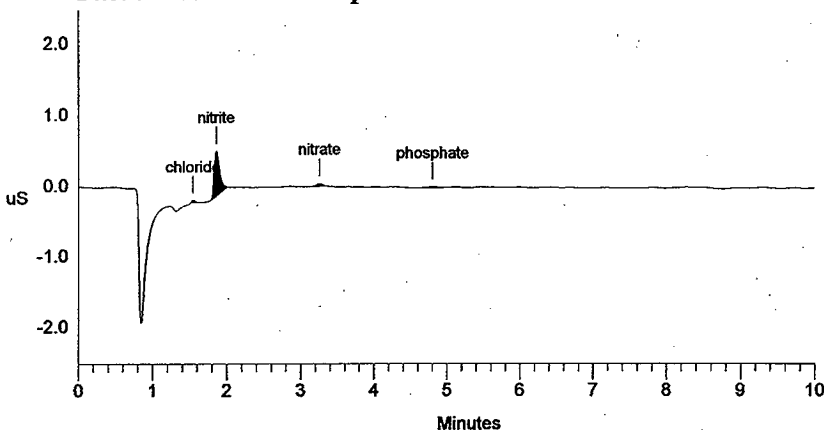
Sample Name: PREP BLANK Date: 10/02/1997 13:43:21
 Data File : C:\DX\DATA\97100201.D04
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 4 Detector: CDM-1
 Analyst : *Valerie Mason* Column: AG4A/AS4A anion column

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	1.54	chloride	0.023	35	111	1	1.32
2	1.85	nitrite	0.466	633	3265	1	0.72
3	3.25	nitrate	0.232	48	305	1	3.28
4	4.80	phosphate	0.245	16	352	1	9.76
Totals			0.966	732	4033		

File: 97100201.D04 Sample: PREP BLANK



Sample Name: S97T002017 Date: 10/02/1997 13:56:55
 Data File : C:\DX\DATA\97100201.D05
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 5 Detector: CDM-1
 Analyst : Valerie L Mason Column: AG4A/AS4A anion column

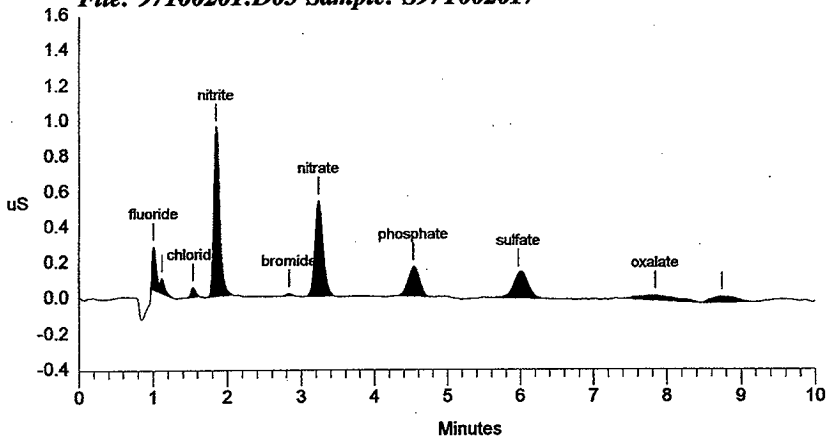
(0-0)-97

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	11	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	1.01	fluoride	0.668	240	905	2	1.68
2	1.12		0.000	80	356	2	
3	1.54	chloride	0.327	51	212	1	1.32
4	1.85	nitrite	7.023	951	5098	1	0.36
5	2.84	bromide	2.275	11	54	1	2.53
6	3.23	nitrate	7.234	534	4098	1	2.65
7	4.53	phosphate	6.237	164	1784	1	3.66
8	5.97	sulfate	2.906	141	2136	1	6.67
9	7.84	oxalate	2.607	26	976	1	6.52
10	8.75		0.000	31	734	1	
Totals			29.278	2229	16354		

File: 97100201.D05 Sample: S97T002017



Sample Name: S97T002017 DUP Date: 10/02/1997 14:08:09
 Data File : C:\DX\DATA\97100201.D06
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 6 Detector: CDM-1
 Analyst : *Valerie M. S.* Column: AG4A/AS4A anion column

10-01-97

Calibration Volume Dilution Points Rate Start Stop Area Reject

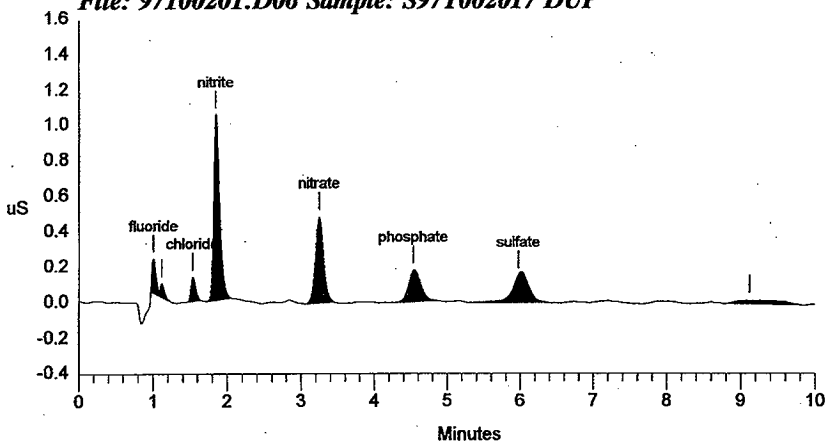
External 1 11 3000 5Hz 0.00 10.00 30

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.01	fluoride	0.587	194	737	2	1.68
2	1.12		0.000	77	310	2	
3	1.53	chloride	0.612	135	589	1	0.88
4	1.85	nitrite	7.471	1043	5531	1	0.36
5	3.25	nitrate	6.676	485	3646	1	3.07
6	4.53	phosphate	6.935	176	2066	1	3.66
7	5.97	sulfate	3.399	153	2649	1	6.67
8	9.12		0.000	23	970	1	

Totals 25.680 2285 16498

File: 97100201.D06 Sample: S97T002017 DUP



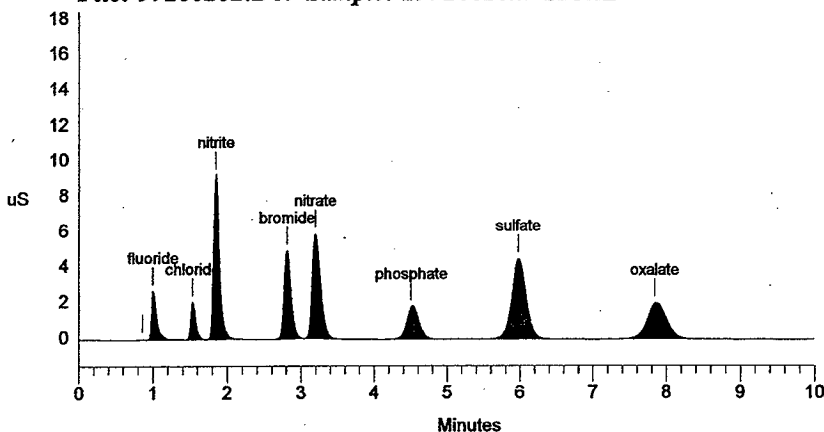
Sample Name: S97T002017 SPIKE Date: 10/02/1997 14:19:48
 Data File : C:\DX\DATA\97100201.D07
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 7 Detector: CDM-1
 Analyst : *Debra Mason* Column: AG4A/AS4A anion column
10-01-97

Calibration Volume Dilution Points Rate Start Stop Area Reject
 External 1 11 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	14	48	2	
2	1.00	fluoride	6.368	2663	12760	2	1.01
3	1.53	chloride	7.360	2035	9546	1	0.88
4	1.85	nitrite	53.193	9197	49179	1	0.36
5	2.81	bromide	52.874	4911	31784	1	1.32
6	3.19	nitrate	59.103	5855	46165	1	1.38
7	4.51	phosphate	53.846	1767	21120	1	3.05
8	5.97	sulfate	58.487	4469	60098	1	6.67
9	7.84	oxalate	47.476	1992	37495	1	6.52
Totals			338.706	32902	268196		

File: 97100201.D07 Sample: S97T002017 SPIKE



LABCORE Data Entry Template for Worklist# 18991

Analyst: JK 546 Instrument: ICP01 _____ Book# 678480Method: LA-505-151/161 Rev/Mod E-1Worklist Comment: JK 6-27-97
ICP T-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	SAMPLE	S97T001505 0 D	@ICP-D01	LIQUID	97000434	T-105
	Analytes Requested: AG-D-01 , AL-D-01 , AS-D-01 , B-D-01 , BA-D-01 , BE-D-01 , BI-D-01 , CA-D-01 , CD-D-01 , CE-D-01 , CO-D-01 , CR-D-01 , CU-D-01 , FE-D-01 , K-D-01 , LA-D-01 , LI-D-01 , MG-D-01 , MN-D-01 , MO-D-01 , NA-D-01 , ND-D-01 , NI-D-01 , P-D-01 , PB-D-01 , S-D-01 , SB-D-01 , SE-D-01 , SI-D-01 , SM-D-01 , SR-D-01 , TI-D-01 , TL-D-01 , U-D-01 , V-D-01 , ZN-D-01 , ZR-D-01					
7	DUP	S97T001505 0 D	@ICP-D01	LIQUID		
8	SAMPLE	S97T001506 0 D	@ICP-D01	LIQUID	97000434	T-105
	Analytes Requested: AG-D-01 , AL-D-01 , AS-D-01 , B-D-01 , BA-D-01 , BE-D-01 , BI-D-01 , CA-D-01 , CD-D-01 , CE-D-01 , CO-D-01 , CR-D-01 , CU-D-01 , FE-D-01 , K-D-01 , LA-D-01 , LI-D-01 , MG-D-01 , MN-D-01 , MO-D-01 , NA-D-01 , ND-D-01 , NI-D-01 , P-D-01 , PB-D-01 , S-D-01 , SB-D-01 , SE-D-01 , SI-D-01 , SM-D-01 , SR-D-01 , TI-D-01 , TL-D-01 , U-D-01 , V-D-01 , ZN-D-01 , ZR-D-01					
9	DUP	S97T001506 0 D	@ICP-D01	LIQUID		
10	ICSA		@ICP-QC	QC		
11	ICSAB		@ICP-QC	QC		
12	CCV		@ICP-QC	QC		

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 18991

S Type	Sample#	R A	Test	Matrix	Group#	Project
13 CCB			@ICP-QC	QC		

Final page for worklist # 18991

JK Jdo 06-27-97
 Analyst Signature Date

5977001505, Direct, DF 1
 5977001505_D Direct 1
 5977001506 1-9, DF 10
 5977001506_D 1-9 10

Reviewed + Validated by:
Saul N. Pang 6/30/97
 Analyst Signature Date

Data Entry Comments:

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

File #: 970437B.DQT

HNF-SD-WM-DP-265, REV. 0

Identity 1: 1CV

Identity 2: Quality Control

1:44 PM June 27, 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	4.924	5.056	5.118	4.890	4.942	5.024	5.161	4.985
S.D.	0.013	0.020	0.033	0.012	0.009	0.019	0.015	0.026
% R.S.D.	0.273	0.391	0.651	0.250	0.175	0.386	0.297	0.523

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.058	4.869	4.930	4.816	4.718	4.771	5.112	9.869
S.D.	0.012	0.009	0.008	0.018	0.010	0.007	0.010	0.034
% R.S.D.	0.247	0.188	0.157	0.364	0.210	0.157	0.188	0.349

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	5.053	5.116	5.018	5.173	4.976	4.644	5.126	5.222
S.D.	0.028	0.014	0.019	0.034	0.018	0.014	0.014	0.030
% R.S.D.	0.554	0.278	0.383	0.666	0.366	0.293	0.272	0.565

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	5.025	4.982	4.806	4.822	4.895	4.955	4.947	4.839
S.D.	0.028	0.009	0.020	0.018	0.004	0.007	0.048	0.005
% R.S.D.	0.548	0.173	0.408	0.371	0.085	0.142	0.960	0.098

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	4.728	4.997	5.015	5.002
S.D.	0.007	0.007	0.016	0.007
% R.S.D.	0.142	0.130	0.315	0.134

JK

06-27-97

SX-103 5977001402

QW-104 5977001425

T-105 5977001505

5977001504

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 224 TO 240.

HNF-SD-WM-DP-265, REV. 0

Identity 1: ICB

Identity 2: Quality Control

1:48 PM June 27, 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	-0.006	0.001	0.005	-0.004	-0.002	0.001
S.D.	0.002	0.000	0.003	0.003	0.001	0.002	0.000	0.000
% R.S.D.	645.446	56.773	43.155	278.139	21.313	57.896	29.293	61.196

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.000	-0.003	-0.005	-0.001	0.000	-0.006	-0.019	0.029
S.D.	0.000	0.001	0.003	0.002	0.000	0.002	0.007	0.027
% R.S.D.	74.343	27.439	63.193	273.410	25.459	36.086	36.648	95.619

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.006	0.018	0.000	-0.001	0.006	0.000	-0.004	-0.001
S.D.	0.004	0.006	0.000	0.006	0.000	0.000	0.004	0.006
% R.S.D.	77.271	35.865	131.221	450.897	6.093	91.554	91.754	756.968

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.001	-0.000	-0.037	-0.000	-0.001	0.001	-0.066	-0.001
S.D.	0.002	0.000	0.010	0.000	0.001	0.001	0.004	0.000
% R.S.D.	187.172	166.423	27.127	205.130	56.836	80.820	5.798	14.175

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.019	-0.001	0.000	-0.002
S.D.	0.022	0.001	0.000	0.018
% R.S.D.	117.757	112.074	42.844	941.411

HNF-SD-WM-DP-265, REV. 0

Identity 1: LLS Identity 2: Quality Control

1:52 PM June 27, 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	0.020	0.021	0.207	0.120	0.118	0.040	0.021	0.021
S.D.	0.000	0.000	0.006	0.003	0.004	0.002	0.000	0.000
% R.S.D.	1.204	0.391	2.922	2.243	3.066	5.245	1.078	0.867

	Zn	Ni	La	Fe	Ca	Cr	Nd	U
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	0.021	0.037	0.099	0.108	0.197	0.017	0.191	0.446
S.D.	0.000	0.001	0.002	0.003	0.000	0.001	0.006	0.024
% R.S.D.	1.362	1.643	2.090	3.066	0.200	4.871	3.000	5.328

	Ce	Sm	Ba	P	S	Mg	As	Na
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	0.244	0.194	0.101	0.391	0.214	0.187	0.200	0.211
S.D.	0.001	0.003	0.000	0.015	0.003	0.001	0.011	0.002
% R.S.D.	0.587	1.337	0.384	3.798	1.597	0.516	5.298	1.049

	Mo	Ag	Pb	Ti	Cd	B	K	Mn
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	0.100	0.025	0.179	0.019	0.010	0.101	0.457	0.018
S.D.	0.001	0.000	0.004	0.000	0.001	0.002	0.005	0.000
% R.S.D.	0.655	1.686	2.041	1.383	14.523	2.254	1.140	0.017

	Sb	V	Be	Tl
	(ppm)	(ppm)	(ppm)	(ppm)
Mean	0.025	0.102	0.010	0.423
S.D.	0.035	0.001	0.000	0.010
% R.S.D.	136.686	0.526	2.462	2.283

1

HNF-SD-WM-DP-265, REV. 0

Identity 1: ICSEA Identity 2: Quality Control

1:54 PM June 27, 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	0.003	-0.019	0.021	200.415	0.005	-0.000	0.001
S.D.	0.000	0.000	0.010	0.005	0.845	0.002	0.000	0.000
% R.S.D.	312.152	2.609	52.393	22.830	0.422	32.291	67.187	31.639

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.006	0.001	-0.003	94.566	100.376	-0.001	0.010	-0.046
S.D.	0.000	0.002	0.001	0.199	0.205	0.002	0.008	0.026
% R.S.D.	5.611	142.333	28.946	0.211	0.204	196.715	84.639	57.041

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.065	0.003	0.002	0.005	-0.058	105.810	-0.027	186.801
S.D.	0.009	0.005	0.000	0.014	0.003	0.097	0.002	1.615
% R.S.D.	14.319	197.957	10.181	272.098	5.011	0.092	8.411	0.864

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.000	0.004	0.004	0.000	0.003	0.012	0.001	0.003
S.D.	0.001	0.001	0.006	0.000	0.001	0.001	0.006	0.000
% R.S.D.	794.118	12.693	170.466	281.764	26.682	11.344	755.766	6.335

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.033	0.003	0.003	0.016
S.D.	0.015	0.001	0.000	0.012
% R.S.D.	46.833	25.488	8.734	75.322

HNF-SD-WM-DP-265, REV. 0

Identity 1: ICSAB Identity 2: Quality Control

1:57 PM June 27, 1997

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.001	0.002	-0.014	0.016	200.734	0.499	0.490	0.927
S.D.	0.001	0.000	0.008	0.004	0.745	0.002	0.001	0.007
% R.S.D.	94.150	3.191	58.074	26.370	0.371	0.486	0.215	0.723

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.989	0.981	-0.005	95.382	100.509	0.491	-0.016	0.010
S.D.	0.001	0.004	0.003	0.125	0.221	0.005	0.009	0.039
% R.S.D.	0.090	0.364	55.453	0.131	0.220	0.946	58.820	399.103

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.015	0.003	0.505	0.005	-0.061	106.802	-0.011	186.739
S.D.	0.014	0.008	0.001	0.010	0.002	0.206	0.005	1.201
% R.S.D.	97.463	245.722	0.230	201.058	3.775	0.193	44.791	0.643

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.002	1.037	0.952	0.000	0.980	0.014	0.053	0.493
S.D.	0.001	0.001	0.026	0.000	0.001	0.001	0.020	0.002
% R.S.D.	29.359	0.062	2.716	318.427	0.132	7.116	37.495	0.432

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.020	0.490	0.494	0.022
S.D.	0.031	0.001	0.001	0.011
% R.S.D.	154.392	0.206	0.291	53.246

HNF-SD-WM-DP-265, REV. 0

Identity 1: S97T001505 Identity 2: acid dil., direct

2:22 PM June 27, 1997

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.002	-0.000	-0.013	0.084	-0.013	0.003	-0.001	-0.000
S.D.	0.000	0.000	0.010	0.003	0.003	0.002	0.000	0.000
% R.S.D.	6.613	150.000	71.983	3.942	22.363	84.471	26.304	173.298

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	-0.000	0.001	-0.003	0.005	0.023	-0.007	-0.021	-0.060
S.D.	0.000	0.001	0.001	0.003	0.001	0.002	0.007	0.012
% R.S.D.	94.315	107.048	24.698	47.920	5.701	25.490	32.348	20.249

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.005	-0.031	-0.000	0.006	0.013	0.007	-0.006	0.330
S.D.	0.005	0.001	0.000	0.007	0.004	0.000	0.002	0.003
% R.S.D.	118.845	4.446	57.282	124.944	32.945	2.702	31.612	1.025

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.001	-0.002	-0.025	-0.001	0.001	0.018	-0.004	-0.001
S.D.	0.000	0.000	0.008	0.000	0.001	0.001	0.012	0.000
% R.S.D.	26.941	8.094	33.043	40.189	153.580	2.844	276.656	33.172

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.041	-0.001	0.000	-0.032
S.D.	0.020	0.000	0.000	0.006
% R.S.D.	49.779	46.166	61.278	20.253

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HNF-SD-WM-DP-265, REV. 0

Identity 1: S97T001505_D Identity 2: acid dil., direct

2:24 PM June 27, 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	-0.017	0.079	-0.012	0.001	-0.001	0.000
S.D.	0.001	0.000	0.006	0.005	0.001	0.004	0.000	0.000
% R.S.D.	223.156	75.000	32.737	5.746	6.393	281.173	16.078	449.801

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.000	0.003	-0.004	0.002	0.024	-0.004	-0.008	0.010
S.D.	0.000	0.001	0.002	0.001	0.001	0.002	0.002	0.024
% R.S.D.	57.256	50.346	38.275	50.959	2.691	36.096	22.201	254.095

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.013	-0.013	0.000	-0.014	0.012	0.007	0.009	0.329
S.D.	0.005	0.003	0.000	0.008	0.001	0.000	0.003	0.004
% R.S.D.	38.713	24.336	50.332	54.675	9.660	0.001	27.036	1.168

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.001	-0.002	-0.020	0.000	0.001	0.020	0.101	-0.002
S.D.	0.001	0.001	0.007	0.000	0.001	0.001	0.009	0.000
% R.S.D.	87.773	46.714	33.135	40.630	152.950	6.266	8.707	12.307

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.018	-0.000	0.000	0.029
S.D.	0.011	0.001	0.000	0.010
% R.S.D.	60.622	340.872	44.227	33.590

1

HNF-SD-WM-DP-265, REV. 0

Identity 1: S97T001506 Identity 2: acid dil., .5-10 ml

2:35 PM June 27, 1997

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 21.00

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	-0.013	0.015	-0.160	3.182	0.155	-0.076	0.002	1891.830
S.D.	0.029	0.003	0.189	0.101	0.171	0.045	0.011	22.735
% R.S.D.	214.985	23.094	117.943	3.184	109.892	59.304	486.661	1.202

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.003	0.164	0.095	0.029	1.240	-0.025	-0.263	0.627
S.D.	0.004	0.045	0.076	0.022	0.007	0.034	0.162	1.418
% R.S.D.	147.193	27.337	79.865	76.628	0.596	137.719	61.427	226.226

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.261	0.168	0.079	-0.117	1.614	0.139	0.023	5.991
S.D.	0.445	0.290	0.007	0.201	0.040	0.002	0.037	0.027
% R.S.D.	170.386	172.342	8.542	171.642	2.472	1.634	159.472	0.449

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.214	0.003	-0.301	0.007	-0.004	-0.027	0.157	-0.023
S.D.	0.013	0.028	0.260	0.015	0.015	0.020	0.292	0.004
% R.S.D.	5.905	951.821	86.505	203.900	348.033	75.817	185.636	17.626

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-1.045	0.009	-0.002	-0.423
S.D.	0.489	0.025	0.006	0.616
% R.S.D.	46.789	279.494	335.989	145.812

HNF-SD-WM-DP-265, REV. 0

Identity 1: S97T001506_D Identity 2: acid dil., .5-10 ml

2:38 PM June 27, 1997

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 21.00

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	-0.073	0.016	-0.072	2.964	0.249	0.052	0.004	1901.906
S.D.	0.020	0.002	0.075	0.011	0.118	0.044	0.006	16.818
% R.S.D.	26.961	10.497	104.344	0.383	47.429	85.062	126.418	0.884

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.007	0.063	0.046	0.040	1.287	-0.063	-0.195	-2.915
S.D.	0.003	0.032	0.044	0.053	0.002	0.019	0.100	0.712
% R.S.D.	46.966	51.922	95.245	131.638	0.178	29.635	51.435	24.416

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.365	-0.517	0.077	-0.205	1.800	0.151	0.023	6.162
S.D.	0.286	0.203	0.003	0.175	0.060	0.002	0.097	0.093
% R.S.D.	78.352	39.347	4.459	85.423	3.336	1.505	417.825	1.511

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.192	-0.016	-0.131	-0.028	-0.011	-0.004	0.945	-0.025
S.D.	0.000	0.012	0.115	0.009	0.018	0.025	0.278	0.007
% R.S.D.	0.000	80.317	88.118	29.970	171.730	607.920	29.397	28.726

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-1.074	0.011	0.007	-0.305
S.D.	0.846	0.014	0.003	0.570
% R.S.D.	78.816	124.102	47.942	186.500

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HNF-SD-WM-DP-265, REV. 0

Identity 1: ICSEA Identity 2: Quality Control

2:42 PM June 27, 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	-0.013	0.019	202.143	0.012	-0.001	0.005
S.D.	0.000	0.000	0.010	0.002	0.477	0.002	0.000	0.001
% R.S.D.	15.996	3.208	71.428	11.295	0.236	17.558	13.731	11.878

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.005	0.006	-0.003	95.705	100.954	0.003	0.008	0.050
S.D.	0.000	0.001	0.002	0.109	0.224	0.002	0.012	0.030
% R.S.D.	5.009	19.743	51.184	0.114	0.221	68.766	149.299	60.404

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.055	0.042	0.002	-0.002	-0.048	108.905	-0.002	182.123
S.D.	0.005	0.005	0.000	0.004	0.003	0.359	0.004	1.758
% R.S.D.	9.267	12.498	6.444	243.142	6.116	0.330	152.066	0.966

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.000	0.003	0.001	0.000	0.001	0.015	0.142	0.002
S.D.	0.000	0.001	0.016	0.000	0.001	0.001	0.010	0.000
% R.S.D.	76.370	18.314	1551.712	16.512	139.736	4.063	7.132	16.431

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.001	0.003	0.003	-0.023
S.D.	0.024	0.000	0.000	0.025
% R.S.D.	2684.679	15.669	7.986	108.785

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HNF-SD-WM-DP-265, REV. 0

Identity 1: ICSAB Identity 2: Quality Control

2:45 PM June 27, 1997

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.001	0.002	-0.033	0.021	199.651	0.493	0.491	0.927
S.D.	0.001	0.000	0.008	0.003	2.152	0.003	0.002	0.008
% R.S.D.	122.380	1.991	23.685	13.287	1.078	0.685	0.307	0.874

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.980	0.972	-0.003	95.573	100.784	0.488	-0.026	0.050
S.D.	0.003	0.005	0.001	0.121	0.163	0.004	0.018	0.031
% R.S.D.	0.301	0.517	27.606	0.127	0.162	0.722	70.982	62.661

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.000	0.035	0.507	0.011	-0.056	105.973	-0.022	185.414
S.D.	0.011	0.006	0.001	0.009	0.009	0.409	0.005	1.539
% R.S.D.	5270.698	17.935	0.207	83.580	16.010	0.386	21.128	0.830

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.003	1.024	0.979	0.000	0.974	0.014	0.045	0.490
S.D.	0.000	0.001	0.003	0.000	0.003	0.001	0.010	0.002
% R.S.D.	11.384	0.106	0.316	172.305	0.352	3.958	22.659	0.315

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.087	0.489	0.496	0.029
S.D.	0.052	0.002	0.001	0.022
% R.S.D.	59.047	0.402	0.218	76.003

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HNF-SD-WM-DP-265, REV. 0

Identity 1: CCV

Identity 2: Quality Control

2:53 PM June 27, 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	4.880	4.999	5.023	4.831	4.961	4.954	5.118	4.916
S.D.	0.006	0.012	0.007	0.010	0.028	0.020	0.017	0.040
% R.S.D.	0.127	0.245	0.148	0.202	0.573	0.412	0.335	0.804
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.007	4.828	4.892	4.805	4.680	4.716	5.135	9.613
S.D.	0.011	0.005	0.013	0.018	0.010	0.020	0.023	0.025
% R.S.D.	0.221	0.105	0.258	0.373	0.216	0.419	0.438	0.259
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	4.966	5.042	4.969	5.131	4.903	4.590	5.033	5.148
S.D.	0.008	0.011	0.014	0.015	0.036	0.010	0.006	0.040
% R.S.D.	0.156	0.218	0.288	0.289	0.735	0.226	0.123	0.779
	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	4.952	4.953	4.758	4.769	4.855	4.945	4.913	4.808
S.D.	0.008	0.010	0.049	0.006	0.007	0.005	0.036	0.004
% R.S.D.	0.156	0.193	1.020	0.123	0.154	0.097	0.736	0.088
	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)				
Mean	4.708	4.962	4.994	4.958				
S.D.	0.040	0.009	0.007	0.031				
% R.S.D.	0.849	0.185	0.147	0.616				

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HNF-SD-WM-DP-265, REV. 0

Identity 1: CCB Identity 2: Quality Control

2:57 PM June 27, 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	-0.019	-0.001	0.016	0.006	-0.001	0.001
S.D.	0.001	0.000	0.010	0.004	0.006	0.002	0.001	0.000
% R.S.D.	428.735	83.887	52.083	286.141	39.139	34.730	62.046	35.803
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	-0.000	-0.000	-0.001	0.005	0.006	-0.001	-0.005	0.040
S.D.	0.000	0.000	0.004	0.002	0.000	0.001	0.007	0.055
% R.S.D.	97.948	151.457	408.195	38.916	5.565	99.609	138.062	137.257
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.007	-0.000	0.000	-0.009	0.004	0.001	0.008	0.013
S.D.	0.016	0.010	0.000	0.010	0.006	0.000	0.004	0.005
% R.S.D.	232.947	3196.191	242.399	114.747	128.152	33.325	51.787	34.696
	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.001	0.000	-0.004	0.001	-0.000	0.005	0.077	-0.001
S.D.	0.001	0.001	0.006	0.000	0.000	0.001	0.024	0.000
% R.S.D.	98.598	155.921	149.012	90.503	0.290	15.771	30.772	41.914
	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)				
Mean	-0.111	0.001	0.000	0.028				
S.D.	0.020	0.001	0.000	0.045				
% R.S.D.	18.347	83.795	169.254	159.175				

JK
06-27-97

LABCORE Data Entry Template for Worklist# 19549

Analyst: JK Sato Instrument: ICPOT-2 JK 7-28-97 Book# 676488Method: LA-505-151/161 Rev/Mod CX 2Worklist Comment: JK 7-28-97 ICP T-105 (DIRECT) 7/15/97

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 SERDIL	S97T001676	0 D	@ICP-D01	LIQUID		
7 SAMPLE	S97T001676	0 D	@ICP-D01	LIQUID	97000434	T-105
	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	S97T001676	0 D	@ICP-D01	LIQUID		
9 SPK	S97T001676	0 D	@ICP-D01	LIQUID		
10 CCV			@ICP-QC	QC		
11 CCB			@ICP-QC	QC		
12 SAMPLE	S97T001679	0 D	@ICP-D01	LIQUID	97000434	T-105
	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.

LABCORE Data Entry Template for Worklist# 19549

S Type	Sample#	R	A	Test	Matrix	Group#	Project
13 DUP	S97T001679	0	D	@ICP-D01	LIQUID		
14 SERDIL	S97T001682	0	D	@ICP-D01	LIQUID		
15 SAMPLE	S97T001682	0	D	@ICP-D01	LIQUID	97000434	T-105
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			
16 DUP	S97T001682	0	D	@ICP-D01	LIQUID		
17 SPK	S97T001682	0	D	@ICP-D01	LIQUID		
18 CCV				@ICP-QC	QC		
19 CCB				@ICP-QC	QC		
20 SERDIL	S97T001692	0	D	@ICP-D01	LIQUID		
21 SAMPLE	S97T001692	0	D	@ICP-D01	LIQUID	97000435	T-105
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			
22 DUP	S97T001692	0	D	@ICP-D01	LIQUID		
23 SPK	S97T001692	0	D	@ICP-D01	LIQUID		
24 SAMPLE	S97T001696	0	D	@ICP-D01	LIQUID	97000435	T-105
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 ,			

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 19549

S Type	Sample#	R A	Test	Matrix	Group#	Project
			ZN-D-01	ZR-D-01		
25 DUP	S97T001696	0 D	@ICP-D01	LIQUID		
26 ICSA			@ICP-QC	QC		
27 ICSAB			@ICP-QC	QC		
28 CCV			@ICP-QC	QC		
29 CCB			@ICP-QC	QC		

Final page for worklist # 19549

JK *[Signature]* 07-28-97

Analyst Signature Date

S97T001676-L, 025-10-28, 3F 2005

S97T001676, 025-10 401

S97T001676-L, 025-10 401

S97T001676-Q, 025-10 401

S97T001676-X, 025-10-19 4010

S97T001676-QX, 025-10-19 4010

S97T001676, 025-10 401

S97T001676-L, 025-10 401

S97T001676-L, 025-10-28, 3F 2005

S97T001676-L, 025-10 401

S97T001676-L, 025-10 401

S97T001676-L, 025-10 401

S97T001676-L, 025-10 401

S97T001676-X, 025-10-19 4010

S97T001676-QX, 025-10-19 4010

S97T001676-L, 025-10-28, 3F 2005

S97T001676-L, 025-10 401

S97T001676-L, 025-10 401

S97T001676-L, 025-10 401

S97T001676-L, 025-10 401

S97T001676-X, 025-10-19 4010

S97T001676-QX, 025-10-19 4010

S97T001676, 2-10, 3F 51

S97T001676-L, 2-10 51

All post spike (1 ppm)
025-10 sample
2 ml SST5
8 ml HNO3

Review + Validated by:

Saul M. Pung 7/28/97

Analyst Signature Date

All post spike (10 ppm)
025-10-1-9
1 ml sample
1 ml each X44C 28 + 25
7 ml HNO3

Data Entry Comments:

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

Post Spike :

HNF-SD-WM-DP-265, REV. 0

597T001676

$$Na = \frac{\left(\frac{138200}{4010}\right) - \left(\frac{98870}{4010}\right)}{10} \times 100 = 98.1\%$$

597T001682

$$Na = \frac{\left(\frac{136000}{4010}\right) - \left(\frac{97200}{4010}\right)}{10} \times 100 = 96.8\%$$

597T001692

$$Na = \frac{\left(\frac{135600}{4010}\right) - \left(\frac{96220}{4010}\right)}{10} \times 100 = 98.2\%$$

$$P = \frac{\left(\frac{41350}{4010}\right) - \left(\frac{1482}{4010}\right)}{10} \times 100 = 99.4\%$$

$$S = \frac{\left(\frac{44440}{4010}\right) - \left(\frac{5657}{4010}\right)}{10} \times 100 = 96.7\%$$

HNF-SD-WM-DP-265, REV. 0

Analysis Report

Summary

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#	Sample Name	File	Method	Date	Time	OpID	Type	Mode
1	ICV	970728A	ICP2	07/28/97	10:07	DKS	Q	CONC
2	ICB	970728A	ICP2	07/28/97	10:12	DKS	Q	CONC
3	LLS	970728A	ICP2	07/28/97	10:17	DKS	Q	CONC
4	LLS	970728A	ICP2	07/28/97	10:20	DKS	Q	CONC
5	ICSA	970728A	ICP2	07/28/97	10:24	DKS	Q	CONC
6	ICSAB	970728A	ICP2	07/28/97	10:28	DKS	Q	CONC
7	S97T001676 L	970728A	ICP2	07/28/97	10:32	DKS	S	CONC
8	S97T001676	970728A	ICP2	07/28/97	10:36	DKS	S	CONC
9	S97T001676 D	970728A	ICP2	07/28/97	10:39	DKS	S	CONC
10	S97T001676 A	970728A	ICP2	07/28/97	10:44	DKS	S	CONC
11	S97T001676 X	970728A	ICP2	07/28/97	10:47	DKS	S	CONC
12	S97T001676 AX	970728A	ICP2	07/28/97	10:53	DKS	S	CONC
13	CCV	970728A	ICP2	07/28/97	11:00	DKS	Q	CONC
14	CCB	970728A	ICP2	07/28/97	11:03	DKS	Q	CONC
15	S97T001679	970728A	ICP2	07/28/97	11:07	DKS	S	CONC
16	S97T001679 D	970728A	ICP2	07/28/97	11:10	DKS	S	CONC
17	S97T001682 L	970728A	ICP2	07/28/97	11:14	DKS	S	CONC
18	S97T001682	970728A	ICP2	07/28/97	11:17	DKS	S	CONC
19	S97T001682 D	970728A	ICP2	07/28/97	11:21	DKS	S	CONC
20	S97T001682 A	970728A	ICP2	07/28/97	11:25	DKS	S	CONC
21	S97T001682 X	970728A	ICP2	07/28/97	11:28	DKS	S	CONC
22	S97T001682 AX	970728A	ICP2	07/28/97	11:31	DKS	S	CONC
23	CCV 1	970728A	ICP2	07/28/97	11:37	DKS	Q	CONC
24	CCB 1	970728A	ICP2	07/28/97	11:40	DKS	Q	CONC
25	S97T001692 L	970728A	ICP2	07/28/97	11:43	DKS	S	CONC
26	S97T001692	970728A	ICP2	07/28/97	11:46	DKS	S	CONC
27	S97T001692 D	970728A	ICP2	07/28/97	11:49	DKS	S	CONC
28	S97T001692 A	970728A	ICP2	07/28/97	11:53	DKS	S	CONC
29	S97T001692 X	970728A	ICP2	07/28/97	11:56	DKS	S	CONC
30	S97T001692 AX	970728A	ICP2	07/28/97	12:00	DKS	S	CONC
31	S97T001696	970728A	ICP2	07/28/97	12:06	DKS	S	CONC
32	S97T001696 D	970728A	ICP2	07/28/97	12:09	DKS	S	CONC
33	ICSA	970728A	ICP2	07/28/97	12:13	DKS	Q	CONC
34	ICSAB	970728A	ICP2	07/28/97	12:16	DKS	Q	CONC
35	CCV 2	970728A	ICP2	07/28/97	12:19	DKS	Q	CONC
36	CCB 2	970728A	ICP2	07/28/97	12:25	DKS	Q	CONC

JN 18
07-28-97
7-105

597T001676
597T001679
597T001682
597T001692
597T001696

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 251 TO 257

HNF-SD-WM-DP-265, REV. 0

Analysis Report

Averages

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#	Sample Name	Ag	Al	As	B	Ba	Be
1	ICV	5.024	4.907	5.191	5.028	5.004	5.178
2	ICB	-.0004	-.0018	-.0056	-.0020	-.0000	-.0001
3	LLS	.0199	.1021	Q.1430	.1016	.0998	.0108
4	LLS	.0172	.1001	.1894	.0996	.1000	.0108
5	ICSA	.0017	239.2	-.0104	-.0039	.0002	.0001
6	ICSAB	.9576	239.8	-.0232	-.0038	.4650	.4779
7	S97T001676 L	6.118	355.9	-46.83	14.97	-.0670	.3519
8	S97T001676 D	6.604	340.7	-57.27	14.78	-.0273	.0020
9	S97T001676 D	7.615	360.5	-52.18	17.38	-.0276	-.0503
10	S97T001676 A	398.2	733.6	371.9	412.1	394.5	412.1
11	S97T001676 X	6.483	382.3	-5.164	11.98	.1643	1.042
12	S97T001676 AX	39860.	39180.	39940.	39850.	39760.	39780.
13	CCV	5.042	4.955	5.253	5.084	5.085	5.234
14	CCB	-.0014	.0078	.0109	.0015	-.0000	.0003
15	S97T001679	6.152	189.0	-136.4	16.77	-.0442	.0009
16	S97T001679 D	5.885	193.6	-128.9	18.57	-.0571	.0179
17	S97T001682 L	1.821	269.5	-222.1	16.97	-.1427	.1752
18	S97T001682	6.157	263.0	-207.0	17.37	-.0161	.0372
19	S97T001682 D	6.093	263.6	-200.2	15.77	-.0024	.1574
20	S97T001682 A	374.6	655.0	222.4	415.3	397.6	413.3
21	S97T001682 X	9.728	301.1	-200.5	2.011	.0286	.3510
22	S97T001682 AX	39260.	39090.	39740.	39790.	40050.	39650.
23	CCV 1	5.032	4.933	5.259	5.070	5.095	5.226
24	CCB 1	.0050	.0001	.0016	.0020	-.0001	.0000
25	S97T001692 L	14.34	496.5	-66.83	11.99	.1662	.1741
26	S97T001692	7.342	485.2	-52.46	16.77	.0174	.1231
27	S97T001692 D	7.147	480.5	-56.45	15.38	-.0012	.0530
28	S97T001692 A	393.5	883.6	367.1	410.1	391.0	407.7
29	S97T001692 X	13.04	505.4	-57.41	14.02	.0553	-.5191
30	S97T001692 AX	39710.	39370.	39660.	39830.	40170.	39810.
31	S97T001696	.9105	2.245	-3575.	34.96	.2115	.0296
32	S97T001696 D	.9454	1.930	-3765.	35.67	.2008	.0140
33	ICSA	.0021	241.8	-4045.	.0031	.0001	.0001
34	ICSAB	.9543	241.4	-2424.	-.0087	.4730	.4833
35	CCV 2	5.040	4.971	5.134	5.098	5.134	5.275
36	CCB 2	.0004	.0017	Q-.1127	.0025	-.0000	.0001

#	Sample Name	Bi	Ca	Cd	Ce	Co	Cr
1	ICV	5.122	5.135	5.087	5.005	5.079	5.124
2	ICB	.0374	.0006	.0003	-.0057	-.0009	-.0003
3	LLS	Q.1384	.2148	.0099	.1935	.0405	.0211
4	LLS	Q.1134	.2184	.0100	.1963	.0442	.0212
5	ICSA	-.0045	251.6	.0022	.0110	-.0020	-.0049
6	ICSAB	-.0054	253.0	.9379	.0121	.4732	.4679
7	S97T001676 L	43.00	77.28	.6114	-10.84	.5290	255.5
8	S97T001676	-.7018	72.18	1.598	-.3715	.7401	251.1
9	S97T001676 D	.1887	73.32	2.610	-1.181	-.2128	265.1
10	S97T001676 A	411.2	484.8	406.8	401.3	401.5	657.9
11	S97T001676 X	.2624	74.38	-1.456	-6.754	4.781	258.9
12	S97T001676 AX	40370.	40940.	39710.	39670.	39850.	40150.
13	CCV	5.144	5.197	5.110	5.034	5.086	5.142

Analysis Report

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#	Sample Name	Bi	Ca	Cd	Ce	Co	Cr
14	CCB	.0032	-.0066	-.0014	-.0089	-.0024	-.0011
15	S97T001679	6.118	64.57	1.069	.5768	.2586	244.2
16	S97T001679_D	10.43	63.50	1.076	-.9012	1.165	248.1
17	S97T001682_L	-3.413	74.09	-.3519	-5.427	.5244	235.7
18	S97T001682	-9.727	63.56	1.296	-.1311	1.207	232.1
19	S97T001682_D	-2.689	64.06	1.281	.6911	.8910	230.7
20	S97T001682_A	412.1	477.1	403.7	403.2	404.1	641.3
21	S97T001682_X	53.09	68.73	4.443	.0600	.0221	249.9
22	S97T001682_AX	40300.	40650.	39520.	39730.	39770.	40000.
23	CCV_1	5.136	5.209	5.106	5.038	5.102	5.146
24	CCB_1	.0202	-.0032	-.0021	-.0027	-.0017	.0000
25	S97T001692_L	9.158	96.52	1.616	21.10	.5495	158.4
26	S97T001692	9.170	80.34	2.228	2.063	.6864	154.0
27	S97T001692_D	6.713	79.13	1.865	2.325	.4202	151.9
28	S97T001692_A	408.1	496.0	401.5	395.8	400.1	565.2
29	S97T001692_X	-18.66	99.71	-5.309	21.83	-8.432	152.4
30	S97T001692_AX	40120.	40730.	39500.	39690.	39810.	39940.
31	S97T001696	-20.00	37.61	-15.29	39.74	9.857	18.72
32	S97T001696_D	-21.85	39.71	-16.02	41.59	10.38	19.65
33	ICSA	.0302	251.2	-.0007	.0045	-.0002	-.0015
34	ICSA_B	-.0065	252.9	.9288	.0111	.4717	.4684
35	CCV_2	5.200.	5.251	5.122	5.061	5.113	5.167
36	CCB_2	-.0010	.0029	.0001	-.0054	.0017	.0004

#	Sample Name	Cu	Eu	Fe	K	La	Li
1	ICV	4.851	.0040	4.742	4.920	5.086	5.036
2	ICB	.0003	.0002	-.0003	-.3342	.0001	.0005
3	LLS	.0171	.0005	.0909	Q.1840	.1012	.0215
4	LLS	.0174	.0011	.0924	Q.2687	.1012	.0210
5	ICSA	-.0091	-.0082	92.39	-.1034	-.0034	.0035
6	ICSA_B	.4361	-.0074	92.57	-.1401	-.0039	.9731
7	S97T001676_L	1.638	-.0829	-.5578	500.6	-.4429	1.140
8	S97T001676	.4442	.0820	.1086	507.1	-.1577	.9564
9	S97T001676_D	.2930	.0173	.5957	584.1	-.1313	.7731
10	S97T001676_A	388.1	.1885	377.1	935.4	406.8	405.7
11	S97T001676_X	2.950	-.5081	-1.138	12.28	-1.471	10.04
12	S97T001676_AX	36090.	30.31	37230.	40130.	39620.	39350.
13	CCV	4.921	.0039	4.789	4.861	5.121	5.131
14	CCB	.0000	-.0006	-.0009	-.3556	-.0010	-.0003
15	S97T001679	1.764	-.0590	-.6938	538.7	-.2325	97.76
16	S97T001679_D	2.006	.0276	.5939	513.8	-.3500	100.1
17	S97T001682_L	3.377	.0030	-2.817	40.26	-1.098	137.1
18	S97T001682	3.523	-.1229	.0907	529.8	-.1325	134.1
19	S97T001682_D	3.791	-.2398	-.0295	462.5	-.0303	132.2
20	S97T001682_A	392.0	.2386	378.1	859.9	406.6	543.2
21	S97T001682_X	5.851	.6149	-1.513	-509.4	.8050	145.1
22	S97T001682_AX	36310.	29.98	37150.	40060.	39670.	39580.
23	CCV_1	4.896	.0040	4.791	4.801	5.113	5.075
24	CCB_1	.0005	.0003	-.0012	-.3646	-.0011	.0005
25	S97T001692_L	10.74	.8751	.7525	511.0	2.850	2.734
26	S97T001692	7.339	.0541	.9661	545.8	.3817	1.185
27	S97T001692_D	7.278	-.1919	.3667	571.0	.2676	1.093

HNF-SD-WM-DP-265, REV. 0

Analysis Report

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#	Sample Name	Cu	Eu	Fe	K	La	Li
28	S97T001692 A	388.2	.3609	375.2	993.3	398.5	398.3
29	S97T001692 X	5.938	1.473	-.8821	-179.0	5.722	5.469
30	S97T001692 AX	36270.	31.24	37150.	39870.	39640.	39410.
31	S97T001696	1.496	.2969	-3.701	86.06	.1170	1447.
32	S97T001696 D	1.438	.3467	-4.692	100.1	.1996	1417.
33	ICSA	-.0089	-.0063	92.70	-.2205	-.0045	.0027
34	ICSAB	.4417	-.0063	92.82	-.0229	-.0040	.9896
35	CCV 2	4.939	.0044	4.804	5.050	5.141	5.135
36	CCB 2	.0003	.0000	-.0004	-.3500	-.0002	.0003

#	Sample Name	Mg	Mn	Mo	Na	Nd	Ni
1	ICV	5.137	4.967	5.073	4.892	5.101	5.057
2	ICB	-.0060	.0003	.0085	-.0239	-.0037	-.0019
3	LLS	.1988	.0201	.1046	.1678	.1895	.0402
4	LLS	.1940	.0205	.1092	.1619	.1939	.0356
5	ICSA	248.5	-.0055	-.0041	190.8	-.0032	-.0106
6	ICSAB	248.9	.4433	-.0053	192.9	-.0023	.9236
7	S97T001676 L	-1.881	.2519	82.94	97710.	-5.385	27.79
8	S97T001676	-.2934	.1389	75.74	95340.	-.6305	28.88
9	S97T001676 D	-.1343	.1055	81.06	101100.	-1.717	27.83
10	S97T001676 A	400.1	388.1	484.3	96150.	405.6	428.8
11	S97T001676 X	-13.19	.7842	96.97	98870.	-10.16	37.52
12	S97T001676 AX	41240.	39660.	39850.	138200.	38570.	39390.
13	CCV	5.188	4.998	5.097	4.937	5.127	5.066
14	CCB	-.0122	.0001	.0117	.0056	-.0069	-.0062
15	S97T001679	-.6443	.3823	72.34	90670.	-1.195	38.25
16	S97T001679 D	-1.813	.4588	73.64	91640.	-1.194	38.75
17	S97T001682 L	-18.93	.5856	79.18	92130.	-11.94	46.56
18	S97T001682	-.9276	.2156	70.59	90610.	-2.002	42.91
19	S97T001682 D	1.757	.2498	71.13	89070.	-1.668	40.46
20	S97T001682 A	400.8	387.9	476.2	90670.	405.6	439.3
21	S97T001682 X	-15.93	1.176	104.6	97200.	-10.29	32.52
22	S97T001682 AX	41320.	39510.	39860.	136000.	38610.	39490.
23	CCV 1	5.175	5.003	5.106	4.892	5.103	5.069
24	CCB 1	-.0062	.0004	.0119	-.0040	-.0026	-.0057
25	S97T001692 L	32.30	.5624	95.07	95780.	-.2931	11.73
26	S97T001692	.9169	.2178	75.52	93970.	-.8513	28.33
27	S97T001692 D	1.401	.0806	76.20	93730.	-1.681	25.92
28	S97T001692 A	396.9	383.7	484.2	97990.	397.7	430.6
29	S97T001692 X	10.03	.8721	88.71	96220.	-15.89	3.933
30	S97T001692 AX	41460.	39550.	39870.	135600.	38580.	39330.
31	S97T001696	1.967	3.778	8.124	14080.	-.8914	65.61
32	S97T001696 D	2.195	3.954	7.971	13850.	-.7485	66.32
33	ICSA	251.7	-.0055	-.0064	193.7	-.0048	-.0197
34	ICSAB	251.1	.4429	-.0077	194.8	-.0027	.9019
35	CCV 2	5.203	5.009	5.133	4.935	5.139	5.060
36	CCB 2	-.0064	.0001	.0049	.0107	-.0031	-.0024

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#	Sample Name	P	Pb	S	Sb	Se	Si
1	ICV	5.031	5.132	4.942	4.794	4.896	4.838
2	ICB	-.0036	-.0022	-.0020	-.0046	.0308	-.0000
3	LLS	.4076	.2128	.2029	.1047	.2260	Q.1102
4	LLS	.4101	.2147	.2005	.1012	.2308	Q.1122
5	ICSA	.0118	.0258	-.0338	-.0025	.0423	.0039
6	ICSAB	.0051	1.009	-.0341	.0031	.0321	.0052
7	S97T001676_L	1509.	-16.03	5605.	-9.057	70.67	35.09
8	S97T001676_	1511.	-3.004	5516.	.2399	25.39	29.47
9	S97T001676_D	1615.	-2.958	5842.	.0881	29.21	30.62
10	S97T001676_A	1922.	405.8	5841.	383.5	446.6	439.9
11	S97T001676_X	1540.	32.02	5673.	-29.84	123.2	63.86
12	S97T001676_AX	41270.	39980.	44630.	40210.	39150.	40230.
13	CCV	5.079	5.116	4.989	4.856	4.954	4.868
14	CCB	.0028	.0009	-.0061	-.0069	.0358	.0009
15	S97T001679	1839.	-4.722	5130.	-1.064	29.78	47.90
16	S97T001679_D	1872.	.6411	5199.	-3.427	33.68	55.60
17	S97T001682_L	1723.	-24.06	5216.	-13.96	75.02	42.02
18	S97T001682_	1705.	-5.028	5111.	-2.756	23.53	24.38
19	S97T001682_D	1688.	.8698	5004.	.3654	29.10	27.47
20	S97T001682_A	2141.	400.2	5509.	377.5	454.7	443.5
21	S97T001682_X	1804.	-13.59	5471.	14.33	143.1	95.12
22	S97T001682_AX	41350.	39910.	44100.	40170.	38910.	40300.
23	CCV 1	5.036	5.151	4.968	4.853	4.957	4.857
24	CCB 1	.0053	-.0008	.0076	.0045	.0352	.0076
25	S97T001692_L	1510.	15.20	5576.	11.89	82.41	66.54
26	S97T001692_	1458.	.0305	5508.	.7509	26.29	42.83
27	S97T001692_D	1470.	.9011	5425.	1.529	26.47	43.51
28	S97T001692_A	1969.	400.9	6152.	378.5	454.8	482.6
29	S97T001692_X	1482.	-44.70	5657.	-5.515	83.03	146.5
30	S97T001692_AX	41350.	39770.	44440.	40110.	39050.	40770.
31	S97T001696	157.4	-27.65	735.3	-6.162	91.47	48.15
32	S97T001696_D	167.7	-30.08	738.7	-6.970	96.43	49.06
33	ICSA	.0278	.0034	-.0466	.0161	.0435	.0286
34	ICSAB	.0121	.9758	-.0466	.0024	.0635	.0208
35	CCV 2	5.066	5.128	4.981	4.885	5.003	4.890
36	CCB 2	.0224	.0100	.0087	-.0059	.0308	.0062

#	Sample Name	Sm	Sr	Th	Ti	Tl	U
1	ICV	4.905	4.971	.1195	4.918	4.900	9.604
2	ICB	.0057	.0000	-.0072	-.0003	-.0175	.0196
3	LLS	.2025	.0205	-.0003	.0203	.4010	.5068
4	LLS	.2088	.0205	-.0022	.0208	.4256	.5409
5	ICSA	.0040	.0019	-.0003	.0007	.0816	.0586
6	ICSAB	-.0008	.0018	-.0079	.0007	.0721	.0507
7	S97T001676_L	5.103	1.843	-1.067	-.0094	-5.152	25.13
8	S97T001676_	1.732	1.695	-2.723	-.0272	-2.938	37.87
9	S97T001676_D	1.531	1.786	-3.471	-.1324	-6.356	52.44
10	S97T001676_A	391.2	397.6	9.190	394.2	383.2	813.6
11	S97T001676_X	10.37	1.841	-13.23	.8857	22.08	50.36
12	S97T001676_AX	38360.	39540.	1018.	39720.	38680.	75360.
13	CCV	4.953	5.011	.1168	4.959	4.921	9.711

HNF-SD-WM-DP-265, REV. 0

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#	Sample Name	Sm	Sr	Th	Ti	Tl	U
14	CCB	-.0052	-.0000	-.0029	-.0005	-.0182	-.0190
15	S97T001679	.3292	1.380	-3.111	-.0354	-6.699	47.10
16	S97T001679_D	1.681	1.434	-4.616	-.0451	-10.13	58.76
17	S97T001682_L	4.281	1.102	-12.47	.4080	-10.29	47.30
18	S97T001682-	-.7871	.8833	-.6535	-.2031	-9.059	19.86
19	S97T001682_D	-1.607	.9004	.2510	-.1138	-14.87	34.68
20	S97T001682-A	392.5	397.9	6.999	394.4	373.8	810.6
21	S97T001682-X	19.40	1.469	-2.262	-.9701	4.961	84.90
22	S97T001682_AX	38450.	39640.	1041.	39880.	38740.	75890.
23	CCV 1	4.953	5.001	.1322	4.944	4.831	9.686
24	CCB_1	.0103	.0001	-.0042	-.0000	-.0204	.0296
25	S97T001692_L	11.61	2.485	7.300	.9523	29.68	75.95
26	S97T001692_D	1.674	2.323	-.4881	-.0168	-.9064	34.07
27	S97T001692-D	-.7864	2.267	-.0295	.0735	11.20	38.81
28	S97T001692-A	383.0	391.5	7.869	387.5	368.6	800.6
29	S97T001692-X	37.50	2.941	-6.440	-.1940	47.53	152.4
30	S97T001692_AX	38440.	39690.	1034.	39780.	38570.	75750.
31	S97T001696-	-.5337	.4611	9.903	-1.388	-117.5	7.787
32	S97T001696_D	-.1122	.4655	10.36	-1.447	-122.8	10.02
33	ICSA	-.0012	.0019	-.0124	.0006	.0351	.0625
34	ICSAB	-.0027	.0019	-.0104	.0011	.0568	.0561
35	CCV 2	4.985	5.046	.1304	4.977	4.855	9.761
36	CCB_2	.0035	.0001	-.0018	.0005	-.0166	.0059

#	Sample Name	V	Y	Zn	Zr
1	ICV	4.978	.0076	4.877	4.945
2	ICB	.0013	.0002	-.0003	.0015
3	LLS	.1046	.0008	.0209	.0219
4	LLS	.1062	.0011	.0219	.0230
5	ICSA	.0022	.0075	.0059	-.0019
6	ICSAB	.4675	.0073	.9412	-.0012
7	S97T001676_L	1.322	-.0107	3.804	1.372
8	S97T001676-	.5012	.0467	2.431	.5292
9	S97T001676_D	.6173	.0405	2.755	.5709
10	S97T001676-A	397.6	.5967	391.1	393.0
11	S97T001676-X	1.289	.2928	1.454	2.247
12	S97T001676_AX	39610.	51.54	37760.	39340.
13	CCV	5.011	.0074	4.891	4.973
14	CCB	-.0005	-.0001	-.0003	.0002
15	S97T001679	.1956	.0114	3.717	.2816
16	S97T001679_D	.4714	.1007	3.099	.7912
17	S97T001682_L	1.316	.1370	2.292	3.575
18	S97T001682-	.0195	-.0713	2.219	-1.1476
19	S97T001682_D	-.1577	-.1090	2.348	-.2268
20	S97T001682-A	397.9	.6295	391.6	392.7
21	S97T001682-X	4.876	.9065	3.381	4.118
22	S97T001682_AX	39620.	50.38	37610.	39440.
23	CCV 1	5.001	.0075	4.888	4.970
24	CCB_1	.0016	.0004	-.0003	.0016
25	S97T001692_L	3.032	.7532	3.279	2.047
26	S97T001692-	.3546	.0483	3.426	.3664
27	S97T001692_D	-.3929	-.1107	2.899	-.2142

HNF-SD-WM-DP-265, REV. 0

Analysis Report

Averages

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#	Sample Name	V	Y	Zn	Zr
28	S97T001692 A	393.6	.6337	390.2	386.8
29	S97T001692 X	9.204	2.134	.1713	8.464
30	S97T001692 AX	39620.	51.69	37690.	39420.
31	S97T001696	1.368	.0167	-17.26	-.6626
32	S97T001696_D	1.522	.0397	-18.24	-.6642
33	ICSA	.0011	.0073	.0027	-.0010
34	ICSAB	.4671	.0074	.9382	-.0010
35	CCV_2	5.025	.0075	4.896	4.991
36	CCB_2	.0005	.0001	-.0002	.0008

DK LLD

07-28-97

LABCORE Data Entry Template for Worklist# 19751

Analyst: J. WORRELL Instrument: ICP01 _____ Book# 676488

Method: LA-505-151/161 Rev/Mod E-1

Worklist Comment: ICP T-105 (SOLID ACID DIGEST)

S Type	Sample#	R	A	Test	Matrix	Group#	Project
1	ICV			@ICP-QC	QC		
2	ICB			@ICP-QC	QC		
3	LLS			@ICP-QC	QC		
4	ICSA			@ICP-QC	QC		
5	ICSAB			@ICP-QC	QC		
6	PREPSTDARL			@ICP-A01	SOLID		
7	PREPBLKARL			@ICP-A01	SOLID		
8	SERDIL	S97T001687	0	A	@ICP-A01	SOLID	
9	SAMPLE	S97T001687	0	A	@ICP-A01	SOLID	97000434 T-105
Analytes Requested: AG-A-01 , AL-A-01 , AS-A-01 , B-A-01 , BA-A-01 , BE-A-01 , BI-A-01 , CA-A-01 , CD-A-01 , CE-A-01 , CO-A-01 , CR-A-01 , CU-A-01 , FE-A-01 , K-A-01 , LA-A-01 , LI-A-01 , MG-A-01 , MN-A-01 , MO-A-01 , NA-A-01 , ND-A-01 , NI-A-01 , P-A-01 , PB-A-01 , S-A-01 , SB-A-01 , SE-A-01 , SI-A-01 , SM-A-01 , SR-A-01 , TI-A-01 , TL-A-01 , U-A-01 , V-A-01 , ZN-A-01 , ZR-A-01							
10	DUP	S97T001687	0	A	@ICP-A01	SOLID	
11	SPK-PREDIG	S97T001687	0	A	@ICP-A01	SOLID	
12	CCV			@ICP-QC	QC		
13	CCB			@ICP-QC	QC		
14	SAMPLE	S97T001699	0	A	@ICP-A01	SOLID	97000435 T-105
Analytes Requested: AG-A-01 , AL-A-01 , AS-A-01 , B-A-01 , BA-A-01 , BE-A-01 , BI-A-01 , CA-A-01 , CD-A-01 , CE-A-01 , CO-A-01 , CR-A-01 , CU-A-01 , FE-A-01 , K-A-01 , LA-A-01 , LI-A-01 ,							

Data Entry Comments:

LABCORE Data Entry Template for Worklist# 19751

S Type	Sample#	R	A	Test	Matrix	Group#	Project			
				MG-A-01	MN-A-01	MO-A-01	NA-A-01	ND-A-01	NI-A-01	
				P-A-01	PB-A-01	S-A-01	SB-A-01	SE-A-01	SI-A-01	
				SM-A-01	SR-A-01	TI-A-01	TL-A-01	U-A-01	V-A-01	
				ZN-A-01	ZR-A-01					
15 DUP	S97T001699	0	A	@ICP-A01	SOLID					
16 SERDIL	S97T001705	0	A	@ICP-A01	SOLID					
17 SAMPLE	S97T001705	0	A	@ICP-A01	SOLID	97000435	T-105			
	Analytes Requested:									
				AG-A-01	AL-A-01	AS-A-01	B-A-01	BA-A-01		
				BE-A-01	BI-A-01	CA-A-01	CD-A-01	CE-A-01	CO-A-01	
				CR-A-01	CU-A-01	FE-A-01	K-A-01	LA-A-01	LI-A-01	
				MG-A-01	MN-A-01	MO-A-01	NA-A-01	ND-A-01	NI-A-01	
				P-A-01	PB-A-01	S-A-01	SB-A-01	SE-A-01	SI-A-01	
				SM-A-01	SR-A-01	TI-A-01	TL-A-01	U-A-01	V-A-01	
				ZN-A-01	ZR-A-01					
18 SPK-PREDIG	S97T001705	0	A	@ICP-A01	SOLID					
19 SAMPLE	S97T001712	0	A	@ICP-A01	SOLID	97000435	T-105			
	Analytes Requested:									
				AG-A-01	AL-A-01	AS-A-01	B-A-01	BA-A-01		
				BE-A-01	BI-A-01	CA-A-01	CD-A-01	CE-A-01	CO-A-01	
				CR-A-01	CU-A-01	FE-A-01	K-A-01	LA-A-01	LI-A-01	
				MG-A-01	MN-A-01	MO-A-01	NA-A-01	ND-A-01	NI-A-01	
				P-A-01	PB-A-01	S-A-01	SB-A-01	SE-A-01	SI-A-01	
				SM-A-01	SR-A-01	TI-A-01	TL-A-01	U-A-01	V-A-01	
				ZN-A-01	ZR-A-01					
20 DUP	S97T001712	0	A	@ICP-A01	SOLID					
21 ICSA				@ICP-QC	QC					
22 ICSAB				@ICP-QC	QC					
23 CCV				@ICP-QC	QC					
24 CCB				@ICP-QC	QC					

Final page for worklist # 19751

John Howell 8-12-97Revised & Validated by:
Sam L. Pang 8/12/97

Data Entry Comments:

LABCORE Data Entry Template for Worklist# 19751

S Type	Sample#	R A Test	Matrix	Group#	Project	
Analyst Signature		Date		Analyst Signature		Date

Jh Howell 8-12-97

S97T001687

$$Li = 0.765 \frac{\mu g}{ml} \times \frac{1}{6.914 \frac{g}{L} \times \frac{1L}{100 ml}} = 1.11 \times 10^{-2} \frac{\mu g}{g}$$

Spike recovery:

$$Li = \frac{5.898 - 0.765}{5} \times 100 = 102.7 \%$$

Data Entry Comments:

T-105 ACID DIGEST

J. Howell
8-11-97

FILE # 970811A.DAT

ICV		1
ICB		1
LLS		1
ICSA		1
ICSAB		1
PREPBLKATL	DIRECT	1
PREPSTDARL	DIRECT	1
S977801687		
5X	1-9-2-8	50
SAM	1-9	10
DUP	1-9	10
CCV DIGSPK	1-9	10
CCB		
1699 SAM	1-9	10
DUP	1-9	10
1705		
5X	1-9-2-8	50
SAM	1-9	10
DUP	1-9	10
DIGSPK	1-9	10
1712		
SAM	1-9	10
DUP	1-9	10
ICSA		
ICSAB		
CCV		
CCB		

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 261 TO 267

HNF-SD-WM-DP-265, REV. 0

T-105 ACID DIGEST

J. Worell
8-11-97

FILE # 9708H.A.DAT

ICV

ICB

LLS

ICSA

ICSA B

PREP BLK ARL DIRECT

PREP STD ARL DIRECT

S977001687

5X 1-9-2-8 50

SAM 1-9 10

DUP 1-9 10

CCV DIG SPK 1-9 10

CCB

1699 SAM 1-9 10

DUP 1-9 10

1705 5X 1-9-2-8 50

SAM 1-9 10

DUP 1-9 10

DIG SPK 1-9 10

1712 SAM 1-9 10

DUP 1-9 10

HNF-SD-WM-DP-265, REV. 0

Identity 1: ICV Identity 2: Quality Control 1:01 PM August 11, 1997
 Task name : OPTIMA
 Sample Weight : 1.0000 Solution Volume : 1.00
 On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	4.922	5.117	5.119	4.650	5.093	4.925	5.309	5.304
S.D.	0.019	0.006	0.009	0.015	0.005	0.030	0.022	0.068
% R.S.D.	0.382	0.125	0.173	0.320	0.101	0.607	0.407	1.280

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	4.971	4.981	5.184	5.004	5.033	4.908	5.582	9.753
S.D.	0.018	0.024	0.025	0.033	0.018	0.028	0.030	0.066
% R.S.D.	0.365	0.486	0.492	0.666	0.355	0.579	0.537	0.674

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	5.127	5.219	5.197	5.045	4.841	4.782	5.132	5.105
S.D.	0.014	0.016	0.010	0.026	0.040	0.026	0.023	0.060
% R.S.D.	0.270	0.307	0.199	0.506	0.833	0.544	0.445	1.171

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Tl (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	4.938	5.142	4.971	4.859	5.002	5.066	4.999	4.976
S.D.	0.025	0.027	0.038	0.012	0.029	0.030	0.045	0.031
% R.S.D.	0.513	0.533	0.759	0.238	0.586	0.597	0.895	0.622

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	4.752	4.923	5.229	5.187
S.D.	0.045	0.023	0.021	0.055
% R.S.D.	0.955	0.465	0.397	1.056

1

J. Howell
 8-11-97

FILE # 970811A.DAT

S97780 1687, 1699, 1705, 1712

T-105 ACID DIGEST

HNF-SD-WM-DP-265, REV. 0

Identity 1: ICB Identity 2: Quality Control

1:07 PM August 11, 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	0.000	0.000	-0.009	-0.000	0.013	-0.002	-0.000	0.000
S.D.	0.002	0.000	0.003	0.006	0.005	0.002	0.001	0.000
% R.S.D.	572.824	86.603	38.101	7723.849	41.883	86.502	392.441	185.607
	Zn	Ni	La	Fe	Ca	Cr	Nd	U
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	0.001	0.000	0.001	0.003	0.001	0.003	-0.001	0.029
S.D.	0.000	0.002	0.003	0.003	0.000	0.001	0.013	0.077
% R.S.D.	17.405	416.676	207.967	109.218	10.956	49.227	2433.604	263.107
	Ce	Sm	Ba	P	S	Mg	As	Na
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	0.010	-0.017	0.000	-0.001	0.002	0.000	-0.003	0.002
S.D.	0.020	0.017	0.000	0.001	0.004	0.000	0.004	0.006
% R.S.D.	199.083	99.226	107.555	64.233	183.431	28.847	128.352	264.655
	Mo	Ag	Pb	Ti	Cd	B	K	Mn
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	0.002	0.001	0.005	0.000	0.001	0.004	0.026	-0.000
S.D.	0.000	0.001	0.012	0.001	0.001	0.001	0.015	0.000
% R.S.D.	4.813	118.993	249.863	167.436	103.978	19.256	58.794	41.843
	Sb	V	Be	Tl				
	(ppm)	(ppm)	(ppm)	(ppm)				
Mean	0.014	0.002	-0.000	-0.003				
S.D.	0.038	0.001	0.000	0.043				
% R.S.D.	260.033	49.574	61.983	1670.913				

HNF-SD-WM-DP-265, REV. 0

Identity 1: LLS

Identity 2: Quality Control

1:09 PM August 11, 1997

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.024	0.021	0.196	0.130	0.097	0.034	0.019	0.020
S.D.	0.002	0.000	0.010	0.006	0.008	0.002	0.001	0.000
% R.S.D.	9.131	0.640	5.134	4.248	8.154	5.984	3.533	1.242
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.020	0.044	0.114	0.098	0.188	0.016	0.182	0.602
S.D.	0.000	0.002	0.002	0.005	0.001	0.002	0.005	0.070
% R.S.D.	1.721	4.748	1.499	4.725	0.399	13.003	2.958	11.569
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.158	0.234	0.103	0.428	0.205	0.199	0.196	0.195
S.D.	0.015	0.012	0.000	0.012	0.007	0.001	0.007	0.002
% R.S.D.	9.608	5.277	0.166	2.862	3.460	0.323	3.675	1.111
	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.104	0.021	0.192	0.021	0.011	0.106	0.534	0.020
S.D.	0.002	0.001	0.014	0.001	0.000	0.002	0.022	0.001
% R.S.D.	1.720	5.631	7.077	2.964	0.014	2.194	4.147	3.590
	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)				
Mean	0.097	0.103	0.010	0.360				
S.D.	0.020	0.001	0.000	0.023				
% R.S.D.	20.143	1.102	3.856	6.289				

HNF-SD-WM-DP-265, REV. 0

Identity 1: ICSA Identity 2: Quality Control

1:12 PM August 11, 1997

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.002	0.002	-0.035	0.005	203.808	0.001	-0.001	0.000
S.D.	0.001	0.000	0.006	0.000	0.114	0.004	0.000	0.000
% R.S.D.	38.707	1.804	18.288	6.224	0.056	833.586	26.165	2856.773

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.006	0.008	0.004	94.293	102.460	-0.004	0.046	0.076
S.D.	0.000	0.003	0.000	0.223	0.181	0.001	0.012	0.018
% R.S.D.	4.716	37.500	0.556	0.237	0.176	26.137	25.380	23.705

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Hg (ppm)	As (ppm)	Na (ppm)
Mean	0.002	0.016	0.001	0.031	-0.128	98.598	-0.083	200.384
S.D.	0.005	0.005	0.000	0.008	0.005	0.028	0.011	0.198
% R.S.D.	328.265	32.520	9.340	25.026	3.653	0.029	13.090	0.099

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.002	0.001	0.005	0.000	0.001	0.012	-0.167	0.010
S.D.	0.001	0.000	0.001	0.000	0.001	0.000	0.006	0.001
% R.S.D.	60.126	20.855	30.535	334.250	125.926	3.973	3.548	6.488

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.088	0.001	0.002	-0.057
S.D.	0.012	0.001	0.000	0.004
% R.S.D.	13.604	85.744	16.967	7.315

HNF-SD-WM-DP-265, REV. 0

Identity 1: ICSAB Identity 2: Quality Control

1:15 PM August 11, 1997

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.002	0.002	-0.039	0.003	202.531	0.478	0.518	0.996
S.D.	0.001	0.000	0.009	0.004	0.813	0.000	0.003	0.007
% R.S.D.	55.525	6.715	21.948	155.815	0.402	0.052	0.503	0.682
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.958	0.974	0.006	97.104	103.232	0.481	0.058	0.062
S.D.	0.002	0.003	0.004	0.165	0.225	0.004	0.011	0.055
% R.S.D.	0.220	0.325	66.070	0.170	0.218	0.932	18.277	90.214
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.009	-0.021	0.520	0.009	-0.136	98.059	-0.067	194.798
S.D.	0.014	0.010	0.002	0.011	0.005	0.355	0.011	1.129
% R.S.D.	151.071	48.237	0.338	112.876	3.615	0.362	16.872	0.580
	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.001	1.027	1.005	-0.000	0.972	0.012	-0.181	0.496
S.D.	0.003	0.001	0.010	0.000	0.001	0.001	0.015	0.001
% R.S.D.	200.718	0.097	1.025	158.685	0.080	10.901	8.081	0.107
	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)				
Mean	-0.021	0.486	0.506	-0.004				
S.D.	0.038	0.000	0.001	0.025				
% R.S.D.	184.039	0.091	0.174	696.191				

HNF-SD-WM-DP-265, REV. 0

Identity 1: prepbklarl Identity 2: direct

1:19 PM August 11, 1997

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.001	0.001	-0.007	0.193	0.086	-0.001	0.004	0.000
S.D.	0.001	0.000	0.010	0.003	0.017	0.002	0.000	0.000
% R.S.D.	87.156	13.323	153.090	1.392	19.969	184.547	8.219	74.638

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.055	-0.001	-0.001	0.066	0.220	-0.003	-0.004	-0.049
S.D.	0.001	0.002	0.004	0.009	0.006	0.002	0.014	0.034
% R.S.D.	1.381	251.704	746.216	12.990	2.942	63.691	355.341	69.007

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Hg (ppm)	As (ppm)	Na (ppm)
Mean	-0.001	-0.028	0.001	0.012	0.160	0.071	-0.005	0.552
S.D.	0.013	0.006	0.000	0.005	0.004	0.006	0.002	0.010
% R.S.D.	918.524	20.820	23.773	47.646	2.347	8.139	29.613	1.804

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.000	0.002	0.039	0.000	0.001	0.298	0.022	0.001
S.D.	0.000	0.000	0.009	0.000	0.001	0.002	0.012	0.000
% R.S.D.	75.019	11.898	22.650	85.036	106.927	0.801	52.728	29.159

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.005	0.002	-0.001	-0.031
S.D.	0.012	0.000	0.000	0.013
% R.S.D.	272.213	16.254	27.970	41.951

HNF-SD-WM-DP-265, REV. 0

Identity 1: prestdarl Identity 2: direct

1:28 PM August 11, 1997

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Sf (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	5.041	5.039	5.061	6.796	5.084	4.920	4.974	5.267
S.D.	0.011	0.016	0.193	0.016	0.011	0.005	0.019	0.033
% R.S.D.	0.215	0.318	3.818	0.237	0.218	0.110	0.375	0.621
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	4.784	4.982	5.238	5.012	5.140	4.709	5.616	10.103
S.D.	0.013	0.006	0.019	0.018	0.014	0.005	0.012	0.010
% R.S.D.	0.265	0.113	0.354	0.355	0.268	0.114	0.206	0.096
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	5.105	5.247	5.085	4.923	4.922	4.612	5.079	5.802
S.D.	0.023	0.017	0.017	0.007	0.024	0.007	0.034	0.034
% R.S.D.	0.454	0.321	0.326	0.136	0.487	0.161	0.677	0.594
	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Hn (ppm)
Mean	4.834	1.188	4.711	4.518	4.848	5.637	5.067	4.874
S.D.	0.009	0.002	0.052	0.010	0.017	0.012	0.033	0.010
% R.S.D.	0.180	0.132	1.098	0.220	0.353	0.222	0.649	0.197
	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)				
Mean	4.903	4.878	5.244	4.981				
S.D.	0.020	0.009	0.012	0.012				
% R.S.D.	0.417	0.183	0.237	0.242				

HNF-SD-WM-DP-265, REV. 0

Identity 1: s97t001687_L Identity 2: 1ml-9ml-2ml-8ml

1:32 PM August 11, 1997

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 50.00

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	0.479	1.370	10.436	37.618	95.164	-0.214	0.103	0.793
S.D.	0.041	0.008	0.141	0.283	0.528	0.101	0.010	0.017
% R.S.D.	8.646	0.609	1.349	0.752	0.555	47.376	9.770	2.172
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.794	0.904	0.265	77.577	3.982	4.199	0.072	77.259
S.D.	0.020	0.137	0.110	0.896	0.024	0.035	0.368	2.226
% R.S.D.	2.534	15.198	41.528	1.155	0.612	0.844	514.490	2.881
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.374	-1.236	0.611	9.325	20.440	7.395	-0.665	485.631
S.D.	0.426	0.406	0.002	0.222	0.447	0.011	0.184	3.115
% R.S.D.	113.859	32.845	0.284	2.376	2.188	0.143	27.580	0.641
	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.479	0.338	1.843	0.291	0.049	0.512	-3.890	82.284
S.D.	0.034	0.019	0.465	0.011	0.067	0.098	0.927	0.137
% R.S.D.	7.054	5.654	25.227	3.728	136.502	19.214	23.826	0.166
	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)				
Mean	-1.512	0.097	0.024	2.181				
S.D.	0.584	0.022	0.020	0.854				
% R.S.D.	38.605	22.943	86.555	39.170				

HNF-SD-WM-DP-265, REV. 0

Identity 1: s97t001687 Identity 2: 1ml-9ml

1:36 PM August 11, 1997

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 10.00

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	0.653	1.389	11.075	39.395	98.374	0.099	0.099	0.765
S.D.	0.013	0.004	0.145	0.075	0.528	0.020	0.004	0.005
% R.S.D.	1.956	0.276	1.309	0.191	0.537	20.290	4.035	0.625
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.707	0.915	0.199	80.799	3.431	4.546	0.370	80.276
S.D.	0.003	0.019	0.008	0.113	0.011	0.009	0.059	0.108
% R.S.D.	0.473	2.081	4.228	0.140	0.334	0.208	16.031	0.134
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.138	0.596	0.612	10.041	21.439	7.781	-0.073	480.883
S.D.	0.114	0.106	0.001	0.155	0.097	0.006	0.030	4.639
% R.S.D.	82.378	17.714	0.098	1.542	0.451	0.082	41.873	0.965
	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.302	0.305	3.270	0.323	0.055	0.502	2.958	86.418
S.D.	0.009	0.014	0.151	0.005	0.012	0.006	0.143	0.108
% R.S.D.	2.965	4.674	4.619	1.585	22.856	1.155	4.849	0.125
	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)				
Mean	-0.199	0.120	0.006	2.986				
S.D.	0.049	0.010	0.002	0.344				
% R.S.D.	24.583	8.184	26.571	11.519				

HNF-SD-WM-DP-265, REV. 0

Identity 1: s97c001687_d Identity 2: 1ml-9ml

1:39 PM August 11, 1997

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 10.00

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	0.390	1.398	11.468	39.500	178.893	0.036	0.097	0.756
S.D.	0.001	0.003	0.143	0.026	0.183	0.020	0.005	0.003
% R.S.D.	0.331	0.180	1.245	0.067	0.103	56.935	4.814	0.339

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.960	0.968	0.200	82.923	3.198	4.586	0.348	82.224
S.D.	0.011	0.031	0.008	0.116	0.004	0.009	0.160	0.212
% R.S.D.	1.111	3.160	4.203	0.140	0.115	0.200	45.952	0.258

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.078	0.793	0.614	9.931	21.266	7.852	-0.029	476.555
S.D.	0.071	0.063	0.001	0.093	0.276	0.006	0.039	1.555
% R.S.D.	90.588	8.004	0.172	0.935	1.298	0.082	138.134	0.326

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.296	0.322	3.225	0.346	0.074	0.126	3.091	87.279
S.D.	0.011	0.004	0.056	0.005	0.002	0.003	0.059	0.084
% R.S.D.	3.837	1.326	1.729	1.521	2.413	2.469	1.919	0.097

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.045	0.101	0.000	2.706
S.D.	0.297	0.005	0.003	0.257
% R.S.D.	657.951	5.246	42653.339	9.496

HNF-SD-WM-DP-265, REV. 0

Identity 1: s97t001687_s Identity 2: 1ml-9ml

1:41 PM August 11, 1997

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 10.00

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	3.071	6.236	16.237	41.209	240.702	4.855	4.928	5.898
S.D.	0.027	0.004	0.192	0.076	0.233	0.036	0.014	0.059
% R.S.D.	0.873	0.069	1.179	0.186	0.097	0.733	0.292	0.997

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.452	5.795	5.322	85.590	7.898	9.071	5.739	90.902
S.D.	0.024	0.034	0.015	0.129	0.015	0.054	0.062	0.301
% R.S.D.	0.447	0.580	0.276	0.151	0.188	0.600	1.074	0.331

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	4.654	5.912	5.499	13.050	26.404	12.013	4.832	499.809
S.D.	0.193	0.139	0.010	0.089	0.156	0.061	0.055	4.693
% R.S.D.	4.144	2.355	0.175	0.679	0.592	0.504	1.140	0.939

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	4.923	1.051	7.778	4.675	4.822	5.622	7.331	89.187
S.D.	0.032	0.015	0.255	0.012	0.040	0.063	0.131	0.336
% R.S.D.	0.652	1.417	3.279	0.247	0.833	1.116	1.781	0.377

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	4.283	4.810	5.010	7.772
S.D.	0.295	0.022	0.002	0.330
% R.S.D.	6.890	0.466	0.033	4.248

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HNF-SD-WM-DP-265, REV. 0

Identity 1: CCV

Identity 2: Quality Control

1:44 PM August 11, 1997

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	4.932	5.118	5.132	4.652	5.061	4.817	5.396	5.486
S.D.	0.007	0.017	0.030	0.006	0.017	0.011	0.022	0.049
% R.S.D.	0.137	0.333	0.591	0.131	0.334	0.223	0.414	0.886

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	4.913	4.956	5.305	5.056	5.092	4.855	5.935	10.108
S.D.	0.004	0.003	0.010	0.032	0.006	0.006	0.009	0.004
% R.S.D.	0.076	0.062	0.186	0.625	0.119	0.134	0.144	0.036

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	5.048	5.342	5.230	5.041	4.750	4.699	5.126	5.272
S.D.	0.023	0.013	0.019	0.021	0.019	0.002	0.017	0.045
% R.S.D.	0.455	0.236	0.355	0.410	0.409	0.044	0.339	0.846

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	4.858	5.094	4.987	4.841	4.982	5.176	5.330	4.952
S.D.	0.002	0.005	0.056	0.008	0.012	0.004	0.027	0.004
% R.S.D.	0.050	0.103	1.122	0.175	0.244	0.086	0.510	0.084

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	4.804	4.912	5.305	5.235
S.D.	0.085	0.003	0.005	0.024
% R.S.D.	1.770	0.066	0.090	0.462

HNF-SD-WM-DP-265, REV. 0

Identity 1: CCB

Identity 2: Quality Control

1:47 PM August 11, 1997

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.001	0.000	0.003	0.005	-0.009	-0.004	-0.001	-0.000
S.D.	0.000	0.000	0.003	0.001	0.000	0.000	0.000	0.000
% R.S.D.	17.526	95098766136.000	100.929	22.438	5.637	0.236	11.249	91.664

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.000	0.000	0.003	0.000	0.001	-0.002	-0.017	0.009
S.D.	0.000	0.003	0.002	0.004	0.000	0.000	0.008	0.019
% R.S.D.	102.683	1114.135	49.485	1433.459	12.674	13.191	47.119	226.220

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.009	-0.009	-0.000	0.010	0.003	0.000	-0.014	0.003
S.D.	0.002	0.003	0.000	0.009	0.003	0.000	0.004	0.005
% R.S.D.	17.624	32.938	45.826	95.430	94.044	34.605	30.268	156.092

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.000	0.007	0.001	-0.001	0.000	0.003	-0.044	-0.001
S.D.	0.001	0.001	0.006	0.000	0.000	0.001	0.009	0.000
% R.S.D.	240.993	15.171	524.566	31.971	0.350	25.261	19.923	17.127

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.009	0.000	-0.000	-0.063
S.D.	0.019	0.000	0.000	0.002
% R.S.D.	208.026	171.697	44.268	3.085

HNF-SD-WM-DP-265, REV. 0

Identity 1: s97t001699 Identity 2: 1mL-9mL

1:51 PM August 11, 1997

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 10.00

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	0.423	0.834	14.529	22.857	209.224	0.065	0.163	0.006
S.D.	0.003	0.001	0.115	0.024	0.223	0.020	0.004	0.003
% R.S.D.	0.626	0.166	0.793	0.106	0.107	31.112	2.653	47.157

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	1.056	0.512	0.171	68.592	7.419	4.422	-0.017	36.275
S.D.	0.003	0.017	0.017	0.130	0.014	0.025	0.109	0.168
% R.S.D.	0.263	3.282	9.748	0.189	0.193	0.555	625.648	0.462

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Hg (ppm)	As (ppm)	Na (ppm)
Mean	-0.020	0.430	0.388	9.945	24.626	5.582	-0.059	479.349
S.D.	0.054	0.040	0.001	0.138	0.222	0.004	0.017	0.353
% R.S.D.	263.422	9.194	0.155	1.393	0.903	0.076	28.998	0.074

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.323	0.343	2.863	0.228	0.035	0.726	3.281	63.731
S.D.	0.008	0.004	0.169	0.006	0.005	0.011	0.173	0.092
% R.S.D.	2.532	1.094	5.907	2.578	13.470	1.452	5.283	0.144

	Sb (ppm)	V (ppm)	Se (ppm)	Tl (ppm)
Mean	0.095	0.067	0.000	1.418
S.D.	0.198	0.001	0.004	0.069
% R.S.D.	209.145	2.007	1122.204	4.861

HNF-SD-WM-DP-265, REV. 0

Identity 1: s97c001699_d Identity 2: 1ml-9ml

1:54 PM August 11, 1997

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 10.00

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	0.183	0.908	15.807	18.283	280.457	0.072	0.164	0.006
S.D.	0.009	0.000	0.085	0.014	0.152	0.020	0.004	0.003
% R.S.D.	4.760	0.042	0.539	0.076	0.054	28.426	2.719	52.357

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	1.013	0.584	0.204	77.547	7.920	4.825	0.037	40.387
S.D.	0.005	0.028	0.009	0.132	0.002	0.033	0.052	0.397
% R.S.D.	0.445	4.794	4.195	0.170	0.024	0.686	141.169	0.984

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.038	0.604	0.421	9.707	23.570	5.925	-0.131	454.464
S.D.	0.100	0.089	0.001	0.111	0.082	0.010	0.085	1.714
% R.S.D.	263.332	14.688	0.257	1.143	0.346	0.171	64.737	0.377

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.306	0.383	2.874	0.230	0.033	0.519	3.357	70.356
S.D.	0.003	0.008	0.057	0.009	0.005	0.012	0.172	0.057
% R.S.D.	0.919	1.969	1.994	3.928	14.343	2.226	5.117	0.082

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.474	0.051	0.008	1.767
S.D.	0.088	0.008	0.002	0.147
% R.S.D.	18.590	16.055	20.165	8.324

HNF-SD-WM-DP-265, REV. 0

Identity 1: s97t001705_L Identity 2: 1ml-9ml-2ml-8ml

1:58 PM August 11, 1997

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 50.00

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	0.260	1.923	265.247	108.625	149.134	-0.291	0.107	0.757
S.D.	0.043	0.005	1.207	0.216	0.646	0.101	0.018	0.006
% R.S.D.	16.599	0.263	0.455	0.199	0.433	34.495	16.780	0.736
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	6.221	0.594	0.450	236.663	4.544	11.382	-0.683	8.859
S.D.	0.039	0.079	0.074	1.141	0.013	0.124	0.553	2.965
% R.S.D.	0.628	13.232	16.428	0.482	0.287	1.089	81.002	33.475
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-2.203	1.003	0.071	12.157	19.805	1.925	-0.424	524.787
S.D.	0.438	0.555	0.011	0.254	0.679	0.014	0.049	2.467
% R.S.D.	19.875	55.362	15.573	2.093	3.430	0.725	11.611	0.470
	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.312	-0.141	4.661	0.192	0.058	0.420	-0.180	0.868
S.D.	0.032	0.034	0.635	0.023	0.058	0.056	1.031	0.021
% R.S.D.	10.419	24.122	13.618	11.760	99.946	13.429	572.438	2.365
	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)				
Mean	-0.790	-0.126	-0.031	-4.349				
S.D.	1.221	0.035	0.016	1.121				
% R.S.D.	154.524	28.016	52.768	25.765				

HNF-SD-WM-DP-265, REV. 0

Identity 1: s97t001705 Identity 2: 1ml-9ml

2:01 PM August 11, 1997

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 10.00

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	0.045	2.095	282.291	126.269	161.091	-0.026	0.173	0.865
S.D.	0.003	0.002	0.416	0.164	0.201	0.001	0.003	0.003
% R.S.D.	5.764	0.114	0.147	0.130	0.125	5.668	1.843	0.367

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.363	0.463	-0.017	251.721	4.380	12.083	-0.228	-0.742
S.D.	0.026	0.025	0.030	0.622	0.002	0.075	0.099	0.197
% R.S.D.	0.489	5.309	181.723	0.247	0.052	0.624	43.379	26.566

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Hg (ppm)	As (ppm)	Na (ppm)
Mean	-0.062	-0.308	0.121	12.614	20.668	2.005	-0.090	565.037
S.D.	0.095	0.027	0.000	0.207	0.215	0.005	0.036	4.123
% R.S.D.	152.066	8.897	0.378	1.637	1.039	0.230	39.979	0.730

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.312	-0.015	7.080	0.130	0.056	0.425	1.445	0.963
S.D.	0.007	0.005	0.068	0.004	0.007	0.007	0.072	0.006
% R.S.D.	2.105	33.803	0.960	2.760	12.925	1.748	4.968	0.573

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.311	-0.006	-0.001	-0.399
S.D.	0.263	0.010	0.004	0.175
% R.S.D.	84.457	156.946	726.091	43.924

HNF-SD-WM-DP-265, REV. 0

Identity 1: s97t001705_d Identity 2: 1ml-9ml

2:05 PM August 11, 1997

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 10.00

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	0.044	1.929	266.032	7.046	146.680	-0.034	3.434	0.737
S.D.	0.006	0.006	0.652	0.028	0.431	0.036	0.006	0.003
% R.S.D.	13.282	0.300	0.245	0.395	0.294	104.247	0.182	0.347
	Zn	Ni	La	Fe	Ca	Cr	Nd	U
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	4.827	0.414	0.001	236.058	3.623	12.791	-0.132	0.405
S.D.	0.028	0.010	0.014	0.657	0.009	0.068	0.054	0.095
% R.S.D.	0.590	2.505	1478.556	0.279	0.260	0.534	41.125	23.424
	Ce	Sm	Ba	P	S	Mg	As	Na
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	0.034	-0.280	0.113	10.908	19.712	1.909	-0.023	512.807
S.D.	0.029	0.030	0.000	0.068	0.186	0.006	0.052	1.496
% R.S.D.	83.710	10.617	0.153	0.626	0.941	0.337	230.736	0.292
	Mo	Ag	Pb	Ti	Cd	B	K	Mn
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	0.308	-0.011	5.829	0.100	0.040	0.352	2.566	0.907
S.D.	0.013	0.001	0.019	0.003	0.003	0.006	0.157	0.008
% R.S.D.	4.185	10.993	0.326	3.152	7.868	1.645	6.114	0.920
	Sb	V	Be	Tl				
	(ppm)	(ppm)	(ppm)	(ppm)				
Mean	-0.027	-0.001	-0.001	-0.530				
S.D.	0.145	0.010	0.002	0.138				
% R.S.D.	534.634	1298.913	123.071	26.087				

HNF-SD-WM-DP-265, REV. 0

Identity 1: s97t001705_s Identity 2: 1ml-9ml

2:08 PM August 11, 1997

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 10.00

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	3.199	6.674	279.818	124.497	159.490	4.815	4.689	5.426
S.D.	0.005	0.033	0.627	0.253	0.621	0.054	0.016	0.019
% R.S.D.	0.154	0.498	0.224	0.204	0.389	1.114	0.338	0.346

	Zn	Ni	La	Fe	Ca	Cr	Nd	U
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	9.657	5.290	4.882	246.578	8.427	16.814	4.982	9.108
S.D.	0.050	0.028	0.030	0.030	0.031	0.060	0.048	0.373
% R.S.D.	0.515	0.533	0.619	0.012	0.365	0.354	0.963	4.094

	Ce	Sm	Ba	P	S	Mg	As	Na
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	4.838	4.622	4.762	15.261	25.297	6.397	4.748	530.720
S.D.	0.113	0.078	0.022	0.075	0.223	0.020	0.090	1.423
% R.S.D.	2.343	1.688	0.464	0.494	0.881	0.316	1.905	0.268

	Mo	Ag	Pb	Ti	Cd	B	K	Mn
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	4.952	1.116	11.108	4.377	4.717	5.256	8.002	5.629
S.D.	0.036	0.007	0.124	0.016	0.035	0.013	0.135	0.006
% R.S.D.	0.732	0.634	1.119	0.357	0.752	0.255	1.682	0.098

	Sb	V	Be	Tl
	(ppm)	(ppm)	(ppm)	(ppm)
Mean	4.428	4.620	4.790	4.102
S.D.	0.169	0.008	0.010	0.279
% R.S.D.	3.824	0.176	0.204	6.800

HNF-SD-WM-DP-265, REV. 0

Identity 1: s97t001712 Identity 2: 1ml-9ml

2:10 PM August 11, 1997

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 10.00

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	0.711	1.339	189.921	103.477	150.451	-0.063	0.488	0.295
S.D.	0.014	0.000	0.620	0.112	0.041	0.020	0.003	0.001
% R.S.D.	2.023	0.029	0.326	0.109	0.027	31.883	0.657	0.286

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	1.581	0.442	0.280	222.973	3.893	15.422	0.488	10.866
S.D.	0.002	0.028	0.015	0.621	0.003	0.040	0.042	0.309
% R.S.D.	0.108	6.343	5.272	0.279	0.069	0.258	8.562	2.845

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.082	0.349	0.281	10.265	22.225	2.538	-0.101	551.443
S.D.	0.088	0.077	0.002	0.117	0.098	0.004	0.036	0.989
% R.S.D.	107.378	22.071	0.747	1.142	0.440	0.150	35.059	0.179

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.306	0.043	5.812	0.077	0.050	0.453	2.568	25.910
S.D.	0.008	0.010	0.091	0.006	0.008	0.012	0.092	0.057
% R.S.D.	2.672	22.380	1.574	8.386	15.100	2.680	3.567	0.222

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.050	0.114	-0.004	0.237
S.D.	0.293	0.002	0.002	0.174
% R.S.D.	590.629	2.018	40.435	73.273

HNF-SD-WM-DP-265, REV. 0

Identity 1: s97t001712_d Identity 2: 1ml-9ml

2:13 PM August 11, 1997

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 10.00

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	0.568	1.382	196.743	101.562	166.485	-0.078	6.669	0.312
S.D.	0.011	0.004	0.665	0.172	0.514	0.021	0.014	0.001
% R.S.D.	1.872	0.254	0.338	0.170	0.309	27.507	0.203	0.269

	Zn	Ni	La	Fe	Ca	Cr	Nd	U
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	1.427	0.408	0.253	239.198	3.429	15.439	0.492	10.501
S.D.	0.005	0.025	0.008	0.429	0.007	0.024	0.141	0.299
% R.S.D.	0.349	6.051	0.062	0.179	0.211	0.157	28.545	2.846

	Ce	Sm	Ba	P	S	Mg	As	Na
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	0.004	0.126	0.289	10.428	22.664	2.537	-0.116	596.072
S.D.	0.076	0.036	0.001	0.013	0.126	0.003	0.041	3.792
% R.S.D.	1944.698	28.882	0.262	0.121	0.555	0.125	35.480	0.636

	Mo	Ag	Pb	Ti	Cd	B	K	Mn
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	0.330	0.060	6.108	0.065	0.041	0.323	1.590	26.151
S.D.	0.016	0.006	0.054	0.002	0.007	0.008	0.044	0.023
% R.S.D.	4.783	10.275	0.890	3.581	17.513	2.626	2.739	0.090

	Sb	V	Be	Tl
	(ppm)	(ppm)	(ppm)	(ppm)
Mean	0.406	0.121	0.004	-0.002
S.D.	0.385	0.005	0.002	0.153
% R.S.D.	94.829	4.068	38.585	6261.153

HNF-SD-WM-DP-265, REV. 0

Identity 1: ICSC Identity 2: Quality Control

2:16 PM August 11, 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	0.000	0.002	-0.033	0.018	201.801	-0.003	-0.001	0.000
S.D.	0.000	0.000	0.007	0.003	0.329	0.004	0.000	0.000
% R.S.D.	1314.480	1.698	21.153	17.559	0.163	155.578	34.108	10.478

	Zn	Ni	La	Fe	Ca	Cr	Nd	U
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	0.006	0.007	0.004	95.359	102.589	-0.001	0.081	-0.003
S.D.	0.001	0.003	0.002	0.293	0.161	0.000	0.005	0.008
% R.S.D.	8.941	48.808	60.490	0.307	0.157	49.565	6.759	264.296

	Ce	Sm	Ba	P	S	Mg	As	Na
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	0.013	-0.012	0.002	0.003	-0.118	98.003	-0.082	197.871
S.D.	0.000	0.004	0.000	0.004	0.013	0.112	0.006	0.212
% R.S.D.	0.274	29.395	3.717	144.309	10.616	0.115	7.360	0.107

	Mo	Ag	Pb	Ti	Cd	B	K	Mn
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	0.003	0.004	0.001	-0.001	0.000	0.010	-0.117	0.007
S.D.	0.001	0.000	0.015	0.000	0.001	0.001	0.017	0.001
% R.S.D.	40.385	9.603	1693.622	81.515	1437.345	9.227	14.634	13.081

	Sb	V	Be	Tl
	(ppm)	(ppm)	(ppm)	(ppm)
Mean	0.003	0.002	0.003	-0.002
S.D.	0.033	0.001	0.000	0.006
% R.S.D.	1039.230	30.990	9.914	306.872

HNF-SD-WM-DP-265, REV. 0

Identity 1: ICSAB Identity 2: Quality Control 2:19 PM August 11, 1997
 Task name : OPTIMA
 Sample Weight : 1.0000 Solution Volume : 1.00
 On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.002	0.002	-0.043	0.005	203.207	0.494	0.504	0.963
S.D.	0.001	0.000	0.006	0.001	0.791	0.004	0.001	0.005
% R.S.D.	33.827	3.396	14.321	30.140	0.389	0.739	0.211	0.472
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.993	0.993	0.003	98.130	103.223	0.497	0.079	0.005
S.D.	0.001	0.005	0.001	0.333	0.302	0.002	0.011	0.013
% R.S.D.	0.116	0.502	51.745	0.340	0.293	0.328	13.352	257.223
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.028	0.007	0.510	0.024	-0.149	102.539	-0.080	190.991
S.D.	0.003	0.004	0.000	0.009	0.012	0.133	0.008	0.981
% R.S.D.	9.165	54.267	0.097	37.735	8.229	0.130	9.552	0.514
	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	0.003	1.045	1.020	-0.000	0.993	0.016	0.031	0.506
S.D.	0.001	0.003	0.026	0.000	0.003	0.001	0.013	0.001
% R.S.D.	28.620	0.287	2.548	106.326	0.264	8.881	41.679	0.133
	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)				
Mean	0.032	0.497	0.504	-0.010				
S.D.	0.018	0.001	0.001	0.004				
% R.S.D.	55.953	0.113	0.272	38.471				

HNF-SD-WM-DP-265, REV. 0

Identity 1: CCB Identity 2: Quality Control 2:27 PM August 11, 1997
 Task name : OPTIMA
 Sample Weight : 1.0000 Solution Volume : 1.00
 On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.003	-0.000	-0.002	0.012	-0.005	-0.009	-0.002	-0.001
S.D.	0.001	0.000	0.007	0.002	0.003	0.002	0.000	0.000
% R.S.D.	27.636	37.500	329.179	15.184	55.416	21.771	21.114	11.111

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	-0.000	0.004	0.010	-0.000	0.002	-0.003	-0.016	0.136
S.D.	0.000	0.001	0.001	0.002	0.000	0.000	0.004	0.031
% R.S.D.	95.881	17.381	14.849	1487.437	4.225	14.605	27.358	23.090

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Hg (ppm)	As (ppm)	Na (ppm)
Mean	-0.035	0.006	-0.001	0.005	0.003	0.001	-0.012	0.000
S.D.	0.008	0.007	0.000	0.007	0.001	0.000	0.004	0.000
% R.S.D.	23.277	124.116	14.431	132.778	41.388	11.544	36.327	14.605

	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	-0.000	-0.000	-0.028	0.001	0.001	0.001	-0.060	-0.000
S.D.	0.001	0.001	0.009	0.000	0.000	0.001	0.013	0.000
% R.S.D.	540.326	210.157	32.316	38.493	38.356	63.395	21.821	80.783

	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.065	-0.002	-0.000	-0.075
S.D.	0.014	0.001	0.000	0.016
% R.S.D.	21.133	41.643	46.383	21.753

HNF-SD-WM-DP-265, REV. 0

Identity 1: CDV

Identity 2: Quality Control

2:23 PM August 11, 1997

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	4.993	5.118	5.208	4.783	5.133	5.099	5.266	5.196
S.D.	0.005	0.008	0.020	0.013	0.010	0.009	0.014	0.029
% R.S.D.	0.091	0.148	0.385	0.261	0.185	0.183	0.266	0.549
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.183	5.149	5.288	5.182	5.066	5.121	5.598	9.718
S.D.	0.006	0.024	0.021	0.011	0.011	0.020	0.057	0.024
% R.S.D.	0.122	0.457	0.402	0.217	0.221	0.388	1.018	0.247
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	5.062	5.221	5.163	5.179	4.924	4.974	5.271	5.080
S.D.	0.007	0.007	0.010	0.011	0.023	0.013	0.029	0.021
% R.S.D.	0.131	0.140	0.188	0.219	0.470	0.255	0.542	0.408
	Mo (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)	Mn (ppm)
Mean	5.094	5.318	5.161	4.927	5.177	5.198	5.292	5.163
S.D.	0.018	0.009	0.019	0.006	0.021	0.005	0.034	0.014
% R.S.D.	0.361	0.161	0.363	0.131	0.405	0.099	0.638	0.265
	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)				
Mean	4.783	5.061	5.324	5.236				
S.D.	0.030	0.005	0.003	0.040				
% R.S.D.	0.622	0.102	0.055	0.771				

LABCORE Data Entry Template for Worklist# 20201

Analyst: JK510 Instrument: ICP012 JK 9897 Book# 68648Q

Method: LA-505-1517161 Rev/Mod C-2

Worklist Comment: JK 9897 ICP T-105 (SOLID ACID DIGEST)

S Type	Sample#	R A	Test	Matrix	Group#	Project
1	ICV		@ICP-QC	QC		
2	ICB		@ICP-QC	QC		
3	LLS		@ICP-QC	QC		
4	ICSA		@ICP-QC	QC		
5	ICSAB		@ICP-QC	QC		
6	PREPSTD TJA		@ICP-A01	SOLID		
7	PREPBLKTJA		@ICP-A01	SOLID		
8	SERDIL	S97T002007 0 A	@ICP-A01	SOLID		
9	SAMPLE	S97T002007 0 A	@ICP-A01	SOLID	97000434	T-105
Analytes Requested: AG-A-01 , AL-A-01 , AS-A-01 , B-A-01 , BA-A-01 , BE-A-01 , BI-A-01 , CA-A-01 , CD-A-01 , CE-A-01 , CO-A-01 , CR-A-01 , CU-A-01 , FE-A-01 , K-A-01 , LA-A-01 , LI-A-01 , MG-A-01 , MN-A-01 , MO-A-01 , NA-A-01 , ND-A-01 , NI-A-01 , P-A-01 , PB-A-01 , S-A-01 , SB-A-01 , SI-A-01 , SM-A-01 , SR-A-01 , TI-A-01 , TL-A-01 , U-A-01 , V-A-01 , ZN-A-01 , ZR-A-01						
10	DUP	S97T002007 0 A	@ICP-A01	SOLID		
11	SPK-PREDIG	S97T002007 0 A	@ICP-A01	SOLID		
12	CCV		@ICP-QC	QC		
13	CCB		@ICP-QC	QC		
14	SERDIL	S97T002016 0 A	@ICP-A01	SOLID		
15	SAMPLE	S97T002016 0 A	@ICP-A01	SOLID	97000434	T-105
Analytes Requested: AG-A-01 , AL-A-01 , AS-A-01 , B-A-01 , BA-A-01 ,						

Data Entry Comments:

LABCORE Data Entry Template for Worklist# 20201

S Type	Sample#	R A	Test	Matrix	Group#	Project
			BE-A-01 ,	BI-A-01 ,	CA-A-01 ,	CD-A-01 , CE-A-01 , CO-A-01 ,
			CR-A-01 ,	CU-A-01 ,	FE-A-01 ,	K-A-01 , LA-A-01 , LI-A-01 ,
			MG-A-01 ,	MN-A-01 ,	MO-A-01 ,	NA-A-01 , ND-A-01 , NI-A-01 ,
			P-A-01 ,	PB-A-01 ,	S-A-01 ,	SB-A-01 , SI-A-01 , SM-A-01 ,
			SR-A-01 ,	TI-A-01 ,	TL-A-01 ,	U-A-01 , V-A-01 , ZN-A-01 ,
			ZR-A-01			
16 DUP	S97T002016	0 A	@ICP-A01	SOLID		
17 SPK-PREDIG	S97T002016	0 A	@ICP-A01	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 # 20201

Analyst Signature	Date
<i>JK</i>	
<i>JK</i>	
Preps/direct	1
Prep/direct	1
S97T002007-L	2-6-28, DF 10
S97T002007	2-6 4
S97T002007-D	2-6 4
S97T002007-S	2-6 4
S97T002014-L	4-4-28, DF 10
S97T002014	4-4 3
S97T002014-D	4-4 3
S97T002014-S	4-4 2

Reviewed + Validated by:
Paul M. Pang 9/9/97
Analyst Signature Date

Data Entry Comments:

HNF-SD-WM-DP-265, REV. 0

Analysis Report

Summary

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#	Sample Name	File	Method	Date	Time	OpID	Type	Mode
1	ICV	970908A	ICP2	09/08/97	09:20	DKS	Q	GONC
2	ICB	970908A	ICP2	09/08/97	09:24	DKS	Q	GONC
3	LLS	970908A	ICP2	09/08/97	09:27	DKS	Q	GONC
4	ICSA	970908A	ICP2	09/08/97	09:31	DKS	Q	GONC
5	ICSAB	970908A	ICP2	09/08/97	09:34	DKS	Q	GONC
6	PREPSTDJTA	970908A	ICP2	09/08/97	09:38	DKS	Q	GONC
7	PREPBLKTJA	970908A	ICP2	09/08/97	09:43	DKS	Q	GONC
8	S97T002007-L	970908A	ICP2	09/08/97	09:46	DKS	S	GONC
9	S97T002007	970908A	ICP2	09/08/97	09:50	DKS	S	GONC
10	S97T002007-D	970908A	ICP2	09/08/97	09:54	DKS	S	GONC
11	S97T002007-D	970908A	ICP2	09/08/97	10:00	DKS	S	GONC
12	S97T002007-S	970908A	ICP2	09/08/97	10:04	DKS	S	GONC
13	CCV	970908A	ICP2	09/08/97	10:11	DKS	Q	GONC
14	CCB	970908A	ICP2	09/08/97	10:15	DKS	Q	GONC
15	S97T002016-L	970908A	ICP2	09/08/97	10:18	DKS	S	GONC
16	S97T002016-	970908A	ICP2	09/08/97	10:22	DKS	S	GONC
17	S97T002016-D	970908A	ICP2	09/08/97	10:25	DKS	S	GONC
18	S97T002016-S	970908A	ICP2	09/08/97	10:30	DKS	S	GONC
19	ICSA	970908A	ICP2	09/08/97	10:38	DKS	Q	GONC
20	ICSAB	970908A	ICP2	09/08/97	10:42	DKS	Q	GONC
21	CCV-1	970908A	ICP2	09/08/97	10:47	DKS	Q	GONC
22	CCB-1	970908A	ICP2	09/08/97	10:50	DKS	Q	GONC

K 208

7-105

09-08-97

5977002007

5977002016

5977002007

$$L_i = 0.0419 \frac{\mu\text{g}}{\text{ml}} \times \frac{1}{\frac{10820 \text{ g}}{\text{L}} \times \frac{1 \text{ L}}{1000 \text{ ml}}} = 4.10 \frac{\mu\text{g}}{\text{g}}$$

Spike:

L_i =

4.912

4.818 - 0.918

5

x 100 =

so 9/8/97

$$L_i = \frac{4.818 - 0.918}{5} \times 100 = 95.5\%$$

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 290 TO 294

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#	Sample Name	Ag	Al	As	B	Ba	Be
1	ICV	4.929	4.905	5.183	5.114	5.007	5.095
2	ICB	.0017	-.0038	-.0038	.0015	.0001	.0001
3	LLS	.0231	.1014	.2023	.0971	.1010	.0108
4	ICSA	.0027	243.1	-.0058	-.0031	.0001	.0003
5	ICSAB	.9509	241.4	-.0124	.0003	.4634	.4749
6	PREPSTD TJJA	.9390	4.791	4.794	5.429	4.768	4.991
7	PREPBLKTJA	.0009	Q.1191	.0026	Q.4434	.0011	.0002
8	S97T002007-L	.1265	619.4	-.1077	1.665	.0042	.0046
9	S97T002007-	.1270	602.1	.2093	1.632	.0040	.0032
10	S97T002007-D	.0948	5.315	.0793	4.195	.0055	.0028
11	S97T002007-D	.0993	5.137	.0330	4.181	.0055	.0049
12	S97T002007-S	1.047	9.988	5.290	7.879	4.778	5.043
13	CCV	4.983	4.941	5.261	5.156	4.999	5.162
14	CCB	.0008	.0113	.0087	.0035	.0000	.0002
15	S97T002016 L	-.0028	846.6	.0506	.7245	.0079	.0065
16	S97T002016-	.0049	829.2	-.0559	.7265	.0081	.0011
17	S97T002016 D	.0074	1338.	-.1235	.6951	.0097	.0011
18	S97T002016-S	.9545	1493.	4.996	5.620	4.798	5.264
19	ICSA	.0037	247.1	.0093	-.0063	.0003	.0002
20	ICSAB	.9636	244.1	-.0076	.0026	.4667	.4837
21	CCV 1	4.979	4.968	5.282	5.175	5.057	5.216
22	CCB 1	.0011	.0090	.0010	.0005	.0001	.0005

#	Sample Name	Bi	Ca	Cd	Ce	Co	Cr
1	ICV	5.172	4.984	5.022	4.942	5.143	5.007
2	ICB	-.0241	.0029	.0017	.0062	.0019	.0011
3	LLS	Q.1367	.1992	.0111	.2059	.0487	.0228
4	ICSA	-.0046	254.7	.0047	.0058	.0016	-.0021
5	ICSAB	.0028	254.4	.9296	.0071	.4601	.4639
6	PREPSTD TJJA	4.724	5.048	4.671	4.714	4.661	4.742
7	PREPBLKTJA	.0101	Q.4760	.0015	.0029	.0043	.0040
8	S97T002007-L	1.091	.9070	.0001	-.1363	-.0026	.0636
9	S97T002007-	1.088	1.141	.0067	.0147	.0146	.0499
10	S97T002007 D	.4169	.8042	.0039	.0080	.0054	.0513
11	S97T002007-D	.4302	.7965	.0056	.0079	.0172	.0550
12	S97T002007-S	4.854	5.673	4.936	4.791	4.858	4.927
13	CCV	5.295	5.146	5.090	4.942	5.222	5.075
14	CCB	.0094	.0027	.0013	-.0026	.0034	.0021
15	S97T002016 L	.7771	.9678	.0138	-.1002	.0176	.0344
16	S97T002016-	.8027	1.052	.0043	.0076	.0011	.0253
17	S97T002016 D	1.084	1.166	.0041	.0096	.0018	.0383
18	S97T002016-S	6.356	5.975	4.749	4.774	4.682	4.827
19	ICSA	.0130	261.8	.0036	.0098	.0025	-.0014
20	ICSAB	.0225	259.6	.9418	.0087	.4683	.4701
21	CCV 1	5.343	5.135	5.094	4.977	5.218	5.078
22	CCB 1	.0175	.0040	.0023	.0010	.0034	.0024

HNF-SD-WM-DP-265, REV. 0

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#	Sample Name	Cu	Eu	Fe	K	La	Li
1	ICV	5.090	.0048	4.678	4.867	5.037	4.914
2	ICB	-.0001	.0006	-.0006	-.0204	.0012	.0003
3	LLS	.0176	.0013	.0927	.5184	.1038	.0211
4	ICSA	-.0088	-.0028	93.04	-.0620	-.0036	.0021
5	ICSAB	.4422	-.0020	92.52	.0865	-.0028	.9787
6	PREPSTDTJA	4.372	.0047	4.475	4.811	4.796	4.653
7	PREPBLKTJA	.0030	-.0001	.0356	.0078	.0006	-.0006
8	S97T002007_L	.2860	.0042	2.076	-1.388	-.0050	.0388
9	S97T002007_	.2698	.0053	2.047	.0690	.0043	.0419
10	S97T002007_D	.0026	.0023	.4585	.7578	.0045	.0151
11	S97T002007_D	.0076	-.0001	.4567	-.0281	.0047	.0134
12	S97T002007_S	4.533	.0042	4.756	4.825	4.864	4.818
13	CCV	5.096	.0047	4.754	4.914	5.012	4.912
14	CCB	.0004	-.0002	-.0004	.0849	.0000	-.0001
15	S97T002016_L	.1953	-.0052	2.664	-1.243	-.0076	.0184
16	S97T002016_	.1873	.0034	2.582	-.0903	.0034	.0252
17	S97T002016_D	.2059	.0064	3.361	.2084	.0041	.0416
18	S97T002016_S	4.807	.0110	6.319	4.888	4.880	4.920
19	ICSA	-.0092	-.0127	94.98	-.0354	-.0031	.0025
20	ICSAB	.4476	-.0105	94.06	-.0727	-.0030	.9872
21	CCV 1	5.165	.0049	4.766	5.079	5.062	4.975
22	CCB_1	.0010	.0005	-.0006	.1118	.0008	.0002

#	Sample Name	Mg	Mn	Mo	Na	Nd	Ni
1	ICV	5.015	4.925	5.086	5.262	5.033	5.009
2	ICB	.0150	.0002	.0070	.0060	.0012	-.0014
3	LLS	.2193	.0204	.1103	.1791	.2038	.0423
4	ICSA	250.7	-.0054	-.0010	194.4	.0009	.0077
5	ICSAB	248.9	.4397	-.0055	193.5	.0007	.9081
6	PREPSTDTJA	4.774	4.653	4.786	5.784	4.699	4.766
7	PREPBLKTJA	Q.1311	.0018	.0076	Q.5522	.0038	-.0020
8	S97T002007_L	.2175	.1599	.0837	17.64	.0015	.0100
9	S97T002007_	.2055	.1548	.0388	16.99	.0055	.0172
10	S97T002007_D	.3659	.1015	.0175	1318.	.0080	.0065
11	S97T002007_D	.3535	.0999	.0190	1328.	.0077	.0334
12	S97T002007_S	5.086	4.836	4.952	1055.	4.745	4.965
13	CCV	5.074	4.997	5.150	5.231	5.007	5.101
14	CCB	.0070	.0001	.0051	.0045	.0019	-.0023
15	S97T002016_L	.2788	.5707	.0769	16.66	-.0086	-.0030
16	S97T002016_	.2636	.5543	.0295	15.98	.0086	.0196
17	S97T002016_D	.3010	.7323	.0203	22.41	.0111	.0549
18	S97T002016_S	4.984	5.109	4.843	33.10	4.784	4.853
19	ICSA	256.6	-.0056	-.0067	197.9	-.0018	-.0022
20	ICSAB	253.1	.4460	-.0040	195.5	-.0021	.9542
21	CCV 1	5.082	5.001	5.179	5.236	5.056	5.092
22	CCB_1	.0150	.0004	.0082	.0064	.0028	-.0035

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#	Sample Name	P	Pb	S	Sb	Se	Si
1	ICV	5.098	4.984	5.005	4.834	4.695	5.077
2	ICB	-.0013	.0074	.0034	.0078	.0133	.0042
3	LLS	.4233	.2377	.2042	.1136	.2080	Q.1332
4	ICSA	.0043	.0515	-.0549	.0059	.0262	.0070
5	ICBAB	.0161	1.010	-.0458	.0225	.0210	.0072
6	PREPSTDTJA	4.760	4.622	4.842	4.681	4.400	6.593
7	PREPBLKTJA	.0223	.0313	Q.1335	.0061	.0145	Q1.490
8	S97T002007_L	722.8	.3710	.4323	-.0570	.1309	12.71
9	S97T002007_	698.2	.2694	.8221	.0071	.1681	12.25
10	S97T002007_D	547.2	.1079	.4688	.0559	.0013	26.38
11	S97T002007_D	543.5	.1193	.5420	.0403	-.0578	26.17
12	S97T002007_S	428.6	4.889	5.457	5.010	4.718	29.28
13	CCV	5.187	5.076	5.093	4.873	4.739	5.155
14	CCB	-.0026	.0125	.0005	.0153	.0270	.0014
15	S97T002016_L	1.716	.2708	.3890	.1271	.3893	2.530
16	S97T002016_D	1.718	.1475	.7384	.0086	.2746	2.483
17	S97T002016_D	2.740	.1498	.9108	.0008	.3572	2.078
18	S97T002016_S	6.292	4.928	5.792	4.837	4.952	9.142
19	ICSA	.0126	.0325	-.0411	-.0039	.0263	.0068
20	ICBAB	.0260	1.026	-.0514	.0096	.0281	.0052
21	CCV_1	5.173	5.047	5.073	4.926	4.829	5.154
22	CCB_1	.0020	.0127	.0171	.0042	.0207	.0021

#	Sample Name	Sm	Sr	Th	Ti	Tl	U
1	ICV	4.928	4.984	.1455	4.950	4.877	9.702
2	ICB	.0032	.0001	.0068	-.0007	-.0194	.0203
3	LLS	.2084	.0206	.0094	.0203	.3968	.5259
4	ICSA	-.0114	.0018	.0038	.0002	.0366	-.0155
5	ICBAB	-.0104	.0018	.0031	.0009	.0401	-.0076
6	PREPSTDTJA	4.606	4.812	.1412	4.389	4.538	9.118
7	PREPBLKTJA	-.0093	.0009	.0065	.0003	-.0005	-.0205
8	S97T002007_L	-.0226	.0414	.1065	.0048	-.0164	.4967
9	S97T002007_	.0140	.0398	.0435	.0065	-.0912	.4521
10	S97T002007_D	.0034	.0213	.0366	.0066	.0156	.1694
11	S97T002007_D	-.0095	.0212	.0395	.0066	.0070	.0910
12	S97T002007_S	4.620	4.872	.1760	4.404	4.738	9.152
13	CCV	4.890	4.978	.1645	4.972	4.883	9.654
14	CCB	-.0025	.0000	.0106	.0000	.0000	-.0045
15	S97T002016_L	-.1312	.0391	.0260	.0015	.1400	1.378
16	S97T002016_	-.0201	.0387	.0104	.0071	-.0140	1.625
17	S97T002016_D	-.0089	.0462	-.0213	.0103	.0059	1.518
18	S97T002016_S	4.700	4.962	.1174	4.421	4.484	11.21
19	ICSA	-.0084	.0016	-.0001	.0009	.0219	-.0438
20	ICBAB	-.0115	.0016	.0101	.0010	.0508	-.0519
21	CCV_1	4.951	5.030	.1683	5.017	4.903	9.761
22	CCB_1	.0025	.0001	.0094	.0000	-.0225	.0116

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#	Sample Name	V	Y	Zn	Zr
1	ICV	5.093	.0065	4.942	4.976
2	ICB	.0014	.0001	.0001	.0001
3	LLS	.1062	.0007	.0211	.0211
4	ICSA	-.0006	.0071	.0073	-.0035
5	ICSAB	.4577	.0070	.9233	-.0032
6	PREPSTD TJJA	4.727	.0057	4.738	4.856
7	PREPBLKTJA	-.0009	-.0006	Q.3923	.0001
8	S97T002007 L	.3099	-.0018	.2852	.0376
9	S97T002007	.3030	.0004	.2968	.0476
10	S97T002007 D	.0444	.0002	.2630	.0590
11	S97T002007 D	.0387	-.0007	.2619	.0575
12	S97T002007 S	4.891	.0052	5.095	2.174
13	CCV	5.151	.0067	5.033	4.984
14	CCB	-.0004	-.0002	.0006	-.0014
15	S97T002016 L	-.0141	-.0053	.5510	.0100
16	S97T002016	-.0010	-.0005	.5236	.0220
17	S97T002016 D	.0027	.0009	.5474	.0310
18	S97T002016 S	4.775	.0065	5.116	2.985
19	ICSA	-.0003	.0071	.0075	-.0034
20	ICSAB	.4631	.0072	.9397	-.0042
21	CCV 1	5.173	.0064	5.014	5.012
22	CCB 1	.0003	.0001	.0012	-.0004

JK

09-08-97

HNH-SD-WM-DP-265, REV. 0

RADIOCHEMICAL ANALYSIS

HNH-SD-WM-DP-265, REV. 0

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LABCORE Completed RadChem Report for Worklist#: 19366

Analyst: scl

Instrument: AB16

Book# _____

Method: _____ Rev/Mod _____

Worklist Comment: T105, @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	1.79E-4	89.500	% Recovery
1 STD	0		@ALPHA01 ALPHA01E LIQUID		1.00	3.48E+00	3.480	% Ct. Erro
2 BLNK	0		@ALPHA01 ALPHA01 LIQUID		1	<4.05E-3		uCi/mL
2 BLNK	0		@ALPHA01 ALPHA01E LIQUID		1.00	1.84E+02	184.000	uCi/mL
3 BLNK/BKG	0		@ALPHA01 ALPHA01 LIQUID		1.00E+00	6.11E+00	6.110	BLNK/BKG
4 SAMPLE	S97T001505	0	@ALPHA01 ALPHA01 LIQUID		N/A	< 2.34E-03	408.0e-005	uCi/mL
4 SAMPLE	S97T001505	0	@ALPHA01 ALPHA01E LIQUID		N/A	3.03E+02	0.0e+000	% Ct. Error
5 DUP	S97T001505	0	@ALPHA01 ALPHA01 LIQUID		<2.34E-3	<2.34E-3		RPD
5 DUP	S97T001505	0	@ALPHA01 ALPHA01E LIQUID		1.00	5.00E+02	500.000	% Ct. Erro
6 SAMPLE	S97T001675	0	@ALPHA01 ALPHA01 LIQUID		N/A	4.05E-03	408.0e-005	uCi/mL
6 SAMPLE	S97T001675	0	@ALPHA01 ALPHA01E LIQUID		N/A	3.03E+01	0.0e+000	% Ct. Error
7 DUP	S97T001675	0	@ALPHA01 ALPHA01 LIQUID		4.05E-3	2.34E-3	53.521	RPD
7 DUP	S97T001675	0	@ALPHA01 ALPHA01E LIQUID		1.00	1.40E+02	140.000	% Ct. Erro
8 SPK	S97T001675	0	@ALPHA01 ALPHA01 LIQUID		2.63E-02	2.80E-02	106.464	% Recovery
9 SAMPLE	S97T001679	0	@ALPHA01 ALPHA01 LIQUID		N/A	< 1.77E-03	408.0e-005	uCi/mL
9 SAMPLE	S97T001679	0	@ALPHA01 ALPHA01E LIQUID		N/A	5.00E+02	0.0e+000	% Ct. Error
10 DUP	S97T001679	0	@ALPHA01 ALPHA01 LIQUID		<1.77E-3	<3.48E-3		RPD
10 DUP	S97T001679	0	@ALPHA01 ALPHA01E LIQUID		1.00	1.84E+02	184.000	% Ct. Erro
11 SAMPLE	S97T001681	0	@ALPHA01 ALPHA01 LIQUID		N/A	< 1.33E-03	178.0e-005	uCi/mL
11 SAMPLE	S97T001681	0	@ALPHA01 ALPHA01E LIQUID		N/A	1.84E+02	0.0e+000	% Ct. Error
12 DUP	S97T001681	0	@ALPHA01 ALPHA01 LIQUID		<1.33E-3	1.52E-3		RPD
12 DUP	S97T001681	0	@ALPHA01 ALPHA01E LIQUID		1.00	1.01E+02	101.000	% Ct. Erro
13 SPK	S97T001681	0	@ALPHA01 ALPHA01 LIQUID		2.63E-02	2.65E-02	100.760	% Recovery
14 SAMPLE	S97T001691	0	@ALPHA01 ALPHA01 LIQUID		N/A	< 4.05E-3	408.0e-005	uCi/mL
14 SAMPLE	S97T001691	0	@ALPHA01 ALPHA01E LIQUID		N/A	1.84E+02	0.0e+000	% Ct. Error
15 DUP	S97T001691	0	@ALPHA01 ALPHA01 LIQUID		<4.05E-3	<1.36E-3		RPD
15 DUP	S97T001691	0	@ALPHA01 ALPHA01E LIQUID		1.00	5.00E+02	500.000	% Ct. Erro
16 SPK	S97T001691	0	@ALPHA01 ALPHA01 LIQUID		2.63E-02	2.83E-02	107.605	% Recovery

Final page for worklist# 19366

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Reviewer Signature _____

Date _____

The RPD for 1675 is acceptable due to low sample alpha activity.
The BLNK is less than detection limits.

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

LABCORE Data Entry Template for Worklist# 19366

Analyst: S. G Instrument: AB00 16 Book# 79856Method: LA-508-101 Rev/Mod G-0

Worklist Comment: T105, @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	S97T001505 0		@ALPHA01	LIQUID	97000434	T-105
	Analytes Requested: ALPHA01 , ALPHA01E					
5 DUP	S97T001505 0		@ALPHA01	LIQUID		
6 SAMPLE	S97T001675 0		@ALPHA01	LIQUID	97000434	T-105
	Analytes Requested: ALPHA01 , ALPHA01E					
7 DUP	S97T001675 0		@ALPHA01	LIQUID		
8 SPK	S97T001675 0		@ALPHA01	LIQUID		
✓ 9 SAMPLE	S97T001679 0		@ALPHA01	LIQUID	97000434	T-105
	Analytes Requested: ALPHA01 , ALPHA01E					
10 DUP	S97T001679 0		@ALPHA01	LIQUID		
11 SAMPLE	S97T001681 0		@ALPHA01	LIQUID	97000434	T-105
	Analytes Requested: ALPHA01 , ALPHA01E					
✓ 12 DUP	S97T001681 0		@ALPHA01	LIQUID		
13 SPK	S97T001681 0		@ALPHA01	LIQUID		
14 SAMPLE	S97T001691 0		@ALPHA01	LIQUID	97000435	T-105
	Analytes Requested: ALPHA01 , ALPHA01E					
✓ 15 DUP	S97T001691 0		@ALPHA01	LIQUID		
16 SPK	S97T001691 0		@ALPHA01	LIQUID		

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 19366

S Type	Sample#	R A Test	Matrix	Group#	Project
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Final page for worklist # 19366

Sue C. Lee 7-25-97
Analyst Signature Date

Sue Hogan 7-28-97
Analyst Signature Date
C. J. Quinn 7/28/97

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		16	16
STD	DISH SIZE (1, 2, or 5) (MS)		2	2
Worklist	GROSS COUNTS (GC)		3221	3178
19366	COUNT TIME in MINUTES (CT)		30	30
Accuracy	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)		0.2683	0.2683
LIQUID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE		107.337	105.903
Batch Number	Standard Value in $\mu\text{Ci/mL}$		2.00E-04	
97003486	Concentration in $\mu\text{Ci/L}$ =		1.80E-01	
Retun	Replicate Concentration in $\mu\text{Ci/L}$ =		1.78E-01	
0	AVERAGE CONCENTRATION in $\mu\text{Ci/L}$ =		1.7900E-01	
Sample Prep				
N/A	Rs (Sample Count Rate) = $(TC / CT) - BKG$			
Sample #	ALPHA TOTAL $\mu\text{Ci/L}$ = $Rs * 1000\text{mL/L} * DF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$			
WL19366	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	
Analyst				
SCL				
Date Complete				
07/28/97	RELATIVE COUNTING ERROR =		3.5%	
Analysis Date				
07/25/97				
Analysis Time				
02:30 PM				
Sample Point				
T-105				

Analyst:	SEH	Date: 28-Jul-97
Signature of Chemist:	SLF	Date: 7/29/97
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) (MS)	2	2
Work List	GROSS COUNTS (GC)	8	3
19366	COUNT TIME in MINUTES (CT)	30	30
ANALYST	BACKGROUND in cpm (BKG)	0.03	0.03
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	0.237	0.179

Batch Number	Blank Concentration in $\mu\text{Ci/L}$	4.06E+00
97003486	Replicate Concentration in $\mu\text{Ci/L}$	< 3.06E+00
Retun	Maximum Concentration in $\mu\text{Ci/L}$	< 4.0533E+00
0		

Sample Prep	N/A	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	WL19366	ALPHA TOTAL $\mu\text{Ci/L}$ = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/ μCi)
Instrument Codes	WB27808	ALPHA TOTAL $\mu\text{Ci/mL}$ = ALPHA TOTAL $\mu\text{Ci/L}$ / 1000mL/L
Prepared By		Relative Counting Error = [(The Square Root of TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100
SEH		Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Chemist	SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum) =	< 4.05E-03	DETECTION LEVEL
Analyst	SCL	LESS THAN Value was Determined from Rs.		
Date Complete	07/28/97	RELATIVE COUNTING ERROR	184.3%	4.08E-03 $\mu\text{Ci/mL}$
Analysis Date	07/25/97			
Analysis Time	02:30 PM			
Sample Cont.	T-105			

Analyst:	SCL	Date: 28-Jul-97
Signature of Chemist:	SLF	Date: 7/29/97

BLANK.WB1 Rev. 1.0

508101ML

WORKBOOK PAGE: SAM4

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

		SAMPLE	REPLICATE
DETECTOR NUMBER		16	16
SAMPLE DISH SIZE (1, 2, or 5)	(MS)	2	2
GROSS COUNTS	(GC)	5	2
COUNT TIME in MINUTES	(CT)	30	30
BACKGROUND in cpm	(BKG)	0.03	0.03
SAMPLE SIZE in mL	(SS)	1.000	1.000
DILUTION FACTOR	(DF)	10201	10201
DIGEST DILUTION FACTOR	(DDF)	1	1
EFFICIENCY FACTOR	(EFF)	0.2683	0.2683
LIQUID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.137	0.130
Blank Concentration in $\mu\text{Ci/L}$		2.34E+00	
Replicate Concentration in $\mu\text{Ci/L}$		< 2.23E+00	
Maximum Concentration in $\mu\text{Ci/L}$		< 2.3406E+00	
Rs (Sample Count Rate)	= (TC / CT) - BKG		
ALPHA TOTAL $\mu\text{Ci/L}$	= Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/ μCi)		
ALPHA TOTAL $\mu\text{Ci/mL}$	= ALPHA TOTAL $\mu\text{Ci/L}$ / 1000mL/L		
Relative Counting Error	= [(The Square Root of TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100		
Detection Levels and Less Than Values are determined from Procedure LA-508-002.			
ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum)	=	< 2.34E-03	DETECTION LEVEL
LESS THAN Value was Determined from Rs.			4.08E-03
RELATIVE COUNTING ERROR		303.4%	$\mu\text{Ci/mL}$

(/ system:exit)yes~

Analyst:	SCL	Date: 28-Jul-97
Signature of Chemist:	SLF	Date: 7/29/97
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
WorkList	GROSS COUNTS	(GC)	2	6
19366	COUNT TIME in MINUTES	(CT)	30	30
AnticBr	BACKGROUND in cpm	(BKG)	0.03	0.03
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		0.130	0.137

Batch Number	
87003486	Blank Concentration in $\mu\text{Ci/L}$ < 2.23E+00
Rerun	Replicate Concentration in $\mu\text{Ci/L}$ 2.34E+00
0	Maximum Concentration in $\mu\text{Ci/L}$ < 2.340E+00

Sample Rep	
N/A	R_s (Sample Count Rate) = $(TC / CT) - BKG$
Sample	$\text{ALPHA TOTAL } \mu\text{Ci/L} = R_s * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$
S97T001605	$\text{ALPHA TOTAL } \mu\text{Ci/mL} = \text{ALPHA TOTAL } \mu\text{Ci/L} / 1000\text{mL/L}$
Instrument Code	$\text{Relative Counting Error} = [(The Square Root of TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$
WB27806	Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Prepared By	
SEH	
Chemist	
SLF	
Analyst	
SCL	
Date Complete	
07/28/97	
Analysis Date	
07/25/97	
Analysis Time	
02:30 PM	
Sample Point	
T-105	

ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum) =	< 2.34E-03	DETECTION LEVEL
LESS THAN Value was Determined from Rmax.		4.08E-03
RELATIVE COUNTING ERROR	500.0%	$\mu\text{Ci/mL}$

{/ system;exit}yes-

Analyst:	SCL	Date: 28-Jul-97
Signature of Chemist:	SLF	Date: 7/29/97
SAMPLE.WB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: SAM6

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)	7	9
19366	COUNT TIME in MINUTES	(CT)	30	30
Analysis By	BACKGROUND in cpm	(BKG)	0.03	0.03
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		0.203	0.270
Batch Number				
97003486	Blank Concentration in $\mu\text{Ci/L}$		3.48E+00	
Re-run	Replicate Concentration in $\mu\text{Ci/L}$		4.62E+00	
0	Average Concentration in $\mu\text{Ci/L}$		4.0533E+00	

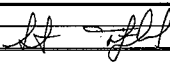
Sample Prep	
N/A	R_s (Sample Count Rate) = $(TC / CT) - BKG$
Sample #	$\text{ALPHA TOTAL } \mu\text{Ci/L} = R_s * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$
S97T001675	$\text{ALPHA TOTAL } \mu\text{Ci/mL} = \text{ALPHA TOTAL } \mu\text{Ci/L} / 1000\text{mL/L}$
Instrument Code	$\text{Relative Counting Error} = [(The Square Root of TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$
WB27806	Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Prepared By
SEH

Chemist

SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Average)	=	4.05E-03	DETECTION LEVEL
Analyst				
SCL				
Date Complete				4.08E-03
07/28/97	RELATIVE COUNTING ERROR		90.3%	$\mu\text{Ci/mL}$
Analysis Date				
07/25/97				
Analysis Time				
02:30 PM				
Sample Point				
T-105				

// system;text0yes-

Analyst:		SCL	Date: 28-Jul-97
Signature of Chemist:		SLF	Date: 7/29/97
SAMPLE.WB1 Rev. 1.0	508101ML		

WORKBOOK PAGE: DUP7

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

		DUP	REPLICATE
Type	DETECTOR NUMBER	16	16
DUP	DISH SIZE (1, 2, or 5)	2	2
Work List	GROSS COUNTS	4	6
19366	COUNT TIME in MINUTES	30	30
AtorLE57	BACKGROUND in cpm	0.03	0.03
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	0.103	0.170

Batch Number	
97003486	Blank Concentration in $\mu\text{Ci/L}$
Retain	Replicate Concentration in $\mu\text{Ci/L}$
0	Average Concentration in $\mu\text{Ci/L}$

Sample Prep	
N/A	R_s (Sample Count Rate) = $(TC / CT) - BKG$
Sample #	$\text{ALPHA TOTAL } \mu\text{Ci/L} = R_s * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$
S97T001675	$\text{ALPHA TOTAL } \mu\text{Ci/mL} = \text{ALPHA TOTAL } \mu\text{Ci/L} / 1000\text{mL/L}$
Instrument Code	$\text{Relative Counting Error} = [(The Square Root of TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$
WB27806	Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Prepared By	
SEH	
Chemist	
SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Average) = 2.34E-03
Analyst	
SCL	
Date Complete	
07/28/97	RELATIVE COUNTING ERROR 140.0%
Analysis Date	
07/25/97	
Analysis Time	
02:30 PM	
Sample Point	
T-105	

// system:exit//yes~

Analyst:	SCL	Date: 28-Jul-97
Signature of Chemist:	SLF	Date: 7/29/97
SAMPLE.WB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: SPK8

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

		SPIKE	REPLICATE
Type	DETECTOR NUMBER	16	16
SPK	DISH SIZE 1, 2, or 5 (MS)	2	2
Worklist	TOTAL COUNTS (TC)	49966	50185
19366	COUNT TIME In MINUTES (CT)	30	30
Attorney	BACKGROUND In cpm (BKG)	0.03	0.03
AT	SAMPLE VOLUME In mL (Spiked Vial) (SS)	1.000	1.000
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial) (DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR (DDF)	1	1
Matrix	SPIKE VOLUME In mL (SVol)	0.100	0.100
LIQUID	SPIKE DILUTION FACTOR (SDF)	1	1
Batch Number	SPIKE BOOK NUMBER (Spk BN)	131B43	131B43
97003486	SPIKE VALUE In $\mu\text{Ci/mL}$ (SVal)	2.6286E-02	2.6286E-02
ReRun	INSTRUMENT EFFICIENCY FACTOR (EFF)	0.2683	0.2683
0	SAMPLE + SPIKE $\mu\text{Ci/mL}$ (S+S)	2.85E+01	2.85E+01
Sample Prep	AVERAGE or MAXIMUM $\mu\text{Ci/mL}$ In SAMPLE	4.0533E-03	
N/A			
Sample #			
S97T001675	R_s (Sample Count Rate) = (TC / CT) - BKG		
Instrument Code	SAMPLE + SPIKE $\mu\text{Ci/mL}$ = $R_s * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$		
WB27806	QC ACTUAL = SVal		
Prepared By	QC FOUND = $((S+S \mu\text{Ci/mL} - \text{SAMPLE } \mu\text{Ci/mL}) * ((SDF/SVol)/(DF*DDF/SS)))$		
SEH	PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) * 100		
Chemist			
SLF			
Analyst			
SCL			
Date Complete			
07/28/97			
Analysis Date			
07/25/97	QC ACTUAL =	2.63E-02	
Analysis Time	QC FOUND =	2.80E-02	
02:30 PM	AVG. PERCENT SPIKE RECOVERY =	106.6%	
Sample Point			
T-105			

Analyst:	SEH	Date: 28-Jul-97
Signature of Chemist:	SLF	Date: 7/27/97

SPIKE.WB1 Rev. 1.0

508101ML

WORKBOOK PAGE: SAM9

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

LIQUIDS

		SAMPLE	REPLICATE
Type	DETECTOR NUMBER	16	16
SAMPLE	DISH SIZE (1, 2, or 5)	2	2
Worklist	GROSS COUNTS	1	4
19366	COUNT TIME in MINUTES	30	30
Author By	BACKGROUND in cpm	0.03	0.03
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	0.079	0.103

Batch Number	
97003486	Blank Concentration in $\mu\text{Ci/L}$ < 1.36E+00
Retune	Replicate Concentration in $\mu\text{Ci/L}$ 1.77E+00
0	Maximum Concentration in $\mu\text{Ci/L}$ < 1.7697E+00

Sample Prep	
N/A	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample	ALPHA TOTAL $\mu\text{Ci/L}$ = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/ μCi)
S97T001679	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
WB27806	Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Prepared By	
SEH	
Chemist	
SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum) = < 1.77E-03
Analyst	
SCL	LESS THAN Value was Determined from Rmax.
Date Complete	
07/28/97	RELATIVE COUNTING ERROR 500.0%
Analysis Date	
07/25/97	
Analysis Time	
02:30 PM	
Sample Point	
T-105	

// system exit yes~

Analyst:	SCL	Date: 28-Jul-97
Signature of Chemist:	SLF	Date: 7/27/97
SAMPLE.WB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: DUP10

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

			DUP	REPLICATE
Type	DETECTOR NUMBER		16	16
DUP	DISH SIZE (1, 2, or 5)	(MS)	2	2
Worklist	GROSS COUNTS	(GC)	7	3
19366	COUNT TIME in MINUTES	(CT)	30	30
Analysis By	BACKGROUND in cpm	(BKG)	0.03	0.03
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		0.203	0.179

Batch Number	97003486	Blank Concentration in $\mu\text{Ci/L}$	3.48E+00
Return	0	Replicate Concentration in $\mu\text{Ci/L}$	< 3.06E+00
Sample Prep	0	Maximum Concentration in $\mu\text{Ci/L}$	< 3.4824E+00

N/A	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	ALPHA TOTAL $\mu\text{Ci/L}$ = $Rs * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$
S97T001679	ALPHA TOTAL $\mu\text{Ci/mL}$ = ALPHA TOTAL $\mu\text{Ci/L} / 1000\text{mL/L}$
Instrument Code	Relative Counting Error = $[(The\ Square\ Root\ of\ TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$
WB27806	Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Prepared By	SEH	Chemist	SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum) =	< 3.48E-03	DETECTION LEVEL
Analyst	SCL	SLF	SLF	LESS THAN Value was Determined from Rs.		4.08E-03
Date Complete	07/28/97	RELATIVE COUNTING ERROR	184.3%			$\mu\text{Ci/mL}$
Analysis Date	07/25/97					
Analysis Time	02:30 PM					
Sample Point	T-105					

{/ system.exit}yes~

Analyst:	SCL	Date: 28-Jul-97
Signature of Chemist:	SLF	Date: 7/29/97
SAMPLE.WB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: SAM11

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) 3	5
19366	COUNT TIME in MINUTES	(CT) 30	30
Auton 1	BACKGROUND in cpm	(BKG) 0.03	0.03
AT	SAMPLE SIZE in mL	(SS) 0.250	0.250
Test Code	DILUTION FACTOR	(DF) 1111	1111
@ALPHA01	DIGEST DILUTION FACTOR	(DDF) 1	1
Matrix	EFFICIENCY FACTOR	(EFF) 0.2683	0.2683
LIQUID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.179	0.137
Batch Number			
97003486	Blank Concentration in $\mu\text{Ci/L}$	< 1.33E+00	
Rerun	Replicate Concentration in $\mu\text{Ci/L}$	1.02E+00	
0	Maximum Concentration in $\mu\text{Ci/L}$	< 1.3327E+00	
Sample Prep			
N/A			
Sample	Rs (Sample Count Rate) = (TC / CT) - BKG		
S97T001681	ALPHA TOTAL $\mu\text{Ci/L}$ = $R_s * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$		
Instrument Code	ALPHA TOTAL $\mu\text{Ci/mL}$ = ALPHA TOTAL $\mu\text{Ci/L}$ / 1000mL/L		
WB27808	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 $\mu\text{Ci/mL}$ (Maximum) =	< 1.33E-03	DETECTION LEVEL
Analyst	LESS THAN Value was Determined from Rmax.		
SCL			1.78E-03
Date Complete	RELATIVE COUNTING ERROR	184.3%	$\mu\text{Ci/mL}$
07/28/97			
Analysis Date			
07/25/97			
Analysis Time			
02:30 PM			
Sample Point			
T-105			

(/ system;exit)yes-

Analyst:	SCL	Date: 28-Jul-97
Signature of Chemist:	SLF	Date: 7/29/97
SAMPLE.WB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: DUP12

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

LIQUIDS

		DUP	REPLICATE
Type	DETECTOR NUMBER	16	16
DUP	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	6	8
19368	COUNT TIME in MINUTES (CT)	30	30
Attn: By	BACKGROUND in cpm (BKG)	0.03	0.03
AT	SAMPLE SIZE in mL (SS)	0.250	0.250
Test Code	DILUTION FACTOR (DF)	1111	1111
@ALPHA01	DIGEST DILUTION FACTOR (DDF)	1	1
Matrix	EFFICIENCY FACTOR (EFF)	0.2683	0.2683
LIQUID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.170	0.237
Batch Number			
97003486	Blank Concentration in $\mu\text{Ci/L}$	1.27E+00	
Rerun	Replicate Concentration in $\mu\text{Ci/L}$	1.77E+00	
0	Average Concentration in $\mu\text{Ci/L}$	1.5171E+00	
Sample Prep			
N/A	Rs (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	ALPHA TOTAL $\mu\text{Ci/L}$ = $Rs * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$		
S97001681	ALPHA TOTAL $\mu\text{Ci/mL}$ = ALPHA TOTAL $\mu\text{Ci/L}$ / 1000mL/L		
Instrument Code	Relative Counting Error = $[(The Square Root of TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
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) =	1.52E-03	DETECTION LEVEL
Analyst			
SCL			
Date Complete			1.78E-03
07/28/97	RELATIVE COUNTING ERROR	101.0%	$\mu\text{Ci/mL}$
Analysis Date			
07/25/97			
Analysis Time			
02:30 PM			
Sample Point			
T-105			

(/ system;exit)yes~

Analyst:	SCL	Date: 28-Jul-97
Signature of Chemist:	SLF	Date: 7/29/97
SAMPLE.WB1 Rev. 1.0 508101ML		

HNF-SD-WM-DP-265, REV. 0

WORKBOOK PAGE: SPK13

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)	47163	47684
19366	COUNT TIME in MINUTES (CT)	30	30
Atom Bk	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)	1111	1111
@ALPHA01	DIGEST DILUTION FACTOR (DDF)	1	1
Matrix	SPIKE VOLUME in mL (SVol)	0.100	0.100
LIQUID	SPIKE DILUTION FACTOR (SDF)	1	1
Batch Number	SPIKE BOOK NUMBER (Spk BN)	131B43	131B43
97003486	SPIKE VALUE in µCi/mL (SVal)	2.6286E-02	2.6286E-02
ReRun	INSTRUMENT EFFICIENCY FACTOR (EFF)	0.2683	0.2683
0	SAMPLE + SPIKE µCi/mL (S+S)	1.17E+01	1.19E+01
Sample Prep	AVERAGE or MAXIMUM µCi/mL in SAMPLE	<	1.3327E-03
N/A			
Sample #			
S97T001681	Rs (Sample Count Rate) = (TC / CT) - BKG		
Instrument Code	SAMPLE + SPIKE µCi/mL = Rs * DF * DDF / (EFF * SS * 2220000dpm/µCi)		
WB27806	QC ACTUAL = SVal		
Prepared By	QC FOUND = (((S+S µCi/mL - SAMPLE µCi/mL) * ((SDF/SVol)/(DF*DDF/SS))))		
SEH	PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) *100		
Chemist			
SLF			
Analyst			
SCL			
Date Complete	NOTE: Original Sample result was a LESS THAN value. Zero (0) was subtracted from the spiked value for QC found calculation.		
07/28/97			
Analysis Date			
07/25/97	QC ACTUAL =	2.63E-02	
Analysis Time	QC FOUND =	2.65E-02	
02:30 PM	AVG. PERCENT SPIKE RECOVERY =	101.0%	
Sample Point			
T-105			

Analyst:	SEH	Date: 28-Jul-97
Signature of Chemist:	SLF	Date: 7/29/97
SPIKE.WB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: SAM14

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

LIQUIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		16	16
SAMPLE	DISH SIZE (1, 2, or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	8	3
19366	COUNT TIME in MINUTES	(CT)	30	30
At 1001B (2)	BACKGROUND in cpm	(BKG)	0.03	0.03
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		0.237	0.179

Batch Number	
97003486	Blank Concentration in $\mu\text{Ci/L}$ 4.05E+00
Rerun	Replicate Concentration in $\mu\text{Ci/L}$ < 3.08E+00
0	Maximum Concentration in $\mu\text{Ci/L}$ < 4.0533E+00

Sample Prep	
N/A	Rs (Sample Count Rate) = $(TC / CT) - BKG$
Sample	ALPHA TOTAL $\mu\text{Ci/L}$ = $Rs * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$
S97T001691	ALPHA TOTAL $\mu\text{Ci/mL}$ = ALPHA TOTAL $\mu\text{Ci/L}$ / 1000mL/L
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$
WB27806	Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Prepared By	
SEH	
Chemist	
SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum) = < 4.05E-03
Analyst	
SCL	LESS THAN Value was Determined from Rs.
Date Complete	
07/28/97	RELATIVE COUNTING ERROR 184.3%
Analysis Date	
07/25/97	
Analysis Time	
02:30 PM	
Sample Point	
T-105	

(/ system;exit)yes~

Analyst:	SCL	Date: 28-Jul-97
Signature of Chemist:	SLF	Date: 7/29/97
SAMPLE.WB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: DUP15

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

LIQUIDS

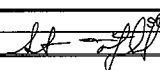
			DUP	REPLICATE
Type	DETECTOR NUMBER		16	16
DUP	DISH SIZE (1, 2, or 5)	(MS)	2	2
Worklist	GROSS COUNTS	(GC)	1	1
19366	COUNT TIME in MINUTES	(CT)	30	30
At Count B?	BACKGROUND in cpm	(BKG)	0.03	0.03
AT	SAMPLE SIZE in mL	(SS)	1.000	1.000
Test Code	DILUTION FACTOR	(DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2683	0.2683
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.079	0.079
Batch Number				
97003486	Blank Concentration in $\mu\text{Ci/L}$		< 1.36E+00	
Rerun	Replicate Concentration in $\mu\text{Ci/L}$		< 1.36E+00	
0	Maximum Concentration in $\mu\text{Ci/L}$		< 1.3555E+00	

Sample Prep	
N/A	R_s (Sample Count Rate) = $(TC / CT) - BKG$
Sample #	$\text{ALPHA TOTAL } \mu\text{Ci/L} = R_s * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$
S97T001691	$\text{ALPHA TOTAL } \mu\text{Ci/mL} = \text{ALPHA TOTAL } \mu\text{Ci/L} / 1000\text{mL/L}$
Instrument Code	$\text{Relative Counting Error} = [1 / (\text{The Square Root of } TC + BKG * CT)] * 1.96 * 100$
WB27806	Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Prepared By	
SEH	
Chemist	
SLF	$\text{ALPHA TOTAL in } \mu\text{Ci/mL (Maximum)} = < 1.36\text{E-03}$
Analysis	
SCL	LESS THAN Value was Determined from Rmax.
Date Complete	
07/28/97	RELATIVE COUNTING ERROR 500.0%
Analysis Date	
07/25/97	
Analysis Time	
02:30 PM	
Sample Room	
T-105	

DETECTION
LEVEL4.08E-03
 $\mu\text{Ci/mL}$

(/ system;exit)yes~

Analyst:		ISCL	Date: 28-Jul-97
Signature of Chemist:		SLF	Date: 7/29/97
SAMPLE.WB1 Rev. 1.0	508101ML		

WORKBOOK PAGE: SPK16

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)	50037	51269
19366	COUNT TIME in MINUTES (CT)	30	30
Attest B?	BACKGROUND in cpm (BKG)	0.03	0.03
AT	SAMPLE VOLUME in mL (Spiked Vial) (SS)	1.000	1.000
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial) (DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR (DDF)	1	1
Matrix	SPIKE VOLUME in mL (SVol)	0.100	0.100
LIQUID	SPIKE DILUTION FACTOR (SDF)	1	1
Batch Number	SPIKE BOOK NUMBER (Spk BN)	131B43	131B43
97003486	SPIKE VALUE in µCi/mL (SVal)	2.6286E-02	2.6286E-02
ReRun	INSTRUMENT EFFICIENCY FACTOR (EFF)	0.2683	0.2683
0	SAMPLE + SPIKE µCi/mL (S+S)	2.86E+01	2.93E+01
Sample Prep	AVERAGE or MAXIMUM µCi/mL in SAMPLE	<	4.0533E-03
N/A			
Sample #			
S97T001691	Rs (Sample Count Rate) = (TC / CT) - BKG		
Instrument Code	SAMPLE + SPIKE µCi/mL = Rs * DF * DDF / (EFF * SS * 222000dpm/µCi)		
WB27806	QC ACTUAL = SVal		
Prepared By	QC FOUND = (((S+S µCi/mL - SAMPLE µCi/mL) * ((SDF/SVol)/(DF*DDF/SS))))		
SEH	PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) *100		
Chemist			
SLF			
Analyst			
SCL			
Date Complete	NOTE: Original Sample result was a LESS THAN value. Zero (0) was subtracted from the spiked value for QC found calculation.		
07/28/97			
Analysis Date			
07/25/97	QC ACTUAL =	2.63E-02	
Analysis Time	QC FOUND =	2.83E-02	
02:30 PM	AVG. PERCENT SPIKE RECOVERY =	107.8%	
Sample Point			
T-105			

Analyst:	SEH	Date: 28-Jul-97
Signature of Chemist:	SLF	Date: 7/29/97

SPIKE.WB1 Rev. 1.0

508101ML

LABCORE Completed Worklist Report for Worklist# 19688

Analyst: crj Instrument: AB18 Book# _____

Method: _____ Rev/Mod _____

Worklist Comment: For 1686, 1698, 1711 use .1-10-1; 1704 use .1-10-.5. RR#1 SF

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD	0		0ALPHA01 ALPHA01 SOLID		2.00E-04	1.63E-4	81.500 % Recovery	
1 STD	0		0ALPHA01 ALPHA01E SOLID		1.00	3.66E+00	3.660 % Ct. Error	
2 BLNK-PREP	0		0ALPHA01 ALPHA01 SOLID		1	<1.11E-2	uCi/g	
2 BLNK-PREP	0		0ALPHA01 ALPHA01E SOLID		1.00	5.00E+02	500.000 uCi/g	
3 BLNK/BKG	0		0ALPHA01 ALPHA01 SOLID		1.00E+00	1.67E+00	1.670 BLNK/BKG	
4 SAMPLE	S97T001686	0 F	0ALPHA01 ALPHA01 SOLID		N/A	5.39E-01	2.03e-002 uCi/g	
4 SAMPLE	S97T001686	0 F	0ALPHA01 ALPHA01E SOLID		N/A	1.49E+01	% Ct. Error	
5 DUP	S97T001686	0 F	0ALPHA01 ALPHA01 SOLID		5.39E-1	5.53E-1	2.564 RPD	
5 DUP	S97T001686	0 F	0ALPHA01 ALPHA01E SOLID		1.00	1.44E+01	14.400 % Ct. Error	
6 SPK	S97T001686	0 F	0ALPHA01 ALPHA01 SOLID		2.63E-02	2.68E-02	101.901 % Recovery	
7 SAMPLE	S97T001698	0 F	0ALPHA01 ALPHA01 SOLID		N/A	3.07E-01	2.03e-002 uCi/g	
7 SAMPLE	S97T001698	0 F	0ALPHA01 ALPHA01E SOLID		N/A	1.93E+01	% Ct. Error	
8 DUP	S97T001698	0 F	0ALPHA01 ALPHA01 SOLID		3.07E-1	2.69E-1	13.194 RPD	
8 DUP	S97T001698	0 F	0ALPHA01 ALPHA01E SOLID		1.00	2.34E+01	23.400 % Ct. Error	
9 SAMPLE	S97T001704	0 F	0ALPHA01 ALPHA01 SOLID		N/A	1.41E-01	4.17e-002 uCi/g	
9 SAMPLE	S97T001704	0 F	0ALPHA01 ALPHA01E SOLID		N/A	4.34E+01	% Ct. Error	
10 DUP	S97T001704	0 F	0ALPHA01 ALPHA01 SOLID		1.41E-1	1.51E-1	6.849 RPD	
10 DUP	S97T001704	0 F	0ALPHA01 ALPHA01E SOLID		1.00	4.23E+01	42.300 % Ct. Error	
11 SPK	S97T001704	0 F	0ALPHA01 ALPHA01 SOLID		2.63E-02	2.59E-02	98.479 % Recovery	
12 SAMPLE	S97T001711	0 F	0ALPHA01 ALPHA01 SOLID		N/A	5.66E-01	2.04e-002 uCi/g	
12 SAMPLE	S97T001711	0 F	0ALPHA01 ALPHA01E SOLID		N/A	1.42E+01	% Ct. Error	
13 DUP	S97T001711	0 F	0ALPHA01 ALPHA01 SOLID		5.66E-1	5.87E-1	3.643 RPD	
13 DUP	S97T001711	0 F	0ALPHA01 ALPHA01E SOLID		1.00	1.40E+01	14.000 % Ct. Error	

Final page for worklist# 19688

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____


Reviewer Signature

8/11/97
Date

LABCORE Data Entry Template for Worklist# 19688

Analyst: CRJ Instrument: AB00 18 Book# 79B56

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

Worklist Comment: For 1686, 1698, 1711 use .1-10-1; 1704 use .1-10-.5. RR#1 SF

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	S97T001686	0 F	@ALPHA01	SOLID	97000434	T-105
	Analytes Requested: ALPHA01 , ALPHA01E					
5 DUP	S97T001686	0 F	@ALPHA01	SOLID		
6 SPK	S97T001686	0 F	@ALPHA01	SOLID		
7 SAMPLE	S97T001698	0 F	@ALPHA01	SOLID	97000435	T-105
	Analytes Requested: ALPHA01 , ALPHA01E					
8 DUP	S97T001698	0 F	@ALPHA01	SOLID		
9 SAMPLE	S97T001704	0 F	@ALPHA01	SOLID	97000435	T-105
	Analytes Requested: ALPHA01 , ALPHA01E					
10 DUP	S97T001704	0 F	@ALPHA01	SOLID		
11 SPK	S97T001704	0 F	@ALPHA01	SOLID		
12 SAMPLE	S97T001711	0 F	@ALPHA01	SOLID	97000435	T-105
	Analytes Requested: ALPHA01 , ALPHA01E					
13 DUP	S97T001711	0 F	@ALPHA01	SOLID		

Final page for worklist # 19688

CRJ 8/7/97
Analyst Signature Date

Joe Hagon 8-11-97
Analyst Signature Date
C.J. Quinn 8-11-97

Data Entry Comments:

HNF-SD-WM-DP-265, REV. 0

WORKBOOK PAGE: STD1

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

LA-508-113 (B-0) STANDARD

	STANDARD	REPLICATE
Type	DETECTOR NUMBER	18
STD	DISH SIZE (1, 2, or 5)	2
Worklist	GROSS COUNTS	2889
19888	COUNT TIME in MINUTES	30
Alt or B27	BACKGROUND In cpm	0.03
AT	SAMPLE SIZE in mL	1.000
Test Code	DILUTION FACTOR	1
@ALPHA01	STANDARD BOOK NUMBER	79B56
Matrix	EFFICIENCY FACTOR	0.2644
LIQUID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	96.270
Batch Number	Standard Value in µCi/mL	2.00E-04
97003824	Concentration in µCi/L	1.64E-01
ReRun	Replicate Concentration in µCi/L	1.63E-01
0	AVERAGE CONCENTRATION in µCi/L	1.6339E-01

Sample Prep	N/A	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample	WL19888	ALPHA TOTAL µCi/L = Rs * 1000mL/L * DF / (EFF * SS * 2220000dpm/µCi)
Instrument Code	WB27809	ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L
Prepared by	SEH	Relative Counting Error = [((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 µCi/mL =	1.63E-04	DETECTION LEVEL
Analyst			
CRJ			
Date Complete	RELATIVE COUNTING ERROR =	3.7%	4.06E-07 µCi/mL
08/11/97			
Analysis Date			
08/07/97			
Analysis Time			
07:45 PM			
Sample Point			
T-105			

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	2
Worklist	GROSS COUNTS	(GC)	2	1
19688	COUNT TIME in MINUTES	(CT)	30	30
Autonul By	BACKGROUND In cpm	(BKG)	0.03	0.03
AT	SAMPLE SIZE in mL	(SS)	1.000	1.000
Test Code	DILUTION FACTOR	(DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.024	2.024
Matrix	EFFICIENCY FACTOR	(EFF)	0.2644	0.2644
SOLID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE		0.130	0.079

Batch Number	
97003824	Blank Concentration in $\mu\text{Ci/g}$ < 1.11E-02
Rerun	Replicate Concentration in $\mu\text{Ci/g}$ < 6.73E-03
0	Maximum Concentration in $\mu\text{Ci/g}$ < 1.1080E-02

Sample Prep

N/A

Sample

WVL19688

Instrument Code

WB27809

Prepared By

SEH

Chemist

SLF

Analyst

CRJ

Date Complete

08/11/97

Analysis Date

08/07/97

Analysis Time

07:45 PM

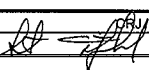
Sample Point

T-105

Rs (Sample Count Rate) = $(TC / CT) - BKG$ ALPHA TOTAL $\mu\text{Ci/g}$ = $Rs * 1000\text{mL/L} * DF / (EFF * SS * \text{Dg/L} * 2220000\text{dpm}/\mu\text{Ci})$ Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$

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

ALPHA TOTAL in $\mu\text{Ci/g}$ (Maximum)	=	< 1.11E-02	DETECTION LEVEL
LESS THAN Value was Determined from Rmax.			
RELATIVE COUNTING ERROR		500.0%	2.03E-02 $\mu\text{Ci/g}$

Analyst:		Date: 11-Aug-97
Signature of Chemist:		Date: 8/11/97
BLANK.WBT Rev. 1.0	508101ML	SLF

WORKBOOK PAGE: SAM4

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

SOLIDS

		SAMPLE	REPLICATE
TYPE	DETECTOR NUMBER	18	18
SAMPLE	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	206	176
19688	COUNT TIME in MINUTES (CT)	30	30
ALPHA B7	BACKGROUND in cpm (BKG)	0.03	0.03
AT	SAMPLE SIZE in mL (SS)	1.000	1.000
Test Code	DILUTION FACTOR (DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.024	2.024
Matrix	EFFICIENCY FACTOR (EFF)	0.2644	0.2644
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	6.837	5.837
Batch Number			
97003824	Blank Concentration in $\mu\text{Ci/g}$	5.81E-01	
Rerun	Replicate Concentration in $\mu\text{Ci/g}$	4.96E-01	
1	Average Concentration in $\mu\text{Ci/g}$	5.3871E-01	
Sample Prep			
FUSION01	Rs (Sample Count Rate) = $(TC / CT) - BKG$		
Sample	ALPHA TOTAL $\mu\text{Ci/g}$ = $Rs * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm/pCi})$		
S97T001686			
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) =	5.39E-01	DETECTION LEVEL
Analyst			
CRJ			
Date Complete			2.03E-02 $\mu\text{Ci/g}$
08/11/97	RELATIVE COUNTING ERROR	14.9%	
Analysis Date			
08/07/97			
Analysis Time			
07:45 PM			
Sample Point			
T-105			

/ 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	2
WorkList	GROSS COUNTS	(GC)	206	189
19688	COUNT TIME in MINUTES	(CT)	30	30
AT (or ATB)	BACKGROUND In cpm	(BKG)	0.03	0.03
AT	SAMPLE SIZE in mL	(SS)	1.000	1.000
Test Code	DILUTION FACTOR	(DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.033	2.033
Matrix	EFFICIENCY FACTOR	(EFF)	0.2644	0.2644
SOLID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE		6.803	6.270

Batch Number		
97003824	Blank Concentration in $\mu\text{Ci/g}$	5.76E-01
ReRun	Replicate Concentration in $\mu\text{Ci/g}$	5.31E-01
1	Average Concentration in $\mu\text{Ci/g}$	5.5326E-01

Sample Prep
 FUSION01 R_s (Sample Count Rate) = $(TC / CT) - BKG$
 Sample # ALPHA TOTAL $\mu\text{Ci/g}$ = $R_s * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$
 S97T001686

Instrument Code
 WB27809 Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$
 Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Prepared By			
SEH			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/g}$ (Average)	=	5.53E-01
Analyst			
CRJ			
Date Complete			
08/11/97	RELATIVE COUNTING ERROR	14.4%	
Analysis Date			
08/07/97			
Analysis Time			
07:45 PM			
Sample Point			
T-105			

DETECTION LEVEL
2.02E-02 $\mu\text{Ci/g}$

{/ 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)	46942	47890
19688	COUNT TIME in MINUTES (CT)	30	30
AT	BACKGROUND in cpm (BKG)	0.03	0.03
AT	SAMPLE VOLUME in mL (Spiked Vial) (SS)	1.000	1.000
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial) (DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.024	2.024
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
97003824	SPIKE VALUE in µCi/mL (SVa)	2.6284E-02	2.6284E-02
Regrun	INSTRUMENT EFFICIENCY FACTOR (EFF)	0.2644	0.2644
1	SAMPLE + SPIKE µCi/g (S+S)	1.33E+02	1.36E+02
Sample Prep	AVERAGE or MAXIMUM µCi/g in SAMPLE	5.3871E-01	
FUSION01			
Sample			
S97T001686	Rs (Sample Count Rate) = (TC / CT) - BKG		
Instrument Code	SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)		
WB27809	QC ACTUAL = SVa!		
Prepared By	QC FOUND = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/(SVol*1000)))/(DF/SS/Dg/L))))		
SEH	PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) * 100		
Chemist			
SLF			
Analyst			
CRJ			
Date Complete			
08/11/97			
Analysis Date			
08/07/97	QC ACTUAL =	2.63E-02	
Analysis Time	QC FOUND =	2.68E-02	
07:46 PM	AVG. PERCENT SPIKE RECOVERY =	102.0%	
Sample Point			
T-105			

Analyst:	SEH	Date: 11-Aug-97
Signature of Chemist:	SLF	Date: 8/11/97
SPIKE.WB1 Rev. 1.0 508101ML		

WORKBOOK PAGE: SAM7

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

SOLIDS

	SAMPLE	REPLICATE
Detector Number	18	18
SAMPLE DISH SIZE (1, 2, or 5)	(MS) 2	2
Work List	(GC) 112	106
19688 COUNT TIME in MINUTES	(CT) 30	30
Attenuator	(BKG) 0.03	0.03
AT SAMPLE SIZE in mL	(SS) 1.000	1.000
Test Code	(DF) 101	101
@ALPHA01 DIGEST GRAMS of SOLIDS / L	(Dg/L) 2.02	2.02
Matrix EFFICIENCY FACTOR	(EFF) 0.2644	0.2644
SOLID Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	3.703	3.503
Batch Number		
97003824 Blank Concentration in $\mu\text{Ci/g}$	3.15E-01	
Rerun	Replicate Concentration in $\mu\text{Ci/g}$	2.98E-01
1	Average Concentration in $\mu\text{Ci/g}$	3.0694E-01
Sample Prep		
FUSION01	Rs (Sample Count Rate) = $(TC / CT) - BKG$	
Sample #	ALPHA TOTAL $\mu\text{Ci/g}$ = $Rs * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$	
S97T001698		
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 $\mu\text{Ci/g}$ (Average) =	3.07E-01
Analyst		DETECTION LEVEL 2.03E-02 $\mu\text{Ci/g}$
CRJ		
Date Complete		
08/11/97	RELATIVE COUNTING ERROR	19.3%
Analysis Date		
08/07/97		
Analysis Time		
07:45 PM		
Sample Point		
T-105		

// 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: DUP8

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

		DUP	REPLICATE
Type	DETECTOR NUMBER	18	18
DUP	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	116	73
19688	COUNT TIME in MINUTES (CT)	30	30
Alpha B?	BACKGROUND in cpm (BKG)	0.03	0.03
AT	SAMPLE SIZE in mL (SS)	1.000	1.000
Test Code	DILUTION FACTOR (DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	1.996	1.996
Matrix	EFFICIENCY FACTOR (EFF)	0.2644	0.2644
SOLID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE	3.837	2.403

Batch Number	Blank Concentration in $\mu\text{Ci/g}$	3.31E-01
97003824	Replicate Concentration in $\mu\text{Ci/g}$	2.07E-01
ReRun	Average Concentration in $\mu\text{Ci/g}$	2.6897E-01
1		

Sample Prep	Rs (Sample Count Rate) = (TC / CT) - BKG
FUSION01	ALPHA TOTAL $\mu\text{Ci/g}$ = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/ μCi)
Sample	
S97T001698	

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)	=	2.69E-01	DETECTION LEVEL
CRJ			
Date Complete			2.05E-02
08/11/97	RELATIVE COUNTING ERROR	23.4%	$\mu\text{Ci/g}$

Analysis Date
08/07/97

Analysis Time
07:45 PM

Sample Point
T-105

(/ 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: SAM9

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

SOLIDS

		SAMPLE	REPLICATE
Type	DETECTOR NUMBER	18	18
SAMPLE	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	23	27
18688	COUNT TIME in MINUTES (CT)	30	30
Ation TB	BACKGROUND In cpm (BKG)	0.03	0.03
AT	SAMPLE SIZE in mL (SS)	0.500	0.500
Test Code	DILUTION FACTOR (DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	1.966	1.966
Matrix	EFFICIENCY FACTOR (EFF)	0.2644	0.2644
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.737	0.870

Batch Number	
97003824	Blank Concentration in $\mu\text{Ci/g}$ 1.29E-01
Refund	Replicate Concentration in $\mu\text{Ci/g}$ 1.52E-01
1	Average Concentration in $\mu\text{Ci/g}$ 1.4082E-01

Sample Prep	
FUSION01	R_s (Sample Count Rate) = $(TC / CT) - BKG$
Sample #	$ALPHA\ TOTAL\ \mu\text{Ci/g} = R_s * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$
S97T001704	

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 $\mu\text{Ci/g}$ (Average) =	1.41E-01	DETECTION LEVEL
Analyst			
CRJ			
Date Complete			4.17E-02
08/11/97	RELATIVE COUNTING ERROR	43.4%	$\mu\text{Ci/g}$

Analysis Date

08/07/97

Analysis Time

07:45 PM

Sample Point

T-105

(/ 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: DUP10

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

SOLIDS

			DUP	REPLICATE
Type	DETECTOR NUMBER		18	18
DUP	DISH SIZE (1, 2, or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	30	24
19688	COUNT TIME in MINUTES	(CT)	30	30
Ator 18	BACKGROUND in cpm	(BKG)	0.03	0.03
AT	SAMPLE SIZE in mL	(SS)	0.500	0.500
Test Code	DILUTION FACTOR	(DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.977	1.977
Matrix	EFFICIENCY FACTOR	(EFF)	0.2644	0.2644
SOLID	Lo, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE		0.970	0.770
Batch Number				
97003824	Blank Concentration in $\mu\text{Ci/g}$		1.69E-01	
Rerun	Replicate Concentration in $\mu\text{Ci/g}$		1.34E-01	
1	Average Concentration in $\mu\text{Ci/g}$		1.5144E-01	

Sample Prep

FUSION01

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

Sample #

ALPHA TOTAL $\mu\text{Ci/g}$ = $Rs * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$

S97T001704

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 $\mu\text{Ci/g}$ (Average) = 1.51E-01

Analyst

CRJ

DETECTION

LEVEL

Date Complete

08/11/97

RELATIVE COUNTING ERROR 42.3%

4.15E-02

 $\mu\text{Ci/g}$

Analysis Date

08/07/97

Analysis Time

07:45 PM

Sample Point

T-105

(/ 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: SPK11

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

		SPIKE	REPLICATE
SPK	DETECTOR NUMBER	18	18
SPK	DISH SIZE 1, 2, or 5 (MS)	2	2
Work List	TOTAL COUNTS (TC)	45304	45805
19688	COUNT TIME in MINUTES (CT)	30	30
Ator 18	BACKGROUND In cpm (BKG)	0.03	0.03
AT	SAMPLE VOLUME in mL (Spiked Vial) (SS)	0.500	0.500
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial) (DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	1.966	1.966
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
97003824	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)	2.64E+02	2.67E+02
Sample Prep	AVERAGE or MAXIMUM µCi/g In SAMPLE	1.4062E-01	
FUSION01			
Sample #			
S97T001704	Rs (Sample Count Rate) = (TC / CT) - BKG		
Instrument Code	SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)		
WB27809	QC ACTUAL = SVal		
Prepared By	QC FOUND = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/(SVol*1000)))/(DF/SS/Dg/L))))		
SEH	PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) * 100		
Chemist			
SLF			
Analyst			
CRJ			
Date Complete			
08/11/97			
Analysis Date			
08/07/97	QC ACTUAL =	2.63E-02	
Analysis Time	QC FOUND =	2.59E-02	
07:45 PM	AVG. PERCENT SPIKE RECOVERY =	98.4%	
Sample Point			
T-105			

Analyst:	SEH	Date: 11-Aug-97
Signature of Chemist:	SLF	Date: 8/11/97

SPIKE.WB1 Rev. 1.0

508101ML

WORKBOOK PAGE: SAM12

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)	207
19688	COUNT TIME in MINUTES	(CT)	30
Alcon (B)	BACKGROUND in cpm	(BKG)	0.03
AT	SAMPLE SIZE in mL	(SS)	1.000
Test Code	DILUTION FACTOR	(DF)	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.012
Matrix	EFFICIENCY FACTOR	(EFF)	0.2644
SOLID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE		6.870
Batch Number			6.370
97003824	Blank Concentration in $\mu\text{Ci/g}$	5.88E-01	
Rerun	Replicate Concentration in $\mu\text{Ci/g}$	5.45E-01	
1	Average Concentration in $\mu\text{Ci/g}$	5.6616E-01	

Sample Prep

FUSION01

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

Sample #

ALPHA TOTAL $\mu\text{Ci/g}$ = $Rs * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$

S97T001711

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 $\mu\text{Ci/g}$ (Average)

=

5.66E-01

DETECTION

Analyst

LEVEL

CRJ

Date Complete

2.04E-02

08/11/97

RELATIVE COUNTING ERROR

14.2%

 $\mu\text{Ci/g}$

Analysis Date

08/07/97

Analysis Time

07:45 PM

Sample Point

T-105

(/ 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: DUP13

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

SOLIDS

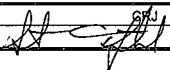
		DUP	REPLICATE
Type	DETECTOR NUMBER	18	18
DUP	DISH SIZE (1, 2, or 5)	(MS) 2	2
Work List	GROSS COUNTS	(GC) 213	200
19688	COUNT TIME in MINUTES	(CT) 30	30
AT CONT BKG	BACKGROUND In cpm	(BKG) 0.03	0.03
AT	SAMPLE SIZE in mL	(SS) 1.000	1.000
Test Code	DILUTION FACTOR	(DF) 101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L) 2.01	2.01
Matrix	EFFICIENCY FACTOR	(EFF) 0.2644	0.2644
SOLID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE	7.070	6.637
Batch Number			
97003824	Blank Concentration in $\mu\text{Ci/g}$	6.05E-01	
Re-run	Replicate Concentration in $\mu\text{Ci/g}$	5.68E-01	
1	Average Concentration in $\mu\text{Ci/g}$	5.8670E-01	

Sample Prep	
FUSION01	R_s (Sample Count Rate) = $(TC / CT) - BKG$
Sample #	$\text{ALPHA TOTAL } \mu\text{Ci/g} = R_s * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$
S97T001711	
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 $\mu\text{Ci/g}$ (Average) = 5.87E-01
Analyst	
CRJ	
Date Complete	
08/11/97	RELATIVE COUNTING ERROR 14.0%
Analysis Date	
08/07/97	
Analysis Time	
07:45 PM	
Sample Point	
T-105	

DETECTION
LEVEL
2.04E-02
 $\mu\text{Ci/g}$

(/ system exit) yes~

Analyst:		Date: 11-Aug-97
Signature of Chemist:		Date: 8/11/97
SAMPLE.WB1 Rev. 1.0	508101ML	SLF

HNF-SD-WM-DP-265, REV. 0

APPENDIX A
OPPORTUNISTIC ANALYTE RESULTS

HNH-SD-WM-DP-265, REV. 0

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HNF-SD-WM-DP-265, REV. 0

Appendix A: Opportunistic Analyte Results
T-105

CODE NUMBER: 205
SEGMENT #: F5

SEGMENT PORTION: Field Blank

Sample #	P #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S97T001505		0 Silver-ICP-Acid Dil.	ug/mL	99.60	< 1.00e-02	< 1.00e-02	< 1.00e-02	N/A	N/A	N/A	1.00e-02	N/A
S97T001505		0 Aluminum-ICP-Acid Dil.	ug/mL	98.80	< 1.00e-02	< 1.00e-02	< 1.00e-02	N/A	N/A	N/A	1.00e-02	N/A
S97T001505		0 Arsenic-ICP-Acid Dil.	ug/mL	102.6	< 1.00e-01	< 1.00e-01	< 1.00e-01	N/A	N/A	N/A	1.00e-01	N/A
S97T001505		0 Barium-ICP-Acid Dil.	ug/mL	99.00	< 1.00e-02	< 1.00e-02	< 1.00e-02	N/A	N/A	N/A	1.00e-02	N/A
S97T001505		0 Beryllium-ICP-Acid Dil.	ug/mL	100.4	< 1.00e-02	< 1.00e-02	< 1.00e-02	N/A	N/A	N/A	1.00e-02	N/A
S97T001505		0 Cadmium-ICP-Acid Dil.	ug/mL	100.2	< 1.00e-03	< 1.00e-03	< 1.00e-03	N/A	N/A	N/A	1.00e-03	N/A
S97T001505		0 Calcium-ICP-Acid Dil.	ug/mL	102.4	< 1.00e-01	< 1.00e-01	< 1.00e-01	N/A	N/A	N/A	1.00e-01	N/A
S97T001505		0 Cobalt-ICP-Acid Dil.	ug/mL	94.40	< 1.00e-01	< 1.00e-01	< 1.00e-01	N/A	N/A	N/A	1.00e-01	N/A
S97T001505		0 Copper-ICP-Acid Dil.	ug/mL	98.00	< 1.00e-03	< 1.00e-03	< 1.00e-03	N/A	N/A	N/A	1.00e-03	N/A
S97T001505		0 Chromium-ICP-Acid Dil.	ug/mL	101.0	< 1.00e-01	< 1.00e-01	< 1.00e-01	N/A	N/A	N/A	1.00e-01	N/A
S97T001505		0 Iron-ICP-Acid Dil.	ug/mL	100.4	< 1.00e-02	< 1.00e-02	< 1.00e-02	N/A	N/A	N/A	1.00e-02	N/A
S97T001505		0 Lanthanum-ICP-Acid Dil.	ug/mL	95.40	< 1.00e-02	< 1.00e-02	< 1.00e-02	N/A	N/A	N/A	1.00e-02	N/A
S97T001505		0 Magnesium-ICP-Acid Dil.	ug/mL	103.2	< 1.00e-02	< 1.00e-02	< 1.00e-02	N/A	N/A	N/A	1.00e-02	N/A
S97T001505		0 Manganese-ICP-Acid Dil.	ug/mL	96.40	< 1.00e-02	< 1.00e-02	< 1.00e-02	N/A	N/A	N/A	1.00e-02	N/A
S97T001505		0 Molybdenum-ICP-Acid Dil.	ug/mL	99.00	< 1.00e-01	< 1.00e-01	< 1.00e-01	N/A	N/A	N/A	1.00e-01	N/A
S97T001505		0 Nickel-ICP-Acid Dil.	ug/mL	92.80	< 1.00e-01	< 1.00e-01	< 1.00e-01	N/A	N/A	N/A	1.00e-01	N/A
S97T001505		0 Potassium-ICP-Acid Dil.	ug/mL	96.80	< 1.00e-02	< 1.00e-02	< 1.00e-02	N/A	N/A	N/A	1.00e-02	N/A
S97T001505		0 Sodium-ICP-Acid Dil.	ug/mL	100.4	< 1.00e-02	< 1.00e-02	< 1.00e-02	N/A	N/A	N/A	1.00e-02	N/A
S97T001505		0 Strontium-ICP-Acid Dil.	ug/mL	104.4	< 1.00e-01	< 1.00e-01	< 1.00e-01	N/A	N/A	N/A	1.00e-01	N/A
S97T001505		0 Thallium-ICP-Acid Dil.	ug/mL	102.2	< 1.00e-02	< 1.00e-02	< 1.00e-02	N/A	N/A	N/A	1.00e-02	N/A
S97T001505		0 Vanadium-ICP-Acid Dil.	ug/mL	97.40	< 1.00e-02	< 1.00e-02	< 1.00e-02	N/A	N/A	N/A	1.00e-02	N/A
S97T001505		0 Zinc-ICP-Acid Dil.	ug/mL	103.4	< 1.00e-01	< 1.00e-01	< 1.00e-01	N/A	N/A	N/A	1.00e-01	N/A
S97T001505		0 Lead-ICP-Acid Dil.	ug/mL	96.20	< 1.00e-01	< 1.00e-01	< 1.00e-01	N/A	N/A	N/A	1.00e-01	N/A
S97T001505		0 Antimony-ICP-Acid Dil.	ug/mL	99.60	< 1.00e-01	< 1.00e-01	< 1.00e-01	N/A	N/A	N/A	1.00e-01	N/A
S97T001505		0 Silicon-ICP-Acid Dil.	ug/mL	97.80	< 1.00e-02	< 1.00e-02	< 1.00e-02	N/A	N/A	N/A	1.00e-02	N/A
S97T001505		0 Samarium-ICP-Acid Dil.	ug/mL	102.4	< 1.00e-01	< 1.00e-01	< 1.00e-01	N/A	N/A	N/A	1.00e-01	N/A
S97T001505		0 Strontium-ICP-Acid Dil.	ug/mL	101.2	< 1.00e-02	< 1.00e-02	< 1.00e-02	N/A	N/A	N/A	1.00e-02	N/A
S97T001505		0 Titanium-ICP-Acid Dil.	ug/mL	96.40	< 1.00e-01	< 1.00e-01	< 1.00e-01	N/A	N/A	N/A	1.00e-01	N/A
S97T001505		0 Uranium-ICP-Acid Dil.	ug/mL	100.0	< 1.00e-02	< 1.00e-02	< 1.00e-02	N/A	N/A	N/A	1.00e-02	N/A
S97T001505		0 Vanadium-ICP-Acid Dil.	ug/mL	98.70	< 1.00e-01	< 1.00e-01	< 1.00e-01	N/A	N/A	N/A	1.00e-01	N/A
S97T001505		0 Zinc-ICP-Acid Dil.	ug/mL	100.0	< 1.00e-02	< 1.00e-02	< 1.00e-02	N/A	N/A	N/A	1.00e-02	N/A
S97T001505		0 Zirconium-ICP-Acid Dil.	ug/mL	101.2	< 1.00e-02	< 1.00e-02	< 1.00e-02	N/A	N/A	N/A	1.00e-02	N/A
S97T001505		0 Fluoride-IC-Dioxin 4000/4500	ug/mL	98.40	< 1.20e-02	< 1.20e-02	< 1.20e-02	N/A	N/A	N/A	1.20e-02	N/A
S97T001505		0 Chloride-IC-Dioxin 4000/4500	ug/mL	93.92	< 1.70e-02	< 1.70e-02	< 1.70e-02	N/A	N/A	N/A	1.70e-02	N/A
S97T001505		0 Nitrate-IC - Dioxin 4000/4500	ug/mL	100.0	< 1.00e-01	< 1.00e-01	< 1.00e-01	N/A	N/A	N/A	1.00e-01	N/A
S97T001505		0 Nitrate by IC-Dioxin 4000/4500	ug/mL	99.66	< 1.93e-01	< 2.06e-01	< 1.91e-01	N/A	N/A	N/A	1.93e-01	N/A
S97T001505		0 Phosphate-IC-Dioxin 4000/4500	ug/mL	92.84	< 1.20e-01	< 1.20e-01	< 1.20e-01	N/A	N/A	N/A	1.20e-01	N/A
S97T001505		0 Sulfate by IC-Dioxin 4000/4500	ug/mL	97.47	< 1.38e-01	< 1.38e-01	< 1.38e-01	N/A	N/A	N/A	1.38e-01	N/A
S97T001505		0 Oxalate-IC-Dioxin 4000/4500	ug/mL	100.9	< 1.05e-01	< 1.05e-01	< 1.05e-01	N/A	N/A	N/A	1.05e-01	N/A

Appendix A: Opportunistic Analyte Results
1-105

CORE NUMBER: 205
SEGMENT #: LIBR

SEGMENT PORTION: Hydrostatic Head Fluid

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S97T001506	D	Silver-ICP-Acid Dil.	ug/mL	99.60	< 1.00e-02	< 2.10e-01	< 2.10e-01	n/a	n/a	n/a	2.10e-01	n/a
S97T001506	D	Aluminum-ICP-Acid Dil.	ug/mL	98.80	< 1.00e-02	< 1.050	< 1.050	n/a	n/a	n/a	1.050	n/a
S97T001506	D	Arsenic-ICP-Acid Dil.	ug/mL	102.6	< 1.00e-02	< 2.100	< 2.100	n/a	n/a	n/a	2.100	n/a
S97T001506	D	Boron-ICP-Acid Dil.	ug/mL	100.0	< 1.00e-02	< 1.050	< 1.050	n/a	n/a	n/a	1.050	n/a
S97T001506	D	Beryllium-ICP-Acid Dil.	ug/mL	100.2	< 1.00e-02	< 1.050	< 1.050	n/a	n/a	n/a	1.050	n/a
S97T001506	D	Bismuth-ICP-Acid Dil.	ug/mL	102.4	< 1.00e-01	< 2.100	< 2.100	n/a	n/a	n/a	2.100	n/a
S97T001506	D	Calcium-ICP-Acid Dil.	ug/mL	98.00	< 1.00e-01	< 2.100	< 2.100	n/a	n/a	n/a	2.100	n/a
S97T001506	D	Cadmium-ICP-Acid Dil.	ug/mL	101.0	< 1.00e-02	< 2.100	< 2.100	n/a	n/a	n/a	2.100	n/a
S97T001506	D	Cerium-ICP-Acid Dil.	ug/mL	100.4	< 1.00e-02	< 2.100	< 2.100	n/a	n/a	n/a	2.100	n/a
S97T001506	D	Cobalt-ICP-Acid Dil.	ug/mL	95.40	< 1.00e-02	< 2.10e-01	< 2.10e-01	n/a	n/a	n/a	2.10e-01	n/a
S97T001506	D	Chromium-ICP-Acid Dil.	ug/mL	103.2	< 1.00e-02	< 2.10e-01	< 2.10e-01	n/a	n/a	n/a	2.10e-01	n/a
S97T001506	D	Copper-ICP-Acid Dil.	ug/mL	96.60	< 1.00e-02	< 1.050	< 1.050	n/a	n/a	n/a	1.050	n/a
S97T001506	D	Cromium-ICP-Acid Dil.	ug/mL	99.00	< 1.00e-02	< 1.050	< 1.050	n/a	n/a	n/a	1.050	n/a
S97T001506	D	Fluorine-ICP-Acid Dil.	ug/mL	92.80	< 1.00e-01	< 2.100	< 2.100	n/a	n/a	n/a	2.100	n/a
S97T001506	D	Iron-ICP-Acid Dil.	ug/mL	96.80	< 1.00e-02	< 2.10e-01	< 2.10e-01	n/a	n/a	n/a	2.10e-01	n/a
S97T001506	D	Lithium-ICP-Acid Dil.	ug/mL	98.60	< 1.00e-02	< 2.100	< 2.100	n/a	n/a	n/a	2.100	n/a
S97T001506	D	Magnesium-ICP-Acid Dil.	ug/mL	92.80	< 1.00e-02	< 2.100	< 2.100	n/a	n/a	n/a	2.100	n/a
S97T001506	D	Manganese-ICP-Acid Dil.	ug/mL	96.80	< 1.00e-02	< 2.10e-01	< 2.10e-01	n/a	n/a	n/a	2.10e-01	n/a
S97T001506	D	Molybdenum-ICP-Acid Dil.	ug/mL	100.4	< 1.00e-02	< 2.100	< 2.100	n/a	n/a	n/a	2.100	n/a
S97T001506	D	Sodium-ICP-Acid Dil.	ug/mL	104.4	< 1.00e-01	< 5.990	< 5.990	6.075	2.80	n/a	1.050	n/a
S97T001506	D	Nickel-ICP-Acid Dil.	ug/mL	102.2	< 1.00e-02	< 2.100	< 2.100	n/a	n/a	n/a	2.100	n/a
S97T001506	D	Nickel-ICP-Acid Dil.	ug/mL	97.40	< 1.00e-02	< 4.20e-01	< 4.20e-01	n/a	n/a	n/a	4.20e-01	n/a
S97T001506	D	Phosphorus-ICP-Acid Dil.	ug/mL	103.4	< 1.00e-02	< 2.100	< 2.100	n/a	n/a	n/a	2.100	n/a
S97T001506	D	Lead-ICP-Acid Dil.	ug/mL	96.20	< 1.00e-01	< 2.100	< 2.100	n/a	n/a	n/a	2.100	n/a
S97T001506	D	Sulfur-ICP-Acid Dil.	ug/mL	99.60	< 1.00e-01	< 2.100	< 2.100	n/a	n/a	n/a	2.100	n/a
S97T001506	D	Antimony-ICP-Acid Dil.	ug/mL	94.60	< 1.00e-02	< 3.180	< 3.180	3.070	7.17	n/a	1.050	n/a
S97T001506	D	Selenium-ICP-Acid Dil.	ug/mL	97.80	< 1.00e-02	< 2.100	< 2.100	n/a	n/a	n/a	2.100	n/a
S97T001506	D	Strontium-ICP-Acid Dil.	ug/mL	102.4	< 1.00e-02	< 2.10e-01	< 2.10e-01	n/a	n/a	n/a	2.10e-01	n/a
S97T001506	D	Titanium-ICP-Acid Dil.	ug/mL	101.2	< 1.00e-02	< 2.10e-01	< 2.10e-01	n/a	n/a	n/a	2.10e-01	n/a
S97T001506	D	Titanium-ICP-Acid Dil.	ug/mL	96.40	< 1.00e-02	< 2.10e-01	< 2.10e-01	n/a	n/a	n/a	2.10e-01	n/a
S97T001506	D	Thallium-ICP-Acid Dil.	ug/mL	100.0	< 1.00e-01	< 4.200	< 4.200	n/a	n/a	n/a	4.200	n/a
S97T001506	D	Vanadium-ICP-Acid Dil.	ug/mL	98.70	< 1.00e-02	< 1.050	< 1.050	n/a	n/a	n/a	1.050	n/a
S97T001506	D	Zinc-ICP-Acid Dil.	ug/mL	100.0	< 1.00e-02	< 1.050	< 1.050	n/a	n/a	n/a	1.050	n/a
S97T001506	D	Zinc-ICP-Acid Dil.	ug/mL	101.2	< 1.00e-02	< 2.10e-01	< 2.10e-01	n/a	n/a	n/a	2.10e-01	n/a
S97T001506	D	Fluoride-IC-Dionex 4000/4500	ug/mL	98.40	< 1.00e-02	< 2.10e-01	< 2.10e-01	n/a	n/a	n/a	2.10e-01	n/a
S97T001506	D	Chloride-IC-Dionex 4000/4500	ug/mL	96.27	< 1.20e-02	< 15.33	< 15.33	52.31	45.1	n/a	13.33	n/a
S97T001506	D	Nitrate-IC - Dionex 4000/4500	ug/mL	93.00	< 1.00e-01	< 40.52	< 40.52	64.10	14.7	n/a	18.89	n/a
S97T001506	D	Nitrate by IC-Dionex 4000/4500	ug/mL	96.63	< 1.39e-01	< 2.04e+02	< 2.04e+02	190.2	14.7	n/a	120.0	n/a
S97T001506	D	Phosphate by IC-Dionex 4000/4500	ug/mL	98.35	< 1.20e-01	< 1.33e+02	< 1.33e+02	175.3	0.58	n/a	153.3	n/a
S97T001506	D	Sulfate by IC-Dionex 4000/4500	ug/mL	97.78	< 1.38e-01	< 1.74e+02	< 1.74e+02	175.3	0.58	n/a	153.3	n/a
S97T001506	D	Oxalate-IC-Dionex 4000/4500	ug/mL	97.94	< 1.05e-01	< 1.17e+02	< 1.17e+02	n/a	n/a	n/a	116.7	n/a

Appendix A: Opportunistic Analyte Results
T-105

CORE NUMBER: 205
SEGMENT #: 1

SEGMENT PORTION: Drainable Liquid

Sample#	P	#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk	Rec %	Det Limit	Count Error
S97T001676			D Silver-ICP-Acid Dil.	ug/mL	100.4	<1.00e-02	6.600	7.620	7.110	5.42	97.70	98.00	4.010	n/a
S97T001676			D Aluminum-ICP-Acid Dil.	ug/mL	98.20	<5.00e-02	3.11e+02	340.0	350.5	5.42	98.00	98.00	20.10	n/a
S97T001676			D Arsenic-ICP-Acid Dil.	ug/mL	103.8	<1.00e-01	4.010	<4.01e1	n/a	n/a	92.70	92.70	40.10	n/a
S97T001676			D Boron-ICP-Acid Dil.	ug/mL	100.6	<5.00e-02	2.010	<2.01e1	n/a	n/a	103.0	103.0	20.10	n/a
S97T001676			D Bromine-ICP-Acid Dil.	ug/mL	100.0	<5.00e-02	2.010	<2.01e1	n/a	n/a	98.40	98.40	20.10	n/a
S97T001676			D Butyltin-ICP-Acid Dil.	ug/mL	103.6	<5.00e-03	2.000	<2.00e0	n/a	n/a	103.0	103.0	2.000	n/a
S97T001676			D Cadmium-ICP-Acid Dil.	ug/mL	102.4	<1.00e-01	4.010	<4.01e1	n/a	n/a	103.0	103.0	40.10	n/a
S97T001676			D Calcium-ICP-Acid Dil.	ug/mL	101.8	<5.00e-03	72.20	73.30	72.75	1.51	103.0	103.0	40.10	n/a
S97T001676			D Cerium-ICP-Acid Dil.	ug/mL	100.2	<1.00e-01	2.000	2.610	n/a	n/a	101.0	101.0	2.000	n/a
S97T001676			D Cobalt-ICP-Acid Dil.	ug/mL	101.6	<5.00e-02	4.010	<4.01e1	n/a	n/a	100.0	100.0	40.10	n/a
S97T001676			D Chromium-ICP-Acid Dil.	ug/mL	102.4	<1.00e-02	2.51e+02	265.0	258.0	5.43	101.0	101.0	4.010	n/a
S97T001676			D Copper-ICP-Acid Dil.	ug/mL	97.00	<1.00e-02	4.010	<4.01e1	n/a	n/a	96.80	96.80	4.010	n/a
S97T001676			D Iodine-ICP-Acid Dil.	ug/mL	94.80	<5.00e-01	20.10	<2.01e1	n/a	n/a	94.00	94.00	20.10	n/a
S97T001676			D Potassium-ICP-Acid Dil.	ug/mL	98.40	<5.00e-02	5.07e+02	584.0	545.5	14.1	107.0	107.0	200.10	n/a
S97T001676			D Lanthanum-ICP-Acid Dil.	ug/mL	101.8	<1.00e-01	20.10	<2.01e1	n/a	n/a	101.0	101.0	20.10	n/a
S97T001676			D Manganese-ICP-Acid Dil.	ug/mL	99.40	<1.00e-02	4.010	<4.01e1	n/a	n/a	99.80	99.80	40.10	n/a
S97T001676			D Molybdenum-ICP-Acid Dil.	ug/mL	101.4	<5.00e-02	75.70	81.10	78.40	6.89	102.0	102.0	20.10	n/a
S97T001676			D Sodium-ICP-Acid Dil.	ug/mL	97.80	<1.00e-01	9.53e+04	1.01e+05	9.82e+04	5.81	202.0	202.0	40.10	n/a
S97T001676			D Neodymium-ICP-Acid Dil.	ug/mL	102.0	<2.00e-02	28.90	27.80	28.35	3.88	99.70	99.70	8.020	n/a
S97T001676			D Nickel-ICP-Acid Dil.	ug/mL	101.2	<2.00e-01	1.51e+03	1.61e+03	1.56e+03	6.41	103.0	103.0	80.20	n/a
S97T001676			D Phosphorus-ICP-Acid Dil.	ug/mL	100.6	<2.00e-01	4.010	<4.01e1	n/a	n/a	101.0	101.0	40.10	n/a
S97T001676			D Lead-ICP-Acid Dil.	ug/mL	102.6	<1.00e-01	5.52e+03	5.84e+03	5.68e+03	5.63	81.10	81.10	40.10	n/a
S97T001676			D Sulfur-ICP-Acid Dil.	ug/mL	98.80	<1.00e-01	24.10	<2.41e1	n/a	n/a	95.60	95.60	24.10	n/a
S97T001676			D Antimony-ICP-Acid Dil.	ug/mL	95.80	<1.00e-02	40.10	<4.01e1	n/a	n/a	111.0	111.0	40.10	n/a
S97T001676			D Selenium-ICP-Acid Dil.	ug/mL	96.80	<5.00e-02	29.50	30.40	30.05	3.66	102.0	102.0	20.10	n/a
S97T001676			D Silicon-ICP-Acid Dil.	ug/mL	98.20	<1.00e-01	40.10	<4.01e1	n/a	n/a	97.60	97.60	40.10	n/a
S97T001676			D Samarium-ICP-Acid Dil.	ug/mL	99.40	<1.00e-02	4.010	<4.01e0	n/a	n/a	99.20	99.20	4.010	n/a
S97T001676			D Strontium-ICP-Acid Dil.	ug/mL	98.40	<1.00e-02	4.010	<4.01e0	n/a	n/a	98.30	98.30	4.010	n/a
S97T001676			D Titanium-ICP-Acid Dil.	ug/mL	98.00	<2.00e-01	80.20	<8.02e1	n/a	n/a	95.60	95.60	80.20	n/a
S97T001676			D Thallium-ICP-Acid Dil.	ug/mL	96.00	<5.00e-01	<2.00e+02	<2.00e2	n/a	n/a	101.5	101.5	200.10	n/a
S97T001676			D Uranium-ICP-Acid Dil.	ug/mL	97.60	<5.00e-02	20.10	<2.01e1	n/a	n/a	99.10	99.10	20.10	n/a
S97T001676			D Vanadium-ICP-Acid Dil.	ug/mL	97.60	<1.00e-02	4.010	<4.01e1	n/a	n/a	97.50	97.50	4.010	n/a
S97T001676			D Zinc-ICP-Acid Dil.	ug/mL	99.00	<1.00e-02	4.010	<4.01e0	n/a	n/a	98.00	98.00	4.010	n/a
S97T001676			D Zirconium-ICP-Acid Dil.	ug/mL	99.25	<1.20e-02	6.38e+02	624.0	630.8	2.22	90.85	90.85	122.4	n/a
S97T001676			D Fluoride-IC-Dionex 4000/4500	ug/mL	95.75	<1.70e-02	3.41e+02	373.0	357.0	8.96	94.88	94.88	173.4	n/a
S97T001676			D Chloride-IC-Dionex 4000/4500	ug/mL	100.9	<1.00e-01	5.69e+04	5.78e+04	5.78e+04	3.11	104.2	104.2	1.10e+03	n/a
S97T001676			D Nitrite-IC-Dionex 4000/4500	ug/mL	95.60	<1.30e-01	3.90e+04	3.88e+04	3.89e+04	0.51	100.2	100.2	1.42e+03	n/a
S97T001676			D Nitrate by IC-Dionex 4000/4500	ug/mL	97.61	<1.20e-01	4.60e+03	4.44e+03	4.52e+03	3.54	98.72	98.72	1.22e+03	n/a
S97T001676			D Phosphate-IC-Dionex 4000/4500	ug/mL	99.22	<1.38e-01	1.71e+04	1.72e+04	1.71e+04	0.58	98.10	98.10	1.41e+03	n/a
S97T001676			D Sulfate by IC-Dionex 4000/4500	ug/mL	99.47	<1.05e-01	<1.07e+03	<1.07e3	n/a	n/a	101.7	101.7	1.07e+03	n/a
S97T001676			D Oxalate-IC-Dionex 4000/4500	ug/mL	99.47	<1.05e-01	<1.07e+03	<1.07e3	n/a	n/a	101.7	101.7	1.07e+03	n/a

HNF-SD-WM-DP-265, REV. 0

Appendix A: Opportunistic Analyte Results T-105

CODE NUMBER: 205
SEGMENT #: 2

SEGMENT PORTION: Liner Liquid

Sample#	P#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec.	Det Limit	Count Err%
S97T001632	D	Silver-ICP-Acid Dil.	ug/mL	100.4	< 1.00e-02	6.150	6.099	6.125	1.14	91.90	4.010	N/A
S97T001632	D	Aluminum-ICP-Acid Dil.	ug/mL	98.20	< 1.00e-02	2.63e+02	244.0	263.5	0.38	97.70	20.10	N/A
S97T001632	D	Arsenic-ICP-Acid Dil.	ug/mL	103.8	< 1.00e-02	< 4.010	< 4.01e1	N/A	N/A	55.50	40.10	N/A
S97T001632	D	Boron-ICP-Acid Dil.	ug/mL	100.6	< 1.00e-02	< 20.10	< 2.01e1	N/A	N/A	104.0	20.10	N/A
S97T001632	D	Bromine-ICP-Acid Dil.	ug/mL	100.0	< 1.00e-02	< 20.10	< 2.01e1	N/A	N/A	99.20	20.10	N/A
S97T001632	D	Beryllium-ICP-Acid Dil.	ug/mL	103.6	< 1.00e-02	< 2.000	< 2.00e0	N/A	N/A	103.0	2.000	N/A
S97T001632	D	Barium-ICP-Acid Dil.	ug/mL	102.4	< 1.00e-02	< 4.010	< 4.01e1	N/A	N/A	103.0	4.010	N/A
S97T001632	D	Calcium-ICP-Acid Dil.	ug/mL	102.6	< 1.00e-02	63.60	64.10	63.85	0.78	103.0	40.10	N/A
S97T001632	D	Cadmium-ICP-Acid Dil.	ug/mL	101.8	< 1.00e-02	< 2.000	< 2.00e0	N/A	N/A	101.0	2.000	N/A
S97T001632	D	Cerium-ICP-Acid Dil.	ug/mL	100.2	< 1.00e-02	< 4.010	< 4.01e1	N/A	N/A	101.0	40.10	N/A
S97T001632	D	Cobalt-ICP-Acid Dil.	ug/mL	101.5	< 1.00e-02	< 8.020	< 8.02e0	N/A	N/A	101.0	8.020	N/A
S97T001632	D	Chromium-ICP-Acid Dil.	ug/mL	102.4	< 1.00e-02	2.32e+02	231.0	231.5	0.43	102.0	4.010	N/A
S97T001632	D	Copper-ICP-Acid Dil.	ug/mL	97.00	< 1.00e-02	< 4.010	< 4.01e1	N/A	N/A	97.70	4.010	N/A
S97T001632	D	Iron-ICP-Acid Dil.	ug/mL	94.80	< 1.00e-02	< 20.10	< 2.01e1	N/A	N/A	94.30	20.10	N/A
S97T001632	D	Potassium-ICP-Acid Dil.	ug/mL	98.40	< 1.00e-02	5.30e+02	462.0	496.0	13.7	82.30	200.10	N/A
S97T001632	D	Lanthanum-ICP-Acid Dil.	ug/mL	101.8	< 1.00e-02	< 20.10	< 2.01e1	N/A	N/A	101.0	20.10	N/A
S97T001632	D	Magnesium-ICP-Acid Dil.	ug/mL	102.8	< 1.00e-02	< 4.010	< 4.01e1	N/A	N/A	100.0	40.10	N/A
S97T001632	D	Manganese-ICP-Acid Dil.	ug/mL	99.40	< 1.00e-02	< 4.010	< 4.01e1	N/A	N/A	96.70	4.010	N/A
S97T001632	D	Molybdenum-ICP-Acid Dil.	ug/mL	101.4	< 1.00e-02	70.60	71.10	70.85	0.71	101.0	20.10	N/A
S97T001632	D	Sodium-ICP-Acid Dil.	ug/mL	97.80	< 1.00e-02	9.06e+04	8.91e+04	8.98e+04	1.67	15.30	40.10	N/A
S97T001632	D	Neodymium-ICP-Acid Dil.	ug/mL	102.0	< 1.00e-02	< 4.010	< 4.01e1	N/A	N/A	101.0	40.10	N/A
S97T001632	D	Nickel-ICP-Acid Dil.	ug/mL	101.2	< 1.00e-02	42.90	40.50	41.70	5.76	98.90	8.020	N/A
S97T001632	D	Phosphorus-ICP-Acid Dil.	ug/mL	100.6	< 1.00e-02	1.71e+03	1.69e+03	1.70e+03	1.18	109.0	80.20	N/A
S97T001632	D	Lead-ICP-Acid Dil.	ug/mL	102.6	< 1.00e-02	< 4.010	< 4.01e1	N/A	N/A	99.80	40.10	N/A
S97T001632	D	Sulfur-ICP-Acid Dil.	ug/mL	98.80	< 1.00e-02	5.11e+03	5.00e+03	5.06e+03	2.18	99.80	40.10	N/A
S97T001632	D	Antimony-ICP-Acid Dil.	ug/mL	95.80	< 1.00e-02	< 24.10	< 2.41e1	N/A	N/A	94.10	24.10	N/A
S97T001632	D	Selenium-ICP-Acid Dil.	ug/mL	98.00	< 1.00e-02	< 4.010	< 4.01e1	N/A	N/A	113.0	40.10	N/A
S97T001632	D	Silicon-ICP-Acid Dil.	ug/mL	96.80	< 1.00e-02	24.40	27.50	25.95	11.9	105.0	20.10	N/A
S97T001632	D	Samarium-ICP-Acid Dil.	ug/mL	98.20	< 1.00e-02	< 4.010	< 4.01e1	N/A	N/A	97.90	40.10	N/A
S97T001632	D	Titanium-ICP-Acid Dil.	ug/mL	99.40	< 1.00e-02	< 4.010	< 4.01e0	N/A	N/A	99.20	4.010	N/A
S97T001632	D	Strontium-ICP-Acid Dil.	ug/mL	98.40	< 1.00e-02	< 4.010	< 4.01e0	N/A	N/A	98.40	4.010	N/A
S97T001632	D	Thallium-ICP-Acid Dil.	ug/mL	98.00	< 1.00e-02	< 80.20	< 8.02e1	N/A	N/A	93.20	80.20	N/A
S97T001632	D	Uranium-ICP-Acid Dil.	ug/mL	96.00	< 1.00e-02	< 2.000	< 2.00e2	N/A	N/A	101.0	200.0	N/A
S97T001632	D	Vanadium-ICP-Acid Dil.	ug/mL	99.60	< 1.00e-02	< 20.10	< 2.01e1	N/A	N/A	99.20	20.10	N/A
S97T001632	D	Zinc-ICP-Acid Dil.	ug/mL	97.60	< 1.00e-02	< 4.010	< 4.01e0	N/A	N/A	97.70	4.010	N/A
S97T001632	D	Zirconium-ICP-Acid Dil.	ug/mL	99.00	< 1.00e-02	< 4.010	< 4.01e0	N/A	N/A	97.90	4.010	N/A
S97T001632	D	Fluorine-IC-Dioxex 4000/4500	ug/mL	96.61	< 1.20e-02	6.71e+02	592.0	631.5	12.5	92.54	25.45	N/A
S97T001632	D	Chloride-IC-Dioxex 4000/4500	ug/mL	93.25	< 1.70e-02	5.18e+02	523.0	520.5	0.96	98.62	36.06	N/A
S97T001632	D	Nitrite-IC - Dioxex 4000/4500	ug/mL	97.79	< 1.08e-01	4.71e+04	4.71e+04	4.63e+04	3.68	120.6	229.1	N/A
S97T001632	D	Nitrate by IC-Dioxex 4000/4500	ug/mL	97.47	< 1.39e-01	3.12e+04	3.11e+04	3.12e+04	0.32	116.8	294.8	N/A
S97T001632	D	Phosphate-IC-Dioxex 4000/4500	ug/mL	102.2	< 1.20e-01	4.12e+03	4.45e+03	4.29e+03	7.70	106.6	254.5	N/A
S97T001632	D	Sulfate by IC-Dioxex 4000/4500	ug/mL	98.58	< 1.38e-01	1.19e+04	1.25e+04	1.22e+04	4.92	107.9	292.7	N/A
S97T001632	D	Oxalate-IC-Dioxex 4000/4500	ug/mL	97.94	< 1.05e-01	9.89e+02	1.06e+03	1.02e+03	6.93	102.4	222.7	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%
S97T001687	A	Silver - ICP-Acid Digest	ug/g	19.0	< 1.00e-02	4.20	46.90	45.55	5.93	74.60	14.50	N/A
S97T001687	A	Aluminum - ICP-Acid Digest	ug/g	101.8	8.00e-02	1.45e+02	2.61e+04	2.03e+04	59.1	2.80e+03	72.30	N/A
S97T001687	A	Arsenic - ICP-Acid Digest	ug/g	19.8	< 1.00e-02	1.45e+02	1.15e+02	N/A	N/A	70.60	72.30	N/A
S97T001687	A	Boron - ICP-Acid Digest	ug/g	12.8	< 1.00e-02	72.30	< 72.30	89.00	1.12	97.80	72.30	N/A
S97T001687	A	Barium - ICP-Acid Digest	ug/g	101.8	< 1.00e-02	85.50	< 85.50	N/A	N/A	109.2	72.30	N/A
S97T001687	A	Beryllium - ICP-Acid Digest	ug/g	101.8	< 1.00e-02	7.230	< 7.230	1.64e+03	4.78	109.2	145.0	N/A
S97T001687	A	Bismuth - ICP-Acid Digest	ug/g	101.8	< 1.00e-02	1.60e+03	1.67e+03	1.64e+03	6.22	89.20	145.0	N/A
S97T001687	A	Calcium - ICP-Acid Digest	ug/g	97.30	< 1.00e-02	4.95e+02	1.06e+03	1.810	6.22	89.20	145.0	N/A
S97T001687	A	Cadmium - ICP-Acid Digest	ug/g	101.2	< 1.00e-02	1.72e+02	< 1.72e+02	9.259	30.2	92.40	72.30	N/A
S97T001687	A	Cerium - ICP-Acid Digest	ug/g	98.20	< 1.00e-02	1.45e+02	< 1.45e+02	N/A	N/A	97.20	72.30	N/A
S97T001687	A	Chromium - ICP-Acid Digest	ug/g	99.30	< 1.00e-02	6.52e+02	< 6.52e+02	63.0	1.84	90.40	72.30	N/A
S97T001687	A	Copper - ICP-Acid Digest	ug/g	99.40	< 1.00e-02	1.17e+02	< 1.17e+02	63.0	1.84	90.40	72.30	N/A
S97T001687	A	Iron - ICP-Acid Digest	ug/g	100.2	< 1.00e-02	1.17e+02	< 1.17e+02	1.19e+04	3.36	95.80	72.30	N/A
S97T001687	A	Potassium - ICP-Acid Digest	ug/g	101.4	< 1.00e-02	< 72.30	< 72.30	N/A	N/A	146.0	72.30	N/A
S97T001687	A	Lanthanum - ICP-Acid Digest	ug/g	101.8	< 1.00e-02	72.30	< 72.30	N/A	N/A	146.0	72.30	N/A
S97T001687	A	Magnesium - ICP-Acid Digest	ug/g	92.20	< 1.00e-02	1.13e+03	1.14e+03	0.88	84.60	145.0	72.30	N/A
S97T001687	A	Manganese - ICP-Acid Digest	ug/g	97.40	< 1.00e-02	1.25e+04	1.27e+04	1.26e+04	1.59	55.40	145.0	N/A
S97T001687	A	Nickel - ICP-Acid Digest	ug/g	96.60	< 1.00e-02	72.30	< 72.30	2.061	N/A	98.40	72.30	N/A
S97T001687	A	Sodium - ICP-Acid Digest	ug/g	116.0	< 1.00e-02	6.95e+04	6.95e+04	6.96e+04	0.14	378.0	145.0	N/A
S97T001687	A	Zinc - ICP-Acid Digest	ug/g	112.4	< 1.00e-02	< 1.45e+02	< 1.45e+02	N/A	N/A	114.8	145.0	N/A
S97T001687	A	Phosphorus - ICP-Acid Digest	ug/g	99.60	< 1.00e-02	1.32e+02	1.410	136.5	6.59	97.60	28.90	N/A
S97T001687	A	Lithium - ICP-Acid Digest	ug/g	98.40	< 1.00e-02	1.45e+03	1.45e+03	0.00	60.20	289.0	145.0	N/A
S97T001687	A	Sulfur - ICP-Acid Digest	ug/g	94.20	< 1.00e-02	4.75e+02	4.700	471.5	0.64	90.20	145.0	N/A
S97T001687	A	Antimony - ICP-Acid Digest	ug/g	98.00	< 1.00e-02	3.10e+03	3.10e+03	3.10e+03	0.00	99.20	145.0	N/A
S97T001687	A	Selenium - ICP-Acid Digest	ug/g	98.00	< 1.00e-02	< 86.80	< 86.80	N/A	N/A	85.60	86.80	N/A
S97T001687	A	Silicon - ICP-Acid Digest	ug/g	136.0	< 1.00e-02	5.70e+03	5.76e+03	5.73e+03	1.05	36.20	72.30	N/A
S97T001687	A	Strontium - ICP-Acid Digest	ug/g	105.0	< 1.00e-02	< 1.45e+02	< 1.45e+02	N/A	N/A	118.2	145.0	N/A
S97T001687	A	Titanium - ICP-Acid Digest	ug/g	100.8	< 1.00e-02	2.01e+02	204.0	202.5	1.48	97.00	145.0	N/A
S97T001687	A	Vanadium - ICP-Acid Digest	ug/g	90.40	< 1.00e-02	46.80	50.40	48.60	7.41	87.00	145.0	N/A
S97T001687	A	Uranium - ICP-Acid Digest	ug/g	99.60	< 1.00e-02	4.32e+02	394.0	413.0	9.20	95.80	289.0	N/A
S97T001687	A	Thallium - ICP-Acid Digest	ug/g	101.0	< 1.00e-02	1.16e+04	1.20e+04	1.18e+04	3.39	106.0	723.0	N/A
S97T001687	A	Zirconium - ICP-Acid Digest	ug/g	97.60	< 1.00e-02	< 72.30	< 72.30	N/A	N/A	96.20	72.30	N/A
S97T001687	A	Zinc - ICP-Acid Digest	ug/g	95.60	< 1.00e-02	1.72e+02	140.0	121.0	31.4	95.00	145.0	N/A
S97T001687	A	Fluoride - ICP-Acid Digest	ug/g	100.8	< 1.00e-02	94.40	56.80	75.60	49.7	48.40	145.0	N/A
S97T001688	A	Chloride - ICP-Acid Digest	ug/g	100.5	< 1.20e-02	4.99e+02	454.0	476.6	9.44	85.93	50.76	N/A
S97T001688	A	Nitrate - ICP-Acid Digest	ug/g	97.22	< 1.70e-02	4.18e+02	379.0	398.6	9.79	95.57	71.92	N/A
S97T001688	A	Nitrite - ICP-Acid Digest	ug/g	97.61	< 1.41e-01	3.66e+04	3.57e+04	3.67e+04	5.18	102.6	457.0	N/A
S97T001688	A	Phosphate - ICP-Acid Digest	ug/g	95.62	< 1.30e-01	2.56e+04	2.47e+04	2.52e+04	3.58	106.7	588.0	N/A
S97T001688	A	Sulfate - ICP-Acid Digest	ug/g	97.06	< 1.20e-01	4.01e+03	3.79e+03	3.90e+03	5.64	98.53	507.6	N/A
S97T001688	A	Sulfate by ICP-Acid Digest	ug/g	98.73	< 1.03e-01	1.06e+04	1.06e+04	1.06e+04	0.00	100.9	583.8	N/A
S97T001688	A	Oxalate - ICP-Acid Digest	ug/g	99.25	< 1.03e-01	< 4.47e+02	< 4.47e+02	N/A	N/A	103.6	444.1	N/A
S97T002007	A	Silver - ICP-Acid Digest	ug/g	93.90	< 1.00e-02	12.50	14.90	13.70	17.5	92.00	3.920	N/A
S97T002007	A	Aluminum - ICP-Acid Digest	ug/g	95.80	< 1.00e-01	5.90e+04	837.0	2.99e+04	194	-1.180e4	19.60	N/A
S97T002007	A	Arsenic - ICP-Acid Digest	ug/g	108.6	< 4.43e-01	< 39.20	< 30.0e1	N/A	N/A	105.8	39.20	N/A
S97T002007	A	Boron - ICP-Acid Digest	ug/g	108.6	< 4.43e-01	1.60e+02	660.0	410.0	122	125.0	19.60	N/A
S97T002007	A	Barium - ICP-Acid Digest	ug/g	95.40	< 5.00e-02	< 19.60	< 3.15e1	N/A	N/A	95.60	19.60	N/A
S97T002007	A	Beryllium - ICP-Acid Digest	ug/g	99.80	< 5.00e-03	< 1.960	< 3.15e0	N/A	N/A	100.8	1.960	N/A
S97T002007	A	Bismuth - ICP-Acid Digest	ug/g	94.40	< 1.00e-01	1.07e+02	65.60	86.30	48.0	75.40	39.20	N/A

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	% Spk	Rec %	Det Limit	Count Error
S97T020207	A	Calcium - ICP-Acid Digest	ug/g	101.0	4.76e-01	1.12e+02	127.0	119.5	12.6	50.60	50.60	39.20	N/A
S97T020207	A	Calcium - ICP-Acid Digest	ug/g	93.40	<1.00e-02	< 966	<3.15e0	N/A	N/A	98.80	98.80	39.20	N/A
S97T020207	A	Cadmium - ICP-Acid Digest	ug/g	94.20	<1.00e-02	< 39.20	<6.30e1	N/A	N/A	95.80	95.80	39.20	N/A
S97T020207	A	Cerium - ICP-Acid Digest	ug/g	93.20	<2.00e-02	< 7.80	<1.26e1	N/A	N/A	97.20	97.20	7.80	N/A
S97T020207	A	Cobalt - ICP-Acid Digest	ug/g	94.80	<1.00e-02	4.890	8.070	6.480	49.1	97.60	97.60	3.920	N/A
S97T020207	A	Chromium - ICP-Acid Digest	ug/g	87.40	<1.00e-02	26.40	<6.30e0	N/A	N/A	85.20	85.20	3.920	N/A
S97T020207	A	Copper - ICP-Acid Digest	ug/g	89.40	<5.00e-02	2.01e+02	72.20	136.9	94.3	54.20	54.20	19.60	N/A
S97T020207	A	Iron - ICP-Acid Digest	ug/g	96.20	<5.00e-02	<1.96e+02	<3.15e2	N/A	N/A	97.20	97.20	19.60	N/A
S97T020207	A	Potassium - ICP-Acid Digest	ug/g	96.00	<5.00e-02	< 19.60	<2.35e1	N/A	N/A	97.20	97.20	19.60	N/A
S97T020207	A	Lanthanum - ICP-Acid Digest	ug/g	95.40	1.31e-01	< 39.20	<2.30e1	N/A	N/A	101.8	101.8	39.20	N/A
S97T020207	A	Magnesium - ICP-Acid Digest	ug/g	93.00	<1.00e-02	15.20	<6.30e1	15.60	5.13	93.40	93.40	3.920	N/A
S97T020207	A	Manganese - ICP-Acid Digest	ug/g	95.80	<5.00e-02	< 19.60	<3.15e1	N/A	N/A	99.00	99.00	19.60	N/A
S97T020207	A	Nickel - ICP-Acid Digest	ug/g	115.6	5.52e-01	1.67e+05	2.08e+05	1.88e+05	21.9	-1.29e+2	-1.29e+2	39.20	N/A
S97T020207	A	Sodium - ICP-Acid Digest	ug/g	94.00	<1.00e-01	< 39.20	<6.30e1	N/A	N/A	99.40	99.40	39.20	N/A
S97T020207	A	Nickel - ICP-Acid Digest	ug/g	95.40	<2.00e-02	< 7.80	<1.26e1	N/A	N/A	94.80	94.80	7.80	N/A
S97T020207	A	Phosphorus - ICP-Acid Digest	ug/g	95.20	<2.00e-02	6.34e+04	8.61e+04	7.72e+04	22.9	-5.40e+3	-5.40e+3	78.40	N/A
S97T020207	A	Selenium - ICP-Acid Digest	ug/g	92.40	<1.00e-01	< 39.20	<6.30e1	N/A	N/A	97.80	97.80	39.20	N/A
S97T020207	A	Sulfur - ICP-Acid Digest	ug/g	94.80	1.34e-01	< 39.20	<6.30e1	77.20	8.81	92.40	92.40	39.20	N/A
S97T020207	A	Antimony - ICP-Acid Digest	ug/g	93.60	<6.00e-02	< 23.50	<3.78e1	N/A	N/A	100.2	100.2	23.50	N/A
S97T020207	A	Strontium - ICP-Acid Digest	ug/g	131.8	1.490	<1.96e+03	4.15e+03	2.68e+03	11.0	34.0	34.0	19.60	N/A
S97T020207	A	Samarium - ICP-Acid Digest	ug/g	92.20	<1.00e-01	< 39.20	<6.30e1	N/A	N/A	92.40	92.40	39.20	N/A
S97T020207	A	Titanium - ICP-Acid Digest	ug/g	96.20	<1.00e-02	< 3.920	<6.30e0	N/A	N/A	88.00	88.00	3.920	N/A
S97T020207	A	Tantalum - ICP-Acid Digest	ug/g	87.80	<1.00e-02	< 3.920	<6.30e0	N/A	N/A	94.80	94.80	78.40	N/A
S97T020207	A	Thallium - ICP-Acid Digest	ug/g	90.80	<2.00e-01	< 78.40	<1.26e2	N/A	N/A	N/A	N/A	196.0	N/A
S97T020207	A	Uranium - ICP-Acid Digest	ug/g	91.20	<5.00e-01	<1.96e+02	<3.15e2	N/A	N/A	91.50	91.50	19.60	N/A
S97T020207	A	Vanadium - ICP-Acid Digest	ug/g	94.60	<5.00e-02	29.70	<3.15e1	N/A	N/A	N/A	N/A	19.60	N/A
S97T020207	A	Zinc - ICP-Acid Digest	ug/g	94.80	3.92e-01	29.10	41.40	35.25	34.9	96.00	96.00	3.920	N/A
S97T020207	A	Zirconium - ICP-Acid Digest	ug/g	97.20	<1.00e-02	4.660	9.280	6.970	66.3	42.60	42.60	3.920	N/A
S97T020208	A	Fluoride - ICP-Acid Digest	ug/g	89.32	<1.20e-02	2.27e+02	2.30e+02	2.28e+02	1.31	106.9	106.9	75.03	N/A
S97T020208	A	Chloride - ICP-Acid Digest	ug/g	91.88	8.40e-02	2.98e+02	342.0	319.9	13.8	85.50	85.50	106.3	N/A
S97T020208	A	Nitrate - ICP-Acid Digest	ug/g	89.87	4.24e-01	1.30e+03	2.99e+03	2.15e+03	78.8	87.48	87.48	675.3	N/A
S97T020208	A	Nitrate by IC-Dionex 4000/4500	ug/g	90.24	2.66e-01	1.52e+03	3.91e+03	2.72e+03	88.0	88.38	88.38	869.2	N/A
S97T020208	A	Phosphate by IC-Dionex 4000/4500	ug/g	88.62	2.13e-01	2.21e+05	2.31e+05	2.26e+05	4.42	107.3	107.3	750.3	N/A
S97T020208	A	Sulfate by IC-Dionex 4000/4500	ug/g	92.41	1.30e-01	1.62e+03	2.33e+03	1.98e+03	35.9	88.77	88.77	863.1	N/A
S97T020208	A	Oxalate - ICP-Acid Digest	ug/g	90.43	<1.00e-01	<6.57e+02	<1.74e3	N/A	N/A	90.24	90.24	656.4	N/A
S97T020208	A	Silver - ICP-Acid Digest	ug/g	95.90	<1.00e-02	< 4.140	<2.89e0	N/A	N/A	95.50	95.50	4.140	N/A
S97T020208	A	Aluminum - ICP-Acid Digest	ug/g	95.80	1.19e-01	< 41.40	<2.89e1	1.82e+05	11.5	1.33e+04	1.33e+04	20.60	N/A
S97T020208	A	Artenic - ICP-Acid Digest	ug/g	95.80	<4.43e-01	< 1.50e+02	100.0	125.0	40.0	97.80	97.80	20.60	N/A
S97T020208	A	Boron - ICP-Acid Digest	ug/g	108.6	4.43e-01	< 20.70	<1.44e1	N/A	N/A	96.00	96.00	20.60	N/A
S97T020208	A	Beryllium - ICP-Acid Digest	ug/g	99.80	<5.00e-03	< 2.070	<1.44e0	N/A	N/A	105.2	105.2	2.060	N/A
S97T020208	A	Bismuth - ICP-Acid Digest	ug/g	94.40	<1.00e-01	1.66e+02	156.0	161.0	6.21	111.0	111.0	41.40	N/A
S97T020208	A	Calcium - ICP-Acid Digest	ug/g	101.0	<4.76e-01	2.18e+02	168.0	193.0	25.9	98.40	98.40	41.40	N/A
S97T020208	A	Cadmium - ICP-Acid Digest	ug/g	93.40	<5.00e-03	< 2.070	<1.44e0	N/A	N/A	95.00	95.00	2.060	N/A
S97T020208	A	Cerium - ICP-Acid Digest	ug/g	94.20	<1.00e-01	< 4.140	<2.89e1	N/A	N/A	95.40	95.40	41.40	N/A
S97T020208	A	Cobalt - ICP-Acid Digest	ug/g	93.20	<2.00e-02	5.240	5.530	5.385	5.39	96.00	96.00	4.140	N/A
S97T020208	A	Chromium - ICP-Acid Digest	ug/g	94.80	<1.00e-02	36.70	29.70	34.20	26.3	92.40	92.40	4.140	N/A
S97T020208	A	Copper - ICP-Acid Digest	ug/g	87.40	<5.00e-02	5.34e+02	485.0	509.5	9.62	74.80	74.80	20.60	N/A
S97T020208	A	Iron - ICP-Acid Digest	ug/g	96.20	<5.00e-01	<2.07e+02	<1.44e2	N/A	N/A	97.80	97.80	20.60	N/A
S97T020208	A	Potassium - ICP-Acid Digest	ug/g	96.00	<5.00e-02	< 20.70	<1.44e1	N/A	N/A	97.60	97.60	20.60	N/A
S97T020208	A	Lanthanum - ICP-Acid Digest	ug/g	96.00	<5.00e-02	< 20.70	<1.44e1	N/A	N/A	97.60	97.60	20.60	N/A

HNF-SD-WM-DP-265, REV. 0

Sample #	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S97T002016	A	Magnesium - ICP-Acid Digest	ug/g	95.40	1.31e-01	94.50	45.40	18.95	72.7	95.40	41.40	17/2
S97T002016	A	Magnesium - ICP-Acid Digest	ug/g	93.00	<1.00e-02	1.19e+02	106.0	110.5	6.14	91.00	41.40	17/2
S97T002016	A	Molybdenum - ICP-Acid Digest	ug/g	92.80	<1.00e-02	20.70	<1.44e1	n/a	n/a	94.80	20.40	17/2
S97T002016	A	Sodium - ICP-Acid Digest	ug/g	115.6	5.25e-01	3.12e+03	3.27e+03	3.27e+03	2.45	342.0	41.40	17/2
S97T002016	A	Neodymium - ICP-Acid Digest	ug/g	94.00	<1.00e-01	<1.40	<5.92e1	n/a	n/a	95.60	41.40	17/2
S97T002016	A	Nickel - ICP-Acid Digest	ug/g	92.40	<2.00e-02	8.270	36.20	375.0	10.7	97.00	82.80	17/2
S97T002016	A	Phosphorus - ICP-Acid Digest	ug/g	95.20	<2.00e-01	<1.40	<3.99e1	n/a	n/a	91.40	82.80	17/2
S97T002016	A	Lead - ICP-Acid Digest	ug/g	92.40	<1.00e-01	1.59e+02	151.0	142.0	15.2	101.0	41.40	17/2
S97T002016	A	Sulfur - ICP-Acid Digest	ug/g	96.60	<1.00e-01	24.80	<1.73e1	n/a	n/a	95.80	24.80	17/2
S97T002016	A	Antimony - ICP-Acid Digest	ug/g	93.60	<6.00e-02	31.40	<2.39e1	40.7	52.6	133.2	20.40	17/2
S97T002016	A	Strontium - ICP-Acid Digest	ug/g	91.60	<1.00e-01	8.140	<2.39e1	n/a	n/a	92.00	20.40	17/2
S97T002016	A	Strontium - ICP-Acid Digest	ug/g	96.20	<1.00e-02	8.100	6.660	7.550	18.3	98.40	41.40	17/2
S97T002016	A	Titanium - ICP-Acid Digest	ug/g	97.80	<1.00e-02	<1.00	<2.39e1	n/a	n/a	88.40	41.40	17/2
S97T002016	A	Thallium - ICP-Acid Digest	ug/g	90.60	<1.00e-01	82.70	<5.92e1	n/a	n/a	95.80	82.80	17/2
S97T002016	A	Uranium - ICP-Acid Digest	ug/g	91.20	<1.00e-01	3.35e+02	219.0	277.5	42.3	95.80	206.0	17/2
S97T002016	A	Vanadium - ICP-Acid Digest	ug/g	94.60	<1.00e-02	30.70	<1.44e1	n/a	n/a	95.40	20.40	17/2
S97T002016	A	Zinc - ICP-Acid Digest	ug/g	94.60	<1.00e-02	1.08e+02	79.60	93.60	31.0	91.80	41.40	17/2
S97T002016	A	Zirconium - ICP-Acid Digest	ug/g	97.90	<1.00e-02	1.53e+02	4.420	4.515	1.99	59.20	41.40	17/2
S97T002017	W	Fluoride-IC-Dioxex 4000/4500	ug/g	92.91	<1.20e-02	1.61e+02	194.0	173.6	23.6	96.61	30.26	17/2
S97T002017	W	Chloride-IC-Dioxex 4000/4500	ug/g	92.93	<1.20e-02	76.97	202.0	138.5	91.7	87.87	42.87	17/2
S97T002017	W	Nitrate-IC - Dioxex 4000/4500	ug/g	89.97	<1.20e-01	1.61e+03	2.47e+03	2.04e+03	42.2	85.24	272.4	17/2
S97T002017	W	Nitrate by IC-Dioxex 4000/4500	ug/g	89.86	<1.20e-01	1.63e+03	2.21e+03	1.93e+03	28.4	87.37	350.6	17/2
S97T002017	W	Phosphate-IC-Dioxex 4000/4500	ug/g	92.11	<1.20e-01	1.63e+03	2.29e+03	1.86e+03	46.2	87.34	302.6	17/2
S97T002017	W	Sulfate by IC-Dioxex 4000/4500	ug/g	91.93	<1.38e-01	6.65e+02	1.12e+03	893.1	50.8	87.97	348.0	17/2
S97T002017	W	Oxalate-IC-Dioxex 4000/4500	ug/g	91.68	<1.05e-01	5.98e+02	<3.82e2	n/a	n/a	84.88	264.8	17/2

Drainable Liquid: Drainable Liquid

Sample #	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S97T001679	D	Silica-ICP-Acid Dil.	ug/mL	100.4	<1.00e-02	6.150	5.890	6.020	4.32	n/a	4.010	n/a
S97T001679	D	Silica-ICP-Acid Dil.	ug/mL	98.20	<5.00e-02	1.89e+02	194.0	191.5	2.61	n/a	20.10	n/a
S97T001679	D	Aluminum-ICP-Acid Dil.	ug/mL	103.8	<1.00e-01	<40.10	<4.01e1	n/a	n/a	n/a	40.10	n/a
S97T001679	D	Iron-ICP-Acid Dil.	ug/mL	100.6	<5.00e-02	<20.10	<2.01e1	n/a	n/a	n/a	20.10	n/a
S97T001679	D	Beryllium-ICP-Acid Dil.	ug/mL	100.0	<5.00e-02	<20.10	<2.01e1	n/a	n/a	n/a	20.10	n/a
S97T001679	D	Beryllium-ICP-Acid Dil.	ug/mL	103.6	<5.00e-03	<2.000	<2.00e0	n/a	n/a	n/a	2.000	n/a
S97T001679	D	Barium-ICP-Acid Dil.	ug/mL	102.4	<1.00e-01	<40.10	<4.01e1	n/a	n/a	n/a	40.10	n/a
S97T001679	D	Calcium-ICP-Acid Dil.	ug/mL	102.6	<1.00e-01	64.60	63.50	64.05	1.72	n/a	40.10	n/a
S97T001679	D	Cadmium-ICP-Acid Dil.	ug/mL	101.8	<5.00e-03	<2.000	<2.00e0	n/a	n/a	n/a	2.000	n/a
S97T001679	D	Cerium-ICP-Acid Dil.	ug/mL	100.2	<1.00e-01	<40.10	<4.01e1	n/a	n/a	n/a	40.10	n/a
S97T001679	D	Cobalt-ICP-Acid Dil.	ug/mL	101.6	<2.00e-02	8.020	<8.02e0	n/a	n/a	n/a	8.020	n/a
S97T001679	D	Chromium-ICP-Acid Dil.	ug/mL	102.4	<1.00e-02	2.44e+02	248.0	246.0	1.63	n/a	4.010	n/a
S97T001679	D	Copper-ICP-Acid Dil.	ug/mL	97.00	<1.00e-02	<40.10	<4.01e1	n/a	n/a	n/a	4.010	n/a
S97T001679	D	Iron-ICP-Acid Dil.	ug/mL	94.80	<5.00e-02	<20.10	<2.01e1	n/a	n/a	n/a	20.10	n/a
S97T001679	D	Potassium-ICP-Acid Dil.	ug/mL	98.40	<5.00e-01	5.39e+02	514.0	526.5	4.75	n/a	200.0	n/a
S97T001679	D	Lanthanum-ICP-Acid Dil.	ug/mL	101.8	<5.00e-02	<20.10	<2.01e1	n/a	n/a	n/a	20.10	n/a
S97T001679	D	Magnesium-ICP-Acid Dil.	ug/mL	102.8	<1.00e-01	<40.10	<4.01e1	n/a	n/a	n/a	40.10	n/a
S97T001679	D	Magnesium-ICP-Acid Dil.	ug/mL	99.40	<1.00e-02	<40.10	<4.01e1	n/a	n/a	n/a	4.010	n/a
S97T001679	D	Molybdenum-ICP-Acid Dil.	ug/mL	101.4	<5.00e-02	72.30	73.60	72.95	1.78	n/a	20.10	n/a
S97T001679	D	Sodium-ICP-Acid Dil.	ug/mL	97.80	<1.00e-01	9.07e+04	9.12e+04	9.12e+04	0.99	n/a	40.10	n/a
S97T001679	D	Neodymium-ICP-Acid Dil.	ug/mL	102.0	<1.00e-01	<40.10	<4.01e1	n/a	n/a	n/a	40.10	n/a

HNF-SD-WM-DP-265, REV. 0

Sample#	Pi A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S97T001679	D	Nickel-ICP-Acid Dil.	ug/mL	101.2	<2.00e-02	38.20	38.70	38.45	1.30	n/a	8.020	n/a
S97T001679	D	Phosphorus-ICP-Acid Dil.	ug/mL	101.6	<2.00e-01	1.84e+03	1.87e+03	1.86e+03	1.62	n/a	80.20	n/a
S97T001679	D	Sulfur-ICP-Acid Dil.	ug/mL	102.6	<1.00e-01	4.10	<4.01e1	n/a	n/a	n/a	40.10	n/a
S97T001679	D	Sulfur-ICP-Acid Dil.	ug/mL	98.80	<1.00e-01	5.13e+03	5.20e+03	5.16e+03	1.35	n/a	40.10	n/a
S97T001679	D	Selenium-ICP-Acid Dil.	ug/mL	95.80	<5.00e-02	24.10	<2.41e1	n/a	n/a	n/a	24.10	n/a
S97T001679	D	Selenium-ICP-Acid Dil.	ug/mL	98.00	<1.00e-01	40.10	<4.01e1	n/a	n/a	n/a	40.10	n/a
S97T001679	D	Selenium-ICP-Acid Dil.	ug/mL	96.80	<5.00e-02	47.90	55.60	51.75	14.9	n/a	20.10	n/a
S97T001679	D	Selenium-ICP-Acid Dil.	ug/mL	98.20	<1.00e-01	40.10	<4.01e1	n/a	n/a	n/a	40.10	n/a
S97T001679	D	Selenium-ICP-Acid Dil.	ug/mL	99.40	<1.00e-02	4.010	<4.01e0	n/a	n/a	n/a	4.010	n/a
S97T001679	D	Selenium-ICP-Acid Dil.	ug/mL	98.40	<1.00e-02	4.010	<4.01e0	n/a	n/a	n/a	4.010	n/a
S97T001679	D	Vanadium-ICP-Acid Dil.	ug/mL	98.00	<2.00e-01	80.20	<8.02e1	n/a	n/a	n/a	200.0	n/a
S97T001679	D	Vanadium-ICP-Acid Dil.	ug/mL	96.00	<5.00e-01	2.00e+02	<2.00e2	n/a	n/a	n/a	20.10	n/a
S97T001679	D	Vanadium-ICP-Acid Dil.	ug/mL	97.60	<1.00e-02	20.10	<2.01e1	n/a	n/a	n/a	4.010	n/a
S97T001679	D	Zinc-ICP-Acid Dil.	ug/mL	99.00	<1.00e-02	4.010	<4.01e0	n/a	n/a	n/a	4.010	n/a
S97T001679	D	Zinc-ICP-Acid Dil.	ug/mL	99.00	<1.00e-02	6.50e+02	596.0	627.9	10.2	n/a	122.4	n/a
S97T001679	D	Zinc-ICP-Acid Dil.	ug/mL	95.25	<1.20e-02	3.79e+02	305.0	311.9	4.49	n/a	173.4	n/a
S97T001679	D	Chloride-IC-Dioxex 4000/4500	ug/mL	93.75	<1.70e-02	5.60e+04	5.38e+04	5.49e+04	4.01	n/a	1.10e+03	n/a
S97T001679	D	Nitrate-IC-Dioxex 4000/4500	ug/mL	100.9	<1.00e-01	3.68e+04	3.64e+04	3.66e+04	1.09	n/a	1.42e+03	n/a
S97T001679	D	Nitrate by IC-Dioxex 4000/4500	ug/mL	93.60	<1.39e-01	5.22e+03	6.01e+03	5.62e+03	14.1	n/a	1.22e+03	n/a
S97T001679	D	Phosphate-IC-Dioxex 4000/4500	ug/mL	97.61	<1.20e-01	1.69e+04	1.71e+04	1.70e+04	1.18	n/a	1.41e+03	n/a
S97T001679	D	Sulfate by IC-Dioxex 4000/4500	ug/mL	99.22	<1.38e-01	<1.07e+03	<1.07e3	n/a	n/a	n/a	1.07e+03	n/a
S97T001679	D	Oxalate-IC-Dioxex 4000/4500	ug/mL	99.47	<1.09e-01	<1.07e+03	<1.07e3	n/a	n/a	n/a	1.07e+03	n/a

Appendix A: Opportunistic Analyte Results
T-105

CORE NUMBER: 207
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%
S97T001699	A	Silver - ICP-Acid Digest	ug/g	119.0	<1.00e-02	4.9	20	52.30	11.9	n/a	14.40	n/a
S97T001699	A	Aluminum - ICP-Acid Digest	ug/g	101.6	8.60e-02	3.01	+0.04	3.53e+04	29.5	n/a	71.90	n/a
S97T001699	A	Aluminum - ICP-Acid Digest	ug/g	101.6	<1.00e-01	<1.44e+02	<1.55e2	n/a	n/a	n/a	144.0	n/a
S97T001699	A	Boron - ICP-Acid Digest	ug/g	112.8	2.98e-01	1.06e+02	75	10	32.3	n/a	71.90	n/a
S97T001699	A	Boron - ICP-Acid Digest	ug/g	101.6	<5.00e-02	<7.190	<7.23e1	89.55	n/a	n/a	71.90	n/a
S97T001699	A	Beryllium - ICP-Acid Digest	ug/g	104.8	<5.00e-03	7.190	<7.23e0	n/a	n/a	n/a	71.90	n/a
S97T001699	A	Beryllium - ICP-Acid Digest	ug/g	101.6	<5.00e-03	2.09e+03	2.28e+03	n/a	n/a	n/a	144.0	n/a
S97T001699	A	Bismuth - ICP-Acid Digest	ug/g	101.2	<1.00e-01	2.09e+03	2.28e+03	2.18e+03	8.70	n/a	144.0	n/a
S97T001699	A	Cadmium - ICP-Acid Digest	ug/g	102.8	2.20e-01	1.07e+03	1.14e+03	1.10e+03	6.33	n/a	144.0	n/a
S97T001699	A	Cadmium - ICP-Acid Digest	ug/g	97.60	<5.00e-03	<7.190	<7.23e0	n/a	n/a	n/a	71.90	n/a
S97T001699	A	Cerium - ICP-Acid Digest	ug/g	102.2	<1.00e-01	<1.44e+02	<1.55e2	n/a	n/a	n/a	144.0	n/a
S97T001699	A	Cobalt - ICP-Acid Digest	ug/g	98.40	<2.00e-02	<28.80	<2.89e1	n/a	n/a	n/a	28.80	n/a
S97T001699	A	Cobalt - ICP-Acid Digest	ug/g	94.20	<1.00e-02	6.36e+02	697.0	665.5	9.15	n/a	14.40	n/a
S97T001699	A	Copper - ICP-Acid Digest	ug/g	99.40	<1.00e-02	23.40	23.70	23.55	1.27	n/a	14.40	n/a
S97T001699	A	Copper - ICP-Acid Digest	ug/g	100.2	6.60e-02	9.86e+03	<7.23e2	1.05e+04	12.7	n/a	71.90	n/a
S97T001699	A	Potassium - ICP-Acid Digest	ug/g	101.4	<5.00e-02	<7.190	<7.23e1	n/a	n/a	n/a	71.90	n/a
S97T001699	A	Antimony - ICP-Acid Digest	ug/g	104.8	<5.00e-02	8.02e+02	857.0	829.5	6.63	n/a	144.0	n/a
S97T001699	A	Antimony - ICP-Acid Digest	ug/g	92.20	<1.00e-01	4.12e+02	4.15e0	4.13e0	0.73	n/a	144.0	n/a
S97T001699	A	Manganese - ICP-Acid Digest	ug/g	97.40	<1.00e-02	<7.190	<7.23e1	9.68e+03	10.7	n/a	14.40	n/a
S97T001699	A	Molybdenum - ICP-Acid Digest	ug/g	96.60	<5.00e-02	<7.190	<7.23e1	n/a	n/a	n/a	71.90	n/a
S97T001699	A	Sodium - ICP-Acid Digest	ug/g	116.0	5.52e-01	<1.44e+02	<1.55e2	6.73e+04	4.75	n/a	144.0	n/a
S97T001699	A	Sodium - ICP-Acid Digest	ug/g	112.4	<1.00e-01	6.89e+04	6.57e+04	n/a	n/a	n/a	144.0	n/a
S97T001699	A	Nickel - ICP-Acid Digest	ug/g	98.40	<2.00e-01	73.60	84.40	79.00	13.7	n/a	28.80	n/a
S97T001699	A	Nickel - ICP-Acid Digest	ug/g	98.40	<2.00e-01	4.12e+02	4.15e0	4.13e0	2.12	n/a	288.0	n/a
S97T001699	A	Phosphorus - ICP-Acid Digest	ug/g	94.20	<1.00e-01	4.12e+02	4.15e0	4.13e0	0.73	n/a	144.0	n/a
S97T001699	A	Lead - ICP-Acid Digest	ug/g	98.40	1.60e-01	3.54e+03	3.41e+03	3.48e+03	3.74	n/a	144.0	n/a
S97T001699	A	Lead - ICP-Acid Digest	ug/g	98.00	<6.00e-02	<86.30	<8.67e1	n/a	n/a	n/a	86.30	n/a
S97T001699	A	Antimony - ICP-Acid Digest	ug/g	136.0	1.93e-01	3.29e+03	2.64e+03	2.96e+03	21.9	n/a	71.90	n/a
S97T001699	A	Samarium - ICP-Acid Digest	ug/g	105.0	<1.00e-01	<1.44e+02	<1.55e2	n/a	n/a	n/a	144.0	n/a
S97T001699	A	Samarium - ICP-Acid Digest	ug/g	100.8	<1.00e-02	1.20e+02	131.0	125.5	8.76	n/a	14.40	n/a
S97T001699	A	Titanium - ICP-Acid Digest	ug/g	90.40	<2.00e-01	<2.88e+02	33.30	33.05	1.51	n/a	14.40	n/a
S97T001699	A	Titanium - ICP-Acid Digest	ug/g	99.60	<2.00e-01	32.80	<2.89e2	n/a	n/a	n/a	288.0	n/a
S97T001699	A	Uranium - ICP-Acid Digest	ug/g	101.0	<5.00e-01	5.21e+03	5.84e+03	5.52e+03	11.4	n/a	71.90	n/a
S97T001699	A	Vanadium - ICP-Acid Digest	ug/g	97.60	<5.00e-02	<7.190	<7.23e1	n/a	n/a	n/a	71.90	n/a
S97T001699	A	Zinc - ICP-Acid Digest	ug/g	95.60	5.50e-02	1.52e+02	146.0	149.0	4.03	n/a	14.40	n/a
S97T001699	A	Zirconium - ICP-Acid Digest	ug/g	100.8	<1.00e-02	60.80	26.40	43.60	78.9	n/a	14.40	n/a
S97T001700	W	Fluoride - IC-Dioxin 4000/4500	ug/g	100.5	<1.20e-02	4.20e+02	381.0	401.1	9.98	n/a	50.72	n/a
S97T001700	W	Chloride - IC-Dioxin 4000/4500	ug/g	97.22	<1.70e-02	5.78e+02	400.0	489.1	36.4	n/a	71.86	n/a
S97T001700	W	Nitrate - IC - Dioxin 4000/4500	ug/g	97.62	1.41e-01	3.77e+04	3.68e+04	3.73e+04	2.42	n/a	456.5	n/a
S97T001700	W	Nitrate by IC-Dioxin 4000/4500	ug/g	95.62	<1.39e-01	2.58e+04	2.58e+04	2.57e+04	0.78	n/a	587.6	n/a
S97T001700	W	Phosphate - IC-Dioxin 4000/4500	ug/g	97.06	<1.30e-01	2.92e+03	3.10e+03	3.01e+03	5.98	n/a	507.1	n/a
S97T001700	W	Sulfate by IC-Dioxin 4000/4500	ug/g	98.73	<1.20e-01	1.11e+04	1.08e+04	1.10e+04	2.74	n/a	583.4	n/a
S97T001700	W	Oxalate - IC-Dioxin 4000/4500	ug/g	99.25	<1.05e-01	<4.44e+02	<4.37e2	n/a	n/a	n/a	443.9	n/a

HNF-SD-WM-DP-265, REV. 0

Drainable Liquid: Drainable Liquid

Sample#	R.#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	PPD	% Spk Rec	Det Limit	Count Err#
S97T001692	0	Silver-ICP-Acid Dil.	ug/mL	100.4	< 1.00e-02	7.340	7.150	7.245	2.62	96.30	4.010	N/A
S97T001692	0	Aluminum-ICP-Acid Dil.	ug/mL	98.20	< 5.00e-02	4.85e+02	480.0	482.5	1.04	99.30	20.10	N/A
S97T001692	0	Arsenic-ICP-Acid Dil.	ug/mL	103.8	< 1.00e-02	< 40.10	< 40.10	N/A	N/A	91.60	40.10	N/A
S97T001692	0	Boron-ICP-Acid Dil.	ug/mL	100.6	< 5.00e-02	< 20.10	< 20.10	N/A	N/A	102.0	20.10	N/A
S97T001692	0	Barium-ICP-Acid Dil.	ug/mL	103.6	< 5.00e-02	< 2.000	< 2.000	N/A	N/A	97.50	20.10	N/A
S97T001692	0	Beryllium-ICP-Acid Dil.	ug/mL	103.6	< 1.00e-02	< 40.10	< 40.10	N/A	N/A	102.0	2.000	N/A
S97T001692	0	Bismuth-ICP-Acid Dil.	ug/mL	102.4	< 1.00e-01	80.30	79.10	79.70	1.51	104.0	40.10	N/A
S97T001692	0	Calcium-ICP-Acid Dil.	ug/mL	102.4	< 1.00e-02	2.230	< 2.000	N/A	N/A	99.60	2.000	N/A
S97T001692	0	Cadmium-ICP-Acid Dil.	ug/mL	100.2	< 1.00e-01	< 40.10	< 40.10	N/A	N/A	98.70	40.10	N/A
S97T001692	0	Cerium-ICP-Acid Dil.	ug/mL	101.6	< 2.00e-02	8.020	< 8.020	N/A	N/A	99.80	8.020	N/A
S97T001692	0	Cobalt-ICP-Acid Dil.	ug/mL	102.4	< 1.00e-02	1.54e+02	152.0	153.0	1.31	103.0	4.010	N/A
S97T001692	0	Chromium-ICP-Acid Dil.	ug/mL	97.00	< 1.00e-02	7.340	7.280	7.310	0.82	95.00	4.010	N/A
S97T001692	0	Copper-ICP-Acid Dil.	ug/mL	94.80	< 5.00e-02	< 20.10	< 20.10	N/A	N/A	93.60	20.10	N/A
S97T001692	0	Fluorine-ICP-Acid Dil.	ug/mL	98.40	< 5.00e-01	5.46e+02	571.0	558.5	4.48	112.0	200.0	N/A
S97T001692	0	Germanium-ICP-Acid Dil.	ug/mL	101.8	< 5.00e-02	< 20.10	< 20.10	N/A	N/A	99.40	20.10	N/A
S97T001692	0	Lanthanum-ICP-Acid Dil.	ug/mL	102.8	< 1.00e-01	< 40.10	< 40.10	N/A	N/A	99.00	40.10	N/A
S97T001692	0	Magnesium-ICP-Acid Dil.	ug/mL	99.40	< 1.00e-02	< 4.010	< 4.010	N/A	N/A	95.70	4.010	N/A
S97T001692	0	Manganese-ICP-Acid Dil.	ug/mL	101.4	< 5.00e-02	75.50	76.20	75.85	0.92	102.0	40.10	N/A
S97T001692	0	Nickel-ICP-Acid Dil.	ug/mL	97.80	< 1.00e-01	9.40e+04	9.37e+04	9.38e+04	0.32	1.00e+03	40.10	N/A
S97T001692	0	Sodium-ICP-Acid Dil.	ug/mL	102.0	< 1.00e-01	< 40.10	< 40.10	N/A	N/A	99.20	40.10	N/A
S97T001692	0	Phosphorus-ICP-Acid Dil.	ug/mL	101.2	< 2.00e-02	28.30	25.90	27.10	8.85	100.0	8.020	N/A
S97T001692	0	Potassium-ICP-Acid Dil.	ug/mL	102.6	< 1.00e-01	1.46e+03	1.47e+03	1.46e+03	0.68	127.0	80.20	N/A
S97T001692	0	Selenium-ICP-Acid Dil.	ug/mL	98.80	< 1.00e-01	< 40.10	< 40.10	N/A	N/A	100.0	40.10	N/A
S97T001692	0	Silver-ICP-Acid Dil.	ug/mL	95.80	< 1.00e-01	5.51e+03	5.43e+03	5.47e+03	1.46	161.0	40.10	N/A
S97T001692	0	Sulfur-ICP-Acid Dil.	ug/mL	98.00	< 1.00e-01	< 24.10	< 24.10	N/A	N/A	94.40	24.10	N/A
S97T001692	0	Tantalum-ICP-Acid Dil.	ug/mL	96.80	< 1.00e-02	42.80	43.50	43.15	1.62	110.0	20.10	N/A
S97T001692	0	Strontium-ICP-Acid Dil.	ug/mL	98.20	< 1.00e-01	< 40.10	< 40.10	N/A	N/A	95.50	40.10	N/A
S97T001692	0	Titanium-ICP-Acid Dil.	ug/mL	98.40	< 2.00e-02	< 4.010	< 4.010	N/A	N/A	97.60	4.010	N/A
S97T001692	0	Vanadium-ICP-Acid Dil.	ug/mL	98.00	< 1.00e-01	< 80.20	< 80.20	N/A	N/A	96.60	4.010	N/A
S97T001692	0	Uranium-ICP-Acid Dil.	ug/mL	96.00	< 5.00e-01	< 2.00e+02	< 2.00e2	N/A	N/A	100.0	200.0	N/A
S97T001692	0	Zinc-ICP-Acid Dil.	ug/mL	99.60	< 1.00e-02	< 4.010	< 4.010	N/A	N/A	98.10	20.10	N/A
S97T001692	0	Zirconium-ICP-Acid Dil.	ug/mL	97.60	< 1.00e-02	< 4.010	< 4.010	N/A	N/A	97.30	4.010	N/A
S97T001692	0	Chloride-IC-Dionex 4000/4500	ug/mL	96.61	< 1.00e-02	6.33e+02	615.0	623.9	2.88	95.76	25.45	N/A
S97T001692	0	Fluoride-IC-Dionex 4000/4500	ug/mL	93.25	< 1.00e-01	5.95e+04	584.0	589.3	1.87	95.38	36.06	N/A
S97T001692	0	Nitrate-IC-Dionex 4000/4500	ug/mL	97.47	< 1.00e-01	5.15e+04	5.17e+04	5.16e+04	0.39	109.8	229.1	N/A
S97T001692	0	Nitrite-IC-Dionex 4000/4500	ug/mL	97.97	< 1.39e-01	3.58e+04	3.59e+04	3.59e+04	0.28	98.32	294.8	N/A
S97T001692	0	Phosphate-IC-Dionex 4000/4500	ug/mL	102.2	< 1.20e-01	3.91e+03	3.72e+03	3.82e+03	4.98	99.08	254.5	N/A
S97T001692	0	Sulfate-IC-Dionex 4000/4500	ug/mL	98.58	< 1.38e-01	1.44e+04	1.44e+04	1.44e+04	0.70	98.26	292.7	N/A
S97T001692	0	Oxalate-IC-Dionex 4000/4500	ug/mL	97.94	< 1.05e-01	1.24e+03	1.23e+03	1.23e+03	0.81	98.50	222.7	N/A

Appendix A: Opportunistic Analyte Results
1-105

CORE NUMBER: 207
SEGMENT #: 2

SEGMENT PORTION: liner liquid

Sample#	RA#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S97T001696	D	Stiver-1CP-Acid DIL.	ug/mL	100.4	< 1.00e-02	9.18e-01	9.15e-01	9.22e-01	3.77	n/a	5.10e-01	n/a
S97T001696	D	Aluminum-1CP-Acid DIL.	ug/mL	98.30	< 1.00e-02	< 2.550	< 2.550	n/a	n/a	n/a	2.550	n/a
S97T001696	D	Arsenic-1CP-Acid DIL.	ug/mL	103.8	< 1.00e-02	< 5.100	< 5.100	n/a	n/a	n/a	5.100	n/a
S97T001696	D	Boron-1CP-Acid DIL.	ug/mL	100.6	< 1.00e-02	< 35.00	< 35.00	35.35	1.98	n/a	2.550	n/a
S97T001696	D	Beryllium-1CP-Acid DIL.	ug/mL	103.4	< 1.00e-02	< 2.550	< 2.550	n/a	n/a	n/a	2.550	n/a
S97T001696	D	Barium-1CP-Acid DIL.	ug/mL	103.4	< 1.00e-02	< 2.55e-01	< 2.55e-01	n/a	n/a	n/a	2.55e-01	n/a
S97T001696	D	Bismuth-1CP-Acid DIL.	ug/mL	102.4	< 1.00e-02	< 5.100	< 5.100	n/a	n/a	n/a	5.100	n/a
S97T001696	D	Calcium-1CP-Acid DIL.	ug/mL	102.4	< 1.00e-02	< 37.60	< 37.60	38.65	5.43	n/a	5.100	n/a
S97T001696	D	Cadmium-1CP-Acid DIL.	ug/mL	101.8	< 1.00e-02	< 2.55e-01	< 2.55e-01	n/a	n/a	n/a	2.55e-01	n/a
S97T001696	D	Cerium-1CP-Acid DIL.	ug/mL	100.2	< 1.00e-02	< 39.70	< 39.70	40.65	4.67	n/a	5.100	n/a
S97T001696	D	Cobalt-1CP-Acid DIL.	ug/mL	101.4	< 1.00e-02	9.860	10.60	10.13	5.33	n/a	1.020	n/a
S97T001696	D	Chromium-1CP-Acid DIL.	ug/mL	102.4	< 1.00e-02	18.70	19.70	19.20	5.21	n/a	5.10e-01	n/a
S97T001696	D	Copper-1CP-Acid DIL.	ug/mL	97.00	< 1.00e-02	1.500	1.440	1.470	4.08	n/a	5.10e-01	n/a
S97T001696	D	Iron-1CP-Acid DIL.	ug/mL	94.80	< 1.00e-02	< 2.550	< 2.550	93.05	14.9	n/a	2.550	n/a
S97T001696	D	Potassium-1CP-Acid DIL.	ug/mL	98.40	< 1.00e-02	86.10	100.0	n/a	n/a	n/a	25.50	n/a
S97T001696	D	Lead-1CP-Acid DIL.	ug/mL	101.8	< 1.00e-02	< 2.550	< 2.550	n/a	n/a	n/a	2.550	n/a
S97T001696	D	Lanthanum-1CP-Acid DIL.	ug/mL	102.8	< 1.00e-02	< 5.100	< 5.100	n/a	n/a	n/a	5.100	n/a
S97T001696	D	Magnesium-1CP-Acid DIL.	ug/mL	99.40	< 1.00e-02	3.780	3.950	3.865	4.40	n/a	5.10e-01	n/a
S97T001696	D	Manganese-1CP-Acid DIL.	ug/mL	101.4	< 1.00e-02	8.120	7.970	8.045	1.86	n/a	2.550	n/a
S97T001696	D	Nickel-1CP-Acid DIL.	ug/mL	97.80	< 1.00e-02	< 1.41e+04	< 1.41e+04	1.40e+04	2.15	n/a	5.100	n/a
S97T001696	D	Sodium-1CP-Acid DIL.	ug/mL	102.0	< 1.00e-02	65.60	66.30	65.95	1.06	n/a	5.100	n/a
S97T001696	D	Phosphorus-1CP-Acid DIL.	ug/mL	101.2	< 1.00e-02	1.57e+02	168.0	162.5	6.77	n/a	10.20	n/a
S97T001696	D	Silver-1CP-Acid DIL.	ug/mL	98.80	< 1.00e-02	7.35e+02	739.0	737.0	0.54	n/a	5.100	n/a
S97T001696	D	Sulfur-1CP-Acid DIL.	ug/mL	95.80	< 1.00e-02	< 3.060	< 3.060	n/a	n/a	n/a	3.060	n/a
S97T001696	D	Antimony-1CP-Acid DIL.	ug/mL	96.80	< 1.00e-02	97.50	96.40	93.95	5.22	n/a	5.100	n/a
S97T001696	D	Selenium-1CP-Acid DIL.	ug/mL	96.80	< 1.00e-02	48.10	49.10	48.60	2.06	n/a	2.550	n/a
S97T001696	D	Strontium-1CP-Acid DIL.	ug/mL	98.20	< 1.00e-02	< 5.100	< 5.100	n/a	n/a	n/a	5.100	n/a
S97T001696	D	Titanium-1CP-Acid DIL.	ug/mL	99.40	< 1.00e-02	< 5.10e-01	< 5.10e-01	n/a	n/a	n/a	5.10e-01	n/a
S97T001696	D	Tungsten-1CP-Acid DIL.	ug/mL	98.40	< 1.00e-02	< 5.10e-01	< 5.10e-01	n/a	n/a	n/a	5.10e-01	n/a
S97T001696	D	Vanadium-1CP-Acid DIL.	ug/mL	98.00	< 1.00e-02	< 1.20e-01	< 1.20e-01	n/a	n/a	n/a	10.20	n/a
S97T001696	D	Uranium-1CP-Acid DIL.	ug/mL	96.00	< 1.00e-02	< 2.550	< 2.550	n/a	n/a	n/a	25.50	n/a
S97T001696	D	Zinc-1CP-Acid DIL.	ug/mL	97.60	< 1.00e-02	< 5.10e-01	< 5.10e-01	n/a	n/a	n/a	5.10e-01	n/a
S97T001696	D	Zirconium-1CP-Acid DIL.	ug/mL	99.00	< 1.00e-02	< 5.10e-01	< 5.10e-01	n/a	n/a	n/a	5.10e-01	n/a
S97T001696	D	Fluoride-IC-Dioxex 4000/4500	ug/mL	95.76	< 1.00e-02	2.28e+02	214.0	221.0	6.33	n/a	49.69	n/a
S97T001696	D	Chloride-IC-Dioxex 4000/4500	ug/mL	94.81	< 1.00e-02	7.740	< 7.04e3	n/a	n/a	n/a	70.40	n/a
S97T001696	D	Nitrite-IC-Dioxex 4000/4500	ug/mL	96.88	< 1.00e-02	7.54e+03	7.53e+03	7.53e+03	0.40	n/a	447.2	n/a
S97T001696	D	Nitrate by IC-Dioxex 4000/4500	ug/mL	94.95	< 1.00e-02	5.12e+03	5.12e+03	5.12e+03	0.00	n/a	575.6	n/a
S97T001696	D	Phosphate-IC-Dioxex 4000/4500	ug/mL	102.9	< 1.00e-02	< 4.97e+02	515.0	n/a	n/a	n/a	496.9	n/a
S97T001696	D	Sulfate by IC-Dioxex 4000/4500	ug/mL	95.25	< 1.00e-02	1.72e+03	1.72e+03	1.71e+03	0.58	n/a	571.5	n/a
S97T001696	D	Oxalate-IC-Dioxex 4000/4500	ug/mL	98.50	< 1.00e-02	< 4.35e+02	< 4.35e2	n/a	n/a	n/a	434.8	n/a

HNF-SD-WM-DP-265, REV. 0

U Upper Half of Segment: U Upper Half of Segment

Sample#	Pl #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD	% Spk Rec	Det Limit	Count Err%
S97T001712	A	Silver - ICP-Acid Digest	ug/g	119.0	< 1.00e-02	< 14.20	< 1.42e1	n/a	n/a	n/a	14.20	n/a
S97T001712	A	Silver - ICP-Acid Digest	ug/g	101.6	< 6.00e-02	< 14.20	2.36e+04	2.25e+04	9.78	n/a	14.20	n/a
S97T001712	A	Aluminum - ICP-Acid Digest	ug/g	101.6	< 1.00e-01	< 1.42e+02	< 1.42e2	n/a	n/a	n/a	14.20	n/a
S97T001712	A	Aluminum - ICP-Acid Digest	ug/g	112.8	< 2.98e-01	< 71.20	< 7.08e1	n/a	n/a	n/a	71.20	n/a
S97T001712	A	Boron - ICP-Acid Digest	ug/g	101.6	< 5.00e-02	< 71.20	< 7.08e1	n/a	n/a	n/a	71.20	n/a
S97T001712	A	Beryllium - ICP-Acid Digest	ug/g	104.8	< 5.00e-02	< 71.20	< 7.08e1	n/a	n/a	n/a	71.20	n/a
S97T001712	A	Beryllium - ICP-Acid Digest	ug/g	101.2	< 2.00e-01	2.70e+04	2.70e+04	2.70e+04	2.91	n/a	71.20	n/a
S97T001712	A	Br Smith - ICP-Acid Digest	ug/g	102.8	< 1.00e-01	5.55e+02	4.85e+02	520.5	13.3	n/a	14.20	n/a
S97T001712	A	Calcium - ICP-Acid Digest	ug/g	97.00	< 5.00e-02	7.11e+01	< 7.08e1	n/a	n/a	n/a	71.20	n/a
S97T001712	A	Calcium - ICP-Acid Digest	ug/g	102.2	< 1.00e-01	< 1.42e+02	< 1.42e2	n/a	n/a	n/a	14.20	n/a
S97T001712	A	Chalcite - ICP-Acid Digest	ug/g	98.40	< 2.00e-02	< 28.50	< 2.85e1	n/a	n/a	n/a	28.50	n/a
S97T001712	A	Chalcite - ICP-Acid Digest	ug/g	94.20	< 1.00e-02	2.20e+03	2.19e+03	2.20e+03	0.46	n/a	14.20	n/a
S97T001712	A	Chromium - ICP-Acid Digest	ug/g	99.40	< 1.00e-02	6.94e+01	9.65e+01	507.2	173	n/a	14.20	n/a
S97T001712	A	Copper - ICP-Acid Digest	ug/g	100.2	< 6.00e-02	3.18e+02	3.39e+04	3.28e+04	6.39	n/a	71.20	n/a
S97T001712	A	Copper - ICP-Acid Digest	ug/g	101.4	< 5.00e-01	< 7.12e+02	< 7.08e2	n/a	n/a	n/a	71.20	n/a
S97T001712	A	Cromium - ICP-Acid Digest	ug/g	104.8	< 5.00e-02	< 71.20	< 7.08e1	n/a	n/a	n/a	71.20	n/a
S97T001712	A	Fluoride - ICP-Acid Digest	ug/g	92.20	< 1.00e-01	3.61e+02	3.59e+01	360.0	0.56	n/a	14.20	n/a
S97T001712	A	Fluoride - ICP-Acid Digest	ug/g	97.40	< 1.00e-01	3.69e+03	3.71e+03	3.70e+03	0.54	n/a	14.20	n/a
S97T001712	A	Gold - ICP-Acid Digest	ug/g	96.60	< 5.00e-02	< 71.20	< 7.08e1	n/a	n/a	n/a	71.20	n/a
S97T001712	A	Gold - ICP-Acid Digest	ug/g	116.0	< 5.52e-01	7.86e+04	8.45e+04	8.16e+04	7.23	n/a	14.20	n/a
S97T001712	A	Neodymium - ICP-Acid Digest	ug/g	112.4	< 1.00e-01	< 1.42e+02	< 1.42e2	n/a	n/a	n/a	14.20	n/a
S97T001712	A	Nickel - ICP-Acid Digest	ug/g	99.60	< 2.00e-02	63.00	57.80	60.40	8.61	n/a	28.50	n/a
S97T001712	A	Phosphorus - ICP-Acid Digest	ug/g	98.40	< 2.00e-01	1.46e+03	1.48e+03	1.47e+03	1.36	n/a	285.0	n/a
S97T001712	A	Lead - ICP-Acid Digest	ug/g	94.20	< 1.00e-01	8.28e+02	8.65e+02	846.5	4.37	n/a	14.20	n/a
S97T001712	A	Sulfur - ICP-Acid Digest	ug/g	98.40	< 1.60e-01	3.17e+03	3.21e+03	3.19e+03	1.25	n/a	14.20	n/a
S97T001712	A	Antimony - ICP-Acid Digest	ug/g	98.00	< 6.00e-02	< 85.50	< 8.50e1	n/a	n/a	n/a	85.50	n/a
S97T001712	A	Silicon - ICP-Acid Digest	ug/g	136.0	< 1.92e-01	1.47e+04	1.44e+04	1.46e+04	2.06	n/a	71.20	n/a
S97T001712	A	Samarium - ICP-Acid Digest	ug/g	105.0	< 1.00e-01	< 1.42e+02	< 1.42e2	n/a	n/a	n/a	14.20	n/a
S97T001712	A	Tantalum - ICP-Acid Digest	ug/g	100.8	< 1.00e-02	1.91e+02	1.96e+02	193.5	2.58	n/a	14.20	n/a
S97T001712	A	Titanium - ICP-Acid Digest	ug/g	90.40	< 1.00e-02	< 14.20	< 1.42e1	n/a	n/a	n/a	14.20	n/a
S97T001712	A	Thallium - ICP-Acid Digest	ug/g	99.60	< 2.00e-01	< 2.85e+02	< 2.83e2	n/a	n/a	n/a	285.0	n/a
S97T001712	A	Uranium - ICP-Acid Digest	ug/g	101.0	< 5.00e-01	1.49e+03	1.49e+03	1.52e+03	3.95	n/a	712.0	n/a
S97T001712	A	Zinc - ICP-Acid Digest	ug/g	97.60	< 5.00e-02	< 71.20	< 7.08e1	n/a	n/a	n/a	71.20	n/a
S97T001712	A	Zinc - ICP-Acid Digest	ug/g	95.60	< 5.50e-02	2.25e+02	202.0	213.5	10.8	n/a	14.20	n/a
S97T001712	W	Fluoride-IC-Dioxex 4000/4500	ug/g	100.8	< 1.00e-02	1.01e+02	80.50	90.75	22.6	n/a	14.20	n/a
S97T001712	W	Fluoride-IC-Dioxex 4000/4500	ug/g	103.7	< 1.20e-02	5.56e+02	562.0	559.0	1.07	n/a	26.66	n/a
S97T001712	W	Chloride-IC-Dioxex 4000/4500	ug/g	95.19	< 1.70e-02	3.84e+02	398.0	390.8	3.58	n/a	37.77	n/a
S97T001712	W	Nitrite-IC-Dioxex 4000/4500	ug/g	100.4	< 1.09e-01	3.42e+04	3.40e+04	3.41e+04	0.59	n/a	458.0	n/a
S97T001712	W	Nitrate by IC-Dioxex 4000/4500	ug/g	96.47	< 1.39e-01	2.48e+04	2.45e+04	2.46e+04	1.22	n/a	589.7	n/a
S97T001712	W	Phosphate-IC-Dioxex 4000/4500	ug/g	104.0	< 1.20e-01	3.39e+03	3.37e+03	3.38e+03	0.59	n/a	366.6	n/a
S97T001712	W	Sulfate by IC-Dioxex 4000/4500	ug/g	99.05	< 1.38e-01	9.40e+03	9.36e+03	9.36e+03	0.43	n/a	306.6	n/a
S97T001712	W	Oxalate-IC-Dioxex 4000/4500	ug/g	99.62	< 1.05e-01	5.15e+03	4.87e+03	5.01e+03	5.59	n/a	233.3	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 Error
S97T001705	A	Silver - ICP-Acid Digest	ug/g	119.0	< 1.00e-02	< 14.30	< 1.13e1	n/a	n/a	112.0	14.30	n/a
S97T001705	A	Aluminum - ICP-Acid Digest	ug/g	101.6	8.60e-02	2.20e+04	2.20e+04	2.20e+04	9.09	-3.20e-01	171.30	n/a
S97T001705	A	Arsenic - ICP-Acid Digest	ug/g	101.6	4.90e-02	< 1.35e+02	< 1.35e2	n/a	n/a	95.00	143.0	n/a
S97T001705	A	Boron - ICP-Acid Digest	ug/g	112.8	2.90e-01	< 71.30	< 71.61	n/a	n/a	105.2	71.30	n/a
S97T001705	A	Barium - ICP-Acid Digest	ug/g	101.6	5.00e-02	< 71.30	< 71.61	n/a	n/a	95.20	71.30	n/a
S97T001705	A	Beryllium - ICP-Acid Digest	ug/g	104.8	5.00e-03	< 71.30	< 71.61	n/a	n/a	95.80	71.30	n/a
S97T001705	A	Bismuth - ICP-Acid Digest	ug/g	101.2	< 1.00e-01	6.03e+04	3.81e+04	3.92e+04	5.61	-4.40e-01	143.0	n/a
S97T001705	A	Calcium - ICP-Acid Digest	ug/g	102.8	2.20e-01	0.25e+02	519.0	572.0	18.5	81.00	143.0	n/a
S97T001705	A	Cadmium - ICP-Acid Digest	ug/g	97.00	5.00e-03	8.00e	< 17.60	n/a	n/a	93.20	71.30	n/a
S97T001705	A	Cerium - ICP-Acid Digest	ug/g	102.2	< 1.00e-01	1.43e+02	< 1.35e2	n/a	n/a	96.80	143.0	n/a
S97T001705	A	Cobalt - ICP-Acid Digest	ug/g	98.40	< 2.00e-02	< 28.50	< 2.87e1	n/a	n/a	96.40	28.50	n/a
S97T001705	A	Chromium - ICP-Acid Digest	ug/g	99.40	< 1.00e-02	1.72e+02	1.85e+03	1.78e+03	6.20	96.40	14.30	n/a
S97T001705	A	Copper - ICP-Acid Digest	ug/g	99.40	6.60e-02	24.70	492.0	258.4	181	90.40	14.30	n/a
S97T001705	A	Iron - ICP-Acid Digest	ug/g	100.2	6.00e-02	3.59e+02	3.38e+04	3.48e+04	6.03	-1.03e-02	71.30	n/a
S97T001705	A	Lithium - ICP-Acid Digest	ug/g	101.4	5.00e-01	< 71.30	< 71.61	n/a	n/a	160.0	71.30	n/a
S97T001705	A	Lead - ICP-Acid Digest	ug/g	104.8	5.00e-02	< 71.30	< 71.61	n/a	n/a	97.60	71.30	n/a
S97T001705	A	Magnesium - ICP-Acid Digest	ug/g	92.20	< 1.00e-01	2.86e+02	274.0	280.0	4.29	87.80	143.0	n/a
S97T001705	A	Manganese - ICP-Acid Digest	ug/g	97.40	< 1.00e-02	1.37e+02	130.0	133.5	5.24	93.40	14.30	n/a
S97T001705	A	Molybdenum - ICP-Acid Digest	ug/g	96.60	5.00e-02	< 71.30	< 71.61	n/a	n/a	99.00	71.30	n/a
S97T001705	A	Nickel - ICP-Acid Digest	ug/g	116.0	5.52e-01	8.60e+04	7.35e+04	7.70e+04	9.21	-6.86e-02	143.0	n/a
S97T001705	A	Neodymium - ICP-Acid Digest	ug/g	112.4	< 1.00e-01	< 1.43e+02	< 1.43e2	n/a	n/a	99.60	143.0	n/a
S97T001705	A	Niobium - ICP-Acid Digest	ug/g	99.60	< 2.00e-02	66.00	59.40	62.70	10.5	96.60	28.50	n/a
S97T001705	A	Phosphorus - ICP-Acid Digest	ug/g	98.40	< 2.00e-01	1.80e+03	1.56e+03	1.68e+03	14.3	53.00	285.0	n/a
S97T001705	A	Lead - ICP-Acid Digest	ug/g	94.20	< 1.00e-01	1.01e+03	835.0	922.5	19.0	80.60	143.0	n/a
S97T001705	A	Sulfur - ICP-Acid Digest	ug/g	98.40	1.60e-01	2.95e+03	2.82e+03	2.88e+03	4.51	92.60	143.0	n/a
S97T001705	A	Antimony - ICP-Acid Digest	ug/g	98.00	< 6.00e-02	< 85.60	< 8.60e1	n/a	n/a	88.60	85.60	n/a
S97T001705	A	Silicon - ICP-Acid Digest	ug/g	136.0	1.92e-01	1.80e+04	1.01e+03	9.50e+03	179	-3.54e-01	71.30	n/a
S97T001705	A	Samarium - ICP-Acid Digest	ug/g	105.0	< 1.00e-01	< 1.43e+02	< 1.43e2	n/a	n/a	92.40	143.0	n/a
S97T001705	A	Strontium - ICP-Acid Digest	ug/g	100.8	< 1.00e-02	2.99e+02	276.0	287.5	8.00	91.60	14.30	n/a
S97T001705	A	Titanium - ICP-Acid Digest	ug/g	90.40	< 1.00e-02	18.60	14.40	16.50	25.5	85.00	14.30	n/a
S97T001705	A	Thallium - ICP-Acid Digest	ug/g	99.60	< 2.00e-01	< 85.60	< 8.60e1	n/a	n/a	82.00	285.0	n/a
S97T001705	A	Uranium - ICP-Acid Digest	ug/g	101.0	< 5.00e-01	< 7.35e+02	< 2.87e2	n/a	n/a	91.10	713.0	n/a
S97T001705	A	Vanadium - ICP-Acid Digest	ug/g	97.60	5.50e-02	< 71.30	< 71.61	n/a	n/a	92.40	71.30	n/a
S97T001705	A	Zinc - ICP-Acid Digest	ug/g	95.60	5.50e-02	7.65e+02	692.0	728.5	10.0	85.80	14.30	n/a
S97T001705	A	Zirconium - ICP-Acid Digest	ug/g	100.8	< 1.00e-02	< 14.30	< 1.43e1	n/a	n/a	64.00	14.30	n/a
S97T001705	A	Fluoride-IC-Dioxex 4000/4500	ug/g	97.29	< 1.20e-02	5.02e+02	464.0	482.9	7.87	91.36	49.79	n/a
S97T001705	A	Chloride-IC-Dioxex 4000/4500	ug/g	95.19	< 1.70e-02	3.49e+02	316.0	332.4	9.92	98.10	70.54	n/a
S97T001705	A	Nitrite-IC-Dioxex 4000/4500	ug/g	100.4	1.09e-01	3.20e+04	2.98e+04	3.09e+04	7.12	105.5	448.1	n/a
S97T001705	A	Nitrate by IC-Dioxex 4000/4500	ug/g	96.47	< 1.30e-01	2.22e+04	2.16e+04	2.16e+04	6.03	98.99	576.7	n/a
S97T001705	A	Phosphate-IC-Dioxex 4000/4500	ug/g	98.90	< 2.20e-01	2.71e+03	2.90e+03	2.81e+03	6.77	99.45	497.9	n/a
S97T001705	A	Sulfate by IC-Dioxex 4000/4500	ug/g	99.05	< 1.38e-01	8.17e+03	7.98e+03	7.98e+03	4.76	99.68	572.7	n/a
S97T001705	A	Oxalate-IC-Dioxex 4000/4500	ug/g	100.6	< 1.05e-01	< 4.35e+02	< 4.37e2	n/a	n/a	102.8	435.8	n/a

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