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Section 1 of 6

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Analytical Results for the Final Report

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Tank 241-AN-104, Cores 163 and 164 Analytical Results for the Final Report

Franciska H. Steen

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ANALYTICAL SERVICES

**TANK 241-AN-104, CORES 163 AND 164
ANALYTICAL RESULTS FOR THE FINAL REPORT**

Project Coordinator: FRANCISKA H. STEEN

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

by

**222-S Laboratory
Rust Federal Services of Hanford Inc.
P.O. Box 700
Richland, Washington**

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222-S ANALYTICAL SERVICES

**TANK 241-AN-104, CORES 163 AND 164,
ANALYTICAL RESULTS FOR THE FINAL REPORT**

This document is the analytical laboratory report for tank 241-AN-104 push mode core segments collected between August 8, 1996 and September 12, 1996. The segments were subsampled and analyzed in accordance with the *Tank 241-AN-104 Push Mode Core Sampling and Analysis Plan* (TSAP) (Winkleman, 1996), the *Safety Screening Data Quality Objective* (DQO) (Dukelow, et al., 1995) and the *Flammable Gas Data Quality Objective* (DQO) (Benar, 1995). The analytical results are included in the data summary table (Table 1).

None of the samples submitted for Differential Scanning Calorimetry (DSC), Total Alpha Activity (AT), Total Organic Carbon (TOC) and Plutonium analyses ($^{239/240}\text{Pu}$) exceeded notification limits as stated in the TSAP (Winkleman, 1996). The statistical results of the 95% confidence interval on the mean calculations are provided by the Tank Waste Remediation Systems Technical Basis Group in accordance with the Memorandum of Understanding (Schreiber, 1997) and not considered in this report.

Appearance and Sample Handling

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

Core 163

Twenty-one push mode core segments were removed from tank 241-AN-104 riser 10A between September 9, 1996 and September 12, 1996. Segments were received by the 222-S Laboratory between September 12, 1996 and September 27, 1996. Table 2 summarizes the extrusion information.

Selected segments (3, 13, 15, 17, 19 and 21) were sampled using the Retained Gas Sampler (RGS) and extruded by the Process Chemistry and Statistical Analysis Group.

Core 164

Twenty push mode core segments were removed from tank 241-AN-104 riser 12A between August 8, 1996 and August 14, 1996. Segment 21 was not recovered from the tank due to a broken sampler. Segments were received by the 222-S Laboratory between August 16, 1996 and September 17, 1996. Table 3 summarizes the extrusion information.

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Segment 18 was sampled using the Retained Gas Sampler and extruded by the Process Chemistry and Statistical Analysis Group.

Field Blank

A field blank was provided to the 222-S laboratory with core 164. It underwent the same analysis as the drainable liquid as instructed by the TSAP (Winkleman, 1996).

Hydrostatic Head Fluid

A sample of the hydrostatic head fluid (HHF) lithium bromide solution was provided with core 164 and was analyzed by Ion Chromatography (IC) and Inductively Coupled Plasma (ICP).

Core Composite

One solid and one liquid core composite were made from core 164. The core composite worksheets are included in this document.

Table 2. Sample Receipt and Extrusion Information for 241-AN-104, Core 163.

Customer ID	Sample Segment	Date Sampled	Date Received	Date Extruded	Inches Extruded*	Liquid Recovered (g)	Solids Recovered (g)	Sample Description
96-407	11	9/10/96	9/26/96	6/27/96	0.0	431.4-Drainable	0.0	Extruded an unmeasurable amount of light gray solids and resembled a wet salt. The liquid was yellow-green in color and opaque. Collected 300 mL of liquid. No organic layer was observed.
96-408	12	9/10/96	9/26/96	6/27/96	0.0	380.0-Drainable	0.0	Extruded an unmeasurable amount of light gray solids and resembled a wet salt. The liquid was yellow-green in color and opaque. Collected 250 mL of liquid. No organic layer was observed.
96-409	13	9/11/96	9/12/96	n/a	n/a	n/a	n/a	This segment was sampled using the Retained Gas Sampler and extruded by the Process Chemistry and Statistical Analysis Group. Extrusion information is not included in this report.
96-410	14	9/11/96	9/26/96	7/01/96	n/a	132.9-Drainable	188.7-Upper half 46.7-Lower half	Extruded an unmeasurable amount of light gray solids and resembled a salt slurry. The liquid was yellow-green in color and opaque. Collected 90 mL of liquid. No organic layer was observed.
96-411	15	9/11/96	9/12/96	n/a	n/a	n/a	n/a	This segment was sampled using the Retained Gas Sampler and extruded by the Process Chemistry and Statistical Analysis Group. Extrusion information is not included in this report.
96-412	16	9/11/96	9/20/96	7/01/96	18.0	0.0	166.5-Upper half 210.3-Lower half	The solids were gray in color and resembled a salt slurry.
96-413	17	9/11/96	9/12/96	n/a	n/a	n/a	n/a	This segment was sampled using the Retained Gas Sampler and extruded by the Process Chemistry and Statistical Analysis Group. Extrusion information is not included in this report.
96-414	18	9/11/96	9/26/96	7/08/96	19.0	0.0	188.0-Upper half 195.5-Lower half	The solids were gray in color and resembled a wet salt.
96-415	19	9/11/96	9/12/96	n/a	n/a	n/a	n/a	This segment was sampled using the Retained Gas Sampler and extruded by the Process Chemistry and Statistical Analysis Group. Extrusion information is not included in this report.
96-416	20	9/11/96	9/27/96	7/08/96	17.0	0.0	198.9-Upper half 198.0-Lower half	The solids were light to dark gray in color and resembled a wet salt and a salt slurry.
96-417	21	9/12/96	9/16/96	n/a	n/a	n/a	n/a	This segment was sampled using the Retained Gas Sampler and extruded by the Process Chemistry and Statistical Analysis Group. Extrusion information is not included in this report.

Table 3. Sample Receipt and Extrusion Information for 241-AN-104, Core 164.

Customer ID	Sample Segment	Date Sampled	Date Received	Date Extruded	Extruder	Actual Received (g)	Sample Received (g)	Sample Description
96-418	1	8/08/96	8/23/96	8/14/96	0.0	256.8-Drainable	0.0	Extruded an unmeasurable amount of light gray solids that resembled a salt slurry. The liquid was yellow-green in color and opaque. Collected 165 mL of liquid. No organic layer was observed.
96-419	2	8/08/96	8/23/96	8/05/96	0.0	422.8-Drainable	0.0	Extruded an unmeasurable amount of light gray solids that resembled a salt slurry. The liquid was yellow-green in color and opaque. Collected 320 mL of liquid. No organic layer was observed.
96-420	3	8/08/96	8/23/96	8/14/96	0.0	367.0-Drainable	0.0	Extruded an unmeasurable amount of light gray solids that resembled a wet salt. The liquid was yellow-green in color and opaque. Collected 250 mL of liquid. No organic layer was observed.
96-421	4	8/08/96	8/26/96	8/28/96	0.0	406.9-Drainable	0.0	Extruded an unmeasurable amount of light gray solids that resembled a wet salt. The liquid was yellow-green in color and opaque. Collected 310 mL of liquid. No organic layer was observed.
96-422	5	8/08/96	9/03/96	8/12/96	0.0	406.1-Drainable	0.0	Extruded an unmeasurable amount of light gray solids that resembled a wet salt. The liquid was yellow-green in color and opaque. Collected 310 mL of liquid. No organic layer was observed.
96-423	6	8/08/96	8/26/96	8/12/96	0.0	410.7-Drainable	0.0	Extruded an unmeasurable amount of light gray solids that resembled a wet salt. The liquid was yellow-green in color and opaque. Collected 300 mL of liquid. No organic layer was observed.
96-424	7	8/08/96	8/26/96	8/12/96	0.0	402.6-Drainable	0.0	Extruded an unmeasurable amount of light gray solids that resembled a wet salt. The liquid was yellow-green in color and opaque. Collected 294 mL of liquid. No organic layer was observed.
96-425	8	8/09/96	9/03/96	7/09/96	0.0	426.7-Drainable	0.0	Extruded an unmeasurable amount of light gray solids that resembled a wet salt. The liquid was yellow-green in color and opaque. Collected 290 mL of liquid. No organic layer was observed.
96-426	9	8/09/96	9/03/96	7/08/96	0.0	428.9-Drainable	0.0	Extruded an unmeasurable amount of light gray solids that resembled a wet salt. The liquid was yellow-green in color and opaque. Collected 300 mL of liquid. No organic layer was observed.
96-427	10	8/09/96	9/06/96	8/05/96	0.0	388.9-Drainable	0.0	Extruded an unmeasurable amount of light gray solids that resembled a wet salt. The liquid was yellow-green in color and opaque. Collected 290 mL of liquid. No organic layer was observed.

Table 3. Sample Receipt and Extrusion Information for 241-AN-104, Core 164.

Customer ID	Segment	Date Sampled	Date Received	Date Extruded	Inches Extruded*	Extruder Revised (Q)	Solids Recovered (Q)	Sample Description
96-428	11	8/6/96	8/23/96	7/6/96	0.0	420.0-Drainable	0.0	Extruded an unmeasurable amount of light gray solids that resembled a wet salt. The liquid was yellow-green in color and opaque. Collected 290 mL of liquid. No organic layer was observed.
96-429	12	8/13/96	8/23/96	7/6/96	0.0	407.2-Drainable	0.0	Extruded an unmeasurable amount of light gray solids that resembled a wet salt. The liquid was yellow-green in color and opaque. Collected 250 mL of liquid. No organic layer was observed.
96-430	13	8/13/96	8/23/96	7/6/96	0.0	431.4-Drainable	0.0	Extruded an unmeasurable amount of light gray solids that resembled a wet salt. The liquid was yellow-green in color and opaque. Collected 300 mL of liquid.
96-431	14	8/13/96	9/6/96	8/7/96	13.0	130.1-Drainable	248.6-1-Lower half	The solids were medium to dark gray in color and resembled a salt slurry. The liquid was yellow-green in color and opaque. Collected 100 mL of liquid. No organic layer was observed.
96-432	15	8/13/96	9/6/96	8/5/96	17.0	0.0	180.3-Upper half 199.1-Lower half	The solids were gray in color and resembled a salt slurry.
96-433	16	8/13/96	9/6/96	9/12/96	19.0	0.0	196.9-Upper half 194.9-Lower half	The solids were gray in color and resembled a wet salt.
96-434	17	8/14/96	9/6/96	8/14/96	19.0	0.0	204.2-Upper half 216.9-Lower half	The solids were blue-gray in color and resembled a wet salt.
96-435	18	8/14/96	8/16/96	n/a	n/a	n/a	n/a	This segment was sampled using the Retained Gas Sampler and extruded by the Process Chemistry and Statistical Analysis Group. Extrusion information is not included in this report.
96-436	19	8/14/96	9/6/96	8/14/96	8.5	0.0	244.1-1-Lower half	The solids were dark gray in color and resembled a wet salt.
96-437	20	8/14/96	9/17/96	n/a	n/a	n/a	n/a	This segment was sampled using the Retained Gas Sampler and extruded by the Process Chemistry and Statistical Analysis Group. Extrusion information is not included in this report.
Field Blank	FB	8/16/96	9/17/96	7/6/96	10.0	173.0-Drainable	202.5-Lower half	The solids were gray in color and resembled a salt slurry. The liquid was brown-gray in color and opaque. Collected 120 mL of liquid. No organic layer was observed.

*Approximate Inches Extruded

Analytical Results Summary

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

Inorganic Analyses

Differential Scanning Calorimetry (DSC)

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

None of the samples submitted for DSC analysis exceeded notification limits as stated in the Safety Screening DQO (Dukelow, et al., 1995).

The results for ten of the fifty-one subsamples were the sum of two or more exotherms. More information may be obtained by examining the raw data. The field blank result was 0.00 Joules/g.

Relative percent differences (RPD) greater than 20% were reported for fifteen of the fifty-one subsamples. The high RPDs can be attributed to the small exotherms and the heterogenous nature of the samples. No reruns were requested. Thermograms for several samples showed small sharp peaks near 200°C which indicated an inhomogeneous distribution of a pure compound throughout the tank samples. The standard recoveries for this analysis were within the required limits.

Thermogravimetric Analysis (TGA)

The TGA analyses were performed in duplicate on direct subsamples. Typically TGA results were determined by summing the weight loss steps which occurred below 250°C; weight loss steps above this were not used to determine the result. However for tank 241-AN-104 approximately 6% of the thermograms showed weight loss beyond 250°C. The results for thirty-nine of the fifty-one subsamples were the sum of two or more weight loss steps. More information may be obtained by examining the raw data.

The field blank resulted in a mean of 101.9% moisture. The standard recoveries and RPDs for this analysis were within the required limits.

Density

Bulk density was performed on the solid subsamples as required by the TSAP (Winkelman, 1996). The results of the bulk density test ranged from 1.52 g/mL to 1.76 g/mL. The bulk density results were greater than the 1.5 g/mL used to determine the solid total alpha activity notification limit stated in the TSAP (Winkelman, 1996). Therefore the highest bulk density result of 1.76 g/mL was used to recalculate the solid total alpha notification limit for the tank. Total alpha results for liquids do not require correction for density.

Bulk density analyses were performed on direct solid subsamples. The bulk density analyses were not performed on segments 1 and 2 of core 164 due to insufficient sample recovery. There were no quality control (QC) parameters stated in the TSAP for these samples.

Specific gravity analyses were performed on the liquid subsamples. The results are provided in Table 1. The standard recoveries and RPDs for this analysis were within the required limits.

Inductively Coupled Plasma Spectrophotometry (ICP)

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

Only the QC for requested analytes (Al, B, Ba, Bi, Ca, Cr, Fe, K, Li, Mn, Na, Ni, Si, U, Zn, Zr) were reviewed for this report. Other "opportunistic" analyte results are included in Table 1. These analytes do not have customer defined QC parameters and are not discussed. There did not appear to be any analytical anomalies or difficulties during the analyses of Ba and Bi. High RPDs (>20%) were reported for several analytes (Al, B, Ca, Cr, Fe, K, Li, Mn, Na, Ni, Si, U, Zn, Zr) and were attributed to sample inhomogeneity. Reruns were not requested.

Table 4 shows a comparison of the result of the sample with that of the serial dilution for those required analytes that had a spike recovery outside of the 75% to 125% range as set by the TSAP and the Quality Assurance Plan for the 222-S Laboratories (LabQAP). Spike recoveries outside of the required range were reported for Al, Cr, K, Na and Si. Serial dilutions are performed by diluting a sample by five-fold. The results from the serial dilution may be found in the raw data and are signified by an "_L" at the end of the sample number. For acceptable performance the percent difference between the serial dilution and the undiluted results must be ≤ 10 percent, four samples failed this requirement. This failure may have been due to signal suppression caused by a higher concentration of undissolved solids in the less dilute sample. In addition, the five-fold more dilute serial dilution results were less than five times the detection limit which decreased the precision of the analyses.

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Spike failures for Al, Cr, K, Na and Si were attributed to the high concentration of these analytes in the samples with respect to the amount of spike standard added. Therefore, the matrix spike recovery results for these five analytes should not be used as a means to determine the accuracy of the results. Post digestion spikes were performed with the results for Al ranging from 100.7% to 109.9% and Na ranging from 80.9% to 109.8%. More information for samples that failed the pre-digestion spike may be obtained by examining the raw data.

Table 4. ICP Serial Dilution Raw Results for Tank 241-AN-104

Sample ID	Analyte	Sample Result Undiluted (ug/mL)	Serial Dilution Result (ug/mL)	% Difference
S96T004774	Al	40640.00	40442.00	0.5
S96T004774	Na	254420.00	266614.00	4.8
S96T004780	Al	37320.00	37970.00	1.7
S96T004780	K	6336.00	7000.00	10.5
S96T004780	Na	249300.00	255000.00	2.3
S96T004781	Al	36950.00	37450.00	1.4
S96T004781	K	6168.00	7174.00	16.3
S96T004781	Na	243600.00	247300.00	1.5
S96T004782	Al	36530.00	37080.00	1.5
S96T004782	K	6110.00	6310.00	3.3
S96T004782	Na	242600.00	250400.00	3.2
S96T004783	K	6545.00	7022.00	7.3
S96T004783	Na	257600.00	263800.00	2.3
S96T004784	Al	36150.00	36760.00	1.7
S96T004784	K	6062.00	6420.00	5.6
S96T004784	Na	240600.00	246200.00	2.3
S96T004797	Na	1365.00	1405.00	2.9
S96T004976	Al	40130.00	38830.00	3.2
S96T004976	K	6639.00	7881.00	18.7
S96T004976	Na	265000.00	268600.00	1.4
S96T004977	Al	43520.00	37930.00	12.8
S96T004977	K	7442.00	6145.00	17.4
S96T005041	Na	1307.00	1362.00	4.2
S96T005255	Al	40950.00	40050.00	2.2
S96T005255	K	7243.00	7595.00	4.9
S96T005255	Na	273200.00	273700.00	0.2
S96T005260	Al	40170.00	40930.00	1.9
S96T005260	K	7201.00	7034.00	2.3
S96T005260	Na	270900.00	273700.00	1.0
S96T005287	Na	1009.00	1039.00	3.0
S96T005527	Al	37350.00	37400.00	0.1
S96T005527	Na	250600.00	252900.00	0.9
S96T005560	Na	1043.00	1048.00	0.5
S96T005979	Al	42525.00	43974.00	3.4
S96T005979	Na	267032.00	261234.00	5.3

$$\% \text{ Difference} = (\text{ABS}(\text{Sample} - \text{Serial})) / \text{Sample} \times 100$$

Ion Chromatography (IC)

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

High RPDs (> 20%) were reported for Acetate, Br, F, Formate, NO₃, Oxalate, PO₄ and SO₄. These high RPDs were attributed to sample inhomogeneity. Spike recoveries outside of the required range (75% to 125%) were reported for Acetate, Cl, F, NO₂ and NO₃. The chemist noted that the poor spike recoveries were due to matrix interferences. Spike failures for F were due to organic acid interference and spike failures for Cl, NO₂ and NO₃ were due to the high concentration of these analytes in the sample with respect to the amount of spike standard added. Glycolate in the samples interfered with the Acetate spike. Bromide was detected in twenty-two of the fifty-one subsamples submitted for analysis and was an indication of hydrostatic head fluid intrusion into the samples. The standard recoveries for this analysis were within the required limits.

TIC/TOC - Total Inorganic/Organic Carbon Persulfate

TIC/TOC by persulfate/coulometry analyses were performed in duplicate on the direct subsamples of the core composites. None of the results exceeded the TOC notification limit of 30,000 µgC/g.

For all TIC analyses, a "Total Inorganic Carbon Analysis Report" worksheet is included as raw data. Due to programming limitations with the TIC instrument software, the sample size listed on this worksheet is incorrect. This value is not used in the final calculations (also included) and has no bearing on the results in Table 1.

A high RPD (>20%) was reported for core 164 liquid core composite (S96T005978) and was attributed to sample inhomogeneity. A TIC spike recovery outside of the required range (75% to 125%) was reported for one sample, core 164 solid core composite (S96T005972). The poor spike recovery was due to the high concentration of this analyte in the sample with respect to the amount of spike standard added. No reruns were requested.

For this analysis the blank is considered a reagent blank. The value was within the acceptance limits and all results were corrected for the concentration found in the blank. The standard recoveries for these analyses were within the required limits.

OH

The OH analyses were performed on direct liquid core composite subsamples as indicated by a blank in the A# column in Table 1. The solid core composite subsamples were prepared for analysis by performing a water digest. This is indicated with a "W" in the A# column in Table 1. The standard recoveries and RPDs for this analysis were within the required limits.

Chromium VI (CrVI)

The CrVI analyses were performed on direct liquid core composite subsamples as indicated by a blank in the A# column in Table 1. The solid core composite subsamples were prepared for analysis by performing a water digest. This is indicated with a "W" in the A# column in Table 1. The standard recoveries, spike recoveries and RPDs for this analysis were within the required limits.

Radionuclide Analyses

Total Alpha (AT)

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

All liquid AT results were below the total alpha activity action limit of 61.5 $\mu\text{Ci/mL}$. All solid AT results were below the total alpha activity limit of 34.94 $\mu\text{Ci/g}$ (based on a bulk density of 1.76 g/mL).

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

Total Beta (TB)

Total beta activity analyses were performed on direct liquid core composite subsamples as indicated by a blank in the A# column in Table 1. The solid core composite subsamples were prepared for analysis by performing a fusion digest in duplicate. The fusion preparation is indicated with an "F" in A# column in Table 1. The standard recoveries, spike recoveries and

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RPDs for this analysis were within the required limits.

Strontium 90 (⁹⁰Sr)

⁹⁰Sr analyses were performed on direct liquid core composite subsamples as indicated by a blank in the A# column in Table 1. The solid core composite subsamples were prepared for analysis by performing a fusion digest in duplicate. The fusion preparation is indicated with an "F" in A# column in Table 1. The standard recoveries and RPDs for this analysis were within the required limits.

Gamma Energy Analysis (GEA)

GEA analyses were performed on direct liquid core composite subsamples as indicated by a blank in the A# column in Table 1. The solid core composite subsamples were prepared for analysis by performing a fusion digest in duplicate. The fusion preparation is indicated with an "F" in A# column in Table 1.

Actual detection limits for GEA analytes are not currently available. The latest GEA software does not currently report a minimum detectable activity (MDA). If an analyte is reported as "less than", the value reported is the detection limit. The standard recoveries and RPDs for this analysis were within the required limits.

Total Uranium (U)

Uranium analyses were performed on direct liquid core composite subsamples as indicated by a blank in the A# column in Table 1. The solid core composite subsamples were prepared for analysis by performing a fusion digest in duplicate. The fusion preparation is indicated with an "F" in A# column in Table 1. A high RPD (>20%) was reported for core 164 liquid core composite (S96T005981) and was attributed to sample inhomogeneity. No rerun was requested due to the low level of U in the samples. The standard recoveries and spike recoveries for this analysis were within the required limits.

Plutonium (^{239/240}Pu)

^{239/240}Pu analyses were performed on direct liquid core composite subsamples as indicated by a blank in the A# column in Table 1. The solid core composite subsamples were prepared for analysis by performing a fusion digest in duplicate. The fusion preparation is indicated with an "F" in A# column in Table 1. The standard recoveries and RPDs for this analysis were within the required limits.

Iodine (^{129}I)

^{129}I analyses were performed on direct liquid core composite subsamples as indicated by a blank in the A# column in Table 1. The solid core composite subsamples were prepared for analysis by performing a water digest in duplicate. This is indicated with a "W" in the A# column in Table 1. Although there were no accuracy and precision requirements stated in the TSAP (Winkelman, 1996) for this analysis, the results were acceptable and in accordance with LabQAP.

Technetium (^{99}Tc)

^{99}Tc analyses were performed on direct liquid core composite subsamples as indicated by a blank in the A# column in Table 1. The solid core composite subsamples were prepared for analysis by performing a fusion digest in duplicate. The fusion preparation is indicated with an "F" in A# column in Table 1. Although there were no accuracy and precision requirements stated in the TSAP (Winkelman, 1996) for this analysis, the results were acceptable and in accordance with LabQAP.

Tritium (^3H)

^3H analyses were performed on direct liquid core composite subsamples as indicated by a blank in the A# column in Table 1. The solid core composite subsamples were prepared for analysis by performing a water digest in duplicate. This is indicated with a "W" in A# column in Table 1. Although there were no accuracy and precision requirements stated in the TSAP (Winkelman, 1996) for this analysis, the results were acceptable and in accordance with LabQAP.

Alpha Energy Analyses

Americium (^{241}Am)

^{241}Am analyses were performed on direct liquid core composite subsamples as indicated by a blank in the A# column in Table 1. The solid core composite subsamples were prepared for analysis by performing a fusion digest in duplicate. The fusion preparation is indicated with an "F" in A# column in Table 1. The standard recoveries and RPDs for this analysis were within the required limits.

Curium ($^{243/244}\text{Cm}$)

$^{243/244}\text{Cm}$ analyses were performed on direct liquid core composite subsamples as indicated by a blank in the A# column in Table 1. The solid core composite subsamples were prepared for analysis by performing a fusion digest in duplicate. The fusion preparation is indicated with an "F" in A# column in Table 1. The RPDs for this analysis were within the required limits.

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Procedures

Table 5 lists the analytical procedures used for performing the sample analyses. Abbreviations for analyses are defined in the table notes.

Table 5. Analytical Procedures			
Analysis	Sample Portion	Preparation Procedure +	Analysis Procedure
DSC	Solid/Liquid	N/A	LA-514-114 Rev. D-1 LA-514-113 Rev. C-1
TGA	Solid/Liquid	N/A	LA-514-114 Rev. D-0 LA-560-112 Rev. C-0
Bulk Density	Solid	N/A	LO-160-103 Rev. B-0
Sp.G.	Liquid	N/A	LA-510-112 Rev. C-3
U	Solid Liquid	LA-549-141 Rev. F-0 N/A	LA-925-009 Rev. A-1
IC	Solid Liquid	LA-504-101 Rev. E-0 N/A	LA-533-105 Rev. D-1
ICP	Solid Liquid	LA-505-159 Rev. D-0 LA-549-141 Rev. F-0 N/A	LA-505-151 Rev. D-3 LA-505-161 Rev. B-1
OH-	Solid Liquid	LA-504-101 Rev. E-0 N/A	LA-211-102 Rev. C-0

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Table 5. Analytical Procedures

Analysis	Sample Portion	Preparation Procedure +	Analysis Procedure
TIC/TOC	Solid/Liquid	N/A	LA-342-100 Rev. E-0
CR(VI)	Solid Liquid	LA-504-101 Rev. E-0 N/A	LA-265-101 Rev. B-0
³ H	Solid Liquid	LA-504-101 Rev. E-0 N/A	LA-218-114 Rev. B-0
¹²⁹ I	Solid Liquid	LA-504-101 Rev. E-0 N/A	LA-378-103 Rev. C-0
⁹⁹ Tc	Solid Liquid	LA-549-141 Rev. F-0 N/A	LA-438-101 Rev. D-2
AT/TB	Solid Liquid	LA-549-101 Rev. F-0 N/A	LA-508-101 Rev. E-1
GEA	Solid Liquid	LA-549-101 Rev. F-0 N/A	LA-548-121 Rev. E-0
²⁴¹ Am / ²⁴⁴ Cm	Solid Liquid	LA-549-101 Rev. F-0 N/A	LA-953-103 Rev. B-0
⁹⁰ Sr	Solid Liquid	LA-549-141 Rev. F-0 N/A	LA-220-101 Rev. D-1
²³⁹ Pu	Solid Liquid	LA-549-101 Rev. F-0 N/A	LA-943-128 Rev. B-0

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Abbreviations:

N/A	= not applicable (these are direct samples)
DSC	= differential scanning calorimetry
TGA	= thermogravimetric analysis
Sp.G.	= specific gravity
% Water	= percent water by gravimetric analysis
OH	= hydroxide
CrVI	= chromium VI
IC	= ion chromatography
ICP	= inductively coupled plasma
TOC	= total organic carbon
TIC	= total inorganic carbon
AT	= total alpha
GEA	= gamma energy analysis
¹³⁷ Cs	= cesium 137
⁹⁰ Sr	= strontium 90
²⁴¹ Am	= americium 241
^{239/240} Pu	= plutonium 239/240
⁹⁹ Tc	= technetium 99
³ H	= tritium
¹²⁹ I	= iodine 129

References

- Winkleman, W. D., 1996, *Tank 241-AN-104 Push Mode Core Sampling and Analysis Plan*, WHC-SD-WM-TSAP-086, Rev. 0, Westinghouse Hanford Company, Richland, WA 99352.
- Dukelow, G. T., J. W. Hunt, H. Babad, and J. E. Meacham, 1995, *Tank Safety Screening Data Quality Objective*, WHC-SD-WM-SP-004, Rev. 2, Westinghouse Hanford Company, Richland, WA 99352
- Benar, C. J., 1995, *Flammable Gas Data Quality Objective*, WHC-SD-WM-DQO-004, Rev. 2, Westinghouse Hanford Company, Richland, WA 99352
- Schreiber, R. D., 1997, *Fiscal Year 1997 Memorandum of Understanding for the TWRS Characterization Project*, HNF-SD-WM-SD-023, Rev. 0, Lockheed Martin Hanford Corporation, Richland, WA 99352
- Meznarich, H. K., 1995, *222-S Laboratory Quality Assurance Plan*, WHC-SD-CP-QAPP-016, Rev. 1A, Westinghouse Hanford Company, Richland, WA 99352

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ATTACHMENT 1

AN-104 SAMPLE BREAKDOWN

HNF-SD-WM-DP-226, REV. 0

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AN-104
Core:163
Seg: 1
S96T005023

Attachment 1

AN-104
Core:163
Seg: 2
S96T005024

Attachment 1

HNF-SD-WM-DP-226, REV. 0

AN-104
Core:163
Seg: 4
S96T005025

Attachment 1

AN-104
Core:163
Seg: 5
S96T005189

Attachment 1

AN-104
Core:163
Seg: 6
S96T005190

Attachment 1

AN-104
Core:163
Seg: 7
S96T005090

Attachment 1

AN-104
Core:163
Seg: 8
S96T005091

Attachment 1

AN-104
Core:163
Seg: 9
S96T005092

Attachment 1

AN-104
Core:163
Seg: 10
S96T005191

Attachment 1

AN-104
Core:163
Seg: 11
S96T005192

Attachment 1

AN-104
Core:163
Seg: 12
S96T005193

Attachment 1

AN-104
Core:163
Seg: 14
S96T005194

Attachment 1

AN-104
Core:163
Seg: 16
S96T005093

Attachment 1

HNF-SD-WM-DP-226, REV. 0

AN-104
Core:163
Seg: 18
S96T005195

Attachment 1

AN-104
Core:163
Seg: 20
S96T005220

Attachment 1

AN-104
Core:164
Seg: 1
S96T004553

Attachment 1

HNF-SD-WM-DP-226, REV. 0

AN-104
Core:164
Seg: 2
S96T004554

Attachment 1

AN-104
Core:164
Seg: 3
S96T004555

Attachment 1

Attachment 1

AN-104
Core:164
Seg: 4
S96T004559

AN-104
Core:164
Seg: 5
S96T004792

Attachment 1

AN-104
Core:164
Seg: 6
S96T004560

Attachment 1

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SAMPLER
EMPTY

AN-104
Core:164
Seg: 7
S96T004561

Attachment 1

AN-104
Core:164
Seg: 8
S96T004793

Attachment 1

AN-104
Core:164
Seg: 9
S96T004794

Attachment 1

HNF-SD-WM-DP-226, REV. 0

AN-104
Core:164
Seg: 10
S96T004910

Attachment 1

AN-104
Core:164
Seg: 11
S96T004556

Attachment 1

AN-104
Core:164
Seg: 12
S96T004557

Attachment 1

AN-104
Core:164
Seg: 13
S96T004558

Attachment 1

AN-104
Core:164
Seg: 14
S96T004911

Attachment 1

AN-104
Core:164
Seg: 15
S96T004912

Attachment 1

AN-104
Core:164
Seg: 16
S96T004913

Attachment 1

AN-104
Core:164
Seg: 17
S96T004914

Attachment 1

HNF-SD-WM-DP-226, REV. 0

AN-104
Core:164
Seg: 19
S96T004915

Attachment 1

HNF-SD-WM-DP-226, REV. 0

AN-104
Core:164
Seg: 20
S96T005027

Attachment 1

AN-104

Core:164

Seg: Field Blank

S96T005022

Attachment 1

Attachment 1

AN-104
Core:164
Seg: HHF
S96T004916

Composited:

Segment	Grams
13 LH	20.0
14 UH	20.0
14 LH	20.0
15 UH	20.0
15 LH	20.0
16 UH	20.0
16 LH	20.0
17 UH	20.0
17 LH	20.0
19 UH	20.0
19 LH	20.0
20 UH	20.0
20 LH	20.0

AN-104

Core:164

Composite:Solids
Segments 13-20

S96T005970

S96T005972

S96T005973

S96T005975

S96T005976

S96T005977

AN-104
Core:164
Composite:
Drainable Liquid

Attachment 1

Composited:

Segment: mL:

1	DL	15.0
2	DL	15.0
3	DL	15.0
4	DL	15.0
5	DL	15.0
7	DL	15.0
8	DL	15.0
9	DL	15.0
10	DL	15.0
11	DL	15.0
12	DL	15.0
13	DL	15.0

HNF-SD-WM-DP-226, REV. 0

SAMPLE DATA SUMMARY

HNF-SD-WM-DP-226, REV. 0

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Table 1. Data Summary Report
AN-10x

CORE NUMBER: 163
SEGMENT #: 1

SEGMENT PORTION: L Lower Half of Segment

Sample#	R #	Analyst	Unit	Standard %	Blank	Result	Duplicate	Average	ppb	Spk	Rec	Det Limit	Count	Err%
S96T005269		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	n/a
S96T005269		DSC Exotherm on Perkin Elmer	Joules/g	98.45	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a	n/a	n/a
S96T005269		% Water by IGA on Perkin Elmer	%	99.26	n/a	42.53	41.69	42.11	1.99	n/a	n/a	n/a	n/a	n/a
S96T005284	F	Potassium - ICP-Fusion	ug/g	100.0	< 5.00e-02	5.24e+00	n/a	n/a	n/a	n/a	n/a	9.36e+03	n/a	n/a
S96T005284	F	Silver - ICP-Fusion	ug/g	102.2	< 1.00e-02	1.09e+03	4.08e+03	2.58e+03	116	102.0	n/a	3.75e+03	n/a	n/a
S96T005284	F	Aluminum - ICP-Fusion	ug/g	101.0	< 1.00e-02	2.17e+04	2.03e+04	2.10e+04	6.67	92.20	24.90	188.0	n/a	n/a
S96T005284	F	Artenic - ICP-Fusion	ug/g	104.6	< 1.00e-02	< 1.87e+03	< 1.87e+03	n/a	n/a	104.0	n/a	1.88e+03	n/a	n/a
S96T005284	F	Boron - ICP-Fusion	ug/g	100.6	< 5.00e-02	< 9.37e+02	< 9.36e+02	n/a	n/a	96.00	96.00	936.0	n/a	n/a
S96T005284	F	Beryllium - ICP-Fusion	ug/g	101.2	< 5.00e-02	< 93.70	< 93.61	n/a	n/a	99.70	99.70	93.60	n/a	n/a
S96T005284	F	Bismuth - ICP-Fusion	ug/g	103.4	< 5.00e-03	< 1.87e+03	< 1.87e+03	n/a	n/a	103.0	103.0	1.88e+03	n/a	n/a
S96T005284	F	Calcium - ICP-Fusion	ug/g	102.0	< 1.00e-01	< 1.87e+03	< 1.87e+03	n/a	n/a	107.0	107.0	1.88e+03	n/a	n/a
S96T005284	F	Cadmium - ICP-Fusion	ug/g	102.0	< 5.00e-03	< 93.70	< 93.61	n/a	n/a	103.0	103.0	93.60	n/a	n/a
S96T005284	F	Cerium - ICP-Fusion	ug/g	101.0	< 1.00e-01	< 1.87e+03	< 1.87e+03	n/a	n/a	101.0	101.0	1.88e+03	n/a	n/a
S96T005284	F	Cobalt - ICP-Fusion	ug/g	102.4	< 2.00e-02	< 3.75e+02	< 3.74e+02	n/a	n/a	103.0	103.0	375.0	n/a	n/a
S96T005284	F	Chromium - ICP-Fusion	ug/g	102.8	< 1.00e-02	< 1.44e+03	1.27e+03	1.36e+03	12.5	104.0	104.0	188.0	n/a	n/a
S96T005284	F	Copper - ICP-Fusion	ug/g	104.8	< 1.00e-02	< 1.87e+02	< 1.87e+02	n/a	n/a	101.0	101.0	188.0	n/a	n/a
S96T005284	F	Iron - ICP-Fusion	ug/g	102.0	< 5.00e-02	< 9.37e+02	< 9.36e+02	n/a	n/a	104.0	104.0	936.0	n/a	n/a
S96T005284	F	Lanthanum - ICP-Fusion	ug/g	102.4	< 5.00e-02	< 9.37e+02	< 9.36e+02	n/a	n/a	101.0	101.0	936.0	n/a	n/a
S96T005284	F	Lithium - ICP-Fusion	ug/g	101.6	< 1.00e-02	< 1.87e+02	< 1.87e+02	n/a	n/a	94.10	94.10	188.0	n/a	n/a
S96T005284	F	Magnesium - ICP-Fusion	ug/g	97.80	< 1.00e-01	< 1.87e+03	< 1.87e+03	n/a	n/a	94.80	94.80	1.88e+03	n/a	n/a
S96T005284	F	Manganese - ICP-Fusion	ug/g	100.2	< 1.00e-02	< 1.87e+02	< 1.87e+02	n/a	n/a	98.40	98.40	188.0	n/a	n/a
S96T005284	F	Molybdenum - ICP-Fusion	ug/g	102.4	< 5.00e-02	< 9.37e+02	< 9.36e+02	n/a	n/a	103.0	103.0	936.0	n/a	n/a
S96T005284	F	Sodium - ICP-Fusion	ug/g	98.80	< 1.00e-01	< 1.87e+02	2.39e+05	2.35e+05	3.40	42.60	42.60	1.88e+03	n/a	n/a
S96T005284	F	Neodymium - ICP-Fusion	ug/g	102.6	< 1.00e-01	< 1.87e+03	< 1.87e+03	n/a	n/a	102.0	102.0	1.88e+03	n/a	n/a
S96T005284	F	Phosphorus - ICP-Fusion	ug/g	103.0	< 2.00e-01	< 3.75e+03	< 3.74e+03	n/a	n/a	107.0	107.0	3.75e+03	n/a	n/a
S96T005284	F	Lead - ICP-Fusion	ug/g	102.2	< 1.00e-01	< 1.87e+03	4.00e+03	4.25e+03	11.8	97.50	97.50	1.88e+03	n/a	n/a
S96T005284	F	Sulfur - ICP-Fusion	ug/g	96.80	< 5.00e-02	< 1.20e+03	< 1.2e+03	n/a	n/a	96.40	96.40	1.88e+03	n/a	n/a
S96T005284	F	Antimony - ICP-Fusion	ug/g	99.00	< 1.00e-01	< 1.87e+03	< 1.87e+03	n/a	n/a	98.70	98.70	1.88e+03	n/a	n/a
S96T005284	F	Selenium - ICP-Fusion	ug/g	99.40	< 5.00e-02	< 1.87e+03	1.01e+03	n/a	n/a	105.0	105.0	936.0	n/a	n/a
S96T005284	F	Samarium - ICP-Fusion	ug/g	98.60	< 1.00e-01	< 1.87e+03	< 1.87e+03	n/a	n/a	99.30	99.30	1.88e+03	n/a	n/a
S96T005284	F	Strontium - ICP-Fusion	ug/g	99.40	< 1.00e-02	< 1.87e+02	< 1.87e+02	n/a	n/a	97.80	97.80	188.0	n/a	n/a
S96T005284	F	Titanium - ICP-Fusion	ug/g	98.20	< 1.00e-02	< 3.75e+03	< 3.74e+03	n/a	n/a	96.60	96.60	3.75e+03	n/a	n/a
S96T005284	F	Thallium - ICP-Fusion	ug/g	96.60	< 5.00e-01	< 9.37e+03	< 9.36e+03	n/a	n/a	96.50	96.50	9.36e+03	n/a	n/a
S96T005284	F	Uranium - ICP-Fusion	ug/g	101.6	< 5.00e-02	< 9.37e+02	< 9.36e+02	n/a	n/a	102.0	102.0	936.0	n/a	n/a
S96T005284	F	Vanadium - ICP-Fusion	ug/g	102.8	< 1.20e-02	< 4.66e+02	< 1.87e+02	n/a	n/a	101.0	101.0	188.0	n/a	n/a
S96T005284	F	Zinc - ICP-Fusion	ug/g	89.60	< 1.00e-02	< 1.87e+02	< 1.87e+02	n/a	n/a	99.20	99.20	188.0	n/a	n/a
S96T005284	F	Zirconium - ICP-Fusion	ug/g	80.09	< 1.85e-02	8.08e-02	2.51e-02	5.29e-02	105	73.54	73.54	2.90e-02	3.92E+01	n/a
S96T005287	A	Alpha of Digested Solid	ug/g	99.00	< 1.00e-02	14.10	13.80	13.95	2.15	58.50	58.50	3.780	n/a	n/a
S96T005287	A	Stiver - ICP-Acid Digest	ug/g	34.80	< 1.00e-02	2.09e+04	2.06e+04	2.08e+04	1.45	34.80	34.80	18.90	n/a	n/a
S96T005287	A	Aluminum - ICP-Acid Digest	ug/g	91.20	< 1.00e-01	< 37.90	< 3.93e+01	n/a	n/a	93.00	93.00	37.80	n/a	n/a
S96T005287	A	Arsenic - ICP-Acid Digest	ug/g	94.40	< 1.00e-01	< 37.90	< 3.93e+01	n/a	n/a	93.00	93.00	37.80	n/a	n/a

HNF-SD-WM-DP-226, REV. 0

Sample#	R#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T005287	A	Boron - ICP-Acid Digest	ug/g	102.6	4.93e-01	1.55e+02	171.0	163.0	9.82	88.60	18.90	N/A
S96T005287	A	Boron - ICP-Acid Digest	ug/g	102.6	<5.00e-02	<18.90	<1.96e1	N/A	N/A	87.80	18.90	N/A
S96T005287	A	Barium - ICP-Acid Digest	ug/g	94.00	<5.00e-03	1.890	<1.96e1	N/A	N/A	90.00	1.890	N/A
S96T005287	A	Beryllium - ICP-Acid Digest	ug/g	92.20	<1.00e-01	<37.90	<3.92e1	N/A	N/A	90.00	37.80	N/A
S96T005287	A	Calcium - ICP-Acid Digest	ug/g	91.20	<1.00e-01	1.70e+02	161.0	165.5	5.44	88.60	37.80	N/A
S96T005287	A	Calcium - ICP-Acid Digest	ug/g	91.20	<5.00e-03	2.210	7.390	7.300	2.47	89.00	1.890	N/A
S96T005287	A	Cesium - ICP-Acid Digest	ug/g	93.00	<1.00e-01	<37.90	<3.92e1	N/A	N/A	90.60	37.80	N/A
S96T005287	A	Cobalt - ICP-Acid Digest	ug/g	91.60	<2.00e-02	7.570	<7.86e0	N/A	N/A	89.80	7.580	N/A
S96T005287	A	Cobalt - ICP-Acid Digest	ug/g	91.00	<1.00e-02	1.20e+03	1.15e+03	1.18e+03	4.26	87.20	3.780	N/A
S96T005287	A	Copper - ICP-Acid Digest	ug/g	88.60	<1.00e-02	4.700	4.120	4.410	13.2	86.40	3.780	N/A
S96T005287	A	Copper - ICP-Acid Digest	ug/g	91.60	<5.00e-02	8.89e+02	570.0	529.5	15.3	98.20	18.90	N/A
S96T005287	A	Potassium - ICP-Acid Digest	ug/g	92.60	<5.00e-01	3.59e+03	3.51e+03	3.55e+03	2.25	91.60	189.0	N/A
S96T005287	A	Lithium - ICP-Acid Digest	ug/g	91.80	<5.00e-02	<18.90	<1.96e1	N/A	N/A	91.20	18.90	N/A
S96T005287	A	Magnesium - ICP-Acid Digest	ug/g	85.00	<1.00e-01	<37.90	<3.92e1	N/A	N/A	83.00	37.80	N/A
S96T005287	A	Manganese - ICP-Acid Digest	ug/g	88.80	<1.00e-02	18.00	<3.92e1	N/A	N/A	86.20	3.780	N/A
S96T005287	A	Molybdenum - ICP-Acid Digest	ug/g	89.80	<5.00e-02	44.10	43.20	43.65	2.06	88.60	18.90	N/A
S96T005287	A	Sodium - ICP-Acid Digest	ug/g	91.60	<1.00e-01	1.91e+05	1.92e+05	1.92e+05	0.52	568.0	37.80	N/A
S96T005287	A	Neodymium - ICP-Acid Digest	ug/g	91.80	<2.00e-02	42.80	40.80	41.80	4.78	90.40	7.580	N/A
S96T005287	A	Nickel - ICP-Acid Digest	ug/g	91.80	<1.00e-01	1.12e+03	866.0	993.0	25.6	69.00	75.80	N/A
S96T005287	A	Lead - ICP-Acid Digest	ug/g	88.60	<1.00e-01	<37.90	<3.92e1	N/A	N/A	91.60	37.80	N/A
S96T005287	A	Antimony - ICP-Acid Digest	ug/g	89.80	<1.00e-01	3.51e+03	3.42e+03	3.46e+03	2.60	90.80	37.80	N/A
S96T005287	A	Antimony - ICP-Acid Digest	ug/g	88.60	<6.00e-02	<22.70	<2.36e1	N/A	N/A	89.20	22.80	N/A
S96T005287	A	Selenium - ICP-Acid Digest	ug/g	86.20	<1.00e-01	<37.90	<3.92e1	N/A	N/A	85.60	37.80	N/A
S96T005287	A	Silicon - ICP-Acid Digest	ug/g	151.6	1.470	8.03e+02	881.0	842.0	9.26	89.20	18.90	N/A
S96T005287	A	Strontium - ICP-Acid Digest	ug/g	89.40	<1.00e-01	<37.90	<3.92e1	N/A	N/A	87.60	37.80	N/A
S96T005287	A	Titanium - ICP-Acid Digest	ug/g	90.00	<1.00e-02	<3.790	<3.92e0	N/A	N/A	87.60	3.780	N/A
S96T005287	A	Titanium - ICP-Acid Digest	ug/g	81.60	<1.00e-02	<3.790	<3.92e0	N/A	N/A	80.00	3.780	N/A
S96T005287	A	Thallium - ICP-Acid Digest	ug/g	86.80	<2.00e-01	<75.70	<7.86e1	N/A	N/A	84.80	75.80	N/A
S96T005287	A	Uranium - ICP-Acid Digest	ug/g	86.10	<5.00e-01	<1.89e+02	<1.96e2	N/A	N/A	91.00	189.0	N/A
S96T005287	A	Vanadium - ICP-Acid Digest	ug/g	89.00	<5.00e-02	<18.90	<1.96e1	N/A	N/A	87.00	18.90	N/A
S96T005287	A	Zinc - ICP-Acid Digest	ug/g	88.20	<7.90e-02	26.20	25.20	26.70	3.89	87.80	3.780	N/A
S96T005287	A	Zirconium - ICP-Acid Digest	ug/g	90.80	<1.00e-02	13.90	13.10	13.50	5.93	89.40	3.780	N/A
S96T005287	A	Acetate by IC-DIONEX 4000/4500	ug/g	94.36	5.30e-02	4.26e+02	507.0	466.3	17.4	90.32	79.76	N/A
S96T005290	W	Formate by IC-DIONEX 4000/4500	ug/g	99.17	7.60e-02	7.08e+02	711.0	709.3	0.42	96.67	83.75	N/A
S96T005290	W	Fluoride-IC-DIONEX 4000/4500	ug/g	100.8	<1.20e-02	3.05e+02	290.0	297.4	5.04	106.9	47.86	N/A
S96T005290	W	Chloride-IC-DIONEX 4000/4500	ug/g	99.75	2.10e-02	4.45e+03	4.45e+03	4.54e+03	3.96	131.6	67.79	N/A
S96T005290	W	Nitrite-IC - Dionex 4000/4500	ug/g	107.2	<1.08e-01	6.92e+04	6.63e+04	6.78e+04	4.42	126.0	430.7	N/A
S96T005290	W	Bromide by Ion Chromatograph	ug/g	106.8	<1.20e-01	<4.79e+02	<4.76e2	N/A	N/A	104.8	498.5	N/A
S96T005290	W	Nitrate by IC-DIONEX 4000/4500	ug/g	107.7	2.95e-01	1.42e+05	1.36e+05	1.39e+05	4.32	111.6	554.4	N/A
S96T005290	W	Phosphate by IC-DIONEX 4000/4500	ug/g	102.4	<1.20e-01	3.09e+03	2.92e+03	3.00e+03	5.66	107.9	478.6	N/A
S96T005290	W	Sulfate by IC-DIONEX 4000/4500	ug/g	109.8	<1.36e-01	1.14e+04	1.11e+04	1.12e+04	2.67	110.0	550.4	N/A
S96T005290	W	Oxalate-IC-DIONEX 4000/4500	ug/g	102.3	<1.05e-01	9.52e+03	9.29e+03	9.40e+03	2.45	106.4	418.7	N/A

Table 1. Data Summary Report
AN-104

CORE NUMBER: 163
SEGMENT #: 2

SEGMENT PORTION: L Lower Half of Segment

Sample#	RI#	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count	Err%
S961005270	PSC 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
S961005270	PSC Exotherm Dry	Calculated Joules/g Dry	98.45	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a	n/a
S961005270	% Water by TGA on Perkin Elmer	Joules/g	99.26	n/a	50.56	51.34	50.95	1.53	n/a	n/a	n/a	n/a
S961005285	F Potassium - ICP-Fusion	ug/g	100.0	< 5.00e-01	5.26e+06	2.93e+03	2.84e+03	6.34	n/a	n/a	8.92e+03	n/a
S961005285	F Nickel - ICP-Fusion	ug/g	102.2	< 5.00e-02	2.79e+03	< 1.91e2	< 1.91e2	n/a	n/a	25.80	179.0	n/a
S961005285	F Silver - ICP-Fusion	ug/g	101.0	< 1.00e-02	< 1.79e+02	< 1.79e+02	< 1.79e+02	n/a	n/a	100.0	892.0	n/a
S961005285	F Aluminum - ICP-Fusion	ug/g	99.20	< 5.00e-02	< 1.61e+04	1.38e+04	1.50e+04	15.4	n/a	n/a	1.79e+03	n/a
S961005285	F Arsenic - ICP-Fusion	ug/g	104.6	< 1.00e-01	< 1.79e+03	< 1.91e3	< 1.91e3	n/a	n/a	96.00	892.0	n/a
S961005285	F Boron - ICP-Fusion	ug/g	100.6	< 5.00e-02	< 8.94e+02	< 9.56e2	< 9.56e2	n/a	n/a	99.90	892.0	n/a
S961005285	F Barium - ICP-Fusion	ug/g	101.2	< 5.00e-02	< 8.94e+02	< 9.56e2	< 9.56e2	n/a	n/a	100.0	892.0	n/a
S961005285	F Beryllium - ICP-Fusion	ug/g	103.4	< 5.00e-03	< 89.40	< 9.56e1	< 9.56e1	n/a	n/a	102.0	892.0	n/a
S961005285	F Cadmium - ICP-Fusion	ug/g	103.6	< 1.00e-01	< 1.79e+03	< 1.91e3	< 1.91e3	n/a	n/a	107.0	1.79e+03	n/a
S961005285	F Calcium - ICP-Fusion	ug/g	102.0	< 1.00e-01	< 1.79e+03	< 1.91e3	< 1.91e3	n/a	n/a	103.0	892.0	n/a
S961005285	F Cerium - ICP-Fusion	ug/g	101.0	< 5.00e-03	< 89.40	< 9.56e1	< 9.56e1	n/a	n/a	103.0	1.79e+03	n/a
S961005285	F Cobalt - ICP-Fusion	ug/g	102.4	< 2.00e-02	< 3.58e+02	< 3.82e2	< 3.82e2	n/a	n/a	103.0	358.0	n/a
S961005285	F Chromium - ICP-Fusion	ug/g	102.8	< 1.00e-02	6.83e+02	6.06e2	6.44e2	11.9	n/a	104.0	179.0	n/a
S961005285	F Copper - ICP-Fusion	ug/g	104.8	< 1.00e-02	< 1.79e+02	< 1.91e2	< 1.91e2	n/a	n/a	102.0	179.0	n/a
S961005285	F Iron - ICP-Fusion	ug/g	102.4	< 5.00e-02	< 8.94e+02	< 9.56e2	< 9.56e2	n/a	n/a	103.0	892.0	n/a
S961005285	F Lanthanum - ICP-Fusion	ug/g	102.4	< 5.00e-02	< 8.94e+02	< 9.56e2	< 9.56e2	n/a	n/a	102.0	892.0	n/a
S961005285	F Lithium - ICP-Fusion	ug/g	101.6	< 1.00e-02	< 1.79e+02	< 1.91e2	< 1.91e2	n/a	n/a	99.40	1.79e+03	n/a
S961005285	F Magnesium - ICP-Fusion	ug/g	97.80	< 1.00e-01	< 1.79e+03	< 1.91e3	< 1.91e3	n/a	n/a	98.50	179.0	n/a
S961005285	F Manganese - ICP-Fusion	ug/g	100.2	< 1.00e-02	< 1.79e+02	< 1.91e2	< 1.91e2	n/a	n/a	103.0	892.0	n/a
S961005285	F Molybdenum - ICP-Fusion	ug/g	102.4	< 5.00e-02	< 8.94e+02	< 9.56e2	< 9.56e2	n/a	n/a	141.0	1.79e+03	n/a
S961005285	F Sodium - ICP-Fusion	ug/g	98.80	< 1.760	2.20e+05	2.30e+05	2.25e+05	4.44	n/a	101.0	1.79e+03	n/a
S961005285	F Neodymium - ICP-Fusion	ug/g	102.6	< 1.00e-01	< 1.79e+03	< 1.91e3	< 1.91e3	n/a	n/a	106.0	3.58e+03	n/a
S961005285	F Phosphorus - ICP-Fusion	ug/g	103.0	< 2.00e-01	< 3.58e+03	< 3.82e3	< 3.82e3	n/a	n/a	102.0	1.79e+03	n/a
S961005285	F Lead - ICP-Fusion	ug/g	102.2	< 1.00e-01	< 1.79e+03	< 1.91e3	< 1.91e3	n/a	n/a	110.0	1.79e+03	n/a
S961005285	F Sulfur - ICP-Fusion	ug/g	101.2	< 1.00e-01	< 1.79e+03	< 1.91e3	< 1.91e3	n/a	n/a	97.60	1.07e+03	n/a
S961005285	F Antimony - ICP-Fusion	ug/g	96.80	< 6.00e-02	< 1.07e+03	< 1.15e3	< 1.15e3	n/a	n/a	99.30	892.0	n/a
S961005285	F Selenium - ICP-Fusion	ug/g	99.00	< 6.00e-02	< 1.79e+03	< 1.91e3	< 1.91e3	n/a	n/a	98.50	179.0	n/a
S961005285	F Silicon - ICP-Fusion	ug/g	98.40	< 5.00e-02	< 1.18e+03	< 9.56e2	< 9.56e2	n/a	n/a	98.50	179.0	n/a
S961005285	F Samarium - ICP-Fusion	ug/g	98.60	< 1.00e-01	< 1.79e+03	< 1.91e3	< 1.91e3	n/a	n/a	98.50	1.79e+03	n/a
S961005285	F Strontium - ICP-Fusion	ug/g	99.40	< 5.00e-02	< 1.79e+02	< 1.91e2	< 1.91e2	n/a	n/a	98.20	179.0	n/a
S961005285	F Tantalum - ICP-Fusion	ug/g	98.40	< 1.00e-02	< 1.79e+02	< 1.91e2	< 1.91e2	n/a	n/a	98.20	179.0	n/a
S961005285	F Thallium - ICP-Fusion	ug/g	98.20	< 2.00e-01	< 3.58e+03	< 3.82e3	< 3.82e3	n/a	n/a	99.00	3.58e+03	n/a
S961005285	F Uranium - ICP-Fusion	ug/g	96.60	< 5.00e-01	< 8.94e+02	< 9.56e3	< 9.56e3	n/a	n/a	99.00	8.92e+03	n/a
S961005285	F Vanadium - ICP-Fusion	ug/g	101.8	< 5.00e-02	< 8.94e+02	< 9.56e2	< 9.56e2	n/a	n/a	102.0	892.0	n/a
S961005285	F Zinc - ICP-Fusion	ug/g	102.8	< 1.20e-02	< 1.79e+02	< 1.91e2	< 1.91e2	n/a	n/a	104.0	179.0	n/a
S961005285	F Zirconium - ICP-Fusion	ug/g	99.60	< 1.00e-02	< 1.79e+02	< 1.91e2	< 1.91e2	n/a	n/a	99.40	179.0	n/a
S961005285	F Alpha of Digested Solid	ug/g	80.09	< 1.85e-02	4.93e-02	3.65e-02	4.29e-02	29.8	n/a	70.47	2.70e-02	5.16e+01
S961005285	A Silver - ICP-Acid Digest	ug/g	34.80	< 1.00e-02	16.90	16.20	16.55	4.23	n/a	52.20	4.440	n/a
S961005288	A Aluminum - ICP-Acid Digest	ug/g	91.20	< 1.01e-01	1.71e+04	1.79e+04	1.73e+04	2.31	n/a	404.0	22.20	n/a
S961005288	A Arsenic - ICP-Acid Digest	ug/g	94.40	< 1.00e-01	< 44.30	< 35.79e1	< 35.79e1	n/a	n/a	94.00	44.40	n/a

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S961005288	A	Boron - ICP-Acid Digest	ug/g	102.6	4.95e-01	2.00e+02	182.0	191.0	9.42	85.20	22.20	n/a
S961005288	A	Boron - ICP-Acid Digest	ug/g	90.20	<5.00e-01	< 22.20	<1.87e1	n/a	n/a	89.80	22.20	n/a
S961005288	A	Beryllium - ICP-Acid Digest	ug/g	94.00	<5.00e-01	< 2.220	<1.87e0	n/a	n/a	91.00	2.220	n/a
S961005288	A	Bismuth - ICP-Acid Digest	ug/g	92.00	<1.00e-01	< 44.30	<3.75e1	n/a	n/a	94.40	44.40	n/a
S961005288	A	Calcium - ICP-Acid Digest	ug/g	91.20	<1.00e-01	2.53e+02	101.0	178.0	86.5	78.20	44.40	n/a
S961005288	A	Calcium - ICP-Acid Digest	ug/g	90.40	<5.00e-01	3.610	4.270	3.940	16.8	90.80	2.220	n/a
S961005288	A	Cerium - ICP-Acid Digest	ug/g	93.00	<1.00e-01	< 44.30	<3.75e1	n/a	n/a	92.00	44.40	n/a
S961005288	A	Cobalt - ICP-Acid Digest	ug/g	91.60	<2.00e-02	< 8.870	<7.49e0	n/a	n/a	91.00	8.860	n/a
S961005288	A	Chromium - ICP-Acid Digest	ug/g	91.00	<1.00e-02	7.28e+02	716.0	722.0	1.66	99.60	4.440	n/a
S961005288	A	Copper - ICP-Acid Digest	ug/g	88.60	<3.75e0	< 4.430	<3.75e0	n/a	n/a	87.80	4.440	n/a
S961005288	A	Iron - ICP-Acid Digest	ug/g	91.60	<5.00e-01	1.98e+02	181.0	189.5	8.97	97.00	22.20	n/a
S961005288	A	Potassium - ICP-Acid Digest	ug/g	92.60	<5.00e-01	3.05e+03	3.20e+03	3.12e+03	4.80	144.0	222.0	n/a
S961005288	A	Lanthanum - ICP-Acid Digest	ug/g	93.20	<5.00e-02	< 22.20	<1.87e1	n/a	n/a	93.20	22.20	n/a
S961005288	A	Lithium - ICP-Acid Digest	ug/g	91.80	<1.00e-02	47.00	45.10	46.05	4.13	93.20	4.440	n/a
S961005288	A	Magnesium - ICP-Acid Digest	ug/g	85.00	<1.00e-01	< 44.30	<3.75e1	n/a	n/a	84.00	44.40	n/a
S961005288	A	Manganese - ICP-Acid Digest	ug/g	88.80	<1.00e-01	9.700	9.380	9.540	3.35	87.60	4.440	n/a
S961005288	A	Molybdenum - ICP-Acid Digest	ug/g	106.8	7.46e-01	1.96e+01	36.80	37.10	1.62	91.00	22.20	n/a
S961005288	A	Sodium - ICP-Acid Digest	ug/g	91.60	<1.00e-01	< 44.30	<3.75e1	n/a	n/a	90.40	44.40	n/a
S961005288	A	Neodymium - ICP-Acid Digest	ug/g	93.00	<2.00e-02	23.70	24.00	23.85	1.26	93.20	8.860	n/a
S961005288	A	Nickel - ICP-Acid Digest	ug/g	91.80	<2.00e-01	1.40e+03	1.39e+03	1.40e+03	0.72	108.8	88.60	n/a
S961005288	A	Phosphorus - ICP-Acid Digest	ug/g	88.60	<1.00e-01	< 44.30	<3.75e1	n/a	n/a	92.80	44.40	n/a
S961005288	A	Lead - ICP-Acid Digest	ug/g	88.60	<1.00e-01	1.87e+03	1.94e+03	1.90e+03	3.67	129.8	44.40	n/a
S961005288	A	Antimony - ICP-Acid Digest	ug/g	88.60	<6.00e-02	< 26.60	<2.25e1	n/a	n/a	90.00	26.60	n/a
S961005288	A	Selenium - ICP-Acid Digest	ug/g	86.20	<1.00e-01	< 44.30	<3.75e1	n/a	n/a	87.00	44.40	n/a
S961005288	A	Silicon - ICP-Acid Digest	ug/g	151.6	1.470	9.52e+02	872.0	912.0	8.77	74.20	22.20	n/a
S961005288	A	Samarium - ICP-Acid Digest	ug/g	89.40	<1.00e-01	< 44.30	<3.75e1	n/a	n/a	89.40	44.40	n/a
S961005288	A	Strontium - ICP-Acid Digest	ug/g	90.00	<1.00e-02	4.430	<3.75e0	n/a	n/a	89.40	4.440	n/a
S961005288	A	Titanium - ICP-Acid Digest	ug/g	81.60	<1.00e-02	< 4.430	<3.75e0	n/a	n/a	81.40	4.440	n/a
S961005288	A	Thallium - ICP-Acid Digest	ug/g	86.80	<2.00e-01	< 88.70	<7.49e1	n/a	n/a	87.80	88.60	n/a
S961005288	A	Uranium - ICP-Acid Digest	ug/g	86.10	<5.00e-01	<2.22e+02	<1.87e2	n/a	n/a	89.00	222.0	n/a
S961005288	A	Vanadium - ICP-Acid Digest	ug/g	89.00	<5.00e-02	< 22.20	<1.87e1	n/a	n/a	88.40	22.20	n/a
S961005288	A	Zinc - ICP-Acid Digest	ug/g	88.20	<7.90e-02	26.80	15.70	21.25	52.2	89.20	4.440	n/a
S961005288	A	Zirconium - ICP-Acid Digest	ug/g	90.80	<1.00e-02	9.090	9.130	9.110	0.44	91.60	4.440	n/a
S961005291	W	Acetate by IC-BIOMEX 4000/4500	ug/g	94.36	5.30e-02	4.76e+02	346.0	411.2	31.6	88.71	76.57	n/a
S961005291	W	Formate by IC-BIOMEX 4000/4500	ug/g	99.37	1.60e-02	6.45e+02	531.0	588.0	19.4	95.83	80.39	n/a
S961005291	W	Fluoride-IC-BIOMEX 4000/4500	ug/g	102.0	<1.20e-02	4.17e+02	552.0	481.6	29.3	119.2	89.67	n/a
S961005291	W	Chloride-IC-BIOMEX 4000/4500	ug/g	99.75	<1.20e-02	4.76e+03	3.69e+03	4.08e+03	19.1	99.37	127.1	n/a
S961005291	W	Nitrite-IC - BIOMEX 4000/4500	ug/g	107.2	<1.08e-01	6.90e+04	6.69e+04	6.80e+04	3.09	120.8	807.3	n/a
S961005291	W	Bromide by Ion Chromatograph	ug/g	97.11	<1.25e-01	<9.34e+02	<9.04e2	n/a	n/a	95.08	934.4	n/a
S961005291	W	Nitrate by IC-BIOMEX 4000/4500	ug/g	97.98	<1.39e-01	2.22e+05	2.77e+05	2.49e+05	21.7	99.49	1.04e+03	n/a
S961005291	W	Phosphate-IC-BIOMEX 4000/4500	ug/g	100.9	<1.20e-01	3.23e+03	3.77e+03	3.50e+03	15.7	102.9	896.7	n/a
S961005291	W	Sulfate by IC-BIOMEX 4000/4500	ug/g	99.05	<1.38e-01	5.65e+03	3.90e+03	3.78e+03	6.62	102.7	1.03e+03	n/a
S961005291	W	Oxalate-IC-BIOMEX 4000/4500	ug/g	100.2	<1.05e-01	5.76e+03	5.59e+03	5.65e+03	3.71	100.6	784.7	n/a

Drainable Liquid: Drainable Liquid

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S961005256		DSC Exotherm using Mettler	Joules/g	98.42	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S961005256		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
S961005256		% Specific Gravity	Sp.G.	99.89	n/a	1.384	1.389	1.386	0.36	n/a	1.00e-02	n/a
S961005256		% Water by TGA using Mettler	%	99.53	n/a	52.10	51.87	51.98	0.44	n/a	n/a	n/a
S961005256		D Silver-ICP-Acid Dil.	ug/mL	100.6	< 1.00e-02	19.10	19.90	19.50	7.40	n/a	6.010	n/a
S961005256		D Aluminum-ICP-Acid Dil.	ug/mL	99.00	< 5.00e-02	3.75e+04	4.06e+04	3.90e+04	7.94	n/a	30.10	n/a
S961005256		D Arsenic-ICP-Acid Dil.	ug/mL	104.8	< 1.00e-01	60.10	< 6.01e1	n/a	n/a	n/a	60.10	n/a
S961005256		D Boron-ICP-Acid Dil.	ug/mL	101.2	< 5.00e-02	65.80	68.60	67.20	4.17	n/a	30.10	n/a
S961005256		D Barium-ICP-Acid Dil.	ug/mL	100.4	< 5.00e-02	< 30.10	< 3.01e1	n/a	n/a	n/a	30.10	n/a
S961005256		D Bismuth-ICP-Acid Dil.	ug/mL	103.8	< 5.00e-01	< 60.10	< 6.01e1	n/a	n/a	n/a	60.10	n/a
S961005256		D Calcium-ICP-Acid Dil.	ug/mL	100.6	< 1.00e-01	< 60.10	< 6.01e1	n/a	n/a	n/a	60.10	n/a
S961005256		D Cadmium-ICP-Acid Dil.	ug/mL	101.6	< 5.00e-03	< 3.000	< 3.00e0	n/a	n/a	n/a	3.000	n/a
S961005256		D Cerium-ICP-Acid Dil.	ug/mL	101.2	< 1.00e-01	< 60.10	< 6.01e1	n/a	n/a	n/a	60.10	n/a
S961005256		D Cobalt-ICP-Acid Dil.	ug/mL	101.4	< 2.00e-02	12.00	< 1.20e1	n/a	n/a	n/a	12.00	n/a
S961005256		D Chromium-ICP-Acid Dil.	ug/mL	102.0	< 1.00e-02	3.32e+02	359.0	345.5	7.81	n/a	6.010	n/a
S961005256		D Copper-ICP-Acid Dil.	ug/mL	106.0	< 1.00e-02	< 60.10	< 6.01e0	n/a	n/a	n/a	6.010	n/a
S961005256		D Iron-ICP-Acid Dil.	ug/mL	101.8	< 5.00e-02	< 30.10	< 3.01e1	n/a	n/a	n/a	30.10	n/a
S961005256		D Potassium-ICP-Acid Dil.	ug/mL	102.8	< 5.00e-01	6.68e+03	7.19e+03	6.94e+03	7.35	n/a	300.0	n/a
S961005256		D Lanthanum-ICP-Acid Dil.	ug/mL	104.0	< 5.00e-02	< 30.10	< 3.01e1	n/a	n/a	n/a	30.10	n/a
S961005256		D Magnesium-ICP-Acid Dil.	ug/mL	97.60	< 1.00e-01	12.50	14.70	13.60	16.2	n/a	6.010	n/a
S961005256		D Manganese-ICP-Acid Dil.	ug/mL	98.60	< 1.00e-02	< 60.10	< 6.01e1	n/a	n/a	n/a	60.10	n/a
S961005256		D Molybdenum-ICP-Acid Dil.	ug/mL	101.8	< 5.00e-02	77.00	85.40	81.20	10.3	n/a	6.010	n/a
S961005256		D Sodium-ICP-Acid Dil.	ug/mL	100.0	< 1.00e-01	2.48e+05	2.68e+05	2.58e+05	7.75	n/a	60.10	n/a
S961005256		D Neodymium-ICP-Acid Dil.	ug/mL	104.0	< 1.00e-01	< 60.10	< 6.01e1	n/a	n/a	n/a	60.10	n/a
S961005256		D Nickel-ICP-Acid Dil.	ug/mL	101.2	< 2.00e-02	< 12.00	< 1.20e1	n/a	n/a	n/a	12.00	n/a
S961005256		D Phosphorus-ICP-Acid Dil.	ug/mL	101.0	< 2.00e-01	8.62e+02	954.0	908.0	10.1	n/a	120.0	n/a
S961005256		D Lead-ICP-Acid Dil.	ug/mL	101.2	< 1.00e-01	< 60.10	64.30	1.26e+03	7.94	n/a	60.10	n/a
S961005256		D Sulfur-ICP-Acid Dil.	ug/mL	99.00	< 1.00e-01	1.21e+03	1.31e+03	1.26e+03	7.94	n/a	60.10	n/a
S961005256		D Antimony-ICP-Acid Dil.	ug/mL	96.60	< 6.00e-02	< 36.10	< 3.61e1	n/a	n/a	n/a	36.10	n/a
S961005256		D Selenium-ICP-Acid Dil.	ug/mL	98.40	< 1.00e-01	< 60.10	< 6.01e1	n/a	n/a	n/a	60.10	n/a
S961005256		D Silicon-ICP-Acid Dil.	ug/mL	97.80	< 5.00e-02	2.02e+02	220.0	211.0	8.53	n/a	30.10	n/a
S961005256		D Samarium-ICP-Acid Dil.	ug/mL	99.40	< 1.00e-01	< 60.10	< 6.01e1	n/a	n/a	n/a	60.10	n/a
S961005256		D Strontium-ICP-Acid Dil.	ug/mL	100.6	< 1.00e-02	< 60.10	< 6.01e0	n/a	n/a	n/a	6.010	n/a
S961005256		D Titanium-ICP-Acid Dil.	ug/mL	98.20	< 1.00e-02	< 60.10	< 6.01e0	n/a	n/a	n/a	6.010	n/a
S961005256		D Thallium-ICP-Acid Dil.	ug/mL	97.40	< 2.00e-01	< 1.20e+02	< 1.20e2	n/a	n/a	n/a	120.0	n/a
S961005256		D Uranium-ICP-Acid Dil.	ug/mL	97.20	< 5.00e-01	< 3.00e+02	< 3.00e2	n/a	n/a	n/a	300.0	n/a
S961005256		D Vanadium-ICP-Acid Dil.	ug/mL	101.4	< 5.00e-02	< 30.10	< 3.01e1	n/a	n/a	n/a	30.10	n/a
S961005256		D Zinc-ICP-Acid Dil.	ug/mL	102.2	< 1.00e-02	9.000	9.900	9.450	9.52	n/a	6.010	n/a
S961005256		D Zirconium-ICP-Acid Dil.	ug/mL	99.60	< 1.00e-02	7.980	8.310	8.145	4.05	n/a	6.010	n/a
S961005256		Acetate by IC-Bioxon 4000/4500	ug/mL	95.16	< 2.00e-02	1.92e+03	1.15e+03	1.53e+03	50.2	n/a	406.0	n/a
S961005256		Formate by Ion Chromatograph	ug/mL	96.67	< 1.00e-02	1.25e+03	1.36e+03	1.30e+03	8.43	100.0	426.3	n/a
S961005256		F Fluoride-IC-Bioxon 4000/4500	ug/mL	85.93	< 2.00e-02	< 1.22e+02	< 1.22e2	n/a	n/a	75.59	122.4	n/a
S961005256		Chloride-IC-Bioxon 4000/4500	ug/mL	99.87	< 1.70e-02	1.53e+04	1.51e+04	1.52e+04	1.32	3.278	173.4	n/a
S961005256		Nitrite-IC - Dionex 4000/4500	ug/mL	106.1	< 1.00e-01	2.27e+05	2.25e+05	2.25e+05	1.78	-1.03062	1.10e+03	n/a
S961005256		Bromide by Ion Chromatograph	ug/mL	96.44	< 1.25e-01	< 1.28e+03	< 1.28e3	n/a	n/a	93.89	128e+03	n/a
S961005256		Nitrate by IC-Bioxon 4000/4500	ug/mL	100.3	< 1.39e-01	3.20e+05	3.19e+05	3.19e+05	0.31	-1.73062	1.42e+03	n/a
S961005256		Phosphate-IC-Bioxon 4000/4500	ug/mL	95.40	< 1.20e-01	3.86e+03	3.79e+03	3.82e+03	1.83	88.97	1.22e+03	n/a

Sample#	R. A#	AnalYTE	Unit	Standard %	Blank	Result	Duplicate	Average	RPD	% Spk	Rec %	Det Limit	Count	Err%
S96T005256		Sulfate by IC-Dionex 4000/4500	ug/mL	100.8	<1.38e-01	2.80e+03	2.49e+03	2.64e+03	11.7	n/a	96.35	1.41e+03		n/a
S96T005256		Oxalate-IC-Dionex 4000/450	ug/mL	102.9	<1.05e-01	<1.07e+03	<1.07e+03	n/a	n/a	n/a	102.1	1.07e+03		n/a
S96T005256		Alpha in Liquid Samples	uCi/mL	93.94	<1.78e-06	<9.94e-02	<8.22E-2	n/a	n/a	n/a	n/a	1.16e-01	2.25E+02	

Table 1. Data Summary Report
AN-104

CORE NUMBER: 163
SEGMENT #: 4

SEGMENT PORTION: Drainable Liquid

Sample#	R.#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T005260		DSC Exotherm using Mettler	Joules/g	89.98	n/a	14.70	0.00e+00	7.350	200	n/a	n/a	n/a
S96T005260		DSC Exotherm Dry	Joules/g Dry	n/a	n/a	30.60	0.00e+00	15.30	200	n/a	n/a	n/a
S96T005260		Specific Gravity	Sp.G.	99.89	n/a	1.369	1.384	1.377	1.09	n/a	1.00e-02	n/a
S96T005260		% Water by TGA using Mettler	%	99.83	n/a	52.13	51.77	51.95	0.69	94.00	n/a	n/a
S96T005260		D Silver-ICP-Acid Dil.	ug/mL	100.0	<1.00e-02	19.20	17.80	18.50	7.57	94.00	6.010	n/a
S96T005260		D Aluminum-ICP-Acid Dil.	ug/mL	99.20	<5.00e-02	4.02e+04	3.75e+04	3.88e+04	6.95	-1.100e2	30.10	n/a
S96T005260		D Arsenic-ICP-Acid Dil.	ug/mL	105.2	<1.00e-01	<6.010	<6.01e1	n/a	n/a	98.80	60.10	n/a
S96T005260		D Boron-ICP-Acid Dil.	ug/mL	102.4	<5.00e-02	70.10	63.40	66.75	10.0	99.80	30.10	n/a
S96T005260		D Barium-ICP-Acid Dil.	ug/mL	101.6	<5.00e-02	<30.10	<3.01e1	n/a	n/a	99.50	30.10	n/a
S96T005260		D Beryllium-ICP-Acid Dil.	ug/mL	103.6	<5.00e-03	<3.000	<3.00e0	n/a	n/a	102.0	3.000	n/a
S96T005260		D Bismuth-ICP-Acid Dil.	ug/mL	102.2	<1.00e-01	<60.10	<6.01e1	n/a	n/a	102.0	60.10	n/a
S96T005260		D Calcium-ICP-Acid Dil.	ug/mL	100.4	<1.00e-01	<60.10	<6.01e1	n/a	n/a	101.0	60.10	n/a
S96T005260		D Cadmium-ICP-Acid Dil.	ug/mL	101.4	<5.00e-03	<3.000	<3.00e0	n/a	n/a	100.0	3.000	n/a
S96T005260		D Cerium-ICP-Acid Dil.	ug/mL	101.8	<1.00e-01	<60.10	<6.01e1	n/a	n/a	101.0	60.10	n/a
S96T005260		D Cobalt-ICP-Acid Dil.	ug/mL	101.2	<2.00e-02	<12.00	<1.20e1	n/a	n/a	99.60	12.00	n/a
S96T005260		D Chromium-ICP-Acid Dil.	ug/mL	101.8	<1.00e-02	3.48e+02	328.0	338.0	5.92	98.70	6.010	n/a
S96T005260		D Copper-ICP-Acid Dil.	ug/mL	106.6	<1.00e-02	<6.010	<6.01e0	n/a	n/a	105.0	6.010	n/a
S96T005260		D Iron-ICP-Acid Dil.	ug/mL	101.6	<5.00e-02	<30.10	<3.01e1	n/a	n/a	102.0	30.10	n/a
S96T005260		D Potassium-ICP-Acid Dil.	ug/mL	104.0	<5.00e-01	7.20e+03	6.69e+03	6.94e+03	7.34	60.10	300.0	n/a
S96T005260		D Lanthanum-ICP-Acid Dil.	ug/mL	103.4	<5.00e-02	<30.10	<3.01e1	n/a	n/a	103.0	30.10	n/a
S96T005260		D Lithium-ICP-Acid Dil.	ug/mL	105.4	<1.00e-02	7.190	6.010	6.600	17.9	106.0	6.010	n/a
S96T005260		D Magnesium-ICP-Acid Dil.	ug/mL	97.40	<1.00e-01	<60.10	<6.01e1	n/a	n/a	95.90	60.10	n/a
S96T005260		D Manganese-ICP-Acid Dil.	ug/mL	98.60	<1.00e-02	<6.010	<6.01e0	n/a	n/a	95.60	6.010	n/a
S96T005260		D Molybdenum-ICP-Acid Dil.	ug/mL	102.0	<5.00e-02	83.20	77.50	80.35	7.09	101.0	30.10	n/a
S96T005260		D Sodium-ICP-Acid Dil.	ug/mL	101.0	<1.00e-01	2.71e+05	2.52e+05	2.62e+05	7.27	-1.400e3	60.10	n/a
S96T005260		D Neodymium-ICP-Acid Dil.	ug/mL	104.8	<1.00e-01	<60.10	<6.01e1	n/a	n/a	104.0	60.10	n/a
S96T005260		D Nickel-ICP-Acid Dil.	ug/mL	101.6	<2.00e-02	<12.00	<1.20e1	n/a	n/a	101.0	12.00	n/a
S96T005260		D Phosphorus-ICP-Acid Dil.	ug/mL	101.6	<2.00e-01	1.00e+03	938.0	969.0	12.2	102.0	120.0	n/a
S96T005260		D Lead-ICP-Acid Dil.	ug/mL	101.0	<1.00e-01	61.50	69.50	65.50	6.40	99.00	60.10	n/a
S96T005260		D Sulfur-ICP-Acid Dil.	ug/mL	99.40	<1.00e-01	1.20e+03	1.12e+03	1.16e+03	6.90	91.80	60.10	n/a
S96T005260		D Antimony-ICP-Acid Dil.	ug/mL	97.00	<6.00e-02	<36.10	<3.61e1	n/a	n/a	98.10	36.10	n/a
S96T005260		D Selenium-ICP-Acid Dil.	ug/mL	97.40	<5.00e-02	2.34e+02	222.0	228.0	5.26	99.70	30.10	n/a
S96T005260		D Strontium-ICP-Acid Dil.	ug/mL	99.60	<1.00e-01	<60.10	<6.01e1	n/a	n/a	97.90	60.10	n/a
S96T005260		D Samarium-ICP-Acid Dil.	ug/mL	100.8	<1.00e-02	<6.010	<6.01e0	n/a	n/a	99.90	6.010	n/a
S96T005260		D Tellurium-ICP-Acid Dil.	ug/mL	98.20	<1.00e-02	<6.010	<6.01e0	n/a	n/a	97.20	6.010	n/a
S96T005260		D Thallium-ICP-Acid Dil.	ug/mL	99.00	<2.00e-02	<1.20e+02	<1.20e2	n/a	n/a	97.80	120.0	n/a
S96T005260		D Uranium-ICP-Acid Dil.	ug/mL	97.30	<5.00e-01	<3.00e+02	<3.00e2	n/a	n/a	95.50	300.0	n/a
S96T005260		D Vanadium-ICP-Acid Dil.	ug/mL	101.6	<5.00e-02	<30.10	<3.01e1	n/a	n/a	100.0	30.10	n/a
S96T005260		D Zinc-ICP-Acid Dil.	ug/mL	102.0	<1.00e-02	7.740	7.250	7.495	6.54	102.0	6.010	n/a
S96T005260		D Zirconium-ICP-Acid Dil.	ug/mL	100.0	<1.00e-02	6.780	6.170	6.475	9.42	99.50	6.010	n/a
S96T005260		Acetate by IC-Dionex 4000/4500	ug/mL	99.19	<2.00e-02	6.16e+02	616.0	618.4	0.81	122.6	103.0	n/a
S96T005260		Formate by Ion Chromatograph	ug/mL	99.17	<9.70e-02	1.11e+03	1.05e+03	1.08e+03	5.56	102.5	108.2	n/a
S96T005260		Fluoride by IC-Dionex 4000/4500	ug/mL	99.66	<1.20e-02	<49.69	<4.97e1	n/a	n/a	117.3	49.69	n/a

Sample#	R. A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T005260		Chloride-IC-Bionex 4000/4500	ug/mL	94.18	<1.70e-02	8.16e+03	8.08e+03	8.12e+03	0.99	95.32	70.40	D/A
S96T005260		Nitrite-IC - Bionex 4000/4500	ug/mL	92.24	<1.08e-01	1.14e+05	1.12e+05	1.13e+05	1.77	100.9	447.2	D/A
S96T005260		Bromide by Ion Chromatograph	ug/mL	94.57	<1.25e-01	9.17e+02	950.0	933.5	3.54	83.87	517.6	D/A
S96T005260		Nitrate by IC-Bionex 4000/4500	ug/mL	99.16	<1.39e-01	1.73e+05	1.76e+05	1.75e+05	1.72	91.58	575.6	D/A
S96T005260		Phosphate-IC-Bionex 4000/4500	ug/mL	91.18	<1.20e-01	2.46e+03	2.38e+03	2.40e+03	4.57	86.76	496.9	D/A
S96T005260		Sulfate by IC-Bionex 4000/4500	ug/mL	100.8	<1.38e-01	1.92e+03	1.80e+03	1.86e+03	6.45	98.26	571.5	D/A
S96T005260		Oxalate-IC-Bionex 4000/450	ug/mL	105.0	<1.05e-01	5.27e+02	769.0	647.8	37.3	102.9	434.8	D/A
S96T005260		Alpha in Liquid Samples	uCi/mL	93.94	<1.78e-06	44.83e-02	<9.94E-2	n/a	n/a	108.4	1.16e-01	5.00E+02

Table 1. Data Summary Report
AN-10x

CORE NUMBER: 163
SEGMENT #: 5

SEGMENT PORTION: Drainable Liquid

Sample#	R.#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD	Spk Rec %	Det Limit	Count Err%
S96T005527		DSC Exotherm using Mettler	Joules/g	94.55	n/a	27.70	38.40	33.05	32.4	n/a	n/a	n/a
S96T005527		DSC Exotherm Dry Calculated	Joules/g Dry	n/a	n/a	57.80	80.10	68.95	32.3	n/a	n/a	n/a
S96T005527		Specific Gravity	Sp.G.	96.74	n/a	1.358	1.373	1.365	1.30	n/a	1.00e-03	n/a
S96T005527		% Water by TGA using Mettler	%	99.80	n/a	52.09	52.01	52.05	0.15	n/a	n/a	n/a
S96T005527		Silver-ICP-Acid Dil.	ug/mL	101.2	<1.00e-02	18.00	18.10	18.05	0.55	94.60	6.010	n/a
S96T005527		Aluminum-ICP-Acid Dil.	ug/mL	98.40	<5.00e-02	3.75e+04	3.68e+04	3.70e+04	1.35	-8.630e1	30.10	n/a
S96T005527		Arsenic-ICP-Acid Dil.	ug/mL	105.2	<1.00e-01	<60.10	<60.10e1	n/a	n/a	103.0	60.10	n/a
S96T005527		Boron-ICP-Acid Dil.	ug/mL	99.80	<5.00e-02	<60.10	<60.10e1	n/a	n/a	101.0	30.10	n/a
S96T005527		Barium-ICP-Acid Dil.	ug/mL	101.2	<5.00e-02	61.20	58.20	59.70	5.03	99.10	30.10	n/a
S96T005527		Beryllium-ICP-Acid Dil.	ug/mL	102.8	<5.00e-03	<60.10	<60.10e1	n/a	n/a	103.0	30.10	n/a
S96T005527		Bismuth-ICP-Acid Dil.	ug/mL	102.2	<1.00e-01	<60.10	<60.10e1	n/a	n/a	102.0	60.10	n/a
S96T005527		Calcium-ICP-Acid Dil.	ug/mL	101.4	<1.00e-01	<60.10	<60.10e1	n/a	n/a	102.0	60.10	n/a
S96T005527		Cadmium-ICP-Acid Dil.	ug/mL	101.8	<5.00e-03	<60.10	<60.10e1	n/a	n/a	101.0	30.10	n/a
S96T005527		Cerium-ICP-Acid Dil.	ug/mL	100.4	<1.00e-01	<60.10	<60.10e1	n/a	n/a	101.0	60.10	n/a
S96T005527		Cobalt-ICP-Acid Dil.	ug/mL	101.6	<2.00e-02	<60.10	<60.10e1	n/a	n/a	100.0	12.00	n/a
S96T005527		Chromium-ICP-Acid Dil.	ug/mL	102.2	<1.00e-02	3.26e+02	321.0	323.5	1.55	99.70	6.010	n/a
S96T005527		Copper-ICP-Acid Dil.	ug/mL	105.0	<1.00e-02	<60.10	<60.10e1	n/a	n/a	106.0	6.010	n/a
S96T005527		Iron-ICP-Acid Dil.	ug/mL	101.8	<5.00e-02	<60.10	<60.10e1	n/a	n/a	102.0	30.10	n/a
S96T005527		Potassium-ICP-Acid Dil.	ug/mL	101.0	<5.00e-01	6.52e+03	6.63e+03	6.58e+03	1.67	92.40	300.0	n/a
S96T005527		Lanthanum-ICP-Acid Dil.	ug/mL	101.8	<5.00e-02	<60.10	<60.10e1	n/a	n/a	103.0	30.10	n/a
S96T005527		Lithium-ICP-Acid Dil.	ug/mL	103.4	<1.00e-02	<60.10	<60.10e1	n/a	n/a	107.0	6.010	n/a
S96T005527		Magnesium-ICP-Acid Dil.	ug/mL	96.80	<1.00e-01	<60.10	<60.10e1	n/a	n/a	95.20	60.10	n/a
S96T005527		Manganese-ICP-Acid Dil.	ug/mL	98.80	<1.00e-02	<60.10	<60.10e1	n/a	n/a	96.40	6.010	n/a
S96T005527		Molybdenum-ICP-Acid Dil.	ug/mL	100.0	<5.00e-02	77.50	76.60	77.05	1.17	102.0	30.10	n/a
S96T005527		Sodium-ICP-Acid Dil.	ug/mL	102.0	<1.00e-01	2.51e+05	2.48e+05	2.50e+05	1.20	-1.010e3	60.10	n/a
S96T005527		Neodymium-ICP-Acid Dil.	ug/mL	103.8	<1.00e-01	<60.10	<60.10e1	n/a	n/a	105.0	12.00	n/a
S96T005527		Nickel-ICP-Acid Dil.	ug/mL	102.6	<2.00e-02	<60.10	<60.10e1	n/a	n/a	103.0	60.10	n/a
S96T005527		Phosphorus-ICP-Acid Dil.	ug/mL	103.6	<2.00e-01	9.60e+02	943.0	951.5	1.79	96.00	120.0	n/a
S96T005527		Lead-ICP-Acid Dil.	ug/mL	102.2	<1.00e-01	1.12e+03	1.08e+03	1.10e+03	3.64	93.70	60.10	n/a
S96T005527		Sulfur-ICP-Acid Dil.	ug/mL	100.4	<1.00e-01	<60.10	<60.10e1	n/a	n/a	102.0	60.10	n/a
S96T005527		Antimony-ICP-Acid Dil.	ug/mL	97.00	<6.00e-02	<60.10	<60.10e1	n/a	n/a	101.0	30.10	n/a
S96T005527		Selenium-ICP-Acid Dil.	ug/mL	98.40	<5.00e-02	1.75e+02	173.0	175.0	0.00	101.0	30.10	n/a
S96T005527		Strontium-ICP-Acid Dil.	ug/mL	98.00	<1.00e-01	<60.10	<60.10e1	n/a	n/a	98.00	60.10	n/a
S96T005527		Tantalum-ICP-Acid Dil.	ug/mL	99.80	<1.00e-02	<60.10	<60.10e1	n/a	n/a	100.0	6.010	n/a
S96T005527		Thallium-ICP-Acid Dil.	ug/mL	97.40	<1.00e-02	<60.10	<60.10e1	n/a	n/a	97.50	6.010	n/a
S96T005527		Uranium-ICP-Acid Dil.	ug/mL	99.00	<2.00e-01	1.20e+02	1.20e2	n/a	n/a	101.0	120.0	n/a
S96T005527		Vanadium-ICP-Acid Dil.	ug/mL	96.00	<5.00e-01	<3.00e-02	<3.00e2	n/a	n/a	96.50	300.0	n/a
S96T005527		Zinc-ICP-Acid Dil.	ug/mL	101.4	<5.00e-02	<60.10	<60.10e1	n/a	n/a	101.0	30.10	n/a
S96T005527		Zirconium-ICP-Acid Dil.	ug/mL	103.0	<1.00e-02	<60.10	<60.10e1	n/a	n/a	103.0	6.010	n/a
S96T005527		Acetate by IC-Dionex 4000/4500	ug/mL	99.20	<1.00e-02	6.930	6.430	6.680	7.49	99.70	6.010	n/a
S96T005527		Formate by Ion Chromatograph	ug/mL	100.0	<2.00e-02	1.81e+02	144.0	162.4	22.8	140.2	44.54	n/a
S96T005527		Fluoride-IC-Dionex 4000/4500	ug/mL	98.33	<2.10e-02	480.0	460e-02	469.8	4.26	105.8	44.54	n/a
S96T005527			ug/mL	90.51	<1.20e-02	<61.81	<6.18e1	n/a	n/a	103.2	61.81	n/a

Sample#	R A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T005527		Chloride-IC-Dionex 4000/4500	ug/mL	98.73	<1.70e-02	7.60e+03	7.52e+03	7.56e+03	1.06	100.6	87.57	n/a
S96T005527		Nitrite-IC - Dionex 4000/4500	ug/mL	108.9	<1.08e-01	1.33e+05	1.33e+05	1.33e+05	0.00	119.4	556.3	n/a
S96T005527		Bromide By Ion Chromatograph	ug/mL	98.13	<1.25e-01	8.16e+02	893.0	854.4	9.01	93.55	643.9	n/a
S96T005527		Nitrate By IC-Dionex 4000/4500	ug/mL	103.4	<1.39e-01	1.58e+05	1.59e+05	1.58e+05	0.63	107.1	716.0	n/a
S96T005527		Phosphate-IC-Dionex 4000/4500	ug/mL	103.3	<1.20e-01	2.17e+03	2.08e+03	2.12e+03	4.24	101.3	618.1	n/a
S96T005527		Sulfate By IC-Dionex 4000/4500	ug/mL	101.6	<1.38e-01	1.04e+03	1.09e+03	1.06e+03	4.69	104.1	710.8	n/a
S96T005527		Oxalate-IC-Dionex 4000/450	ug/mL	100.9	<1.05e-01	<5.41e+02	<5.41e2	<5.41e2	n/a	103.8	540.9	n/a
S96T005527		Alpha in Liquid Samples	uCi/mL	92.21	<2.43e-03	<2.12e-03	<2.26E-3	n/a	n/a	n/a	3.00e-03	2.09E+02

Table 1. Data Summary Report
AN-10A

CORE NUMBER: 163
SEGMENT #: 6

SEGMENT PORTION: Drainable Liquid

Sample #	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S967005554		DSC Exotherm using Mettler	Joules/g	98.07	N/A	0.00e+00	0.00e+00	0.00e+00	0.00	N/A	N/A	N/A
S967005554		DSC Exotherm DRY Calculated	Joules/g	N/A	N/A	0.00e+00	0.00e+00	0.00e+00	0.00	N/A	N/A	N/A
S967005554		Specific Gravity	Sp.G.	96.74	N/A	1.344	1.343	1.344	0.07	N/A	1.00e-03	N/A
S967005554		% Water by TGA using Mettler	%	99.80	N/A	52.41	52.27	52.34	0.27	N/A	6.01e	N/A
S967005554		D Silver-ICP-Acid Dil.	ug/mL	101.2	< 1.00e-02	18.60	17.10	17.85	8.40	N/A	30.10	N/A
S967005554		D Aluminum-ICP-Acid Dil.	ug/mL	99.40	< 5.00e-02	3.87e+04	3.84e+04	3.86e+04	0.78	N/A	60.10	N/A
S967005554		D Arsenic-ICP-Acid Dil.	ug/mL	105.2	< 1.00e-01	< 60.10	< 60.10	< 60.10	< 60.10	N/A	30.10	N/A
S967005554		D Boron-ICP-Acid Dil.	ug/mL	101.2	< 5.00e-02	64.00	61.90	62.95	3.34	N/A	30.10	N/A
S967005554		D Barium-ICP-Acid Dil.	ug/mL	99.80	< 5.00e-02	< 30.10	< 30.10	< 30.10	< 30.10	N/A	30.10	N/A
S967005554		D Beryllium-ICP-Acid Dil.	ug/mL	102.8	< 5.00e-03	< 3.000	< 3.000	< 3.000	< 3.000	N/A	30.10	N/A
S967005554		D Bismuth-ICP-Acid Dil.	ug/mL	102.2	< 1.00e-01	< 60.10	< 60.10	< 60.10	< 60.10	N/A	30.10	N/A
S967005554		D Calcium-ICP-Acid Dil.	ug/mL	101.4	< 1.00e-01	< 3.000	< 3.000	< 3.000	< 3.000	N/A	30.10	N/A
S967005554		D Cadmium-ICP-Acid Dil.	ug/mL	101.8	< 5.00e-03	< 3.000	< 3.000	< 3.000	< 3.000	N/A	30.10	N/A
S967005554		D Cerium-ICP-Acid Dil.	ug/mL	100.4	< 1.00e-01	< 60.10	< 60.10	< 60.10	< 60.10	N/A	30.10	N/A
S967005554		D Cobalt-ICP-Acid Dil.	ug/mL	101.6	< 2.00e-02	< 12.00	< 12.00	< 12.00	< 12.00	N/A	30.10	N/A
S967005554		D Chromium-ICP-Acid Dil.	ug/mL	102.2	< 1.00e-02	3.37e+02	336.5	336.5	0.30	N/A	6.010	N/A
S967005554		D Copper-ICP-Acid Dil.	ug/mL	105.0	< 1.00e-02	< 6.010	< 6.010	< 6.010	< 6.010	N/A	6.010	N/A
S967005554		D Iron-ICP-Acid Dil.	ug/mL	101.8	< 5.00e-02	< 85.00	< 85.00	< 85.00	< 85.00	N/A	30.10	N/A
S967005554		D Potassium-ICP-Acid Dil.	ug/mL	101.0	< 5.00e-02	6.35e+03	6.67e+03	6.76e+03	2.66	N/A	300.0	N/A
S967005554		D Lanthanum-ICP-Acid Dil.	ug/mL	101.8	< 5.00e-02	< 30.10	< 30.10	< 30.10	< 30.10	N/A	30.10	N/A
S967005554		D Lithium-ICP-Acid Dil.	ug/mL	103.4	< 1.00e-02	< 6.010	< 6.010	< 6.010	< 6.010	N/A	6.010	N/A
S967005554		D Magnesium-ICP-Acid Dil.	ug/mL	98.80	< 1.00e-01	< 60.10	< 60.10	< 60.10	< 60.10	N/A	60.10	N/A
S967005554		D Manganese-ICP-Acid Dil.	ug/mL	98.80	< 1.00e-02	< 6.010	< 6.010	< 6.010	< 6.010	N/A	6.010	N/A
S967005554		D Molybdenum-ICP-Acid Dil.	ug/mL	102.0	< 5.00e-02	2.56e+05	2.52e+05	2.54e+05	1.18	N/A	30.10	N/A
S967005554		D Sodium-ICP-Acid Dil.	ug/mL	100.0	< 1.00e-01	80.10	79.70	80.10	1.00	N/A	60.10	N/A
S967005554		D Neodymium-ICP-Acid Dil.	ug/mL	103.8	< 1.00e-01	< 60.10	< 60.10	< 60.10	< 60.10	N/A	60.10	N/A
S967005554		D Nickel-ICP-Acid Dil.	ug/mL	102.6	< 2.00e-02	< 12.00	< 12.00	< 12.00	< 12.00	N/A	60.10	N/A
S967005554		D Phosphorus-ICP-Acid Dil.	ug/mL	103.6	< 2.00e-01	9.92e+02	964.0	978.0	2.86	N/A	120.0	N/A
S967005554		D Lead-ICP-Acid Dil.	ug/mL	102.2	< 1.00e-01	60.20	60.50	60.35	0.50	N/A	60.10	N/A
S967005554		D Sulfur-ICP-Acid Dil.	ug/mL	100.4	< 1.00e-01	1.14e+03	1.14e+03	1.14e+03	0.00	N/A	60.10	N/A
S967005554		D Antimony-ICP-Acid Dil.	ug/mL	97.00	< 6.00e-02	< 36.10	< 36.10	< 36.10	< 36.10	N/A	60.10	N/A
S967005554		D Selenium-ICP-Acid Dil.	ug/mL	99.40	< 1.00e-01	< 60.10	< 60.10	< 60.10	< 60.10	N/A	60.10	N/A
S967005554		D Silicon-ICP-Acid Dil.	ug/mL	98.00	< 5.00e-02	2.00e+02	200.0	200.0	0.00	N/A	30.10	N/A
S967005554		D Samarium-ICP-Acid Dil.	ug/mL	98.00	< 1.00e-01	< 60.10	< 60.10	< 60.10	< 60.10	N/A	60.10	N/A
S967005554		D Strontium-ICP-Acid Dil.	ug/mL	99.80	< 1.00e-02	< 6.010	< 6.010	< 6.010	< 6.010	N/A	6.010	N/A
S967005554		D Titanium-ICP-Acid Dil.	ug/mL	97.40	< 1.00e-02	< 6.010	< 6.010	< 6.010	< 6.010	N/A	6.010	N/A
S967005554		D Thallium-ICP-Acid Dil.	ug/mL	99.00	< 2.00e-02	< 1.20e+02	< 1.20e+02	< 1.20e+02	< 1.20e+02	N/A	120.0	N/A
S967005554		D Vanadium-ICP-Acid Dil.	ug/mL	96.00	< 5.00e-01	< 3.00e+02	< 3.00e+02	< 3.00e+02	< 3.00e+02	N/A	300.0	N/A
S967005554		D Vanadium-ICP-Acid Dil.	ug/mL	101.4	< 5.00e-02	< 30.10	< 30.10	< 30.10	< 30.10	N/A	30.10	N/A
S967005554		D Zinc-ICP-Acid Dil.	ug/mL	103.0	< 1.00e-02	< 6.010	< 6.010	< 6.010	< 6.010	N/A	6.010	N/A
S967005554		D Zirconium-ICP-Acid Dil.	ug/mL	99.00	< 1.00e-02	7.530	8.400	7.965	10.9	N/A	6.010	N/A
S967005554		Acetate by IC-Pionex 4000/4500	ug/mL	100.0	< 2.00e-02	1.91e+02	339.0	264.2	56.3	N/A	42.42	N/A
S967005554		Formate by Ion Chromatograph	ug/mL	98.33	< 2.10e-02	4.97e+02	489.0	490.0	0.41	N/A	44.54	N/A
S967005554		Fluoride-IC-Pionex 4000/4500	ug/mL	90.51	< 1.20e-02	< 61.81	< 61.81	< 61.81	< 61.81	N/A	61.81	N/A

Sample#	R A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T005554		Chloride-IC-Dionex 4000/4500	ug/mL	98.73	<1.70e-02	8.00e+03	7.97e+03	7.98e+03	0.38	N/A	87.57	N/A
S96T005554		Nitrite-IC - Dionex 4000/4500	ug/mL	108.9	<1.08e-01	1.19e+05	1.26e+05	1.23e+05	5.71	N/A	556.3	N/A
S96T005554		Bromide by Ion Chromatograph	ug/mL	98.13	<1.25e-01	7.36e+02	748.0	742.1	1.62	N/A	643.9	N/A
S96T005554		Nitrate by IC-Dionex 4000/4500	ug/mL	103.4	<1.39e-01	1.60e+05	1.63e+05	1.61e+05	1.86	N/A	716.0	N/A
S96T005554		Phosphate-IC-Dionex 4000/4500	ug/mL	103.3	<1.20e-01	2.67e+03	2.28e+03	2.48e+03	15.8	N/A	618.1	N/A
S96T005554		Sulfate by IC-Dionex 4000/4500	ug/mL	101.6	<1.38e-01	<7.11e+02	754.0	N/A	N/A	N/A	710.8	N/A
S96T005554		Oxalate-IC-Dionex 4000/450	ug/mL	100.9	<1.05e-01	<5.41e+02	<5.41e2	N/A	N/A	N/A	540.9	N/A
S96T005554		Alpha In Liquid Samples	uCi/mL	92.21	<2.43e-03	<2.43e-03	<2.12E-3	N/A	N/A	N/A	3.00e-03	5.00E+02

Table 1. Data Summary Report
AN-104

CORE NUMBER: 163
SEGMENT #: 7

SEGMENT PORTION: Drainable Liquid

Sample#	Rt #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T005255	D	PSC 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
S96T005255	D	PSC Exotherm on Perkin Elmer	Joules/g	97.40	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S96T005255	D	Specific Gravity	Sp.G.	99.89	n/a	1.416	1.406	1.411	0.71	n/a	1.00e-02	n/a
S96T005255	D	% Water by TGA on Perkin Elmer	%	99.26	n/a	51.47	51.75	51.61	0.54	n/a	n/a	n/a
S96T005255	D	Silver-ICP-Acid Dil.	ug/mL	100.6	< 1.00e-02	19.30	20.20	19.75	4.56	95.50	6.010	n/a
S96T005255	D	Aluminum-ICP-Acid Dil.	ug/mL	99.00	< 5.00e-02	4.10e+04	4.32e+04	4.21e+04	5.23	294.0	30.10	n/a
S96T005255	D	Arsenic-ICP-Acid Dil.	ug/mL	104.8	< 1.00e-01	< 60.10	< 60.10	< 60.10	n/a	99.50	60.10	n/a
S96T005255	D	Boron-ICP-Acid Dil.	ug/mL	101.2	< 5.00e-02	67.00	71.30	69.15	6.22	99.00	30.10	n/a
S96T005255	D	Barium-ICP-Acid Dil.	ug/mL	100.4	< 5.00e-02	< 30.10	< 30.10	< 30.10	n/a	100.00	30.10	n/a
S96T005255	D	Beryllium-ICP-Acid Dil.	ug/mL	103.8	< 5.00e-03	< 3.000	< 3.000	< 3.000	n/a	103.0	3.000	n/a
S96T005255	D	Bismuth-ICP-Acid Dil.	ug/mL	103.8	< 1.00e-01	< 60.10	< 60.10	< 60.10	n/a	99.20	60.10	n/a
S96T005255	D	Calcium-ICP-Acid Dil.	ug/mL	100.6	< 1.00e-03	< 60.10	< 60.10	< 60.10	n/a	104.0	60.10	n/a
S96T005255	D	Cadmium-ICP-Acid Dil.	ug/mL	101.6	< 5.00e-03	< 3.000	< 3.000	< 3.000	n/a	102.0	3.000	n/a
S96T005255	D	Cerium-ICP-Acid Dil.	ug/mL	101.2	< 1.00e-01	< 60.10	< 60.10	< 60.10	n/a	103.0	60.10	n/a
S96T005255	D	Cobalt-ICP-Acid Dil.	ug/mL	102.0	< 1.00e-02	< 12.00	< 12.00	< 12.00	n/a	105.0	12.00	n/a
S96T005255	D	Chromium-ICP-Acid Dil.	ug/mL	106.0	< 1.00e-02	3.58e+02	3.77e+02	3.67e+02	5.17	105.0	6.010	n/a
S96T005255	D	Copper-ICP-Acid Dil.	ug/mL	101.8	< 5.00e-02	< 6.010	< 6.010	< 6.010	n/a	105.0	6.010	n/a
S96T005255	D	Iron-ICP-Acid Dil.	ug/mL	101.8	< 5.00e-01	33.30	33.01e1	33.15	n/a	98.30	30.10	n/a
S96T005255	D	Potassium-ICP-Acid Dil.	ug/mL	102.8	< 5.00e-02	< 30.10	< 30.10	< 30.10	n/a	157.0	30.10	n/a
S96T005255	D	Lanthanum-ICP-Acid Dil.	ug/mL	104.0	< 1.00e-02	21.20	22.50	21.85	5.95	105.0	6.010	n/a
S96T005255	D	Lithium-ICP-Acid Dil.	ug/mL	97.60	< 1.00e-02	< 60.10	< 60.10	< 60.10	n/a	95.10	60.10	n/a
S96T005255	D	Magnesium-ICP-Acid Dil.	ug/mL	98.60	< 1.00e-02	< 6.010	< 6.010	< 6.010	n/a	97.40	6.010	n/a
S96T005255	D	Manganese-ICP-Acid Dil.	ug/mL	100.8	< 5.00e-02	84.30	89.60	86.95	6.10	103.0	30.10	n/a
S96T005255	D	Molybdenum-ICP-Acid Dil.	ug/mL	100.0	< 1.00e-01	7.24e+05	2.89e+05	2.81e+05	5.69	1.36e+03	60.10	n/a
S96T005255	D	Sodium-ICP-Acid Dil.	ug/mL	104.0	< 1.00e-01	< 60.10	< 60.10	< 60.10	n/a	105.0	60.10	n/a
S96T005255	D	Nickel-ICP-Acid Dil.	ug/mL	101.2	< 2.00e-02	< 12.00	< 12.00	< 12.00	n/a	101.0	12.00	n/a
S96T005255	D	Phosphorus-ICP-Acid Dil.	ug/mL	101.0	< 2.00e-01	1.03e+03	1.07e+03	1.05e+03	3.81	107.0	120.0	n/a
S96T005255	D	Lead-ICP-Acid Dil.	ug/mL	101.2	< 1.00e-01	67.00	65.50	66.25	2.26	102.0	60.10	n/a
S96T005255	D	Sulfur-ICP-Acid Dil.	ug/mL	99.00	< 1.00e-01	1.22e+03	1.28e+03	1.25e+03	4.80	106.0	60.10	n/a
S96T005255	D	Antimony-ICP-Acid Dil.	ug/mL	96.60	< 6.00e-02	< 36.10	< 36.10	< 36.10	n/a	98.30	36.10	n/a
S96T005255	D	Selenium-ICP-Acid Dil.	ug/mL	98.40	< 1.00e-01	< 60.10	< 60.10	< 60.10	n/a	104.0	60.10	n/a
S96T005255	D	Silicon-ICP-Acid Dil.	ug/mL	97.80	< 5.00e-02	2.30e+02	2.42e+02	2.36e+02	5.08	103.0	30.10	n/a
S96T005255	D	Strontium-ICP-Acid Dil.	ug/mL	99.40	< 1.00e-01	< 60.10	< 60.10	< 60.10	n/a	101.0	60.10	n/a
S96T005255	D	Titanium-ICP-Acid Dil.	ug/mL	100.6	< 1.00e-02	< 6.010	< 6.010	< 6.010	n/a	101.0	6.010	n/a
S96T005255	D	Thallium-ICP-Acid Dil.	ug/mL	98.20	< 2.00e-02	< 6.010	< 6.010	< 6.010	n/a	98.60	6.010	n/a
S96T005255	D	Thallium-ICP-Acid Dil.	ug/mL	97.40	< 2.00e-01	< 1.20e+02	< 1.20e+02	< 1.20e+02	n/a	99.00	120.0	n/a
S96T005255	D	Uranium-ICP-Acid Dil.	ug/mL	97.20	< 5.00e-02	< 3.00e+02	< 3.00e+02	< 3.00e+02	n/a	100.0	300.0	n/a
S96T005255	D	Vanadium-ICP-Acid Dil.	ug/mL	101.4	< 5.00e-02	< 30.10	< 30.10	< 30.10	n/a	102.0	30.10	n/a
S96T005255	D	Zinc-ICP-Acid Dil.	ug/mL	102.2	< 1.00e-02	< 6.010	< 6.010	< 6.010	n/a	104.0	6.010	n/a
S96T005255	D	Zirconium-ICP-Acid Dil.	ug/mL	99.60	< 1.00e-02	8.010	8.130	8.070	1.49	101.0	6.010	n/a
S96T005255	D	Acetate by IC-Dionex 4000/4500	ug/mL	94.36	< 2.00e-02	5.17e+02	645.0	598.0	15.7	n/a	82.82	n/a
S96T005255	D	Formate by Ion Chromatograph	ug/mL	95.83	< 2.10e-02	1.07e+03	1.07e+03	1.07e+03	0.00	n/a	86.96	n/a
S96T005255	D	Fluoride by IC-Dionex 4000/4500	ug/mL	106.3	< 1.20e-02	< 49.69	< 49.69	< 49.69	n/a	n/a	49.69	n/a

Sample#	R. A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD. %	Spk Rec %	Det Limit	Count Err%
S96T005255		Chloride-IC-Dionex 4000/4500	ug/mL	89.11	<1.70e-02	3.66e+03	3.63e+03	3.64e+03	0.82	N/A	70.40	N/A
S96T005255		Nitrite-IC - Dionex 4000/4500	ug/mL	89.83	<1.08e-01	4.93e+04	4.91e+04	4.92e+04	0.41	N/A	447.2	N/A
S96T005255		Bromide by Ion Chromatograph	ug/mL	91.00	<1.25e-01	6.55e+02	650.0	652.5	0.77	N/A	517.6	N/A
S96T005255		Nitrate by IC-Dionex 4000/4500	ug/mL	91.92	<1.39e-01	7.85e+04	8.00e+04	7.92e+04	1.89	N/A	575.6	N/A
S96T005255		Phosphate-IC-Dionex 4000/4500	ug/mL	102.0	<1.20e-01	2.62e+03	2.57e+03	2.59e+03	1.93	N/A	618.1	N/A
S96T005255		Sulfate by IC-Dionex 4000/4500	ug/mL	97.46	<1.38e-01	1.02e+03	1.47e+03	1.25e+03	36.1	N/A	571.5	N/A
S96T005255		Oxalate-IC-Dionex 4000/450	ug/mL	102.7	<1.05e-01	<4.35e+02	<4.35e2	N/A	N/A	N/A	434.8	N/A
S96T005255		Alpha In Liquid Samples	uCi/mL	93.94	<1.78e-06	<8.22e-02	<6.49E-2	N/A	N/A	N/A	1.16e-01	4.39E+02

Table 1. Data Summary Report
AN-104

CORE NUMBER: 163

SEGMENT #: 8

SEGMENT PORTION: Drainable Liquid

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD	% Spk	Rec	%	Det	Limit	Count	Err%
S967005257		PSC Exotherm using Mettler	Joules/g	99.42	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a
S967005257		DSC Exotherm Dry	Joules/g	n/a	n/a	0.00e+00	17.50	8.750	200	n/a	n/a	n/a	n/a	n/a	n/a	n/a
S967005257		Specific Gravity	Sp.G.	99.89	n/a	1.402	1.412	1.407	0.71	n/a	n/a	n/a	1.00e-02	n/a	n/a	n/a
S967005257		% Water by TGA using Mettler	%	99.68	n/a	52.13	51.93	52.03	0.38	n/a	n/a	n/a	6.010	n/a	n/a	n/a
S967005257		0 Silver-ICP-Acid Dil.	ug/mL	100.8	<1.00e-02	17.70	18.93	18.05	3.88	n/a	n/a	n/a	30.10	n/a	n/a	n/a
S967005257		0 Aluminum-ICP-Acid Dil.	ug/mL	99.20	<5.00e-02	3.68e+04	3.77e+04	3.72e+04	2.42	n/a	n/a	n/a	60.10	n/a	n/a	n/a
S967005257		0 Arsenic-ICP-Acid Dil.	ug/mL	105.2	<1.00e-01	< 60.10	< 60.10	< 60.10	0.00	n/a	n/a	n/a	30.10	n/a	n/a	n/a
S967005257		0 Boron-ICP-Acid Dil.	ug/mL	102.4	<5.00e-02	66.10	66.10	66.10	0.00	n/a	n/a	n/a	30.10	n/a	n/a	n/a
S967005257		0 Barium-ICP-Acid Dil.	ug/mL	101.6	<5.00e-02	< 30.10	< 30.10	< 30.10	0.00	n/a	n/a	n/a	30.10	n/a	n/a	n/a
S967005257		0 Beryllium-ICP-Acid Dil.	ug/mL	103.6	<5.00e-03	< 3.000	< 3.000	< 3.000	n/a	n/a	n/a	n/a	3.000	n/a	n/a	n/a
S967005257		0 Bismuth-ICP-Acid Dil.	ug/mL	102.2	<1.00e-01	< 60.10	< 60.10	< 60.10	n/a	n/a	n/a	n/a	60.10	n/a	n/a	n/a
S967005257		0 Calcium-ICP-Acid Dil.	ug/mL	100.2	<1.00e-01	< 30.10	< 30.10	< 30.10	n/a	n/a	n/a	n/a	30.10	n/a	n/a	n/a
S967005257		0 Cadmium-ICP-Acid Dil.	ug/mL	101.4	<5.00e-03	< 60.10	< 60.10	< 60.10	n/a	n/a	n/a	n/a	3.000	n/a	n/a	n/a
S967005257		0 Cerium-ICP-Acid Dil.	ug/mL	101.8	<1.00e-01	< 12.00	< 12.00	< 12.00	n/a	n/a	n/a	n/a	12.00	n/a	n/a	n/a
S967005257		0 Cobalt-ICP-Acid Dil.	ug/mL	101.2	<2.00e-02	< 60.10	< 60.10	< 60.10	n/a	n/a	n/a	n/a	6.010	n/a	n/a	n/a
S967005257		0 Chromium-ICP-Acid Dil.	ug/mL	106.6	<1.00e-02	3.17e+02	327.0	322.0	3.11	n/a	n/a	n/a	6.010	n/a	n/a	n/a
S967005257		0 Copper-ICP-Acid Dil.	ug/mL	106.6	<1.00e-02	< 60.10	< 60.10	< 60.10	n/a	n/a	n/a	n/a	30.10	n/a	n/a	n/a
S967005257		0 Potassium-ICP-Acid Dil.	ug/mL	104.0	<5.00e-01	6.64e+03	6.82e+03	6.73e+03	2.67	n/a	n/a	n/a	300.0	n/a	n/a	n/a
S967005257		0 Lanthanum-ICP-Acid Dil.	ug/mL	103.4	<5.00e-02	< 30.10	< 30.10	< 30.10	n/a	n/a	n/a	n/a	30.10	n/a	n/a	n/a
S967005257		0 Lithium-ICP-Acid Dil.	ug/mL	105.4	<1.00e-02	< 60.10	6.450	n/a	n/a	n/a	n/a	n/a	6.010	n/a	n/a	n/a
S967005257		0 Magnesium-ICP-Acid Dil.	ug/mL	97.40	<1.00e-01	< 60.10	< 60.10	< 60.10	n/a	n/a	n/a	n/a	60.10	n/a	n/a	n/a
S967005257		0 Manganese-ICP-Acid Dil.	ug/mL	98.60	<1.00e-02	< 60.10	< 60.10	< 60.10	n/a	n/a	n/a	n/a	6.010	n/a	n/a	n/a
S967005257		0 Molybdenum-ICP-Acid Dil.	ug/mL	102.0	<5.00e-02	2.73e+05	78.60	75.80	7.39	n/a	n/a	n/a	30.10	n/a	n/a	n/a
S967005257		0 Sodium-ICP-Acid Dil.	ug/mL	101.0	<1.00e-01	44.00	2.52e+05	2.50e+05	2.00	n/a	n/a	n/a	60.10	n/a	n/a	n/a
S967005257		0 Neodymium-ICP-Acid Dil.	ug/mL	104.8	<1.00e-01	< 60.10	< 60.10	< 60.10	n/a	n/a	n/a	n/a	60.10	n/a	n/a	n/a
S967005257		0 Nickel-ICP-Acid Dil.	ug/mL	101.4	<2.00e-02	< 12.00	< 1.20e1	842.5	1.78	n/a	n/a	n/a	12.00	n/a	n/a	n/a
S967005257		0 Phosphorus-ICP-Acid Dil.	ug/mL	101.6	<1.00e-01	8.35e+02	850.0	842.5	1.78	n/a	n/a	n/a	120.0	n/a	n/a	n/a
S967005257		0 Lead-ICP-Acid Dil.	ug/mL	101.0	<1.00e-01	< 60.10	66.70	n/a	n/a	n/a	n/a	n/a	60.10	n/a	n/a	n/a
S967005257		0 Sulfur-ICP-Acid Dil.	ug/mL	99.40	<1.00e-01	1.11e+03	1.13e+03	1.12e+03	1.79	n/a	n/a	n/a	60.10	n/a	n/a	n/a
S967005257		0 Antimony-ICP-Acid Dil.	ug/mL	97.00	<6.00e-02	< 36.10	< 3.61e1	n/a	n/a	n/a	n/a	n/a	36.10	n/a	n/a	n/a
S967005257		0 Selenium-ICP-Acid Dil.	ug/mL	98.20	<1.00e-01	< 60.10	< 60.10	< 60.10	n/a	n/a	n/a	n/a	60.10	n/a	n/a	n/a
S967005257		0 Silicon-ICP-Acid Dil.	ug/mL	97.40	<5.00e-02	2.36e+02	248.0	242.0	4.96	n/a	n/a	n/a	30.10	n/a	n/a	n/a
S967005257		0 Samarium-ICP-Acid Dil.	ug/mL	99.60	<1.00e-01	< 60.10	< 60.10	< 60.10	n/a	n/a	n/a	n/a	60.10	n/a	n/a	n/a
S967005257		0 Strontium-ICP-Acid Dil.	ug/mL	100.8	<1.00e-02	< 60.10	< 60.10	< 60.10	n/a	n/a	n/a	n/a	6.010	n/a	n/a	n/a
S967005257		0 Titanium-ICP-Acid Dil.	ug/mL	98.20	<1.00e-02	< 60.10	< 60.10	< 60.10	n/a	n/a	n/a	n/a	6.010	n/a	n/a	n/a
S967005257		0 Thallium-ICP-Acid Dil.	ug/mL	99.00	<2.00e-02	< 1.20e+02	< 1.20e2	n/a	n/a	n/a	n/a	n/a	120.0	n/a	n/a	n/a
S967005257		0 Uranium-ICP-Acid Dil.	ug/mL	97.30	<5.00e-01	< 33.00e2	< 33.00e2	n/a	n/a	n/a	n/a	n/a	300.0	n/a	n/a	n/a
S967005257		0 Vanadium-ICP-Acid Dil.	ug/mL	101.6	<5.00e-02	< 30.10	< 30.10	< 30.10	n/a	n/a	n/a	n/a	30.10	n/a	n/a	n/a
S967005257		0 Zinc-ICP-Acid Dil.	ug/mL	102.0	<1.00e-02	7.750	8.250	8.250	12.1	n/a	n/a	n/a	6.010	n/a	n/a	n/a
S967005257		0 Zirconium-ICP-Acid Dil.	ug/mL	100.0	<1.00e-02	< 60.10	< 60.10	< 60.10	n/a	n/a	n/a	n/a	6.010	n/a	n/a	n/a
S967005257		Acetate by Ion Chromatograph	ug/mL	95.16	<2.00e-02	34.08e+02	1.29e+03	n/a	n/a	n/a	n/a	n/a	406.0	n/a	n/a	n/a
S967005257		Formate by Ion Chromatograph	ug/mL	96.67	<2.10e-02	44.26e+02	2.42e+02	n/a	n/a	n/a	n/a	n/a	426.3	n/a	n/a	n/a
S967005257		Fluoride-ICP-Bioxex 4000/4500	ug/mL	85.93	<1.20e-02	< 61.81	< 61.81	n/a	n/a	n/a	n/a	n/a	61.81	n/a	n/a	n/a

Sample#	R A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T005257		Chloride-IC-Dionex 4000/4500	ug/mL	99.87	<1.70e-02	7.99e+03	7.97e+03	7.98e+03	0.25	n/a	87.57	n/a
S96T005257		Nitrite-IC - Dionex 4000/4500	ug/mL	106.1	<1.08e-01	1.17e+05	1.17e+05	1.17e+05	0.00	n/a	556.3	n/a
S96T005257		Bromide by Ion Chromatograph	ug/mL	96.44	<1.25e-01	7.31e+02	749.0	740.1	2.43	n/a	643.9	n/a
S96T005257		Nitrate by IC-Dionex 4000/4500	ug/mL	100.3	<1.39e-01	1.66e+03	1.66e+03	1.66e+03	0.00	n/a	716.0	n/a
S96T005257		Phosphate-IC-Dionex 4000/4500	ug/mL	95.40	<1.20e-01	1.75e+03	1.87e+03	1.81e+03	6.63	n/a	618.1	n/a
S96T005257		Sulfate by IC-Dionex 4000/4500	ug/mL	100.8	<1.38e-01	1.04e+03	1.09e+03	1.07e+03	4.69	n/a	710.8	n/a
S96T005257		Oxalate-IC-Dionex 4000/450	ug/mL	102.9	<1.05e-01	<5.41e-02	579.0	n/a	n/a	n/a	540.9	n/a
S96T005257		Alpha In Liquid Samples	uCi/mL	93.94	<1.78e-06	<4.83e-02	<4.83E-2	n/a	n/a	n/a	1.16e-01	5.00E+02

Table 1. Data Summary Report
AN-104

CORE NUMBER: 163
SEGMENT #: 9

SEGMENT PORTION: Drainable Liquid

Sample#	R#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD	Spk Rec	Det Limit	Count Err
S96T005258		DSC Exotherm using Mettler	Joules/g	89.98	n/a	0.00e+00	14.60	7.300	n/a	n/a	n/a	n/a
S96T005258		DSC Exotherm DTY Calculated	Joules/g DTY	n/a	n/a	0.00e+00	30.50	15.25	200	n/a	n/a	n/a
S96T005258		Specific Gravity	Sp.G.	99.89	n/a	1.354	1.350	1.352	0.30	n/a	1.00e-02	n/a
S96T005258		% Water by TGA using Mettler	%	99.53	n/a	51.92	52.35	52.14	0.82	n/a	6.010	n/a
S96T005258		D Silver-ICP-Acid Dil.	ug/mL	100.8	<1.00e-02	3.92e+04	17.90	18.75	9.07	n/a	30.10	n/a
S96T005258		D Aluminum-ICP-Acid Dil.	ug/mL	99.20	<1.00e-01	60.10	65.20	66.10	4.43	n/a	60.10	n/a
S96T005258		D Arsenic-ICP-Acid Dil.	ug/mL	105.2	<1.00e-02	60.10	65.20	66.10	2.72	n/a	30.10	n/a
S96T005258		D Boron-ICP-Acid Dil.	ug/mL	102.4	<1.00e-02	60.10	65.20	66.10	2.72	n/a	30.10	n/a
S96T005258		D Barium-ICP-Acid Dil.	ug/mL	101.6	<1.00e-02	60.10	65.20	66.10	2.72	n/a	30.10	n/a
S96T005258		D Beryllium-ICP-Acid Dil.	ug/mL	103.6	<1.00e-03	60.10	65.20	66.10	n/a	n/a	3.000	n/a
S96T005258		D Bismuth-ICP-Acid Dil.	ug/mL	102.2	<1.00e-01	60.10	65.20	66.10	n/a	n/a	60.10	n/a
S96T005258		D Calcium-ICP-Acid Dil.	ug/mL	100.2	<1.00e-01	60.10	65.20	66.10	n/a	n/a	3.000	n/a
S96T005258		D Cadmium-ICP-Acid Dil.	ug/mL	101.4	<1.00e-03	60.10	65.20	66.10	n/a	n/a	60.10	n/a
S96T005258		D Cerium-ICP-Acid Dil.	ug/mL	101.8	<1.00e-01	60.10	65.20	66.10	n/a	n/a	12.00	n/a
S96T005258		D Cobalt-ICP-Acid Dil.	ug/mL	101.2	<1.00e-02	60.10	65.20	66.10	n/a	n/a	6.010	n/a
S96T005258		D Chromium-ICP-Acid Dil.	ug/mL	101.8	<1.00e-02	60.10	65.20	66.10	4.19	n/a	6.010	n/a
S96T005258		D Copper-ICP-Acid Dil.	ug/mL	106.6	<1.00e-02	60.10	65.20	66.10	n/a	n/a	30.10	n/a
S96T005258		D Iron-ICP-Acid Dil.	ug/mL	101.6	<1.00e-02	60.10	65.20	66.10	n/a	n/a	30.10	n/a
S96T005258		D Potassium-ICP-Acid Dil.	ug/mL	104.0	<1.00e-01	60.10	65.20	66.10	8.01	n/a	30.10	n/a
S96T005258		D Lanthanum-ICP-Acid Dil.	ug/mL	103.4	<1.00e-02	60.10	65.20	66.10	n/a	n/a	6.010	n/a
S96T005258		D Lithium-ICP-Acid Dil.	ug/mL	105.4	<1.00e-02	60.10	65.20	66.10	8.935	0.78	6.010	n/a
S96T005258		D Magnesium-ICP-Acid Dil.	ug/mL	97.40	<1.00e-01	60.10	65.20	66.10	n/a	n/a	60.10	n/a
S96T005258		D Manganese-ICP-Acid Dil.	ug/mL	98.60	<1.00e-02	60.10	65.20	66.10	n/a	n/a	6.010	n/a
S96T005258		D Molybdenum-ICP-Acid Dil.	ug/mL	102.0	<1.00e-02	60.10	65.20	66.10	n/a	n/a	30.10	n/a
S96T005258		D Sodium-ICP-Acid Dil.	ug/mL	101.0	<1.00e-01	60.10	65.20	66.10	3.16	n/a	60.10	n/a
S96T005258		D Neodymium-ICP-Acid Dil.	ug/mL	104.8	<1.00e-01	60.10	65.20	66.10	n/a	n/a	60.10	n/a
S96T005258		D Nickel-ICP-Acid Dil.	ug/mL	101.4	<1.00e-02	60.10	65.20	66.10	n/a	n/a	12.00	n/a
S96T005258		D Phosphorus-ICP-Acid Dil.	ug/mL	101.6	<1.00e-01	60.10	65.20	66.10	1.84	n/a	60.10	n/a
S96T005258		D Lead-ICP-Acid Dil.	ug/mL	101.6	<1.00e-01	60.10	65.20	66.10	1.84	n/a	120.0	n/a
S96T005258		D Sulfur-ICP-Acid Dil.	ug/mL	99.40	<1.00e-01	60.10	65.20	66.10	n/a	n/a	60.10	n/a
S96T005258		D Antimony-ICP-Acid Dil.	ug/mL	97.00	<1.00e-02	60.10	65.20	66.10	4.35	n/a	60.10	n/a
S96T005258		D Selenium-ICP-Acid Dil.	ug/mL	98.20	<1.00e-01	60.10	65.20	66.10	n/a	n/a	36.10	n/a
S96T005258		D Silicon-ICP-Acid Dil.	ug/mL	97.40	<1.00e-02	60.10	65.20	66.10	1.37	n/a	30.10	n/a
S96T005258		D Samarium-ICP-Acid Dil.	ug/mL	99.60	<1.00e-01	60.10	65.20	66.10	n/a	n/a	60.10	n/a
S96T005258		D Strontium-ICP-Acid Dil.	ug/mL	100.8	<1.00e-02	60.10	65.20	66.10	n/a	n/a	6.010	n/a
S96T005258		D Titanium-ICP-Acid Dil.	ug/mL	98.20	<1.00e-02	60.10	65.20	66.10	n/a	n/a	6.010	n/a
S96T005258		D Thallium-ICP-Acid Dil.	ug/mL	99.00	<1.00e-01	60.10	65.20	66.10	n/a	n/a	120.0	n/a
S96T005258		D Uranium-ICP-Acid Dil.	ug/mL	97.30	<1.00e-02	60.10	65.20	66.10	n/a	n/a	300.0	n/a
S96T005258		D Vanadium-ICP-Acid Dil.	ug/mL	101.6	<1.00e-02	60.10	65.20	66.10	n/a	n/a	30.10	n/a
S96T005258		D Zinc-ICP-Acid Dil.	ug/mL	100.0	<1.00e-02	60.10	65.20	66.10	3.72	n/a	6.010	n/a
S96T005258		D Zirconium-ICP-Acid Dil.	ug/mL	102.0	<1.00e-02	60.10	65.20	66.10	7.520	n/a	6.010	n/a
S96T005258		Acetate by IC-Dionex 4000/4500	ug/mL	99.19	<2.00e-02	60.10	65.20	66.10	0.18	n/a	103.0	n/a
S96T005258		Formate by Ion Chromatograph	ug/mL	99.17	9.70e-02	60.10	65.20	66.10	2.90	n/a	108.2	n/a
S96T005258		Fluoride-IC-Dionex 4000/4500	ug/mL	99.66	<1.20e-02	60.10	65.20	66.10	n/a	n/a	49.69	n/a

Sample#	R#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T005258		Chloride-IC-Dionex 4000/4500	ug/mL	94.18	<1.70e-02	7.61e+03	7.74e+03	7.68e+03	1.69	n/a	70.40	n/a
S96T005258		Nitrite-IC - Dionex 4000/4500	ug/mL	92.24	<1.08e-01	1.08e+03	1.06e+03	1.07e+03	1.87	n/a	447.2	n/a
S96T005258		Bromide by Ion Chromatograph	ug/mL	94.57	<1.25e-01	1.10e+03	1.05e+03	1.08e+03	4.65	n/a	517.6	n/a
S96T005258		Nitrate by IC-Dionex 4000/4500	ug/mL	99.16	<1.39e-01	1.73e+03	1.75e+03	1.74e+03	1.15	n/a	496.9	n/a
S96T005258		Phosphate-IC-Dionex 4000/4500	ug/mL	91.18	<1.20e-01	2.07e+03	2.04e+03	2.05e+03	1.46	n/a	571.5	n/a
S96T005258		Sulfate by IC-Dionex 4000/4500	ug/mL	100.8	<1.38e-01	1.48e+03	2.08e+03	1.78e+03	33.7	n/a	434.8	n/a
S96T005258		Oxalate-IC-Dionex 4000/450	ug/mL	105.0	<1.05e-01	9.06e+02	528.0	717.0	52.7	n/a	1.16e-01	5.00E+02
S96T005258		Alpha in Liquid Samples	uCi/mL	93.94	<1.78e-06	<4.83e-02	<4.83E-2	n/a	n/a	n/a		

Table 1. Data Summary Report
AN-104

CORE NUMBER: 163
SEGMENT #: 10

SEGMENT PORTION: Drainable Liquid

Sample#	R /#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T005528		DSC Exotherm using Mettler	Joules/g	94.55	n/a	39.30	0.00e+00	19.65	200	n/a	n/a	n/a
S96T005528		DSC Exotherm Dry	Joules/g Dry	n/a	n/a	82.00	0.00e+00	41.00	200	n/a	n/a	n/a
S96T005528		Specific Gravity	Sp.g.	96.74	n/a	1.362	1.426	1.394	4.59	n/a	1.00e-03	n/a
S96T005528		% Water by IGA using Mettler	%	99.80	n/a	51.77	52.41	52.09	1.23	n/a	6.010	n/a
S96T005528		D Silver-ICP-Acid Dil.	ug/mL	101.2	< 1.00e-02	17.00	17.40	17.20	2.33	n/a	30.10	n/a
S96T005528		D Aluminum-ICP-Acid Dil.	ug/mL	98.40	< 1.00e-02	3.54e+04	3.59e+04	3.56e+04	1.40	n/a	60.10	n/a
S96T005528		D Arsenic-ICP-Acid Dil.	ug/mL	105.2	< 1.00e-01	< 60.10	< 60.10	62.15	4.02	n/a	30.10	n/a
S96T005528		D Boron-ICP-Acid Dil.	ug/mL	101.2	< 5.00e-02	60.90	63.40	62.15	4.02	n/a	30.10	n/a
S96T005528		D Barium-ICP-Acid Dil.	ug/mL	99.80	< 5.00e-02	< 30.10	< 30.10	30.10	n/a	n/a	3.000	n/a
S96T005528		D Beryllium-ICP-Acid Dil.	ug/mL	102.8	< 5.00e-03	< 3.000	< 3.000	n/a	n/a	n/a	60.10	n/a
S96T005528		D Bismuth-ICP-Acid Dil.	ug/mL	102.2	< 1.00e-01	< 60.10	< 60.10	n/a	n/a	n/a	3.000	n/a
S96T005528		D Calcium-ICP-Acid Dil.	ug/mL	101.4	< 1.00e-01	< 60.10	< 60.10	n/a	n/a	n/a	60.10	n/a
S96T005528		D Cadmium-ICP-Acid Dil.	ug/mL	101.8	< 5.00e-03	< 3.000	< 3.000	n/a	n/a	n/a	60.10	n/a
S96T005528		D Cerium-ICP-Acid Dil.	ug/mL	100.4	< 1.00e-01	< 60.10	< 60.10	n/a	n/a	n/a	12.00	n/a
S96T005528		D Cobalt-ICP-Acid Dil.	ug/mL	101.6	< 2.00e-02	< 12.00	< 12.00	311.5	2.25	n/a	6.010	n/a
S96T005528		D Chromium-ICP-Acid Dil.	ug/mL	105.0	< 1.00e-02	< 60.10	< 60.10	n/a	n/a	n/a	6.010	n/a
S96T005528		D Copper-ICP-Acid Dil.	ug/mL	101.8	< 5.00e-02	< 30.10	< 30.10	6.45e+03	0.62	n/a	300.0	n/a
S96T005528		D Potassium-ICP-Acid Dil.	ug/mL	101.0	< 5.00e-01	6.43e+03	6.47e+03	n/a	n/a	n/a	30.10	n/a
S96T005528		D Lanthanum-ICP-Acid Dil.	ug/mL	103.4	< 1.00e-02	< 30.10	< 30.10	n/a	n/a	n/a	6.010	n/a
S96T005528		D Lithium-ICP-Acid Dil.	ug/mL	96.80	< 1.00e-01	< 60.10	< 60.10	n/a	n/a	n/a	60.10	n/a
S96T005528		D Magnesium-ICP-Acid Dil.	ug/mL	98.80	< 1.00e-02	< 60.10	< 60.10	n/a	n/a	n/a	6.010	n/a
S96T005528		D Manganese-ICP-Acid Dil.	ug/mL	100.0	< 5.00e-02	74.40	75.30	74.85	1.82	n/a	30.10	n/a
S96T005528		D Molybdenum-ICP-Acid Dil.	ug/mL	102.0	< 5.00e-02	2.43e+05	2.45e+05	2.44e+05	0.82	n/a	60.10	n/a
S96T005528		D Sodium-ICP-Acid Dil.	ug/mL	103.8	< 1.00e-01	< 60.10	< 60.10	n/a	n/a	n/a	60.10	n/a
S96T005528		D Neodymium-ICP-Acid Dil.	ug/mL	102.6	< 2.00e-02	< 12.00	< 12.00	n/a	n/a	n/a	12.00	n/a
S96T005528		D Nickel-ICP-Acid Dil.	ug/mL	103.6	< 2.00e-01	7.85e+02	804.0	794.5	2.39	n/a	120.0	n/a
S96T005528		D Phosphorus-ICP-Acid Dil.	ug/mL	105.2	< 1.00e-01	1.05e+03	1.09e+03	1.07e+03	3.74	n/a	60.10	n/a
S96T005528		D Lead-ICP-Acid Dil.	ug/mL	100.4	< 1.00e-01	< 60.10	< 60.10	n/a	n/a	n/a	60.10	n/a
S96T005528		D Sulfur-ICP-Acid Dil.	ug/mL	97.00	< 5.00e-02	< 36.10	< 36.10	208.0	1.94	n/a	30.10	n/a
S96T005528		D Antimony-ICP-Acid Dil.	ug/mL	99.00	< 1.00e-01	< 60.10	< 60.10	n/a	n/a	n/a	60.10	n/a
S96T005528		D Selenium-ICP-Acid Dil.	ug/mL	98.40	< 5.00e-02	2.04e+02	2.08e+02	206.0	1.94	n/a	30.10	n/a
S96T005528		D Strontium-ICP-Acid Dil.	ug/mL	98.00	< 1.00e-01	< 60.10	< 60.10	n/a	n/a	n/a	60.10	n/a
S96T005528		D Samarium-ICP-Acid Dil.	ug/mL	99.80	< 1.00e-02	< 60.10	< 60.10	n/a	n/a	n/a	6.010	n/a
S96T005528		D Titanium-ICP-Acid Dil.	ug/mL	97.40	< 1.00e-02	< 60.10	< 60.10	n/a	n/a	n/a	6.010	n/a
S96T005528		D Thallium-ICP-Acid Dil.	ug/mL	99.00	< 2.00e-01	< 12.00e+02	< 12.00e+02	n/a	n/a	n/a	120.0	n/a
S96T005528		D Uranium-ICP-Acid Dil.	ug/mL	96.00	< 5.00e-01	< 33.00e+02	< 33.00e+02	n/a	n/a	n/a	300.0	n/a
S96T005528		D Vanadium-ICP-Acid Dil.	ug/mL	101.4	< 5.00e-02	< 30.10	< 30.10	n/a	n/a	n/a	30.10	n/a
S96T005528		D Zinc-ICP-Acid Dil.	ug/mL	103.0	< 1.00e-02	< 60.10	< 60.10	n/a	n/a	n/a	6.010	n/a
S96T005528		D Zirconium-ICP-Acid Dil.	ug/mL	99.20	< 1.00e-02	< 60.10	< 60.10	n/a	n/a	n/a	6.010	n/a
S96T005528		Acetate by IC-Dionex 4000/4500	ug/mL	100.0	< 2.00e-02	2.90e+02	293.0	291.3	1.03	n/a	44.54	n/a
S96T005528		Formate by Ion Chromatograph	ug/mL	98.33	< 2.10e-02	4.19e+02	435.0	426.8	3.75	n/a	44.54	n/a
S96T005528		Fluoride-IC-Dionex 4000/4500	ug/mL	90.51	< 1.20e-02	< 61.81	< 61.81	n/a	n/a	n/a	61.81	n/a

Sample #	R. A #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T005528		Chloride-IC-Dionex 4000/4500	ug/mL	98.73	<1.70e-02	7.81e+03	7.84e+03	7.82e+03	0.38	n/a	87.57	n/a
S96T005528		Nitrite-IC - Dionex 4000/4500	ug/mL	108.9	<1.08e-01	1.29e+05	1.30e+05	1.30e+05	0.77	n/a	556.3	n/a
S96T005528		Bromide by Ion Chromatograph	ug/mL	98.13	<1.25e-01	1.11e+03	1.08e+03	1.09e+03	2.74	n/a	643.9	n/a
S96T005528		Nitrate by IC-Dionex 4000/4500	ug/mL	103.4	<1.39e-01	1.78e+05	1.79e+05	1.79e+05	0.56	n/a	716.0	n/a
S96T005528		Phosphate-IC-Dionex 4000/4500	ug/mL	103.3	<1.20e-01	1.84e+03	1.87e+03	1.85e+03	1.62	n/a	618.1	n/a
S96T005528		Sulfate by IC-Dionex 4000/4500	ug/mL	101.6	<1.38e-01	1.45e+03	1.71e+03	1.58e+03	16.5	n/a	710.8	n/a
S96T005528		Oxalate-IC-Dionex 4000/450	ug/mL	100.9	<1.05e-01	<5.41e+02	<5.41e+02	<5.41e+02	n/a	n/a	540.9	n/a
S96T005528		Alpha In Liquid Samples	ug/mL	92.21	<2.43e-03	2.50e+03	<2.43E-3	n/a	n/a	n/a	3.00e+03	1.07E+02

Table 1. Data Summary Report
AN-104

CORE NUMBER: 163
SEGMENT #: 11

SEGMENT PORTION: Drainable Liquid

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD	Spk	Rec %	Det Limit	Count Err%
S96T005739	D	DSC Exotherm Dry	Joules/g Dry	n/a	n/a	0.00e+00	54.90	27.45	200	n/a	n/a	n/a	n/a
S96T005739	D	DSC Exotherm on Perkin Elmer	Joules/g	95.36	n/a	0.00e+00	27.10	13.55	200	n/a	n/a	n/a	n/a
S96T005739	D	Specific Gravity	Sp.G.	95.74	n/a	1.340	1.339	1.340	0.07	n/a	n/a	1.00e-03	n/a
S96T005739	D	% Water by TGA on Perkin Elmer	%	99.36	n/a	50.94	50.94	50.26	1.34	n/a	n/a	n/a	n/a
S96T005739	D	% Silver-ICP-Acid Dil.	ug/mL	101.2	< 1.00e-02	17.20	16.90	17.05	1.76	n/a	n/a	6.010	n/a
S96T005739	D	% Aluminum-ICP-Acid Dil.	ug/mL	98.40	< 5.00e-02	3.74e+04	3.72e+04	3.73e+04	0.54	n/a	n/a	30.10	n/a
S96T005739	D	% Arsenic-ICP-Acid Dil.	ug/mL	105.2	< 1.00e-01	60.10	< 60.10	< 60.10	n/a	n/a	n/a	60.10	n/a
S96T005739	D	% Boron-ICP-Acid Dil.	ug/mL	101.2	< 5.00e-02	63.70	60.90	62.30	4.49	n/a	n/a	30.10	n/a
S96T005739	D	% Barium-ICP-Acid Dil.	ug/mL	99.80	< 5.00e-02	30.10	< 30.10	< 30.10	n/a	n/a	n/a	30.10	n/a
S96T005739	D	% Beryllium-ICP-Acid Dil.	ug/mL	102.8	< 5.00e-03	3.000	< 3.000	n/a	n/a	n/a	n/a	3.000	n/a
S96T005739	D	% Bismuth-ICP-Acid Dil.	ug/mL	102.2	< 1.00e-01	60.10	< 60.10	n/a	n/a	n/a	n/a	60.10	n/a
S96T005739	D	% Calcium-ICP-Acid Dil.	ug/mL	101.4	< 1.00e-01	3.000	< 3.000	n/a	n/a	n/a	n/a	3.000	n/a
S96T005739	D	% Cadmium-ICP-Acid Dil.	ug/mL	101.8	< 5.00e-03	3.000	< 3.000	n/a	n/a	n/a	n/a	3.000	n/a
S96T005739	D	% Cerium-ICP-Acid Dil.	ug/mL	100.4	< 1.00e-01	60.10	< 60.10	n/a	n/a	n/a	n/a	60.10	n/a
S96T005739	D	% Cobalt-ICP-Acid Dil.	ug/mL	101.6	< 2.00e-02	12.00	< 12.00	n/a	n/a	n/a	n/a	12.00	n/a
S96T005739	D	% Chromium-ICP-Acid Dil.	ug/mL	102.2	< 1.00e-02	3.24e+02	323.0	323.5	0.31	n/a	n/a	6.010	n/a
S96T005739	D	% Copper-ICP-Acid Dil.	ug/mL	105.0	< 1.00e-02	6.010	< 6.010	n/a	n/a	n/a	n/a	6.010	n/a
S96T005739	D	% Iron-ICP-Acid Dil.	ug/mL	101.8	< 5.00e-01	6.63e+03	6.67e+03	6.65e+03	0.60	n/a	n/a	30.10	n/a
S96T005739	D	% Potassium-ICP-Acid Dil.	ug/mL	101.0	< 5.00e-02	30.10	< 30.10	n/a	n/a	n/a	n/a	30.10	n/a
S96T005739	D	% Lanthanum-ICP-Acid Dil.	ug/mL	101.8	< 5.00e-02	6.010	< 6.010	n/a	n/a	n/a	n/a	6.010	n/a
S96T005739	D	% Lithium-ICP-Acid Dil.	ug/mL	103.4	< 1.00e-02	60.10	< 60.10	n/a	n/a	n/a	n/a	60.10	n/a
S96T005739	D	% Magnesium-ICP-Acid Dil.	ug/mL	96.80	< 1.00e-01	6.010	< 6.010	n/a	n/a	n/a	n/a	6.010	n/a
S96T005739	D	% Manganese-ICP-Acid Dil.	ug/mL	98.80	< 1.00e-02	6.010	< 6.010	n/a	n/a	n/a	n/a	6.010	n/a
S96T005739	D	% Molybdenum-ICP-Acid Dil.	ug/mL	102.0	< 5.00e-02	77.30	79.60	78.45	2.93	n/a	n/a	30.10	n/a
S96T005739	D	% Sodium-ICP-Acid Dil.	ug/mL	100.0	< 1.00e-01	2.44e+05	2.45e+05	2.46e+05	0.41	n/a	n/a	60.10	n/a
S96T005739	D	% Neodymium-ICP-Acid Dil.	ug/mL	103.8	< 1.00e-01	60.10	< 60.10	n/a	n/a	n/a	n/a	60.10	n/a
S96T005739	D	% Nickel-ICP-Acid Dil.	ug/mL	102.6	< 2.00e-02	12.00	< 12.00	n/a	n/a	n/a	n/a	12.00	n/a
S96T005739	D	% Phosphorus-ICP-Acid Dil.	ug/mL	103.6	< 2.00e-01	7.29e+02	736.0	732.5	0.96	n/a	n/a	120.0	n/a
S96T005739	D	% Lead-ICP-Acid Dil.	ug/mL	102.2	< 1.00e-01	64.70	67.10	65.90	3.64	n/a	n/a	60.10	n/a
S96T005739	D	% Sulfur-ICP-Acid Dil.	ug/mL	100.4	< 1.00e-01	1.12e+03	1.12e+03	1.12e+03	0.00	n/a	n/a	60.10	n/a
S96T005739	D	% Antimony-ICP-Acid Dil.	ug/mL	97.00	< 5.00e-02	36.10	< 36.10	n/a	n/a	n/a	n/a	36.10	n/a
S96T005739	D	% Selenium-ICP-Acid Dil.	ug/mL	99.00	< 1.00e-01	60.10	< 60.10	n/a	n/a	n/a	n/a	60.10	n/a
S96T005739	D	% Silicon-ICP-Acid Dil.	ug/mL	98.40	< 5.00e-02	2.43e+02	243.0	244.0	0.82	n/a	n/a	30.10	n/a
S96T005739	D	% Smarium-ICP-Acid Dil.	ug/mL	98.00	< 1.00e-01	60.10	< 60.10	n/a	n/a	n/a	n/a	60.10	n/a
S96T005739	D	% Strontium-ICP-Acid Dil.	ug/mL	99.80	< 1.00e-02	6.010	< 6.010	n/a	n/a	n/a	n/a	6.010	n/a
S96T005739	D	% Tantalum-ICP-Acid Dil.	ug/mL	97.40	< 1.00e-02	6.010	< 6.010	n/a	n/a	n/a	n/a	6.010	n/a
S96T005739	D	% Thallium-ICP-Acid Dil.	ug/mL	99.00	< 2.00e-01	< 1.20e+02	< 1.20e+02	n/a	n/a	n/a	n/a	120.0	n/a
S96T005739	D	% Uranium-ICP-Acid Dil.	ug/mL	96.00	< 5.00e-01	33.00e+02	33.00e+02	n/a	n/a	n/a	n/a	300.0	n/a
S96T005739	D	% Vanadium-ICP-Acid Dil.	ug/mL	101.4	< 5.00e-02	30.10	< 30.10	n/a	n/a	n/a	n/a	30.10	n/a
S96T005739	D	% Zinc-ICP-Acid Dil.	ug/mL	103.0	< 1.00e-02	6.010	< 6.010	n/a	n/a	n/a	n/a	6.010	n/a
S96T005739	D	% Zirconium-ICP-Acid Dil.	ug/mL	99.20	< 1.00e-02	6.010	< 6.010	n/a	n/a	n/a	n/a	6.010	n/a
S96T005739	D	Acetate by IC-Dioxex 4000/4500	ug/mL	97.34	< 2.00e-02	8.20e+02	8.20e+02	n/a	n/a	n/a	n/a	204.0	n/a
S96T005739	D	Formate by Ion Chromatograph	ug/mL	93.33	< 2.10e-02	1.07e+03	1.07e+03	1.05e+03	4.78	93.33	214.2	214.2	n/a
S96T005739	D	Fluoride-IC-Dioxex 4000/4500	ug/mL	102.0	< 1.20e-02	61.81	< 61.81	n/a	n/a	n/a	102.4	61.81	n/a

Sample#	R. #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T005739		Chloride-IC-Dionex 4000/4500	ug/mL	103.3	<1.70e-01	7.65e+03	7.51e+03	7.58e+03	1.85	95.32	87.57	n/a
S96T005739		Nitrite-IC - Dionex 4000/4500	ug/mL	92.89	<1.08e-01	9.10e+04	9.36e+04	9.23e+04	2.82	n/a	1.10e+03	n/a
S96T005739		Bromide by Ion Chromatograph	ug/mL	102.4	<1.25e-01	<6.44e2	<6.44e2	n/a	n/a	93.89	543.9	n/a
S96T005739		Nitrate by IC-Dionex 4000/4500	ug/mL	107.4	<1.39e-01	1.52e+05	1.53e+05	1.53e+05	0.66	102.0	716.0	n/a
S96T005739		Phosphate-IC-Dionex 4000/4500	ug/mL	106.6	<1.20e-01	1.25e+03	1.58e+03	1.42e+03	23.3	96.51	618.1	n/a
S96T005739		Sulfate by IC-Dionex 4000/4500	ug/mL	107.1	<1.38e-01	<7.11e+02	<7.11e2	n/a	n/a	100.8	710.8	n/a
S96T005739		Oxalate-IC-Dionex 4000/450	ug/mL	105.4	<1.05e-01	<5.41e+02	<5.41e2	n/a	n/a	100.6	540.9	n/a
S96T005739		Alpha In Liquid Samples	uCi/mL	92.21	<2.43e-03	<2.12e-03	<2.43E-3	n/a	n/a	n/a	3.00e-03	5.00E+02

Table 1. Data Summary Report
AN-104

CORE NUMBER: 163
SEGMENT #: 12

SEGMENT PORTION: L Lower Half of Segment

Sample#	R#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T005768	618	Bulk Density of Sample	g/mL	n/a	n/a	1.760	n/a	n/a	n/a	n/a	5.00e-01	n/a
S96T005771		DSC Exotherm Dry	Joules/g	91.39	n/a	31.60	25.90	28.75	19.8	n/a	n/a	n/a
S96T005771		DSC Exotherm Dry, Calculated	Joules/g Dry	n/a	n/a	59.60	48.90	54.25	19.7	n/a	n/a	n/a
S96T005771		% Water by TGA using Mettler		99.86	47.15	46.83	47.15	46.99	0.68	n/a	n/a	n/a
S96T005780	F	Potassium - ICP-Fusion	ug/g	103.4	< 5.00e-01	5.67e+06	n/a	n/a	n/a	n/a	9.39e+03	n/a
S96T005780	F	Nickel - ICP-Fusion	ug/g	102.4	8.34e-01	1.72e+03	3.81e+03	2.76e+03	75.6	n/a	376.0	n/a
S96T005780	F	Silver - ICP-Fusion	ug/g	100.6	< 1.00e-02	< 1.89e+02	< 1.90e2	n/a	n/a	n/a	188.0	n/a
S96T005780	F	Aluminum - ICP-Fusion	ug/g	99.00	< 5.00e-01	2.15e+04	2.17e+04	2.16e+04	0.93	n/a	939.0	n/a
S96T005780	F	Arsenic - ICP-Fusion	ug/g	104.8	< 1.00e-01	< 1.90e3	< 1.90e3	n/a	n/a	n/a	1.88e+03	n/a
S96T005780	F	Boron - ICP-Fusion	ug/g	101.0	< 5.00e-02	< 9.40e+02	< 9.50e2	n/a	n/a	n/a	939.0	n/a
S96T005780	F	Barium - ICP-Fusion	ug/g	101.0	< 5.00e-02	< 9.40e+02	< 9.50e2	n/a	n/a	n/a	939.0	n/a
S96T005780	F	Beryllium - ICP-Fusion	ug/g	103.6	< 5.00e-03	< 94.00	< 9.50e1	n/a	n/a	n/a	93.90	n/a
S96T005780	F	Bismuth - ICP-Fusion	ug/g	103.4	< 1.00e-01	< 1.89e+03	< 1.90e3	n/a	n/a	n/a	1.88e+03	n/a
S96T005780	F	Calcium - ICP-Fusion	ug/g	101.0	< 1.00e-01	< 1.89e+03	< 1.90e3	n/a	n/a	n/a	1.88e+03	n/a
S96T005780	F	Cadmium - ICP-Fusion	ug/g	101.8	< 5.00e-03	< 94.00	< 9.50e1	n/a	n/a	n/a	93.90	n/a
S96T005780	F	Cerium - ICP-Fusion	ug/g	100.8	< 1.00e-01	< 1.89e+03	< 1.90e3	n/a	n/a	n/a	1.88e+03	n/a
S96T005780	F	Cobalt - ICP-Fusion	ug/g	102.0	< 2.00e-02	< 3.76e+02	< 3.80e2	n/a	n/a	n/a	376.0	n/a
S96T005780	F	Chromium - ICP-Fusion	ug/g	102.2	< 1.00e-02	1.25e+03	1.22e+03	1.24e+03	2.43	n/a	188.0	n/a
S96T005780	F	Copper - ICP-Fusion	ug/g	105.6	< 1.00e-02	< 1.89e+02	< 1.90e2	n/a	n/a	n/a	188.0	n/a
S96T005780	F	Iron - ICP-Fusion	ug/g	101.6	< 5.00e-02	< 9.40e+02	< 9.50e2	n/a	n/a	n/a	939.0	n/a
S96T005780	F	Lanthanum - ICP-Fusion	ug/g	102.6	< 5.00e-02	< 1.89e+02	< 1.90e2	n/a	n/a	n/a	188.0	n/a
S96T005780	F	Lithium - ICP-Fusion	ug/g	102.6	< 1.00e-02	< 1.89e+02	< 1.90e2	n/a	n/a	n/a	1.88e+03	n/a
S96T005780	F	Magnesium - ICP-Fusion	ug/g	97.60	< 1.00e-01	< 1.89e+03	< 1.90e3	n/a	n/a	n/a	188.0	n/a
S96T005780	F	Manganese - ICP-Fusion	ug/g	99.40	< 1.00e-02	< 1.89e+02	< 1.90e2	n/a	n/a	n/a	188.0	n/a
S96T005780	F	Molybdenum - ICP-Fusion	ug/g	101.8	< 5.00e-02	< 9.40e+02	< 9.50e2	n/a	n/a	n/a	939.0	n/a
S96T005780	F	Sodium - ICP-Fusion	ug/g	99.40	< 1.950	2.18e+05	2.18e+05	2.18e+05	0.00	n/a	1.88e+03	n/a
S96T005780	F	Neodymium - ICP-Fusion	ug/g	102.8	< 1.00e-01	< 1.89e+03	< 1.90e3	n/a	n/a	n/a	1.88e+03	n/a
S96T005780	F	Phosphorus - ICP-Fusion	ug/g	101.4	< 2.00e-01	< 3.76e+03	< 3.80e3	n/a	n/a	n/a	3.76e+03	n/a
S96T005780	F	Lead - ICP-Fusion	ug/g	101.2	< 1.00e-01	2.76e+03	2.82e+03	2.79e+03	2.15	n/a	1.88e+03	n/a
S96T005780	F	Antimony - ICP-Fusion	ug/g	97.20	< 1.00e-01	< 1.89e+03	< 1.90e3	n/a	n/a	n/a	1.88e+03	n/a
S96T005780	F	Selenium - ICP-Fusion	ug/g	97.20	< 1.00e-02	< 1.89e+03	< 1.90e3	n/a	n/a	n/a	1.88e+03	n/a
S96T005780	F	Silicon - ICP-Fusion	ug/g	98.20	< 5.00e-02	< 1.89e+03	< 1.90e3	n/a	n/a	n/a	1.88e+03	n/a
S96T005780	F	Samarium - ICP-Fusion	ug/g	97.80	< 5.00e-02	< 9.40e+02	< 1.13e3	n/a	n/a	n/a	939.0	n/a
S96T005780	F	Strontium - ICP-Fusion	ug/g	99.40	< 1.00e-01	< 1.89e+03	< 1.90e3	n/a	n/a	n/a	1.88e+03	n/a
S96T005780	F	Tantalum - ICP-Fusion	ug/g	100.0	< 1.00e-01	< 1.89e+03	< 1.90e2	n/a	n/a	n/a	188.0	n/a
S96T005780	F	Titanium - ICP-Fusion	ug/g	99.00	< 1.00e-02	< 1.89e+02	< 1.90e2	n/a	n/a	n/a	3.76e+03	n/a
S96T005780	F	Thallium - ICP-Fusion	ug/g	99.00	< 2.00e-01	< 3.76e+03	< 3.80e3	n/a	n/a	n/a	9.39e+03	n/a
S96T005780	F	Uranium - ICP-Fusion	ug/g	97.10	< 5.00e-01	< 9.40e+03	< 9.50e3	n/a	n/a	n/a	939.0	n/a
S96T005780	F	Vanadium - ICP-Fusion	ug/g	101.4	< 5.00e-02	< 9.40e+02	< 9.50e2	n/a	n/a	n/a	188.0	n/a
S96T005780	F	Zinc - ICP-Fusion	ug/g	102.2	< 1.00e-02	< 1.89e+02	< 1.90e2	n/a	n/a	n/a	188.0	n/a
S96T005780	F	Zirconium - ICP-Fusion	ug/g	67.97	< 1.70e-01	< 1.79e+01	< 2.32E-1	12.30	0.00	n/a	4.13e-01	5.00E+02
S96T005782	A	Alpha of Digested Solid	ug/g	81.20	< 1.00e-02	12.30	12.30	12.30	0.00	n/a	4.560	n/a
S96T005782	A	Silver - ICP-Acid Digest	ug/g	93.20	< 1.00e-02	2.12e-04	2.01e+04	2.06e+04	5.33	n/a	22.80	n/a
S96T005782	A	Aluminum - ICP-Acid Digest	ug/g	93.20	6.80e-02	2.12e-04	2.01e+04	2.06e+04	5.33	n/a	22.80	n/a

HNF-SD-WM-DP-226, REV. 0

Sample#	R#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S961005782	A	Arsenic - ICP-Acid Digest	ug/g	97.40	<1.00e-01	< 45.70	<4.61e1	n/a	n/a	n/a	45.60	n/a
S961005782	A	Boron - ICP-Acid Digest	ug/g	93.80	4.32e-01	1.09e+02	95.80	102.4	12.9	n/a	22.80	n/a
S961005782	A	Barium - ICP-Acid Digest	ug/g	92.20	<5.00e-02	< 22.80	<2.30e1	n/a	n/a	n/a	22.80	n/a
S961005782	A	Beryllium - ICP-Acid Digest	ug/g	97.40	<5.00e-02	< 2.280	<2.30e1	n/a	n/a	n/a	2.280	n/a
S961005782	A	Bismuth - ICP-Acid Digest	ug/g	93.80	<1.00e-01	< 45.70	<4.61e1	n/a	n/a	n/a	45.60	n/a
S961005782	A	Calcium - ICP-Acid Digest	ug/g	90.60	<1.00e-01	1.33e+02	125.0	129.0	6.20	n/a	45.60	n/a
S961005782	A	Cadmium - ICP-Acid Digest	ug/g	91.40	<5.00e-02	8.010	7.970	7.990	0.50	n/a	2.280	n/a
S961005782	A	Cerium - ICP-Acid Digest	ug/g	95.20	<1.00e-01	< 45.70	<4.61e1	n/a	n/a	n/a	45.60	n/a
S961005782	A	Cobalt - ICP-Acid Digest	ug/g	93.80	<2.00e-02	< 9.140	<9.22e0	n/a	n/a	n/a	9.120	n/a
S961005782	A	Chromium - ICP-Acid Digest	ug/g	91.60	<1.00e-02	1.22e+03	1.18e+03	1.20e+03	3.33	n/a	4.560	n/a
S961005782	A	Copper - ICP-Acid Digest	ug/g	93.60	1.10e-02	< 45.70	<4.61e0	n/a	n/a	n/a	4.560	n/a
S961005782	A	Iron - ICP-Acid Digest	ug/g	96.40	<5.00e-02	75.80	72.20	74.00	4.86	n/a	22.80	n/a
S961005782	A	Potassium - ICP-Acid Digest	ug/g	96.40	<5.00e-01	3.66e+03	3.46e+03	3.56e+03	5.62	n/a	228.0	n/a
S961005782	A	Lanthanum - ICP-Acid Digest	ug/g	95.40	<5.00e-02	< 22.80	<2.30e1	n/a	n/a	n/a	22.80	n/a
S961005782	A	Lithium - ICP-Acid Digest	ug/g	96.20	<1.00e-02	25.40	26.20	25.80	3.10	n/a	4.560	n/a
S961005782	A	Magnesium - ICP-Acid Digest	ug/g	86.80	<1.00e-01	< 45.70	<4.61e1	n/a	n/a	n/a	45.60	n/a
S961005782	A	Manganese - ICP-Acid Digest	ug/g	89.40	<1.00e-02	13.00	12.60	12.80	3.13	n/a	4.560	n/a
S961005782	A	Molybdenum - ICP-Acid Digest	ug/g	80.80	<5.00e-02	45.20	42.60	43.90	5.92	n/a	22.80	n/a
S961005782	A	Neodymium - ICP-Acid Digest	ug/g	106.8	6.01e-01	1.73e+05	1.68e+05	1.70e+05	2.93	n/a	45.60	n/a
S961005782	A	Nickel - ICP-Acid Digest	ug/g	93.60	<1.00e-01	< 45.70	<4.61e1	n/a	n/a	n/a	45.60	n/a
S961005782	A	Nickel - ICP-Acid Digest	ug/g	94.20	<2.00e-02	43.50	44.60	44.05	2.50	n/a	9.120	n/a
S961005782	A	Phosphorus - ICP-Acid Digest	ug/g	84.80	<2.00e-01	1.60e+03	2.25e+03	1.92e+03	33.8	n/a	91.20	n/a
S961005782	A	Lead - ICP-Acid Digest	ug/g	88.80	<1.00e-01	< 45.70	<4.61e1	n/a	n/a	n/a	45.60	n/a
S961005782	A	Sulfur - ICP-Acid Digest	ug/g	81.80	<1.00e-01	2.55e+02	2.47e+03	2.51e+03	3.19	n/a	45.60	n/a
S961005782	A	Antimony - ICP-Acid Digest	ug/g	81.20	<6.00e-02	< 27.40	<2.77e1	n/a	n/a	n/a	27.40	n/a
S961005782	A	Selenium - ICP-Acid Digest	ug/g	87.80	<1.00e-02	< 45.70	<4.61e1	n/a	n/a	n/a	45.60	n/a
S961005782	A	Silicon - ICP-Acid Digest	ug/g	122.4	2.58e-01	5.07e+02	507.0	507.0	0.00	n/a	22.80	n/a
S961005782	A	Samarium - ICP-Acid Digest	ug/g	92.00	<1.00e-01	< 45.70	<4.61e1	n/a	n/a	n/a	45.60	n/a
S961005782	A	Strontium - ICP-Acid Digest	ug/g	92.00	<1.00e-02	< 4.570	<4.61e0	n/a	n/a	n/a	4.560	n/a
S961005782	A	Titanium - ICP-Acid Digest	ug/g	75.00	<1.00e-02	< 91.40	<9.22e1	n/a	n/a	n/a	91.20	n/a
S961005782	A	Thallium - ICP-Acid Digest	ug/g	87.60	<2.00e-01	< 22.80e+02	<2.30e2	n/a	n/a	n/a	228.0	n/a
S961005782	A	Uranium - ICP-Acid Digest	ug/g	89.80	<5.00e-01	< 22.80	<2.30e1	n/a	n/a	n/a	22.80	n/a
S961005782	A	Vanadium - ICP-Acid Digest	ug/g	91.00	<5.00e-02	10.20	9.990	10.09	2.08	n/a	4.560	n/a
S961005782	A	Zinc - ICP-Acid Digest	ug/g	82.60	<1.00e-02	20.10	17.80	18.95	12.1	n/a	4.560	n/a
S961005784	W	Acetate by IC-DIONEX 4000/4500	ug/g	96.77	4.50e-02	4.96e+02	443.0	469.4	11.3	120.2	43.12	n/a
S961005784	W	Formate by IC-DIONEX 4000/4500	ug/g	98.33	7.70e-02	6.51e+02	635.0	643.0	2.49	94.17	45.28	n/a
S961005784	W	Fluoride-IC-DIONEX 4000/4500	ug/g	116.1	1.20e-02	5.83e+02	593.0	588.0	1.70	74.75	96.43	n/a
S961005784	W	Chloride-IC-DIONEX 4000/4500	ug/g	98.52	<1.70e-02	4.69e+03	4.83e+03	4.76e+03	2.94	101.4	136.6	n/a
S961005784	W	Nitrite-IC-DIONEX 4000/4500	ug/g	98.52	<1.70e-02	6.38e+04	6.44e+04	6.41e+04	108.5	108.5	868.0	n/a
S961005784	W	Bromide by Ion Chromatograph	ug/g	101.9	<1.25e-01	1.04e+03	1.02e+03	1.03e+03	1.94	92.87	1.00e+03	n/a
S961005784	W	Nitrate by IC-DIONEX 4000/4500	ug/g	101.3	<1.25e-01	1.11e+05	1.12e+05	1.12e+05	0.90	105.9	1.12e+03	n/a
S961005784	W	Phosphate-IC-DIONEX 4000/4500	ug/g	100.4	<1.25e-01	4.82e+03	4.80e+03	4.56e+03	11.4	97.24	964.3	n/a
S961005784	W	Sulfate by IC-DIONEX 4000/4500	ug/g	105.2	<1.38e-01	7.54e+03	7.27e+03	7.41e+03	3.65	102.7	1.11e+03	n/a
S961005784	W	Oxalate-IC-DIONEX 4000/4500	ug/g	108.6	<1.05e-01	7.38e+03	7.73e+03	7.55e+03	4.63	104.9	843.8	n/a

Drainable Liquid: Drainable Liquid

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T005766	D	PSC Exotherm Dry	Joules/g Dry	n/a	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S96T005766	D	PSC Exotherm on Perkin Elmer	Joules/g	95.36	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S96T005766	D	Specific Gravity	Sp.G.	100.3	n/a	1.449	1.463	1.456	0.96	n/a	1.00e-02	n/a
S96T005766	D	% Water by TGA on Perkin Elmer	%	99.36	n/a	52.44	52.71	52.58	0.51	n/a	6.010	n/a
S96T005766	D	Silver-ICP-Acid Dil.	ug/mL	101.2	< 1.00e-02	18.30	19.00	19.15	4.02e+04	n/a	30.10	n/a
S96T005766	D	Aluminum-ICP-Acid Dil.	ug/mL	98.40	< 5.00e-02	4.04e+04	4.00e+04	4.02e+04	1.00	n/a	30.10	n/a
S96T005766	D	Arsenic-ICP-Acid Dil.	ug/mL	105.2	< 1.00e-01	< 60.10	< 60.10	< 60.10	n/a	n/a	60.10	n/a
S96T005766	D	Boron-ICP-Acid Dil.	ug/mL	101.2	< 5.00e-02	59.10	64.00	61.55	7.96	n/a	30.10	n/a
S96T005766	D	Barium-ICP-Acid Dil.	ug/mL	99.80	< 5.00e-02	< 30.10	< 30.10	< 30.10	n/a	n/a	30.10	n/a
S96T005766	D	Beryllium-ICP-Acid Dil.	ug/mL	102.8	< 5.00e-03	< 3.000	< 3.000	< 3.000	n/a	n/a	3.000	n/a
S96T005766	D	Bismuth-ICP-Acid Dil.	ug/mL	101.2	< 5.00e-01	< 60.10	< 60.10	< 60.10	n/a	n/a	60.10	n/a
S96T005766	D	Calcium-ICP-Acid Dil.	ug/mL	101.4	< 1.00e-01	< 60.10	< 60.10	< 60.10	n/a	n/a	60.10	n/a
S96T005766	D	Cadmium-ICP-Acid Dil.	ug/mL	101.8	< 5.00e-03	< 3.000	< 3.000	< 3.000	n/a	n/a	3.000	n/a
S96T005766	D	Cerium-ICP-Acid Dil.	ug/mL	100.4	< 1.00e-01	< 60.10	< 60.10	< 60.10	n/a	n/a	60.10	n/a
S96T005766	D	Coalt-ICP-Acid Dil.	ug/mL	101.6	< 2.00e-02	< 12.00	< 12.00	< 12.00	n/a	n/a	12.00	n/a
S96T005766	D	Cobaltum-ICP-Acid Dil.	ug/mL	102.2	< 1.00e-02	3.58e+02	354.0	356.0	1.12	n/a	6.010	n/a
S96T005766	D	Copper-ICP-Acid Dil.	ug/mL	105.0	< 1.00e-02	< 30.10	< 30.10	< 30.10	n/a	n/a	6.010	n/a
S96T005766	D	Iron-ICP-Acid Dil.	ug/mL	101.8	< 5.00e-02	< 60.10	< 60.10	< 60.10	n/a	n/a	30.10	n/a
S96T005766	D	Potassium-ICP-Acid Dil.	ug/mL	101.0	< 5.00e-01	7.36e+03	7.08e+03	7.22e+03	3.88	n/a	300.0	n/a
S96T005766	D	Lanthanum-ICP-Acid Dil.	ug/mL	101.8	< 5.00e-02	< 30.10	< 30.10	< 30.10	n/a	n/a	30.10	n/a
S96T005766	D	Lithium-ICP-Acid Dil.	ug/mL	103.4	< 1.00e-02	< 60.10	< 60.10	< 60.10	n/a	n/a	6.010	n/a
S96T005766	D	Magnesium-ICP-Acid Dil.	ug/mL	96.80	< 1.00e-01	< 60.10	< 60.10	< 60.10	n/a	n/a	60.10	n/a
S96T005766	D	Manganese-ICP-Acid Dil.	ug/mL	98.80	< 1.00e-02	< 60.10	< 60.10	< 60.10	n/a	n/a	6.010	n/a
S96T005766	D	Molybdenum-ICP-Acid Dil.	ug/mL	102.0	< 5.00e-02	85.40	84.50	84.95	1.06	n/a	30.10	n/a
S96T005766	D	Sodium-ICP-Acid Dil.	ug/mL	100.0	< 1.00e-01	2.65e+05	2.60e+05	2.62e+05	1.15	n/a	60.10	n/a
S96T005766	D	Neodymium-ICP-Acid Dil.	ug/mL	103.8	< 1.00e-01	< 60.10	< 60.10	< 60.10	n/a	n/a	60.10	n/a
S96T005766	D	Nickel-ICP-Acid Dil.	ug/mL	102.6	< 2.00e-02	< 12.00	< 12.00	< 12.00	n/a	n/a	12.00	n/a
S96T005766	D	Phosphorus-ICP-Acid Dil.	ug/mL	103.6	< 2.00e-01	5.54e+02	529.0	541.5	4.62	n/a	120.0	n/a
S96T005766	D	Lead-ICP-Acid Dil.	ug/mL	102.2	< 1.00e-01	77.70	68.60	73.15	12.4	n/a	60.10	n/a
S96T005766	D	Sulfur-ICP-Acid Dil.	ug/mL	100.4	< 1.00e-01	1.39e+03	1.38e+03	1.38e+03	0.72	n/a	60.10	n/a
S96T005766	D	Antimony-ICP-Acid Dil.	ug/mL	97.00	< 5.00e-02	< 36.10	< 36.10	< 36.10	n/a	n/a	36.10	n/a
S96T005766	D	Selenium-ICP-Acid Dil.	ug/mL	99.00	< 1.00e-01	< 60.10	< 60.10	< 60.10	n/a	n/a	60.10	n/a
S96T005766	D	Silicon-ICP-Acid Dil.	ug/mL	98.40	< 5.00e-02	1.58e+02	155.0	156.5	1.92	n/a	30.10	n/a
S96T005766	D	Samarium-ICP-Acid Dil.	ug/mL	99.80	< 1.00e-02	< 60.10	< 60.10	< 60.10	n/a	n/a	60.10	n/a
S96T005766	D	Strontium-ICP-Acid Dil.	ug/mL	97.40	< 1.00e-02	< 60.10	< 60.10	< 60.10	n/a	n/a	6.010	n/a
S96T005766	D	Titanium-ICP-Acid Dil.	ug/mL	99.00	< 2.00e-01	< 1.20e+02	< 1.20e+02	< 1.20e+02	n/a	n/a	120.0	n/a
S96T005766	D	Thallium-ICP-Acid Dil.	ug/mL	96.00	< 5.00e-01	< 33.00e+02	< 33.00e+02	< 33.00e+02	n/a	n/a	300.0	n/a
S96T005766	D	Uranium-ICP-Acid Dil.	ug/mL	101.4	< 5.00e-02	< 30.10	< 30.10	< 30.10	n/a	n/a	30.10	n/a
S96T005766	D	Vanadium-ICP-Acid Dil.	ug/mL	103.0	< 1.00e-02	< 60.10	< 60.10	< 60.10	n/a	n/a	6.010	n/a
S96T005766	D	Zinc-ICP-Acid Dil.	ug/mL	99.20	< 1.00e-02	< 60.10	< 60.10	< 60.10	n/a	n/a	6.010	n/a
S96T005766	D	Zirconium-ICP-Acid Dil.	ug/mL	97.34	< 2.00e-02	7.88e+02	788.0	788.2	0.00	n/a	204.0	n/a
S96T005766	D	Acetate by Ion Chromatograph	ug/mL	93.33	< 2.00e-02	1.13e+03	1.13e+03	1.13e+03	3.48	n/a	214.2	n/a
S96T005766	D	Fluoride by Ion Chromatograph	ug/mL	102.0	< 1.00e-02	< 61.81	< 61.81	< 61.81	n/a	n/a	61.81	n/a
S96T005766	D	Chloride by Ion Chromatograph	ug/mL	93.33	< 1.70e-02	7.60e+03	7.55e+03	7.57e+03	0.66	n/a	87.57	n/a
S96T005766	D	Nitrite by Ion Chromatograph	ug/mL	94.65	< 1.08e-01	1.18e+05	1.08e+05	1.13e+05	8.85	n/a	556.3	n/a
S96T005766	D	Bromide by Ion Chromatograph	ug/mL	102.4	< 1.25e-01	1.13e+03	1.13e+03	1.13e+03	1.75	n/a	643.9	n/a
S96T005766	D	Nitrate by Ion Chromatograph	ug/mL	107.4	< 1.39e-01	1.42e+05	1.42e+05	1.42e+05	0.00	n/a	716.0	n/a
S96T005766	D	Phosphate by Ion Chromatograph	ug/mL	106.6	< 1.20e-01	1.04e+03	893.0	966.0	15.2	n/a	618.1	n/a

Sample#	R. A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T005766		Sulfate by IC-Dionex 4000/4500	ug/mL	107.1	<1.38e-01	9.11e+02	<7.11e2	n/a	n/a	n/a	710.8	n/a
S96T005766		Oxalate-IC-Dionex 4000/450	ug/mL	105.4	<1.05e-01	<5.41e+02	<5.41e2	n/a	n/a	n/a	540.9	n/a
S96T005766		Alpha in Liquid Samples	uCi/mL	92.21	<2.43e-03	3.62e-03	2.01e-03	2.81e-03	57.2	n/a	3.00e-03	7.23E+01

Table 1. Data Summary Report
AN-104

CORE NUMBER: 163
SEGMENT #: 14

SEGMENT PORTION: U Upper Half of Segment

Sample#	Rt.#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err#
S96T005728		Bulk Density of Sample	g/mL	n/a	n/a	1.650	n/a	n/a	n/a	n/a	5.00e-01	n/a
S96T005743		DSC Exotherm DRY Calculated	Joules/g DRY	93.08	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S96T005743		DSC Exotherm on Perkin Elmer	Joules/g	99.27	n/a	0.00e+00	46.36	45.45	4.00	n/a	n/a	n/a
S96T005743		% Water by TGA on Perkin Elmer	%	103.4	<5.00e-01	4.67e+06	5.41e+03	4.52e+03	39.4	n/a	1.12e+04	n/a
S96T005747		F Potassium - ICP-Fusion	ug/g	102.4	8.84e-01	3.63e+03	<2.24e+02	3.63e+03	94.40	101.0	447.0	n/a
S96T005747		F Nickel - ICP-Fusion	ug/g	100.6	<1.00e-02	<2.24e+02	<2.25e2	2.01e+04	1.00	98.80	1.12e+03	n/a
S96T005747		F Aluminum - ICP-Fusion	ug/g	99.00	<5.00e-02	2.02e+04	<2.24e+03	<2.25e3	n/a	103.0	2.24e+03	n/a
S96T005747		F Arsenic - ICP-Fusion	ug/g	104.8	<1.00e-01	<1.12e+03	<1.13e3	n/a	n/a	97.10	1.12e+03	n/a
S96T005747		F Boron - ICP-Fusion	ug/g	101.0	<5.00e-02	<1.12e+03	<1.13e3	n/a	n/a	98.20	1.12e+03	n/a
S96T005747		F Barium - ICP-Fusion	ug/g	103.6	<5.00e-03	<1.12e+02	<1.13e2	n/a	n/a	101.0	112.0	n/a
S96T005747		F Beryllium - ICP-Fusion	ug/g	103.6	<5.00e-03	<1.12e+02	<1.13e2	n/a	n/a	100.0	2.24e+03	n/a
S96T005747		F Bismuth - ICP-Fusion	ug/g	103.4	<1.00e-01	<2.24e+03	<2.25e3	n/a	n/a	103.0	2.24e+03	n/a
S96T005747		F Calcium - ICP-Fusion	ug/g	101.0	<5.00e-03	<2.24e+03	<2.25e3	n/a	n/a	101.0	112.0	n/a
S96T005747		F Cadmium - ICP-Fusion	ug/g	101.8	<5.00e-03	<2.24e+03	<2.25e3	n/a	n/a	100.0	2.24e+03	n/a
S96T005747		F Cerium - ICP-Fusion	ug/g	100.8	<1.00e-01	<2.24e+03	<2.25e3	n/a	n/a	101.0	447.0	n/a
S96T005747		F Cobalt - ICP-Fusion	ug/g	102.0	<1.00e-02	<4.48e+02	<4.51e2	n/a	n/a	101.0	2.24e+03	n/a
S96T005747		F Chromium - ICP-Fusion	ug/g	102.2	<1.00e-02	<2.24e+03	<2.25e2	1.14e+03	12.3	102.0	224.0	n/a
S96T005747		F Copper - ICP-Fusion	ug/g	105.6	<1.00e-02	<2.24e+03	<2.25e2	n/a	n/a	103.0	224.0	n/a
S96T005747		F Iron - ICP-Fusion	ug/g	101.6	<5.00e-02	<1.12e+03	<1.13e3	n/a	n/a	101.0	1.12e+03	n/a
S96T005747		F Lanthanum - ICP-Fusion	ug/g	102.6	<5.00e-02	<1.12e+03	<1.13e3	n/a	n/a	101.0	1.12e+03	n/a
S96T005747		F Lithium - ICP-Fusion	ug/g	102.6	<1.00e-02	<2.24e+02	<2.25e2	n/a	n/a	98.50	224.0	n/a
S96T005747		F Magnesium - ICP-Fusion	ug/g	97.60	<1.00e-01	<2.24e+03	<2.25e3	n/a	n/a	96.20	2.24e+03	n/a
S96T005747		F Manganese - ICP-Fusion	ug/g	99.40	<1.00e-02	<2.24e+02	<2.25e2	n/a	n/a	96.40	224.0	n/a
S96T005747		F Molybdenum - ICP-Fusion	ug/g	101.8	<5.00e-02	<1.12e+03	<1.13e3	n/a	n/a	101.0	1.12e+03	n/a
S96T005747		F Sodium - ICP-Fusion	ug/g	99.40	1.950	2.24e+03	2.33e+05	2.28e+05	3.94	101.0	2.24e+03	n/a
S96T005747		F Neodymium - ICP-Fusion	ug/g	102.8	<1.00e-01	<2.24e+03	<2.25e3	n/a	n/a	102.0	2.24e+03	n/a
S96T005747		F Phosphorus - ICP-Fusion	ug/g	101.4	<2.00e-01	<4.48e+03	<4.51e3	n/a	n/a	104.0	4.47e+03	n/a
S96T005747		F Lead - ICP-Fusion	ug/g	101.2	<1.00e-01	<2.24e+03	<2.25e3	n/a	n/a	102.0	2.24e+03	n/a
S96T005747		F Sul Fur - ICP-Fusion	ug/g	99.20	<1.00e-02	<1.34e+03	3.10e+03	3.25e+03	9.23	99.20	2.24e+03	n/a
S96T005747		F Antimony - ICP-Fusion	ug/g	97.20	<6.00e-02	<1.12e+03	<1.13e3	n/a	n/a	96.50	1.34e+03	n/a
S96T005747		F Selenium - ICP-Fusion	ug/g	98.20	<1.00e-01	<2.24e+03	<2.25e3	n/a	n/a	97.10	2.24e+03	n/a
S96T005747		F Silicon - ICP-Fusion	ug/g	97.80	<5.00e-02	<1.12e+03	<1.13e3	n/a	n/a	99.00	1.12e+03	n/a
S96T005747		F Samarium - ICP-Fusion	ug/g	99.40	<1.00e-01	<2.24e+03	<2.25e3	n/a	n/a	98.00	2.24e+03	n/a
S96T005747		F Strontium - ICP-Fusion	ug/g	100.0	<1.00e-02	<2.24e+02	<2.25e2	n/a	n/a	98.20	224.0	n/a
S96T005747		F Tantalum - ICP-Fusion	ug/g	99.00	<1.00e-02	<2.24e+03	<2.25e2	n/a	n/a	97.60	224.0	n/a
S96T005747		F Thallium - ICP-Fusion	ug/g	99.00	<2.00e-01	<4.48e+03	<4.51e3	n/a	n/a	96.90	4.47e+03	n/a
S96T005747		F Uranium - ICP-Fusion	ug/g	97.10	<5.00e-01	<1.12e+04	<1.13e4	n/a	n/a	92.50	1.12e+04	n/a
S96T005747		F Vanadium - ICP-Fusion	ug/g	101.4	<5.00e-02	<1.12e+03	<1.13e3	n/a	n/a	101.0	1.12e+03	n/a
S96T005747		F Zinc - ICP-Fusion	ug/g	102.6	<1.00e-02	<2.24e+02	<2.25e2	n/a	n/a	102.0	224.0	n/a
S96T005747		F Zirconium - ICP-Fusion	ug/g	99.60	<1.00e-02	<2.24e+02	<2.25e2	n/a	n/a	98.10	224.0	n/a
S96T005749		A Silver - ICP-Acid Digest	ug/g	81.20	<1.00e-02	13.80	13.75	13.75	0.73	n/a	4.460	n/a
S96T005749		A Aluminum - ICP-Acid Digest	ug/g	93.20	6.80e-02	2.00e+04	2.05e+04	2.02e+04	2.47	n/a	22.40	n/a
S96T005749		A Arsenic - ICP-Acid Digest	ug/g	97.40	<1.00e-01	<44.80	<43.6e1	n/a	n/a	n/a	44.60	n/a

Sample#	R.#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T005749	A	Boron - ICP-Acid Digest	ug/g	93.80	4.82e-01	86.20	89.40	87.80	n/a	n/a	22.40	n/a
S96T005749	A	Barium - ICP-Acid Digest	ug/g	92.20	<5.00e-02	<22.40	<2.18e-1	n/a	n/a	n/a	22.40	n/a
S96T005749	A	Beryllium - ICP-Acid Digest	ug/g	97.40	<5.00e-03	<2.240	<2.18e-0	n/a	n/a	n/a	2.240	n/a
S96T005749	A	Bismuth - ICP-Acid Digest	ug/g	93.80	<1.00e-01	<44.80	<4.36e-1	n/a	n/a	n/a	44.60	n/a
S96T005749	A	Calcium - ICP-Acid Digest	ug/g	91.60	<5.00e-03	1.35e+02	135.0	134.0	n/a	n/a	44.60	n/a
S96T005749	A	Cadmium - ICP-Acid Digest	ug/g	90.40	<1.00e-01	7.140	7.060	7.100	1.13	n/a	2.240	n/a
S96T005749	A	Cerium - ICP-Acid Digest	ug/g	95.20	<1.00e-01	<44.80	<4.36e-1	n/a	n/a	n/a	44.60	n/a
S96T005749	A	Cobalt - ICP-Acid Digest	ug/g	93.80	<2.00e-02	8.950	<8.72e-0	n/a	n/a	n/a	8.960	n/a
S96T005749	A	Chromium - ICP-Acid Digest	ug/g	91.60	<1.00e-02	1.05e+03	1.08e+03	1.06e+03	2.82	n/a	4.460	n/a
S96T005749	A	Copper - ICP-Acid Digest	ug/g	93.60	<1.00e-02	91.10	100.0	95.55	9.31	n/a	4.460	n/a
S96T005749	A	Iron - ICP-Acid Digest	ug/g	96.40	<5.00e-02	3.45e+03	3.59e+03	3.52e+03	3.98	n/a	22.40	n/a
S96T005749	A	Potassium - ICP-Acid Digest	ug/g	95.40	<5.00e-01	<2.240	<2.18e-1	n/a	n/a	n/a	22.40	n/a
S96T005749	A	Lanthanum - ICP-Acid Digest	ug/g	96.20	<1.00e-02	11.90	12.60	12.25	5.71	n/a	4.460	n/a
S96T005749	A	Lithium - ICP-Acid Digest	ug/g	86.80	<1.00e-01	<44.80	<4.36e-1	n/a	n/a	n/a	44.60	n/a
S96T005749	A	Magnesium - ICP-Acid Digest	ug/g	80.80	<5.00e-02	11.50	11.80	11.65	2.58	n/a	4.460	n/a
S96T005749	A	Molybdenum - ICP-Acid Digest	ug/g	80.80	<5.00e-02	42.00	44.10	43.05	4.88	n/a	22.40	n/a
S96T005749	A	Neodymium - ICP-Acid Digest	ug/g	93.60	<1.00e-01	1.90e+05	1.84e+05	1.87e+05	3.21	n/a	44.60	n/a
S96T005749	A	Nickel - ICP-Acid Digest	ug/g	94.20	<2.00e-02	<44.80	<4.36e-1	n/a	n/a	n/a	8.960	n/a
S96T005749	A	Lead - ICP-Acid Digest	ug/g	88.80	<2.00e-01	8.09e+02	711.0	760.0	12.9	n/a	89.60	n/a
S96T005749	A	Sulfur - ICP-Acid Digest	ug/g	81.80	<1.00e-01	<26.90	<2.62e-1	n/a	n/a	n/a	44.60	n/a
S96T005749	A	Antimony - ICP-Acid Digest	ug/g	87.80	<1.00e-01	2.99e+03	3.03e+03	3.01e+03	1.33	n/a	44.60	n/a
S96T005749	A	Selenium - ICP-Acid Digest	ug/g	122.4	<2.58e-01	1.93e+02	191.0	192.0	1.04	n/a	26.90	n/a
S96T005749	A	Samarium - ICP-Acid Digest	ug/g	92.00	<1.00e-02	<44.80	<4.36e-1	n/a	n/a	n/a	44.60	n/a
S96T005749	A	Strontium - ICP-Acid Digest	ug/g	92.00	<1.00e-02	<4.480	<4.36e-0	n/a	n/a	n/a	4.460	n/a
S96T005749	A	Titanium - ICP-Acid Digest	ug/g	75.00	<1.00e-02	<4.480	<4.36e-0	n/a	n/a	n/a	4.460	n/a
S96T005749	A	Thallium - ICP-Acid Digest	ug/g	87.60	<2.00e-01	<89.50	<8.72e-1	n/a	n/a	n/a	89.60	n/a
S96T005749	A	Uranium - ICP-Acid Digest	ug/g	89.80	<5.00e-01	<2.24e+02	<2.18e-2	n/a	n/a	n/a	22.40	n/a
S96T005749	A	Vanadium - ICP-Acid Digest	ug/g	91.60	<5.00e-02	<22.40	<2.18e-1	n/a	n/a	n/a	22.40	n/a
S96T005749	A	Zinc - ICP-Acid Digest	ug/g	90.00	<2.00e-02	9.610	9.600	9.605	0.10	n/a	4.460	n/a
S96T005749	A	Zirconium - ICP-Acid Digest	ug/g	82.60	<1.00e-02	11.80	11.90	11.85	0.84	n/a	4.460	n/a
S96T005751	W	Acetate by IC-Dionex 4000/4500	ug/g	96.77	4.50e-02	4.30e+02	438.0	433.8	1.84	132.3	43.95	n/a
S96T005751	W	Formate by IC-Dionex 4000/4500	ug/g	98.33	7.70e-02	6.33e+02	620.0	626.6	2.08	101.7	46.15	n/a
S96T005751	W	Fluoride-IC-Dionex 4000/4500	ug/g	116.1	<1.70e-02	6.19e+02	616.0	617.5	0.49	88.98	98.28	n/a
S96T005751	W	Chloride-IC-Dionex 4000/4500	ug/g	96.58	<1.70e-02	4.69e+03	4.81e+03	4.75e+03	2.53	97.85	139.2	n/a
S96T005751	W	Nitrate by Ion Chromatograph	ug/g	98.52	<1.08e-01	6.42e+04	6.53e+04	6.49e+04	1.23	101.3	884.4	n/a
S96T005751	W	Bromide by Ion Chromatograph	ug/g	101.9	<1.25e-01	<1.03e3	<1.03e3	n/a	n/a	98.98	1.02e+03	n/a
S96T005751	W	Nitrate by IC-Dionex 4000/4500	ug/g	100.4	<1.32e-01	9.62e+04	9.75e+04	9.69e+04	1.34	105.8	1.14e+03	n/a
S96T005751	W	Phosphate-IC-Dionex 4000/4500	ug/g	101.4	<1.20e-01	2.28e+03	2.13e+03	2.21e+03	6.80	99.08	982.8	n/a
S96T005751	W	Sulfate by IC-Dionex 4000/4500	ug/g	105.2	<1.38e-01	9.57e+03	9.42e+03	9.50e+03	1.58	104.3	1.13e+03	n/a
S96T005751	W	Oxalate-IC-Dionex 4000/4500	ug/g	108.6	<1.05e-01	9.97e+03	1.01e+04	1.00e+04	1.90	105.0	859.8	n/a

HNF-SD-WM-DP-226, REV. 0

L Lower Half of Segment: L Lower Half of Segment

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S961005729		Bulk Density of Sample	g/mL	n/a	n/a	1.610	n/a	n/a	n/a	n/a	5.00e-01	n/a
S961005744		PSC 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
S961005744		PSC Exotherm on Perkin Elmer	Joules/g	95.08	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S961005744		% Water by TGA on Perkin Elmer	%	99.27	n/a	44.40	43.19	43.80	2.76	n/a	n/a	n/a
S961005748	F	Potassium - ICP-Fusion	ug/g	103.4	<5.00e-01	4.76e+06	3.12e+03	3.87e+03	38.8	n/a	9.35e+03	n/a
S961005748	F	Nickel - ICP-Fusion	ug/g	102.4	8.84e-01	4.62e+06	3.12e+03	3.87e+03	38.8	n/a	374.0	n/a
S961005748	F	Silver - ICP-Fusion	ug/g	100.6	<1.00e-02	<1.87e+02	<1.93e+02	<1.87e+02	0.48	n/a	187.0	n/a
S961005748	F	Aluminum - ICP-Fusion	ug/g	99.00	<5.00e-02	2.11e+04	2.11e+04	2.10e+04	0.48	n/a	955.0	n/a
S961005748	F	Arsenic - ICP-Fusion	ug/g	104.8	<1.00e-01	<1.87e+03	<1.93e+03	<1.87e+03	n/a	n/a	1.87e+03	n/a
S961005748	F	Boron - ICP-Fusion	ug/g	101.0	<5.00e-02	<9.34e+02	<9.63e+02	<9.34e+02	n/a	n/a	955.0	n/a
S961005748	F	Barium - ICP-Fusion	ug/g	101.0	<5.00e-02	<9.34e+02	<9.63e+02	<9.34e+02	n/a	n/a	955.0	n/a
S961005748	F	Beryllium - ICP-Fusion	ug/g	103.6	<5.00e-03	< 93.40	<9.63e+01	<9.63e+01	n/a	n/a	95.50	n/a
S961005748	F	Bismuth - ICP-Fusion	ug/g	103.4	<1.00e-01	<1.87e+03	<1.93e+03	<1.87e+03	n/a	n/a	1.87e+03	n/a
S961005748	F	Calcium - ICP-Fusion	ug/g	101.0	<1.00e-01	<1.87e+03	<1.93e+03	<1.87e+03	n/a	n/a	1.87e+03	n/a
S961005748	F	Cadmium - ICP-Fusion	ug/g	101.8	<5.00e-03	< 93.40	<9.63e+01	<9.63e+01	n/a	n/a	95.50	n/a
S961005748	F	Cerium - ICP-Fusion	ug/g	102.0	<2.00e-02	<3.75e+02	<3.88e+02	<3.75e+02	n/a	n/a	374.0	n/a
S961005748	F	Cobalt - ICP-Fusion	ug/g	102.2	<1.00e-02	1.48e+03	1.22e+03	1.35e+03	19.3	n/a	187.0	n/a
S961005748	F	Chromium - ICP-Fusion	ug/g	105.6	<1.00e-02	<1.87e+02	<1.93e+02	<1.87e+02	n/a	n/a	187.0	n/a
S961005748	F	Copper - ICP-Fusion	ug/g	101.6	<5.00e-02	<9.34e+02	<9.63e+02	<9.34e+02	n/a	n/a	955.0	n/a
S961005748	F	Iron - ICP-Fusion	ug/g	102.6	<5.00e-02	<9.34e+02	<9.63e+02	<9.34e+02	n/a	n/a	955.0	n/a
S961005748	F	Lanthanum - ICP-Fusion	ug/g	102.6	<1.00e-02	<1.87e+02	<1.93e+02	<1.87e+02	n/a	n/a	187.0	n/a
S961005748	F	Lithium - ICP-Fusion	ug/g	97.60	<1.00e-01	<1.87e+03	<1.93e+03	<1.87e+03	n/a	n/a	1.87e+03	n/a
S961005748	F	Magnesium - ICP-Fusion	ug/g	99.40	<1.00e-01	<1.87e+02	<1.93e+02	<1.87e+02	n/a	n/a	187.0	n/a
S961005748	F	Manganese - ICP-Fusion	ug/g	101.8	<5.00e-02	<9.34e+02	<9.63e+02	<9.34e+02	n/a	n/a	955.0	n/a
S961005748	F	Molybdenum - ICP-Fusion	ug/g	99.40	<1.00e-01	2.20e+05	2.15e+05	2.18e+05	2.30	n/a	1.87e+03	n/a
S961005748	F	Sodium - ICP-Fusion	ug/g	102.8	<1.00e-01	<1.87e+03	<1.93e+03	<1.87e+03	n/a	n/a	1.87e+03	n/a
S961005748	F	Neodymium - ICP-Fusion	ug/g	101.4	<2.00e-01	<3.75e+03	<3.88e+03	<3.75e+03	n/a	n/a	3.74e+03	n/a
S961005748	F	Phosphorus - ICP-Fusion	ug/g	101.2	<1.00e-01	<1.87e+03	<1.93e+03	<1.87e+03	n/a	n/a	1.87e+03	n/a
S961005748	F	Lead - ICP-Fusion	ug/g	99.20	<1.00e-01	3.92e+03	3.37e+03	3.64e+03	15.1	n/a	1.87e+03	n/a
S961005748	F	Sulfur - ICP-Fusion	ug/g	97.20	<5.00e-02	<1.12e+03	<1.16e+03	<1.12e+03	n/a	n/a	1.2e+03	n/a
S961005748	F	Antimony - ICP-Fusion	ug/g	98.20	<1.00e-01	<1.87e+03	<1.93e+03	<1.87e+03	n/a	n/a	1.87e+03	n/a
S961005748	F	Selenium - ICP-Fusion	ug/g	97.80	<5.00e-02	9.38e+02	1.14e+03	1.04e+03	19.4	n/a	955.0	n/a
S961005748	F	Samarium - ICP-Fusion	ug/g	99.40	<1.00e-01	<1.87e+03	<1.93e+03	<1.87e+03	n/a	n/a	1.87e+03	n/a
S961005748	F	Strontium - ICP-Fusion	ug/g	100.0	<1.00e-02	<1.87e+02	<1.93e+02	<1.87e+02	n/a	n/a	187.0	n/a
S961005748	F	Titanium - ICP-Fusion	ug/g	99.00	<1.00e-02	<1.87e+02	<1.93e+02	<1.87e+02	n/a	n/a	187.0	n/a
S961005748	F	Thallium - ICP-Fusion	ug/g	99.00	<2.00e-01	<3.75e+03	<3.88e+03	<3.75e+03	n/a	n/a	3.74e+03	n/a
S961005748	F	Uranium - ICP-Fusion	ug/g	97.10	<5.00e-01	<9.34e+03	<9.63e+03	<9.34e+03	n/a	n/a	9.35e+03	n/a
S961005748	F	Vanadium - ICP-Fusion	ug/g	101.4	<5.00e-02	<9.34e+02	<9.63e+02	<9.34e+02	n/a	n/a	955.0	n/a
S961005748	F	Zinc - ICP-Fusion	ug/g	102.2	<1.00e-02	<1.87e+02	<1.93e+02	<1.87e+02	n/a	n/a	187.0	n/a
S961005748	F	Zirconium - ICP-Fusion	ug/g	99.60	<1.00e-01	<1.87e+02	<1.93e+02	<1.87e+02	n/a	n/a	187.0	n/a
S961005748	F	Alpha of Digested Solid	uCi/g	67.97	<1.70e-01	<3.50e-01	<2.88E-1	<2.88E-1	n/a	n/a	4.11e-01	1.56E+02
S961005748	F	Silver - ICP-Acid Digest	ug/g	81.20	<1.00e-02	13.00	13.10	13.05	0.77	n/a	4.600	n/a
S961005750	A	Aluminum - ICP-Acid Digest	ug/g	95.20	6.80e-02	2.13e+04	2.15e+04	2.14e+04	0.93	n/a	22.90	n/a
S961005750	A	Arsenic - ICP-Acid Digest	ug/g	97.40	<1.00e-01	< 45.90	<44.52e1	<44.52e1	n/a	n/a	46.00	n/a
S961005750	A	Boron - ICP-Acid Digest	ug/g	95.80	4.82e-01	1.04e+02	97.30	100.7	6.66	n/a	22.90	n/a
S961005750	A	Barium - ICP-Acid Digest	ug/g	92.20	<5.00e-02	< 23.00	<2.26e1	<2.26e1	n/a	n/a	22.90	n/a
S961005750	A	Beryllium - ICP-Acid Digest	ug/g	97.40	<5.00e-03	< 2.800	<2.26e1	<2.26e1	n/a	n/a	2.290	n/a
S961005750	A	Bismuth - ICP-Acid Digest	ug/g	95.80	<1.00e-01	< 45.90	<44.52e1	<44.52e1	n/a	n/a	46.00	n/a

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T005750	A	Calcium - ICP-Acid Digest	ug/g	90.60	< 1.00e-01	1.51e+02	146.0	148.5	3.37	n/a	46.00	n/a
S96T005750	A	Cadmium - ICP-Acid Digest	ug/g	91.40	< 5.00e-03	8.410	7.920	8.165	6.00	n/a	2.290	n/a
S96T005750	A	Cerium - ICP-Acid Digest	ug/g	95.20	< 1.00e-01	< 4.50	-4.52e1	n/a	n/a	n/a	46.00	n/a
S96T005750	A	Cobalt - ICP-Acid Digest	ug/g	93.80	< 2.00e-02	< 9.180	-9.04e0	n/a	n/a	n/a	9.190	n/a
S96T005750	A	Chromium - ICP-Acid Digest	ug/g	91.60	< 1.00e-02	1.26e+03	1.24e+03	1.25e+03	1.60	n/a	4.600	n/a
S96T005750	A	Copper - ICP-Acid Digest	ug/g	93.60	< 1.00e-02	< 4.590	-4.52e0	n/a	n/a	n/a	4.600	n/a
S96T005750	A	Iron - ICP-Acid Digest	ug/g	96.40	< 5.00e-02	87.10	62.00	74.55	33.7	n/a	22.90	n/a
S96T005750	A	Potassium - ICP-Acid Digest	ug/g	96.40	< 5.00e-01	3.65e+03	3.77e+03	3.71e+03	3.23	n/a	229.0	n/a
S96T005750	A	Lanthanum - ICP-Acid Digest	ug/g	95.40	< 1.00e-02	< 23.00	-2.26e1	n/a	n/a	n/a	22.90	n/a
S96T005750	A	Lithium - ICP-Acid Digest	ug/g	96.20	< 1.00e-02	5.280	4.990	5.135	5.65	n/a	4.600	n/a
S96T005750	A	Magnesium - ICP-Acid Digest	ug/g	86.80	< 1.00e-01	< 45.90	-4.52e1	n/a	n/a	n/a	46.00	n/a
S96T005750	A	Manganese - ICP-Acid Digest	ug/g	89.40	< 1.00e-02	13.60	13.40	13.60	2.94	n/a	4.600	n/a
S96T005750	A	Molybdenum - ICP-Acid Digest	ug/g	80.80	< 5.00e-02	45.20	45.40	45.30	0.44	n/a	22.90	n/a
S96T005750	A	Sodium - ICP-Acid Digest	ug/g	106.8	6.01e-01	1.83e+05	1.80e+05	1.82e+05	1.65	n/a	46.00	n/a
S96T005750	A	Neodymium - ICP-Acid Digest	ug/g	93.60	< 1.00e-01	< 45.90	-4.52e1	n/a	n/a	n/a	46.00	n/a
S96T005750	A	Nickel - ICP-Acid Digest	ug/g	94.20	< 2.00e-02	46.50	44.60	45.55	4.17	n/a	9.190	n/a
S96T005750	A	Phosphorus - ICP-Acid Digest	ug/g	84.80	< 2.00e-01	9.57e+02	626.0	791.5	41.8	n/a	91.90	n/a
S96T005750	A	Lead - ICP-Acid Digest	ug/g	88.80	< 1.00e-01	< 45.90	-4.52e1	n/a	n/a	n/a	46.00	n/a
S96T005750	A	Antimony - ICP-Acid Digest	ug/g	81.20	< 1.00e-01	3.34e+03	3.31e+03	3.32e+03	0.90	n/a	46.00	n/a
S96T005750	A	Antimony - ICP-Acid Digest	ug/g	81.80	< 6.00e-02	< 27.50	< 4.50	-4.52e1	n/a	n/a	27.50	n/a
S96T005750	A	Selenium - ICP-Acid Digest	ug/g	87.80	< 1.00e-01	< 45.90	-4.52e1	n/a	n/a	n/a	46.00	n/a
S96T005750	A	Silicon - ICP-Acid Digest	ug/g	122.4	2.58e-01	5.79e+02	530.0	554.5	8.84	n/a	46.00	n/a
S96T005750	A	Samarium - ICP-Acid Digest	ug/g	92.00	< 1.00e-02	< 45.90	-4.52e1	n/a	n/a	n/a	46.00	n/a
S96T005750	A	Strontium - ICP-Acid Digest	ug/g	92.00	< 1.00e-02	< 45.90	-4.52e1	n/a	n/a	n/a	46.00	n/a
S96T005750	A	Titanium - ICP-Acid Digest	ug/g	75.00	< 1.00e-02	< 91.80	-9.04e0	n/a	n/a	n/a	4.600	n/a
S96T005750	A	Thallium - ICP-Acid Digest	ug/g	87.60	< 2.00e-02	< 2.30e+02	-2.26e2	n/a	n/a	n/a	229.0	n/a
S96T005750	A	Uranium - ICP-Acid Digest	ug/g	89.80	< 5.00e-01	< 23.00	-2.26e1	n/a	n/a	n/a	22.90	n/a
S96T005750	A	Vanadium - ICP-Acid Digest	ug/g	91.60	< 5.00e-02	< 4.590	-4.52e0	n/a	n/a	n/a	4.600	n/a
S96T005750	A	Zinc - ICP-Acid Digest	ug/g	90.00	< 2.00e-02	7.680	8.110	7.895	5.45	n/a	4.600	n/a
S96T005750	A	Zirconium - ICP-Acid Digest	ug/g	82.60	< 1.00e-02	12.90	13.60	13.25	5.28	n/a	4.600	n/a
S96T005752	W	Acetate by IC-DIONEX 4000/4500	ug/g	96.77	4.50e-02	4.42e+02	469.0	455.8	5.93	129.8	47.54	n/a
S96T005752	W	Formate by IC-DIONEX 4000/4500	ug/g	98.33	7.70e-02	6.28e+02	630.0	627.5	0.80	105.0	49.92	n/a
S96T005752	W	Fluoride-IC-Dionex 4000/4500	ug/g	116.1	< 1.20e-02	6.77e+02	638.0	687.5	5.93	84.41	106.3	n/a
S96T005752	W	Chloride-IC-Dionex 4000/4500	ug/g	96.58	< 1.70e-02	4.85e+03	5.11e+03	4.98e+03	5.22	99.62	150.6	n/a
S96T005752	W	Nitrite-IC - Dionex 4000/4500	ug/g	98.52	< 1.08e-01	6.58e+04	6.65e+04	6.61e+04	0.76	105.7	956.9	n/a
S96T005752	W	Bromide by Ion Chromatograph	ug/g	101.9	< 1.25e-01	< 1.11e+03	< 1.10e3	n/a	n/a	96.43	1.11e+03	n/a
S96T005752	W	Nitrate by IC-Dionex 4000/4500	ug/g	100.4	< 1.39e-01	9.77e+04	9.58e+04	9.68e+04	1.96	103.0	1.22e+03	n/a
S96T005752	W	Phosphate-IC-Dionex 4000/4500	ug/g	100.4	< 1.20e-01	2.62e+03	2.61e+03	2.61e+03	0.77	100.4	1.06e+03	n/a
S96T005752	W	Sulfate by IC-Dionex 4000/4500	ug/g	105.2	< 1.38e-01	1.02e+04	1.02e+04	1.03e+04	1.94	103.5	1.22e+03	n/a
S96T005752	W	Oxalate-IC-Dionex 4000/4500	ug/g	108.6	< 1.05e-01	1.02e+04	9.24e+03	9.71e+03	9.88	104.5	930.3	n/a

Drainable Liquid: Drainable Liquid

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T005741		DSC Exotherm Dry	Joules/g Dry	n/a	n/a	0.00e+00	30.10	15.05	200	n/a	n/a	n/a
S96T005741		DSC Exotherm Perkin Elmer	Joules/g	95.36	n/a	0.00e+00	15.90	7.950	200	n/a	n/a	n/a
S96T005741		Specific Gravity	Sp. G.	100.3	n/a	1.489	1.490	1.490	0.07	n/a	1.00e-02	n/a
S96T005741		% Water by TGA on Perkin Elmer	%	99.36	n/a	51.55	34.29	42.92	40.2	n/a	n/a	n/a
S96T005741 1		% Water by TGA on Perkin Elmer	%	97.97	n/a	51.77	51.18	51.48	1.15	n/a	n/a	n/a
S96T005741		D Silver-IC-Acid Dil.	ug/mL	101.12	< 1.00e-02	18.10	18.60	18.35	2.72	n/a	6.010	n/a
S96T005741	D	ALUMINIUM-ICP-Acid Dil.	ug/mL	98.40	< 5.00e-02	3.73e+04	3.71e+04	3.72e+04	0.54	n/a	30.10	n/a

Sample#	R #/Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD	Spk Rec. %	Det Limit	Count Err%
S96T005741	D Arsenic-ICP-Acid Dil.	ug/mL	105.2	< 1.00e-01	< 60.10	< 60.10	n/a	n/a	n/a	60.10	n/a
S96T005741	D Boron-ICP-Acid Dil.	ug/mL	101.2	< 5.00e-02	64.00	62.80	63.40	1.89	n/a	30.10	n/a
S96T005741	D Barium-ICP-Acid Dil.	ug/mL	99.80	< 5.00e-03	< 3.00	< 3.00	n/a	n/a	n/a	30.10	n/a
S96T005741	D Beryllium-ICP-Acid Dil.	ug/mL	102.8	< 5.00e-03	< 3.00	< 3.00	n/a	n/a	n/a	3.000	n/a
S96T005741	D Bismuth-ICP-Acid Dil.	ug/mL	102.2	< 1.00e-01	< 60.10	< 60.10	n/a	n/a	n/a	60.10	n/a
S96T005741	D Calcium-ICP-Acid Dil.	ug/mL	101.4	< 1.00e-01	< 60.10	< 60.10	n/a	n/a	n/a	60.10	n/a
S96T005741	D Cadmium-ICP-Acid Dil.	ug/mL	101.8	< 5.00e-03	< 3.00	< 3.00	n/a	n/a	n/a	3.000	n/a
S96T005741	D Cerium-ICP-Acid Dil.	ug/mL	100.4	< 1.00e-01	< 60.10	< 60.10	n/a	n/a	n/a	60.10	n/a
S96T005741	D Cobalt-ICP-Acid Dil.	ug/mL	101.6	< 1.00e-02	12.00	< 1.20e1	n/a	n/a	n/a	12.00	n/a
S96T005741	D Chromium-ICP-Acid Dil.	ug/mL	102.2	< 1.00e-02	3.44e+02	343.0	343.5	0.29	n/a	6.010	n/a
S96T005741	D Copper-ICP-Acid Dil.	ug/mL	105.0	< 1.00e-02	< 60.10	< 60.10	n/a	n/a	n/a	6.010	n/a
S96T005741	D Iron-ICP-Acid Dil.	ug/mL	101.8	< 5.00e-02	< 30.10	< 3.01e1	n/a	n/a	n/a	30.10	n/a
S96T005741	D Potassium-ICP-Acid Dil.	ug/mL	101.0	< 5.00e-01	6.76e+03	6.66e+03	6.71e+03	1.49	n/a	300.0	n/a
S96T005741	D Lanthanum-ICP-Acid Dil.	ug/mL	101.8	< 5.00e-02	< 30.10	< 3.01e1	n/a	n/a	n/a	30.10	n/a
S96T005741	D Lithium-ICP-Acid Dil.	ug/mL	103.4	< 1.00e-02	< 60.10	< 60.10	n/a	n/a	n/a	6.010	n/a
S96T005741	D Magnesium-ICP-Acid Dil.	ug/mL	98.80	< 1.00e-01	< 60.10	< 60.10	n/a	n/a	n/a	60.10	n/a
S96T005741	D Manganese-ICP-Acid Dil.	ug/mL	98.80	< 1.00e-02	75.40	79.40	77.40	5.17	n/a	6.010	n/a
S96T005741	D Molybdenum-ICP-Acid Dil.	ug/mL	100.0	< 1.00e-01	2.47e+05	2.46e+05	2.46e+05	0.41	n/a	30.10	n/a
S96T005741	D Sodium-ICP-Acid Dil.	ug/mL	103.8	< 1.00e-01	< 60.10	< 60.10	n/a	n/a	n/a	60.10	n/a
S96T005741	D Neodymium-ICP-Acid Dil.	ug/mL	102.6	< 2.00e-02	< 12.00	< 1.20e1	n/a	n/a	n/a	12.00	n/a
S96T005741	D Nickel-ICP-Acid Dil.	ug/mL	103.6	< 2.00e-01	5.59e+02	561.0	560.0	0.36	n/a	120.0	n/a
S96T005741	D Phosphorus-ICP-Acid Dil.	ug/mL	102.2	< 1.00e-01	60.10	66.90	63.50	10.7	n/a	60.10	n/a
S96T005741	D Lead-ICP-Acid Dil.	ug/mL	100.4	< 1.00e-01	1.47e+03	1.44e+03	1.46e+03	2.06	n/a	60.10	n/a
S96T005741	D Sulfur-ICP-Acid Dil.	ug/mL	97.00	< 5.00e-02	< 36.10	< 3.61e1	n/a	n/a	n/a	36.10	n/a
S96T005741	D Selenium-ICP-Acid Dil.	ug/mL	99.00	< 1.00e-01	< 60.10	< 60.10	n/a	n/a	n/a	60.10	n/a
S96T005741	D Silicon-ICP-Acid Dil.	ug/mL	98.40	< 5.00e-02	2.20e+02	223.0	221.5	1.35	n/a	30.10	n/a
S96T005741	D Samarium-ICP-Acid Dil.	ug/mL	98.00	< 1.00e-01	< 60.10	< 60.10	n/a	n/a	n/a	60.10	n/a
S96T005741	D Strontium-ICP-Acid Dil.	ug/mL	99.80	< 1.00e-02	< 60.10	< 60.10	n/a	n/a	n/a	6.010	n/a
S96T005741	D Tantalum-ICP-Acid Dil.	ug/mL	97.40	< 1.00e-02	< 60.10	< 60.10	n/a	n/a	n/a	6.010	n/a
S96T005741	D Thallium-ICP-Acid Dil.	ug/mL	99.00	< 2.00e-01	< 1.20e+02	< 1.20e2	n/a	n/a	n/a	120.0	n/a
S96T005741	D Uranium-ICP-Acid Dil.	ug/mL	96.00	< 5.00e-01	< 3.00e+02	< 3.00e2	n/a	n/a	n/a	300.0	n/a
S96T005741	D Vanadium-ICP-Acid Dil.	ug/mL	101.4	< 1.00e-02	< 30.10	< 3.01e1	n/a	n/a	n/a	30.10	n/a
S96T005741	D Zinc-ICP-Acid Dil.	ug/mL	103.0	< 1.00e-02	< 60.10	< 60.10	n/a	n/a	n/a	6.010	n/a
S96T005741	D Zirconium-ICP-Acid Dil.	ug/mL	99.20	< 1.00e-02	8.730	8.280	8.505	5.29	n/a	6.010	n/a
S96T005741	Acetate by IC-Dionex 4000/4500	ug/mL	97.34	< 2.00e-02	8.26e+02	864.0	845.0	4.50	n/a	204.0	n/a
S96T005741	Formate by Ion Chromatograph	ug/mL	93.33	< 2.00e-02	1.09e+03	1.12e+03	1.10e+03	2.71	n/a	214.2	n/a
S96T005741	Fluoride-IC-Dionex 4000/4500	ug/mL	102.0	< 1.20e-02	< 61.81	< 61.81	n/a	n/a	n/a	61.81	n/a
S96T005741	Chloride-IC-Dionex 4000/4500	ug/mL	103.3	< 1.00e-02	8.18e+03	8.12e+03	8.14e+03	0.37	n/a	87.57	n/a
S96T005741	Nitrite-IC - Dionex 4000/4500	ug/mL	94.65	< 1.00e-01	3.13e+05	3.17e+05	3.15e+05	1.27	n/a	1.10e+03	n/a
S96T005741	Bromide by Ion Chromatograph	ug/mL	102.4	< 1.25e-01	7.57e+02	759.0	758.1	0.26	n/a	643.9	n/a
S96T005741	Nitrate by IC-Dionex 4000/4500	ug/mL	107.4	< 1.35e-01	1.66e+05	1.64e+05	1.65e+05	1.21	n/a	716.0	n/a
S96T005741	Phosphate-IC-Dionex 4000/4500	ug/mL	106.6	< 1.38e-01	1.03e+03	997.0	1.01e+03	3.26	n/a	618.1	n/a
S96T005741	Sulfate by IC-Dionex 4000/4500	ug/mL	107.1	< 1.38e-01	1.67e+03	1.33e+03	1.50e+03	22.7	n/a	710.8	n/a
S96T005741	Oxalate-IC-Dionex 4000/450	ug/mL	105.4	< 1.09e-01	< 5.47e+02	< 5.47e2	n/a	n/a	n/a	540.9	n/a
S96T005741	Alpha in Liquid Samples	uCi/mL	92.21	< 2.43e-03	< 2.43e-03	< 1.81E-3	n/a	n/a	n/a	3.00e-03	5.00e+02

Table 1. Data Summary Report
AN-104

CORE NUMBER: 163
SEGMENT #: 16

SEGMENT PORTION: U Upper Half of Segment

Sample#	R/A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD % Spk Rec %	Det Limit	Count Err%
S961005226		Bulk Density of Sample	g/mL	n/a	n/a	1.560	n/a	n/a	n/a	5.00e-01	n/a
S961005271		DSC Exotherm Using Mettler	Joules/g	89.98	n/a	1.07e+02	62.80	69.70	106	n/a	n/a
S961005271		DSC Exotherm Dry Calculated	Joules/g Dry	n/a	n/a	2.04e+02	32.80	133.4	106	n/a	n/a
S961005271		% Water by TGA using Mettler	%	99.53	n/a	50.23	45.36	47.80	10.2	n/a	n/a
S961005293		F Potassium - ICP-Fusion	ug/g	100.0	< 5.00e-01	7.06e+06	n/a	n/a	n/a	8.88e+03	n/a
S961005293		F Nickel - ICP-Fusion	ug/g	102.2	5.50e-02	2.38e+03	5.02e+03	3.70e+03	71.4	n/a	n/a
S961005293		F Silver - ICP-Fusion	ug/g	101.0	< 1.00e-02	< 1.77e+02	< 1.90e2	n/a	n/a	177.0	n/a
S961005293		F Aluminum - ICP-Fusion	ug/g	99.20	< 1.00e-02	1.95e+04	2.04e+04	2.00e+04	4.51	n/a	n/a
S961005293		F Arsenic - ICP-Fusion	ug/g	104.6	< 1.00e-01	< 1.90e3	< 1.90e3	n/a	n/a	1.77e+03	n/a
S961005293		F Boron - ICP-Fusion	ug/g	100.6	< 5.00e-02	< 8.87e+02	< 9.49e2	n/a	n/a	888.0	n/a
S961005293		F Barium - ICP-Fusion	ug/g	101.2	< 5.00e-02	< 8.87e+02	< 9.49e2	n/a	n/a	888.0	n/a
S961005293		F Beryllium - ICP-Fusion	ug/g	103.4	< 5.00e-03	< 88.70	< 9.49e1	n/a	n/a	88.80	n/a
S961005293		F Bismuth - ICP-Fusion	ug/g	103.6	< 1.00e-01	< 1.77e+03	< 1.90e3	n/a	n/a	1.77e+03	n/a
S961005293		F Calcium - ICP-Fusion	ug/g	102.0	< 1.00e-01	< 1.77e+03	< 1.90e3	n/a	n/a	1.77e+03	n/a
S961005293		F Cadmium - ICP-Fusion	ug/g	102.0	< 5.00e-03	< 88.70	< 9.49e1	n/a	n/a	88.80	n/a
S961005293		F Cobalt - ICP-Fusion	ug/g	102.4	< 2.00e-02	< 5.56e+02	< 3.80e2	n/a	n/a	1.77e+03	n/a
S961005293		F Chromium - ICP-Fusion	ug/g	104.8	< 1.00e-02	2.24e+03	2.18e+03	2.21e+03	2.71	n/a	n/a
S961005293		F Copper - ICP-Fusion	ug/g	102.4	< 1.00e-02	< 1.77e+03	< 1.90e2	n/a	n/a	177.0	n/a
S961005293		F Iron - ICP-Fusion	ug/g	102.4	< 5.00e-02	< 8.87e+02	< 9.49e2	n/a	n/a	888.0	n/a
S961005293		F Lanthanum - ICP-Fusion	ug/g	102.4	< 5.00e-02	< 8.87e+02	< 9.49e2	n/a	n/a	888.0	n/a
S961005293		F Lithium - ICP-Fusion	ug/g	101.6	< 1.00e-02	< 1.77e+03	< 1.90e2	n/a	n/a	177.0	n/a
S961005293		F Magnesium - ICP-Fusion	ug/g	97.80	< 1.00e-01	< 1.77e+03	< 1.90e3	n/a	n/a	1.77e+03	n/a
S961005293		F Manganese - ICP-Fusion	ug/g	100.2	< 1.00e-02	< 1.77e+03	< 1.90e2	n/a	n/a	177.0	n/a
S961005293		F Molybdenum - ICP-Fusion	ug/g	102.4	< 5.00e-02	< 8.87e+02	< 9.49e2	n/a	n/a	888.0	n/a
S961005293		F Sodium - ICP-Fusion	ug/g	98.80	1.760	2.32e+05	2.38e+05	2.35e+05	2.55	n/a	n/a
S961005293		F Neodymium - ICP-Fusion	ug/g	102.6	< 1.00e-01	< 1.77e+03	< 1.90e3	n/a	n/a	1.77e+03	n/a
S961005293		F Phosphorus - ICP-Fusion	ug/g	103.0	< 2.00e-01	< 5.56e+03	< 3.80e3	n/a	n/a	3.55e+03	n/a
S961005293		F Lead - ICP-Fusion	ug/g	102.2	< 1.00e-01	< 1.77e+03	< 1.90e3	n/a	n/a	1.77e+03	n/a
S961005293		F Sulfur - ICP-Fusion	ug/g	101.2	< 1.00e-01	5.01e+03	5.01e+03	5.01e+03	0.00	n/a	n/a
S961005293		F Antimony - ICP-Fusion	ug/g	96.80	< 5.00e-02	< 1.06e+03	< 1.14e3	n/a	n/a	1.06e+03	n/a
S961005293		F Selenium - ICP-Fusion	ug/g	99.00	< 1.00e-01	< 1.77e+03	< 1.90e3	n/a	n/a	1.77e+03	n/a
S961005293		F Silicon - ICP-Fusion	ug/g	99.40	< 5.00e-02	< 8.87e+02	< 9.49e2	n/a	n/a	888.0	n/a
S961005293		F Smarium - ICP-Fusion	ug/g	98.60	< 1.00e-01	< 1.77e+03	< 1.90e3	n/a	n/a	1.77e+03	n/a
S961005293		F Strontium - ICP-Fusion	ug/g	99.40	< 1.00e-02	< 1.77e+02	< 1.90e2	n/a	n/a	177.0	n/a
S961005293		F Titanium - ICP-Fusion	ug/g	98.40	< 1.00e-02	< 1.77e+02	< 1.90e2	n/a	n/a	177.0	n/a
S961005293		F Vanadium - ICP-Fusion	ug/g	98.20	< 2.00e-01	< 3.55e+03	< 3.80e3	n/a	n/a	3.55e+03	n/a
S961005293		F Zirconium - ICP-Fusion	ug/g	96.60	< 5.00e-01	< 8.87e+02	< 9.49e3	n/a	n/a	888.0	n/a
S961005293		F Zinc - ICP-Fusion	ug/g	101.6	< 5.00e-02	< 8.87e+02	< 9.49e2	n/a	n/a	177.0	n/a
S961005293		F Zirconium - ICP-Fusion	ug/g	102.8	1.20e-02	2.53e+02	< 1.90e2	n/a	n/a	177.0	n/a
S961005294		A Silver - ICP-Acid Digest	ug/g	99.60	< 1.00e-02	< 1.77e+02	< 1.90e2	n/a	n/a	4.120	n/a
S961005294		A Aluminum - ICP-Acid Digest	ug/g	34.80	< 1.00e-01	38.60	27.30	32.95	34.3	20.60	n/a
S961005294		A Arsenic - ICP-Acid Digest	ug/g	94.40	< 1.00e-01	< 41.30	1.96e+04	1.91e+04	n/a	41.20	n/a

Sample#	R. #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S961005294	A	Boron - ICP-Acid Digest	ug/g	102.6	4.93e-01	1.64e-01	145.0	154.5	12.3	n/a	20.60	n/a
S961005294	A	Barium - ICP-Acid Digest	ug/g	90.20	< 5.00e-02	< 20.60	< 1.85e1	n/a	n/a	n/a	20.60	n/a
S961005294	A	Beryllium - ICP-Acid Digest	ug/g	94.00	< 5.00e-01	< 2.060	< 1.85e1	n/a	n/a	n/a	2.060	n/a
S961005294	A	Bismuth - ICP-Acid Digest	ug/g	92.20	< 1.00e-01	< 41.30	< 3.70e1	n/a	n/a	n/a	41.20	n/a
S961005294	A	Calcium - ICP-Acid Digest	ug/g	91.20	< 1.00e-01	2.57e-02	218.0	237.5	16.4	n/a	41.20	n/a
S961005294	A	Cadmium - ICP-Acid Digest	ug/g	90.40	< 5.00e-03	14.70	11.30	13.00	26.2	n/a	2.060	n/a
S961005294	A	Cerium - ICP-Acid Digest	ug/g	93.00	< 1.00e-01	< 41.30	< 3.70e1	n/a	n/a	n/a	41.20	n/a
S961005294	A	Cobalt - ICP-Acid Digest	ug/g	91.60	< 2.00e-02	8.250	< 7.40e1	n/a	n/a	n/a	8.260	n/a
S961005294	A	Chromium - ICP-Acid Digest	ug/g	91.00	< 1.00e-02	2.27e-03	1.85e+03	2.06e+03	19.9	n/a	4.120	n/a
S961005294	A	Copper - ICP-Acid Digest	ug/g	88.60	< 1.00e-02	4.690	4.020	4.355	15.4	n/a	4.120	n/a
S961005294	A	Iron - ICP-Acid Digest	ug/g	91.60	< 5.00e-02	1.02e-02	84.40	93.20	18.9	n/a	20.60	n/a
S961005294	A	Potassium - ICP-Acid Digest	ug/g	92.60	< 5.00e-01	5.33e+03	3.41e+03	3.37e+03	2.37	n/a	206.0	n/a
S961005294	A	Lanthanum - ICP-Acid Digest	ug/g	93.20	< 5.00e-02	< 20.60	< 1.85e1	n/a	n/a	n/a	20.60	n/a
S961005294	A	Lithium - ICP-Acid Digest	ug/g	91.80	< 1.00e-02	5.360	4.990	5.175	7.15	n/a	4.120	n/a
S961005294	A	Magnesium - ICP-Acid Digest	ug/g	85.00	< 1.00e-01	< 41.30	< 3.70e1	n/a	n/a	n/a	41.20	n/a
S961005294	A	Manganese - ICP-Acid Digest	ug/g	88.80	< 5.00e-02	16.80	13.30	15.05	23.3	n/a	4.120	n/a
S961005294	A	Molybdenum - ICP-Acid Digest	ug/g	89.80	< 5.00e-02	41.60	41.70	41.65	0.24	n/a	20.60	n/a
S961005294	A	Sodium - ICP-Acid Digest	ug/g	106.8	7.46e-01	1.93e+05	1.85e+05	1.89e+05	4.23	n/a	41.20	n/a
S961005294	A	Neodymium - ICP-Acid Digest	ug/g	91.60	< 1.00e-01	< 41.30	< 3.70e1	n/a	n/a	n/a	41.20	n/a
S961005294	A	Nickel - ICP-Acid Digest	ug/g	93.00	< 2.00e-02	89.30	67.30	78.30	28.1	n/a	8.260	n/a
S961005294	A	Phosphorus - ICP-Acid Digest	ug/g	91.80	< 2.00e-01	1.18e+03	935.0	1.06e+03	23.2	n/a	82.60	n/a
S961005294	A	Lead - ICP-Acid Digest	ug/g	88.60	< 1.00e-01	< 41.30	< 3.70e1	n/a	n/a	n/a	41.20	n/a
S961005294	A	Sulfur - ICP-Acid Digest	ug/g	89.80	< 5.00e-02	< 24.80	< 2.22e1	n/a	n/a	n/a	41.20	n/a
S961005294	A	Antimony - ICP-Acid Digest	ug/g	88.60	< 1.00e-01	4.97e+03	4.09e+03	4.50e+03	18.2	n/a	24.80	n/a
S961005294	A	Selenium - ICP-Acid Digest	ug/g	86.20	< 1.00e-01	< 41.30	< 3.70e1	n/a	n/a	n/a	41.20	n/a
S961005294	A	Silicon - ICP-Acid Digest	ug/g	131.6	1.470	7.80e+02	644.0	712.0	19.1	n/a	20.60	n/a
S961005294	A	Samarium - ICP-Acid Digest	ug/g	89.40	< 1.00e-01	< 41.30	< 3.70e1	n/a	n/a	n/a	41.20	n/a
S961005294	A	Strontium - ICP-Acid Digest	ug/g	90.00	< 1.00e-02	< 4.130	< 3.70e1	n/a	n/a	n/a	4.120	n/a
S961005294	A	Tantalum - ICP-Acid Digest	ug/g	81.60	< 1.00e-02	< 4.130	< 3.70e1	n/a	n/a	n/a	4.120	n/a
S961005294	A	Titanium - ICP-Acid Digest	ug/g	86.80	< 2.00e-01	< 82.50	< 7.40e1	n/a	n/a	n/a	82.60	n/a
S961005294	A	Uranium - ICP-Acid Digest	ug/g	86.10	< 5.00e-01	2.30e+02	196.0	213.0	16.0	n/a	206.0	n/a
S961005294	A	Vanadium - ICP-Acid Digest	ug/g	89.00	< 5.00e-02	< 20.60	< 1.85e1	n/a	n/a	n/a	20.60	n/a
S961005294	A	Zinc - ICP-Acid Digest	ug/g	88.20	< 7.90e-02	17.80	16.50	17.15	7.58	n/a	4.120	n/a
S961005294	A	Zirconium - ICP-Acid Digest	ug/g	90.80	< 1.00e-02	19.50	16.80	18.15	14.9	n/a	4.120	n/a
S961005295	W	Acetate by IC-DIONEX 4000/4500	ug/g	95.97	< 2.00e-02	< 1.50e-02	< 1.46e2	n/a	n/a	112.1	149.9	n/a
S961005295	W	Formate by IC-DIONEX 4000/4500	ug/g	99.61	< 1.5e-02	9.15e-02	910.0	912.7	0.55	96.67	157.4	n/a
S961005295	W	Fluoride-IC-DIONEX 4000/4500	ug/g	98.14	< 1.20e-02	8.06e-02	657.0	731.5	20.4	101.4	221.5	n/a
S961005295	W	Chloride-IC-DIONEX 4000/4500	ug/g	94.18	< 1.00e-02	4.33e+03	4.17e+03	4.25e+03	3.76	97.09	80.78	n/a
S961005295	W	Nitrite-IC - Dionex 4000/4500	ug/g	88.69	< 1.00e-01	5.67e+04	5.48e+04	5.57e+04	3.41	98.70	513.2	n/a
S961005295	W	Bromide by Ion Chromatograph	ug/g	90.61	< 1.25e-01	< 5.94e-02	< 5.79e2	n/a	n/a	88.12	594.1	n/a
S961005295	W	Nitrate by IC-DIONEX 4000/4500	ug/g	91.75	< 1.39e-01	1.00e+05	9.69e+04	9.86e+04	3.15	91.58	660.7	n/a
S961005295	W	Phosphate-IC-DIONEX 4000/4500	ug/g	88.81	< 1.30e-01	2.69e+03	2.41e+03	2.55e+03	11.0	93.21	570.2	n/a
S961005295	W	Sulfate by IC-DIONEX 4000/4500	ug/g	91.92	< 1.38e-01	1.26e+04	1.24e+04	1.25e+04	1.60	97.15	655.7	n/a
S961005295	W	Oxalate-IC-DIONEX 4000/4500	ug/g	90.49	< 1.05e-01	9.19e+03	9.38e+03	9.28e+03	2.05	94.68	498.9	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%
S961005272		Bulk Density of Sample	g/mL	n/a	n/a	1.570	n/a	n/a	n/a	n/a	5.00e-01	n/a
S961005272		DSC Exotherm using Mettler	Joules/g	100.5	n/a	31.40	24.20	27.80	25.9	n/a	n/a	n/a
S961005272		DSC Exotherm Dry Calculated	Joules/g Dry	n/a	n/a	57.18	44.07	50.62	25.9	n/a	n/a	n/a
S961005272		% Water by TGA using Mettler	%	99.64	n/a	46.27	43.90	45.09	5.26	n/a	n/a	n/a
S961005286	F	Potassium - ICP-Fusion	ug/g	99.20	< 5.00e-01	6.56e+06	n/a	n/a	n/a	n/a	9.92e+03	n/a
S961005286	F	Nickel - ICP-Fusion	ug/g	99.00	< 1.31e-01	2.25e+03	2.67e+03	2.46e+03	17.1	99.00	397.0	n/a
S961005286	F	Silver - ICP-Fusion	ug/g	99.20	< 1.00e-02	< 1.99e-02	< 1.83e-02	n/a	n/a	74.00	198.0	n/a
S961005286	F	Aluminum - ICP-Fusion	ug/g	99.60	< 5.00e-02	2.10e+04	1.88e+04	1.99e+04	11.1	101.00	992.0	n/a
S961005286	F	Arsenic - ICP-Fusion	ug/g	104.0	< 1.00e-01	< 1.99e+03	< 1.83e+03	n/a	n/a	103.0	1.98e+03	n/a
S961005286	F	Boron - ICP-Fusion	ug/g	100.8	< 5.00e-02	< 9.93e+02	< 9.17e+02	n/a	n/a	97.20	992.0	n/a
S961005286	F	Barium - ICP-Fusion	ug/g	104.0	< 5.00e-02	< 9.93e+02	< 9.17e+02	n/a	n/a	102.0	992.0	n/a
S961005286	F	Beryllium - ICP-Fusion	ug/g	102.4	< 5.00e-03	< 99.30	< 9.17e+01	n/a	n/a	98.60	992.0	n/a
S961005286	F	Bismuth - ICP-Fusion	ug/g	105.0	< 1.00e-01	< 1.99e+03	< 1.83e+03	n/a	n/a	105.0	1.98e+03	n/a
S961005286	F	Calcium - ICP-Fusion	ug/g	99.60	< 1.00e-01	< 1.99e+03	< 1.83e+03	n/a	n/a	99.10	992.0	n/a
S961005286	F	Cadmium - ICP-Fusion	ug/g	100.0	< 5.00e-03	< 99.30	< 9.17e+01	n/a	n/a	99.10	992.0	n/a
S961005286	F	Cerium - ICP-Fusion	ug/g	100.0	< 1.00e-01	< 1.99e+03	< 1.83e+03	n/a	n/a	99.10	992.0	n/a
S961005286	F	Cobalt - ICP-Fusion	ug/g	100.0	< 2.00e-02	< 3.97e+02	< 3.67e+02	n/a	n/a	100.0	397.0	n/a
S961005286	F	Chromium - ICP-Fusion	ug/g	99.40	< 1.00e-02	1.61e+03	1.77e+03	1.69e+03	9.47	100.0	198.0	n/a
S961005286	F	Copper - ICP-Fusion	ug/g	103.0	< 1.00e-02	< 1.99e+02	< 1.83e+02	n/a	n/a	101.0	198.0	n/a
S961005286	F	Iron - ICP-Fusion	ug/g	98.20	< 5.00e-02	< 9.93e+02	< 9.17e+02	n/a	n/a	97.30	992.0	n/a
S961005286	F	Lanthanum - ICP-Fusion	ug/g	100.8	< 1.00e-02	< 9.93e+02	< 1.83e+02	n/a	n/a	99.60	992.0	n/a
S961005286	F	Lithium - ICP-Fusion	ug/g	101.8	< 5.00e-02	< 1.99e+02	< 1.83e+02	n/a	n/a	99.40	198.0	n/a
S961005286	F	Magnesium - ICP-Fusion	ug/g	100.0	< 1.00e-01	< 1.99e+03	< 1.83e+03	n/a	n/a	98.30	198.0	n/a
S961005286	F	Manganese - ICP-Fusion	ug/g	98.80	< 1.00e-02	< 1.99e+03	< 1.83e+03	n/a	n/a	98.30	198.0	n/a
S961005286	F	Molybdenum - ICP-Fusion	ug/g	102.6	< 6.80e-02	< 9.93e+02	< 9.17e+02	n/a	n/a	103.0	992.0	n/a
S961005286	F	Sodium - ICP-Fusion	ug/g	100.0	< 1.940	2.38e+05	2.21e+05	2.30e+05	7.41	119.0	1.98e+03	n/a
S961005286	F	Neodymium - ICP-Fusion	ug/g	105.0	< 1.00e-01	< 1.99e+03	< 1.83e+03	n/a	n/a	96.50	1.98e+03	n/a
S961005286	F	Phosphorus - ICP-Fusion	ug/g	100.8	< 2.00e-01	< 3.97e+03	< 3.67e+03	n/a	n/a	111.0	3.97e+03	n/a
S961005286	F	Lead - ICP-Fusion	ug/g	96.60	< 1.00e-01	< 1.99e+03	< 1.83e+03	n/a	n/a	96.00	1.98e+03	n/a
S961005286	F	Sulfur - ICP-Fusion	ug/g	102.8	< 1.00e-01	< 1.99e+03	4.39e+03	4.28e+03	4.90	103.0	1.98e+03	n/a
S961005286	F	Antimony - ICP-Fusion	ug/g	105.0	< 6.00e-02	< 1.19e+03	< 1.1e+03	n/a	n/a	96.20	1.98e+03	n/a
S961005286	F	Selenium - ICP-Fusion	ug/g	87.00	< 1.00e-01	< 1.99e+03	< 1.83e+03	n/a	n/a	92.10	1.98e+03	n/a
S961005286	F	Silicon - ICP-Fusion	ug/g	97.00	< 5.00e-02	< 9.93e+02	< 9.17e+02	n/a	n/a	103.0	992.0	n/a
S961005286	F	Samarium - ICP-Fusion	ug/g	104.2	< 1.00e-01	< 1.99e+03	< 1.83e+03	n/a	n/a	104.0	1.98e+03	n/a
S961005286	F	Strontium - ICP-Fusion	ug/g	103.6	< 1.00e-02	< 1.99e+02	< 1.83e+02	n/a	n/a	103.0	198.0	n/a
S961005286	F	Titanium - ICP-Fusion	ug/g	99.60	< 2.80e-02	< 1.99e+02	< 1.83e+02	n/a	n/a	98.70	198.0	n/a
S961005286	F	Thallium - ICP-Fusion	ug/g	103.2	< 2.00e-01	< 3.97e+03	< 3.67e+03	n/a	n/a	97.10	3.97e+03	n/a
S961005286	F	Thalium - ICP-Fusion	ug/g	104.0	< 5.00e-01	< 9.93e+03	< 9.17e+03	n/a	n/a	110.5	9.92e+03	n/a
S961005286	F	Uranium - ICP-Fusion	ug/g	101.8	< 5.00e-02	< 9.93e+02	< 9.17e+02	n/a	n/a	101.0	992.0	n/a
S961005286	F	Vanadium - ICP-Fusion	ug/g	101.8	< 1.00e-02	< 1.99e+02	< 1.83e+02	n/a	n/a	102.0	198.0	n/a
S961005286	F	Zinc - ICP-Fusion	ug/g	101.4	< 7.80e-02	< 1.99e+02	< 1.83e+02	n/a	n/a	101.0	198.0	n/a
S961005286	F	Zirconium - ICP-Fusion	ug/g	80.09	< 1.00e-02	< 2.68e+02	2.99e+02	2.62e+02	27.8	64.07	3.30e+02	1.07e+02
S961005289	A	Alpha of Digested Solid	ug/g	34.20	< 1.00e-02	15.00	14.40	14.70	4.08	55.60	4.640	n/a
S961005289	A	Silver - ICP-Acid Digest	ug/g	91.80	< 1.00e-02	1.95e+04	2.07e+04	2.01e+04	5.97	354.0	23.20	n/a
S961005289	A	Aluminum - ICP-Acid Digest	ug/g	94.40	< 1.00e-01	< 46.40	44.26e1	n/a	n/a	94.00	46.40	n/a
S961005289	A	Arsenic - ICP-Acid Digest	ug/g	102.6	< 4.93e-01	2.17e+02	166.0	191.5	26.6	87.60	23.20	n/a
S961005289	A	Boron - ICP-Acid Digest	ug/g	90.20	< 5.00e-02	< 23.20	< 2.13e1	n/a	n/a	89.80	23.20	n/a
S961005289	A	Barium - ICP-Acid Digest	ug/g	94.00	< 5.00e-03	< 2.320	< 2.36e1	n/a	n/a	91.40	2.320	n/a
S961005289	A	Beryllium - ICP-Acid Digest	ug/g	92.20	< 1.00e-01	< 46.40	44.26e1	n/a	n/a	92.60	46.40	n/a
S961005289	A	Bismuth - ICP-Acid Digest	ug/g									

Sample#	R. #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPB	Spk	Rec	%	Det	Limit	Count	Err%
S961005289	A	Calcium - ICP-Acid Digest	ug/g	91.20	< 1.00e-01	2.44e+02	197.0	220.5	21.3	90.60	91.80	2.320	46.40	n/a		
S961005289	A	Cadmium - ICP-Acid Digest	ug/g	90.40	< 5.00e-03	12.60	9.980	11.29	23.2	n/a	n/a	92.00	46.40	n/a		
S961005289	A	Cerium - ICP-Acid Digest	ug/g	93.00	< 1.00e-01	46.40	< 4.26e1	n/a	n/a	92.00	92.00	9.280	46.40	n/a		
S961005289	A	Cobalt - ICP-Acid Digest	ug/g	91.60	< 2.00e-02	9.290	< 8.52e0	1.63e+03	1.80e+03	18.9	85.80	4.640	46.40	n/a		
S961005289	A	Chromium - ICP-Acid Digest	ug/g	91.00	< 1.00e-02	1.97e+03	4.750	4.330	4.540	9.25	87.00	4.640	46.40	n/a		
S961005289	A	Copper - ICP-Acid Digest	ug/g	88.60	< 1.00e-02	3.47e+03	67.60	77.30	25.1	89.80	89.80	23.20	46.40	n/a		
S961005289	A	Potassium - ICP-Acid Digest	ug/g	92.60	< 5.00e-01	8.85e+03	3.72e+03	3.58e+03	7.53	139.6	139.6	232.0	46.40	n/a		
S961005289	A	Lanthanum - ICP-Acid Digest	ug/g	93.20	< 5.00e-02	23.20	< 2.13e1	n/a	n/a	93.00	93.00	4.640	46.40	n/a		
S961005289	A	Lithium - ICP-Acid Digest	ug/g	91.80	< 1.00e-02	4.640	< 4.26e1	n/a	n/a	92.00	92.00	4.640	46.40	n/a		
S961005289	A	Magnesium - ICP-Acid Digest	ug/g	85.00	< 1.00e-01	46.40	< 4.26e1	n/a	n/a	83.80	83.80	46.40	46.40	n/a		
S961005289	A	Manganese - ICP-Acid Digest	ug/g	88.80	< 1.00e-02	16.50	13.20	14.85	22.2	88.20	88.20	4.640	46.40	n/a		
S961005289	A	Molybdenum - ICP-Acid Digest	ug/g	89.80	< 5.00e-02	42.20	44.70	43.45	5.75	91.20	91.20	23.20	46.40	n/a		
S961005289	A	Sodium - ICP-Acid Digest	ug/g	106.8	7.46e-01	1.91e+05	1.83e+05	1.87e+05	4.28	1.55e+03	1.55e+03	46.40	46.40	n/a		
S961005289	A	Neodymium - ICP-Acid Digest	ug/g	91.60	< 1.00e-01	46.40	< 4.26e1	n/a	n/a	91.00	91.00	46.40	46.40	n/a		
S961005289	A	Nickel - ICP-Acid Digest	ug/g	93.00	< 2.00e-02	74.80	63.20	69.00	16.8	94.20	94.20	9.280	46.40	n/a		
S961005289	A	Phosphorus - ICP-Acid Digest	ug/g	91.80	< 2.00e-01	1.15e+03	858.0	1.00e+03	29.1	109.2	109.2	92.80	46.40	n/a		
S961005289	A	Lead - ICP-Acid Digest	ug/g	88.60	< 1.00e-01	46.40	< 4.26e1	n/a	n/a	94.40	94.40	46.40	46.40	n/a		
S961005289	A	Antimony - ICP-Acid Digest	ug/g	89.80	< 1.00e-01	4.59e+03	3.84e+03	4.20e+03	16.9	76.40	76.40	46.40	46.40	n/a		
S961005289	A	Selenium - ICP-Acid Digest	ug/g	88.60	< 6.00e-02	27.90	< 2.56e1	n/a	n/a	91.40	91.40	27.80	46.40	n/a		
S961005289	A	Silicon - ICP-Acid Digest	ug/g	86.20	< 1.00e-01	46.40	< 4.26e1	n/a	n/a	89.00	89.00	46.40	46.40	n/a		
S961005289	A	Samarium - ICP-Acid Digest	ug/g	151.6	1.470	1.03e+03	721.0	875.5	35.3	89.40	89.40	23.20	46.40	n/a		
S961005289	A	Strontium - ICP-Acid Digest	ug/g	90.40	< 1.00e-01	46.40	< 4.26e1	n/a	n/a	89.60	89.60	46.40	46.40	n/a		
S961005289	A	Titanium - ICP-Acid Digest	ug/g	86.80	< 1.00e-02	4.640	< 4.26e1	n/a	n/a	89.40	89.40	4.640	46.40	n/a		
S961005289	A	Thallium - ICP-Acid Digest	ug/g	86.80	< 2.00e-01	92.90	< 8.52e1	n/a	n/a	81.40	81.40	4.640	46.40	n/a		
S961005289	A	Vanadium - ICP-Acid Digest	ug/g	86.10	< 5.00e-02	< 2.32e+02	< 2.13e1	n/a	n/a	88.20	88.20	92.80	46.40	n/a		
S961005289	A	Zinc - ICP-Acid Digest	ug/g	88.20	< 5.00e-02	23.20	< 2.13e1	n/a	n/a	93.70	93.70	232.0	46.40	n/a		
S961005289	A	Zirconium - ICP-Acid Digest	ug/g	88.20	< 7.90e-02	16.90	14.50	15.70	15.3	90.60	90.60	4.640	46.40	n/a		
S961005292	W	Acetate by IC-DIONEX 4000/4500	ug/g	88.71	< 2.00e-02	1.02e+03	1.09e+03	1.05e+03	6.64	112.9	112.9	141.0	46.40	n/a		
S961005292	W	Formate by IC-DIONEX 4000/4500	ug/g	93.33	< 2.10e-02	1.42e+03	1.58e+03	1.50e+03	10.7	97.50	97.50	148.1	46.40	n/a		
S961005292	W	Fluoride by IC-DIONEX 4000/4500	ug/g	99.83	< 1.20e-02	1.75e+03	1.13e+03	1.08e+03	10.2	92.54	92.54	84.62	46.40	n/a		
S961005292	W	Chloride by IC-DIONEX 4000/4500	ug/g	104.7	< 1.70e-02	4.79e+03	4.76e+03	4.76e+03	0.21	103.9	103.9	119.8	46.40	n/a		
S961005292	W	Nitrite-IC - Dionex 4000/4500	ug/g	101.1	< 1.00e-01	6.26e+04	6.51e+04	6.39e+04	3.92	110.0	110.0	761.4	46.40	n/a		
S961005292	W	Bromide by Ion Chromatograph	ug/g	97.45	< 1.25e-01	< 8.81e+02	< 9.41e2	n/a	n/a	97.45	97.45	881.5	46.40	n/a		
S961005292	W	Nitrate by IC-DIONEX 4000/4500	ug/g	100.8	1.46e-01	1.04e+05	1.02e+05	1.03e+05	1.94	108.8	108.8	979.9	46.40	n/a		
S961005292	W	Phosphate by IC-DIONEX 4000/4500	ug/g	98.53	< 1.20e-01	3.50e+03	4.17e+03	3.84e+03	17.5	99.08	99.08	846.2	46.40	n/a		
S961005292	W	Sulfate by IC-DIONEX 4000/4500	ug/g	98.73	< 1.38e-01	1.29e+04	1.29e+04	1.29e+04	0.00	99.21	99.21	972.9	46.40	n/a		
S961005292	W	Oxalate by IC-DIONEX 4000/4500	ug/g	105.7	< 1.05e-01	1.04e+04	9.77e+03	1.01e+04	6.25	106.4	106.4	740.5	46.40	n/a		

Table 1. Data Summary Report
AN-104

CORE NUMBER: 163
SEGMENT #: 18

SEGMENT PORTION: U Upper Half of Segment

Sample#	R#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count	Err%
S961005769	619	Bulk Density of Sample	g/mL		n/a	1.590	n/a	n/a	n/a	n/a	5.00e-01	n/a	n/a
S961005772		PSC Exotherm using Nettler	Joules/g	91.39	n/a	23.60	35.20	21.55	19.0	n/a	n/a	n/a	n/a
S961005772		PSC Exotherm Dry, Calculated	Joules/g Dry		n/a	40.20	39.70	36.70	19.1	n/a	n/a	n/a	n/a
S961005772		% Water by TGA using Nettler	%	92.86	n/a	40.95	41.57	41.26	1.50	n/a	n/a	n/a	n/a
S961005772	F	Potassium - ICP-Fusion	ug/g	< 5.00e-01	7.22e+06			n/a	n/a	n/a	1.02e+04	n/a	n/a
S961005777	F	Nickel - ICP-Fusion	ug/g	100.8	1.77e-01	2.36e+02	1.20e+05	7.18e+04	134	n/a	412.0	n/a	n/a
S961005777	F	Silver - ICP-Fusion	ug/g	100.2	< 1.00e-02	< 1.98e-02	< 1.98e-02	n/a	n/a	n/a	205.0	n/a	n/a
S961005777	F	Aluminum - ICP-Fusion	ug/g	96.60	< 5.00e-02	2.59e+04	1.89e+04	2.24e+04	31.2	n/a	2.05e+03	n/a	n/a
S961005777	F	Arsenic - ICP-Fusion	ug/g	103.4	< 1.00e-01	< 2.05e+03	< 1.98e-03	n/a	n/a	n/a	1.02e+03	n/a	n/a
S961005777	F	Boron - ICP-Fusion	ug/g	101.4	< 5.00e-02	< 1.03e+03	< 9.92e-02	n/a	n/a	n/a	1.02e+03	n/a	n/a
S961005777	F	Barium - ICP-Fusion	ug/g	101.2	< 5.00e-03	< 1.03e+03	< 9.92e-01	n/a	n/a	n/a	102.0	n/a	n/a
S961005777	F	Beryllium - ICP-Fusion	ug/g	103.2	< 1.00e-01	< 2.05e+03	< 1.98e-03	n/a	n/a	n/a	2.05e+03	n/a	n/a
S961005777	F	Bismuth - ICP-Fusion	ug/g	103.2	< 1.00e-01	< 2.05e+03	< 9.92e-01	n/a	n/a	n/a	2.05e+03	n/a	n/a
S961005777	F	Calcium - ICP-Fusion	ug/g	100.6	< 5.00e-03	< 1.03e+03	< 1.98e-03	n/a	n/a	n/a	102.0	n/a	n/a
S961005777	F	Cadmium - ICP-Fusion	ug/g	101.0	< 1.00e-01	< 2.05e+03	< 9.92e-01	n/a	n/a	n/a	2.05e+03	n/a	n/a
S961005777	F	Cerium - ICP-Fusion	ug/g	100.8	< 1.00e-01	< 2.05e+03	< 1.98e-03	n/a	n/a	n/a	2.05e+03	n/a	n/a
S961005777	F	Cobalt - ICP-Fusion	ug/g	102.2	< 2.00e-02	< 4.10e+02	< 3.97e-02	n/a	n/a	n/a	412.0	n/a	n/a
S961005777	F	Chromium - ICP-Fusion	ug/g	101.8	< 1.00e-02	1.37e+03	1.11e+03	1.24e+03	21.0	n/a	205.0	n/a	n/a
S961005777	F	Copper - ICP-Fusion	ug/g	105.8	< 1.00e-02	< 2.05e+03	< 1.98e-02	n/a	n/a	n/a	205.0	n/a	n/a
S961005777	F	Iron - ICP-Fusion	ug/g	101.2	< 5.00e-02	< 1.03e+03	< 9.92e-02	n/a	n/a	n/a	1.02e+03	n/a	n/a
S961005777	F	Lanthanum - ICP-Fusion	ug/g	102.4	< 5.00e-02	< 1.03e+03	< 9.92e-02	n/a	n/a	n/a	1.02e+03	n/a	n/a
S961005777	F	Lithium - ICP-Fusion	ug/g	102.2	< 1.00e-02	< 2.05e+03	< 1.98e-02	n/a	n/a	n/a	205.0	n/a	n/a
S961005777	F	Magnesium - ICP-Fusion	ug/g	97.00	< 1.00e-01	< 2.05e+03	< 1.98e-03	n/a	n/a	n/a	2.05e+03	n/a	n/a
S961005777	F	Manganese - ICP-Fusion	ug/g	99.00	< 1.00e-02	< 2.05e+03	325.0	n/a	n/a	n/a	205.0	n/a	n/a
S961005777	F	Molybdenum - ICP-Fusion	ug/g	102.2	< 5.00e-02	< 1.03e+03	< 9.92e-02	n/a	n/a	n/a	1.02e+03	n/a	n/a
S961005777	F	Sodium - ICP-Fusion	ug/g	99.00	2.040	3.14e+05	2.76e+05	2.95e+05	12.9	n/a	2.05e+03	n/a	n/a
S961005777	F	Neodymium - ICP-Fusion	ug/g	103.0	< 1.00e-01	< 2.05e+03	< 1.98e-03	n/a	n/a	n/a	2.05e+03	n/a	n/a
S961005777	F	Phosphorus - ICP-Fusion	ug/g	99.40	< 2.00e-01	< 4.10e+03	< 3.97e-03	n/a	n/a	n/a	4.12e+03	n/a	n/a
S961005777	F	Lead - ICP-Fusion	ug/g	101.0	< 1.00e-01	< 2.05e+03	< 1.98e-03	n/a	n/a	n/a	2.05e+03	n/a	n/a
S961005777	F	Antimony - ICP-Fusion	ug/g	98.60	< 1.00e-01	7.84e+03	6.45e+03	7.14e+03	19.5	n/a	2.05e+03	n/a	n/a
S961005777	F	Selenium - ICP-Fusion	ug/g	97.40	< 2.00e-02	< 1.23e+03	< 1.19e-03	n/a	n/a	n/a	1.02e+03	n/a	n/a
S961005777	F	Silicon - ICP-Fusion	ug/g	98.20	< 5.00e-02	< 1.03e+03	< 9.92e-03	n/a	n/a	n/a	2.05e+03	n/a	n/a
S961005777	F	Samarium - ICP-Fusion	ug/g	99.00	< 1.00e-01	< 2.05e+03	< 1.98e-03	n/a	n/a	n/a	2.05e+03	n/a	n/a
S961005777	F	Strontium - ICP-Fusion	ug/g	99.40	< 1.00e-02	< 2.05e+03	< 1.98e-02	n/a	n/a	n/a	205.0	n/a	n/a
S961005777	F	Titanium - ICP-Fusion	ug/g	99.60	< 2.00e-02	< 2.05e+03	< 1.98e-02	n/a	n/a	n/a	205.0	n/a	n/a
S961005777	F	Thallium - ICP-Fusion	ug/g	96.40	< 2.00e-01	< 4.10e+03	< 3.97e-03	n/a	n/a	n/a	4.12e+03	n/a	n/a
S961005777	F	Uranium - ICP-Fusion	ug/g	97.60	< 5.00e-01	< 1.03e+04	< 9.92e-03	n/a	n/a	n/a	1.02e+04	n/a	n/a
S961005777	F	Vanadium - ICP-Fusion	ug/g	102.0	< 5.00e-02	< 2.05e+03	< 9.92e-02	n/a	n/a	n/a	1.02e+03	n/a	n/a
S961005777	F	Zinc - ICP-Fusion	ug/g	102.8	< 1.00e-02	< 2.05e+03	445.0	n/a	n/a	n/a	205.0	n/a	n/a
S961005777	F	Zirconium - ICP-Fusion	ug/g	100.4	< 1.00e-02	< 2.05e+03	< 1.98e-02	n/a	n/a	n/a	205.0	n/a	n/a
S961005778	A	Silver - ICP-Acid Digest	ug/g	81.20	< 1.00e-02	14.40	14.90	14.65	3.41	n/a	4.800	n/a	n/a
S961005778	A	Aluminum - ICP-Acid Digest	ug/g	93.20	6.80e-02	1.78e+04	1.80e+04	1.79e+04	1.12	n/a	24.00	n/a	n/a
S961005778	A	Arsenic - ICP-Acid Digest	ug/g	97.40	< 1.00e-01	< 48.10	44.54e1	n/a	n/a	n/a	48.00	n/a	n/a

Sample#	R.#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S961005778	A	Boron - ICP-Acid Digest	ug/g	93.80	4.82e-01	1.24e+02	104.0	114.0	17.5	n/a	24.00	n/a
S961005778	A	Barium - ICP-Acid Digest	ug/g	92.20	< 5.00e-02	< 24.10	< 2.7e1	n/a	n/a	n/a	24.00	n/a
S961005778	A	Beryllium - ICP-Acid Digest	ug/g	97.40	< 5.00e-03	< 2.410	< 2.2e0	n/a	n/a	n/a	2.400	n/a
S961005778	A	Bismuth - ICP-Acid Digest	ug/g	93.80	< 1.00e-01	48.10	< 4.54e1	n/a	n/a	n/a	48.00	n/a
S961005778	A	Calcium - ICP-Acid Digest	ug/g	90.60	< 1.00e-01	2.71e+02	273.0	272.0	0.74	n/a	48.00	n/a
S961005778	A	Cadmium - ICP-Acid Digest	ug/g	91.40	< 5.00e-03	6.470	7.240	6.855	11.2	n/a	2.400	n/a
S961005778	A	Cerium - ICP-Acid Digest	ug/g	95.20	< 1.00e-01	< 48.10	< 4.54e1	n/a	n/a	n/a	48.00	n/a
S961005778	A	Cobalt - ICP-Acid Digest	ug/g	93.80	< 1.00e-02	< 9.620	< 9.09e0	n/a	n/a	n/a	9.620	n/a
S961005778	A	Chromium - ICP-Acid Digest	ug/g	91.60	< 1.00e-02	9.87e+02	1.01e+03	998.5	2.30	n/a	4.800	n/a
S961005778	A	Copper - ICP-Acid Digest	ug/g	93.60	< 1.00e-02	< 4.810	< 4.54e0	n/a	n/a	n/a	4.800	n/a
S961005778	A	Iron - ICP-Acid Digest	ug/g	96.40	< 5.00e-02	1.07e+02	154.0	130.5	36.0	n/a	24.00	n/a
S961005778	A	Potassium - ICP-Acid Digest	ug/g	96.40	< 5.00e-01	3.15e+03	3.15e+03	3.15e+03	0.00	n/a	24.00	n/a
S961005778	A	Lanthanum - ICP-Acid Digest	ug/g	95.40	< 5.00e-02	< 24.10	< 2.7e1	n/a	n/a	n/a	24.00	n/a
S961005778	A	Lithium - ICP-Acid Digest	ug/g	96.20	< 1.00e-02	15.10	21.50	18.30	35.0	n/a	4.800	n/a
S961005778	A	Magnesium - ICP-Acid Digest	ug/g	86.80	< 1.00e-01	< 48.10	< 4.54e1	n/a	n/a	n/a	48.00	n/a
S961005778	A	Molybdenum - ICP-Acid Digest	ug/g	89.40	< 5.00e-02	36.80	38.40	37.60	4.26	n/a	4.800	n/a
S961005778	A	Nickel - ICP-Acid Digest	ug/g	106.8	6.01e-01	1.92e+05	1.94e+05	1.93e+05	1.04	n/a	48.00	n/a
S961005778	A	Neodymium - ICP-Acid Digest	ug/g	93.60	< 1.00e-01	< 48.10	< 4.54e1	n/a	n/a	n/a	48.00	n/a
S961005778	A	Nickel - ICP-Acid Digest	ug/g	94.20	< 2.00e-02	39.70	43.80	41.75	9.82	n/a	96.20	n/a
S961005778	A	Lead - ICP-Acid Digest	ug/g	84.80	< 2.00e-01	1.27e+03	1.26e+03	1.26e+03	0.79	n/a	48.00	n/a
S961005778	A	Phosphorus - ICP-Acid Digest	ug/g	88.80	< 1.00e-01	< 48.10	< 4.54e1	n/a	n/a	n/a	48.00	n/a
S961005778	A	Sulfur - ICP-Acid Digest	ug/g	81.80	< 1.00e-01	5.43e+03	5.49e+03	5.46e+03	1.10	n/a	48.00	n/a
S961005778	A	Antimony - ICP-Acid Digest	ug/g	81.20	< 6.00e-02	< 28.90	< 2.7e1	n/a	n/a	n/a	28.90	n/a
S961005778	A	Selenium - ICP-Acid Digest	ug/g	87.80	< 1.00e-01	< 48.10	< 4.54e1	n/a	n/a	n/a	48.00	n/a
S961005778	A	Silicon - ICP-Acid Digest	ug/g	122.4	2.58e-01	3.77e+02	292.0	334.5	25.4	n/a	24.00	n/a
S961005778	A	Samarium - ICP-Acid Digest	ug/g	92.00	< 1.00e-02	< 48.10	< 4.54e1	n/a	n/a	n/a	48.00	n/a
S961005778	A	Strontium - ICP-Acid Digest	ug/g	92.00	< 1.00e-02	< 4.810	< 4.54e0	n/a	n/a	n/a	4.800	n/a
S961005778	A	Titanium - ICP-Acid Digest	ug/g	75.00	< 1.00e-02	< 4.810	< 4.54e0	n/a	n/a	n/a	4.800	n/a
S961005778	A	Thallium - ICP-Acid Digest	ug/g	87.60	< 2.00e-01	< 96.20	< 9.09e1	n/a	n/a	n/a	96.20	n/a
S961005778	A	Uranium - ICP-Acid Digest	ug/g	89.80	< 5.00e-02	2.64e+02	282.0	273.0	6.59	n/a	24.00	n/a
S961005778	A	Vanadium - ICP-Acid Digest	ug/g	91.60	< 5.00e-02	< 24.10	< 2.7e1	n/a	n/a	n/a	24.00	n/a
S961005778	A	Zinc - ICP-Acid Digest	ug/g	90.00	< 2.00e-02	8.500	9.960	9.280	15.8	n/a	4.800	n/a
S961005778	A	Zirconium - ICP-Acid Digest	ug/g	82.60	< 1.00e-02	20.40	20.70	20.55	1.46	n/a	4.800	n/a
S961005779	W	Ascorbate by IC-DIONEX 4000/4500	ug/g	100.0	< 2.00e-02	6.08e+02	554.0	581.1	9.29	101.6	173.8	n/a
S961005779	W	Formate by IC-DIONEX 4000/4500	ug/g	95.83	< 2.10e-02	8.80e+02	881.0	860.4	4.53	90.83	182.5	n/a
S961005779	W	Fluoride-IC-DIONEX 4000/4500	ug/g	102.5	< 1.20e-02	6.52e+02	669.0	660.4	2.57	108.3	53.40	n/a
S961005779	W	Chloride-IC-DIONEX 4000/4500	ug/g	103.3	< 1.70e-02	3.86e+03	4.24e+03	4.05e+03	9.38	107.1	75.66	n/a
S961005779	W	Nitrite-IC - Dionex 4000/4500	ug/g	108.3	< 1.08e-01	6.17e+04	5.94e+04	6.06e+04	3.80	120.3	480.7	n/a
S961005779	W	Bromide by Ion Chromatograph	ug/g	98.82	< 1.25e-01	6.68e+02	635.0	651.5	5.07	96.60	556.3	n/a
S961005779	W	Nitrate by IC-DIONEX 4000/4500	ug/g	98.82	1.94e-01	1.16e+05	1.52e+05	1.34e+05	26.9	113.3	618.7	n/a
S961005779	W	Phosphate-IC-DIONEX 4000/4500	ug/g	97.98	< 1.20e-01	3.30e+03	3.22e+03	3.30e+03	4.85	100.7	534.0	n/a
S961005779	W	Sulfate by IC-DIONEX 4000/4500	ug/g	104.9	< 1.38e-01	1.65e+04	1.66e+04	1.65e+04	0.60	103.6	614.2	n/a
S961005779	W	Oxalate-IC-DIONEX 4000/4500	ug/g	98.69	< 1.05e-01	6.13e+03	6.14e+03	6.13e+03	0.16	100.6	467.5	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%
S961005770		Bulk Density of Sample	g/mL	n/a	n/a	1.710	n/a	n/a	n/a	n/a	5.00e-01	n/a
S961005773		PSC Exotherm using Mettler	Joules/g	91.39	n/a	22.10	23.60	22.85	6.56	n/a	n/a	n/a
S961005773		PSC Exotherm DRY Calculated	Joules/g	n/a	n/a	37.10	39.60	38.35	6.52	n/a	n/a	n/a
S961005773		% Water by TGA using Mettler	Joules/g Dry	99.86	n/a	39.90	40.85	40.38	2.35	n/a	n/a	n/a
S961005781		Potassium - ICP-Fusion	ug/g	102.6	< 5.00e-01	8.60e+03	2.88e+03	5.74e+03	99.7	94.90	1.06e+04	n/a
S961005781		Nickel - ICP-Fusion	ug/g	100.8	1.77e-01	8.60e+03	8.60e+03	n/a	n/a	94.90	424.0	n/a
S961005781		Silver - ICP-Fusion	ug/g	100.2	< 5.00e-02	2.13e+02	< 2.13e+02	< 2.13e+02	26.50	213.0	n/a	n/a
S961005781		Aluminum - ICP-Fusion	ug/g	98.60	< 5.00e-02	2.14e+04	2.26e+04	2.20e+04	5.45	84.00	1.06e+03	n/a
S961005781		Arsenic - ICP-Fusion	ug/g	103.4	< 5.00e-02	< 1.3e+03	< 2.14e3	n/a	n/a	98.00	1.3e+03	n/a
S961005781		Boron - ICP-Fusion	ug/g	101.2	< 5.00e-02	< 1.06e+03	< 1.07e3	n/a	n/a	91.70	1.06e+03	n/a
S961005781		Beryllium - ICP-Fusion	ug/g	101.4	< 5.00e-03	< 1.06e+03	< 1.07e3	n/a	n/a	90.80	1.06e+03	n/a
S961005781		Bismuth - ICP-Fusion	ug/g	102.2	< 5.00e-01	< 1.3e+03	< 1.4e3	n/a	n/a	92.80	106.0	n/a
S961005781		Calcium - ICP-Fusion	ug/g	103.2	< 5.00e-01	< 2.13e+03	< 2.14e3	n/a	n/a	93.20	2.13e+03	n/a
S961005781		Cadmium - ICP-Fusion	ug/g	101.0	< 5.00e-03	< 1.06e+02	< 1.07e2	n/a	n/a	96.50	106.0	n/a
S961005781		Cerium - ICP-Fusion	ug/g	101.8	< 5.00e-02	< 2.13e+03	< 2.14e3	n/a	n/a	92.20	2.13e+03	n/a
S961005781		Cobalt - ICP-Fusion	ug/g	102.2	< 2.00e-02	< 2.6e+02	< 2.68e2	n/a	n/a	97.40	424.0	n/a
S961005781		Chromium - ICP-Fusion	ug/g	105.8	< 5.00e-02	< 1.3e+02	1.31e+03	1.26e+03	7.11	96.70	213.0	n/a
S961005781		Copper - ICP-Fusion	ug/g	101.2	< 5.00e-02	< 1.3e+02	339.0	n/a	n/a	94.40	213.0	n/a
S961005781		Iron - ICP-Fusion	ug/g	101.2	< 5.00e-02	< 1.89e+03	3.62e+03	2.76e+03	62.8	86.70	1.06e+03	n/a
S961005781		Lanthanum - ICP-Fusion	ug/g	102.4	< 5.00e-02	< 1.06e+03	< 1.07e3	n/a	n/a	93.50	1.06e+03	n/a
S961005781		Lithium - ICP-Fusion	ug/g	102.2	< 1.00e-02	< 2.13e+02	< 2.14e2	n/a	n/a	88.50	213.0	n/a
S961005781		Magnesium - ICP-Fusion	ug/g	99.00	< 1.00e-01	< 2.13e+02	< 2.14e2	n/a	n/a	87.10	2.13e+03	n/a
S961005781		Manganese - ICP-Fusion	ug/g	97.00	< 1.00e-02	< 2.13e+02	< 2.14e2	n/a	n/a	91.30	213.0	n/a
S961005781		Molybdenum - ICP-Fusion	ug/g	102.2	< 5.00e-02	< 1.06e+03	< 1.07e3	n/a	n/a	97.30	1.06e+03	n/a
S961005781		Sodium - ICP-Fusion	ug/g	99.00	2.040	< 1.3e+03	3.12e+05	3.15e+05	1.90	34.80	2.13e+03	n/a
S961005781		Neodymium - ICP-Fusion	ug/g	103.0	< 1.00e-01	< 2.13e+03	< 2.14e3	n/a	n/a	93.20	2.13e+03	n/a
S961005781		Phosphorus - ICP-Fusion	ug/g	99.40	< 2.00e-01	< 2.6e+03	< 2.68e3	n/a	n/a	100.0	4.24e+03	n/a
S961005781		Lead - ICP-Fusion	ug/g	98.60	< 1.00e-01	< 2.13e+03	< 2.14e3	n/a	n/a	97.20	2.13e+03	n/a
S961005781		Sulfur - ICP-Fusion	ug/g	97.40	< 5.00e-02	< 1.3e+03	7.31e+03	7.10e+03	6.06	95.10	2.13e+03	n/a
S961005781		Antimony - ICP-Fusion	ug/g	97.00	< 5.00e-02	< 2.13e+03	< 2.14e3	n/a	n/a	92.40	1.28e+03	n/a
S961005781		Selenium - ICP-Fusion	ug/g	98.20	< 5.00e-02	< 1.26e+03	1.66e+03	1.46e+03	27.4	94.80	1.28e+03	n/a
S961005781		Silicon - ICP-Fusion	ug/g	99.00	< 1.00e-01	< 2.13e+03	< 2.14e3	n/a	n/a	92.10	2.13e+03	n/a
S961005781		Strontium - ICP-Fusion	ug/g	99.40	< 1.00e-02	< 2.13e+02	< 2.14e2	n/a	n/a	90.30	213.0	n/a
S961005781		Titanium - ICP-Fusion	ug/g	99.60	< 1.00e-02	< 2.13e+02	< 2.14e2	n/a	n/a	92.40	213.0	n/a
S961005781		Thallium - ICP-Fusion	ug/g	96.40	< 2.00e-01	< 2.6e+03	< 2.68e3	n/a	n/a	90.70	4.24e+03	n/a
S961005781		Uranium - ICP-Fusion	ug/g	97.60	< 5.00e-01	< 1.06e+04	< 1.07e4	n/a	n/a	88.00	1.06e+04	n/a
S961005781		Vanadium - ICP-Fusion	ug/g	102.0	< 5.00e-02	< 1.06e+03	< 1.07e3	n/a	n/a	95.80	1.06e+03	n/a
S961005781		Zinc - ICP-Fusion	ug/g	100.8	< 1.00e-02	< 2.13e+02	< 2.14e2	n/a	n/a	99.80	213.0	n/a
S961005781		Zirconium - ICP-Fusion	ug/g	100.4	< 2.82e-02	< 2.82e+02	2.15e+02	n/a	n/a	89.69	3.30e+02	1.55e+02
S961005781		Alpha of Digested Solid	ug/g	81.20	< 6.80e-02	15.00	14.70	14.85	2.02	n/a	4.730	n/a
S961005783		Aluminum - ICP-Acid Digest	ug/g	93.20	6.80e-02	1.79e+04	1.73e+04	1.76e+04	3.41	n/a	23.70	n/a
S961005783		Silver - ICP-Acid Digest	ug/g	97.40	< 1.00e-01	< 47.40	< 47.40	< 47.40	n/a	n/a	47.30	n/a
S961005783		Arsenic - ICP-Acid Digest	ug/g	93.80	4.82e-01	95.80	85.00	90.40	11.9	n/a	23.70	n/a
S961005783		Boron - ICP-Acid Digest	ug/g	92.20	< 5.00e-02	< 23.70	< 23.70	< 23.70	n/a	n/a	23.70	n/a
S961005783		Barium - ICP-Acid Digest	ug/g	97.40	< 5.00e-03	< 2.370	< 2.360	n/a	n/a	n/a	2.370	n/a
S961005783		Beryllium - ICP-Acid Digest	ug/g	93.80	< 1.00e-01	< 47.40	< 47.40	n/a	n/a	n/a	47.30	n/a

Sample#	R#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S961005783	A	Calcium - ICP-Acid Digest	ug/g	90.60	< 1.00e-01	2.88e+02	286.0	287.0	0.70	n/a	47.30	n/a
S961005783	A	Calcium - ICP-Acid Digest	ug/g	91.40	< 1.00e-03	6.130	6.480	6.305	5.55	n/a	2.370	n/a
S961005783	A	Cerium - ICP-Acid Digest	ug/g	95.20	< 1.00e-01	< 4.740	< 4.72e1	n/a	n/a	n/a	47.30	n/a
S961005783	A	Cobalt - ICP-Acid Digest	ug/g	93.80	< 2.00e-02	< 9.480	< 9.45e0	n/a	n/a	n/a	9.490	n/a
S961005783	A	Chromium - ICP-Acid Digest	ug/g	91.60	< 1.00e-02	1.02e+03	1.01e+03	1.02e+03	0.99	n/a	4.730	n/a
S961005783	A	Copper - ICP-Acid Digest	ug/g	93.60	1.10e-02	< 4.740	< 4.72e0	77.75	n/a	n/a	4.730	n/a
S961005783	A	Iron - ICP-Acid Digest	ug/g	96.40	< 5.00e-02	77.80	77.70	77.75	0.13	n/a	23.70	n/a
S961005783	A	Potassium - ICP-Acid Digest	ug/g	96.40	< 5.00e-01	3.20e+03	3.06e+03	3.13e+03	4.47	n/a	237.0	n/a
S961005783	A	Lanthanum - ICP-Acid Digest	ug/g	95.40	< 5.00e-02	< 23.70	< 2.36e1	n/a	n/a	n/a	23.70	n/a
S961005783	A	Lithium - ICP-Acid Digest	ug/g	96.20	< 1.00e-02	< 4.740	< 4.82e0	n/a	n/a	n/a	4.730	n/a
S961005783	A	Magnesium - ICP-Acid Digest	ug/g	86.80	< 1.00e-01	< 4.740	< 4.72e1	12.90	0.00	n/a	4.730	n/a
S961005783	A	Manganese - ICP-Acid Digest	ug/g	89.40	< 1.00e-02	12.90	12.90	12.90	0.00	n/a	4.730	n/a
S961005783	A	Molybdenum - ICP-Acid Digest	ug/g	80.80	< 5.00e-02	38.00	37.50	37.75	1.32	n/a	23.70	n/a
S961005783	A	Sodium - ICP-Acid Digest	ug/g	106.8	6.01e-01	1.96e+05	1.97e+05	1.96e+05	0.51	n/a	47.30	n/a
S961005783	A	Niobium - ICP-Acid Digest	ug/g	93.60	< 1.00e-01	< 4.740	< 4.72e1	n/a	n/a	n/a	47.30	n/a
S961005783	A	Nickel - ICP-Acid Digest	ug/g	94.20	< 2.00e-02	36.80	38.70	37.75	5.03	n/a	9.490	n/a
S961005783	A	Phosphorus - ICP-Acid Digest	ug/g	84.80	< 2.00e-01	1.22e+03	1.33e+03	1.28e+03	8.63	n/a	94.90	n/a
S961005783	A	Lead - ICP-Acid Digest	ug/g	83.80	< 1.00e-01	< 4.740	< 4.72e1	n/a	n/a	n/a	47.30	n/a
S961005783	A	Sulfur - ICP-Acid Digest	ug/g	81.80	< 1.00e-01	5.59e+03	5.57e+03	5.58e+03	0.36	n/a	47.30	n/a
S961005783	A	Antimony - ICP-Acid Digest	ug/g	81.20	< 6.00e-02	< 28.50	< 2.83e1	n/a	n/a	n/a	28.40	n/a
S961005783	A	Selenium - ICP-Acid Digest	ug/g	87.80	< 1.00e-01	< 4.740	< 4.72e1	n/a	n/a	n/a	47.30	n/a
S961005783	A	Silicon - ICP-Acid Digest	ug/g	122.4	2.58e-01	6.75e+02	6.52e0	663.5	3.47	n/a	23.70	n/a
S961005783	A	Samarium - ICP-Acid Digest	ug/g	92.00	< 1.00e-01	< 4.740	< 4.72e1	n/a	n/a	n/a	47.30	n/a
S961005783	A	Strontium - ICP-Acid Digest	ug/g	92.00	< 1.00e-02	< 4.740	< 4.72e0	n/a	n/a	n/a	4.730	n/a
S961005783	A	Titanium - ICP-Acid Digest	ug/g	75.00	< 1.00e-02	< 4.740	< 4.72e0	n/a	n/a	n/a	4.730	n/a
S961005783	A	Thallium - ICP-Acid Digest	ug/g	87.60	< 2.00e-01	< 94.80	< 9.45e1	268.5	0.37	n/a	94.90	n/a
S961005783	A	Uranium - ICP-Acid Digest	ug/g	89.80	< 5.00e-01	2.68e+02	2.69e0	268.5	0.37	n/a	237.0	n/a
S961005783	A	Vanadium - ICP-Acid Digest	ug/g	91.60	< 5.00e-02	< 23.70	< 2.36e1	n/a	n/a	n/a	23.70	n/a
S961005783	A	Zinc - ICP-Acid Digest	ug/g	90.00	2.00e-02	8.510	8.530	8.520	0.23	n/a	4.730	n/a
S961005783	A	Acetate by IC-Dionex 4000/4500	ug/g	82.60	< 1.00e-02	19.90	19.80	19.85	0.50	n/a	4.730	n/a
S961005785	W	Formate by IC-Dionex 4000/4500	ug/g	100.0	< 2.00e-02	5.55e+02	489.0	521.9	12.6	105.6	175.9	n/a
S961005785	W	Fluoride-IC-Dionex 4000/4500	ug/g	95.80	< 2.10e-02	8.51e+02	799.0	824.9	6.30	92.50	184.7	n/a
S961005785	W	Chloride-IC-Dionex 4000/4500	ug/g	102.5	< 1.20e-02	6.75e+02	626.0	650.5	7.53	115.9	54.05	n/a
S961005785	W	Nitrite-IC - Dionex 4000/4500	ug/g	108.3	< 1.70e-02	3.83e+03	4.17e+03	4.00e+03	8.50	103.5	76.59	n/a
S961005785	W	Bromide by Ion Chromatograph	ug/g	94.57	< 1.25e-01	6.02e+04	6.39e+04	6.21e+04	5.96	120.5	486.6	n/a
S961005785	W	Nitrate by IC-Dionex 4000/4500	ug/g	98.82	< 1.94e-01	< 5.63e+02	< 5.21e2	n/a	n/a	97.45	563.0	n/a
S961005785	W	Nitrate by IC-Dionex 4000/4500	ug/g	98.82	< 1.94e-01	1.04e+05	1.02e+05	1.03e+05	1.94	115.5	626.2	n/a
S961005785	W	Phosphate-IC-Dionex 4000/4500	ug/g	97.98	< 1.20e-01	3.50e+03	3.43e+03	3.46e+03	2.02	98.35	520.5	n/a
S961005785	W	Sulfate by IC-Dionex 4000/4500	ug/g	104.9	< 1.38e-01	1.65e+04	1.63e+04	1.64e+04	1.22	104.1	621.6	n/a
S961005785	W	Oxalate-IC-Dionex 4000/4500	ug/g	98.69	< 1.05e-01	5.94e+03	5.56e+03	5.75e+03	6.61	99.06	472.9	n/a

Table 1. Data Summary Report
AN-104

CORE NUMBER: 163

SEGMENT #: 20

SEGMENT PORTION: U Upper Half of Segment

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S967005548	4	DSC Exotherm Dry, Calculated	Joules/g Dry		n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S967005548	4	DSC Exotherm on Perkin Elmer	Joules/g	95.36	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S967005548	4	% Water by TGA on Perkin Elmer	%	99.34	n/a	40.80	40.98	40.89	0.44	n/a	n/a	n/a
S967005552	5	Bulk Density of Sample	g/mL		n/a	1.630				n/a	5.00e-01	n/a
S967005556	5	Potassium - ICP-Fusion	ug/g	99.20	<5.00e-01	6.16e+06	n/a	n/a	n/a	n/a	9.24e+03	n/a
S967005556	5	Nickel - ICP-Fusion	ug/g	99.00	<1.31e-01	2.02e+03	4.27e+03	3.14e+03	71.5	n/a	370.0	n/a
S967005556	5	Silver - ICP-Fusion	ug/g	99.20	<1.00e-02	<1.85e+02	<1.94e2	n/a	n/a	n/a	185.0	n/a
S967005556	5	Aluminum - ICP-Fusion	ug/g	99.60	<5.00e-02	2.17e+04	1.75e+04	1.96e+04	21.4	n/a	924.0	n/a
S967005556	5	Arsenic - ICP-Fusion	ug/g	104.0	<1.00e-01	<1.85e+03	<1.94e3	n/a	n/a	n/a	1.85e+03	n/a
S967005556	5	Boron - ICP-Fusion	ug/g	100.8	<5.00e-02	<9.24e+02	<9.68e2	n/a	n/a	n/a	924.0	n/a
S967005556	5	Barium - ICP-Fusion	ug/g	104.0	<5.00e-02	<9.24e+02	<9.68e2	n/a	n/a	n/a	924.0	n/a
S967005556	5	Beryllium - ICP-Fusion	ug/g	102.4	<5.00e-03	< 92.40	<9.68e1	n/a	n/a	n/a	92.40	n/a
S967005556	5	Bismuth - ICP-Fusion	ug/g	105.0	<1.00e-01	<1.85e+03	<1.94e3	n/a	n/a	n/a	1.85e+03	n/a
S967005556	5	Calcium - ICP-Fusion	ug/g	99.60	<5.00e-03	< 92.40	<9.68e1	n/a	n/a	n/a	92.40	n/a
S967005556	5	Cadmium - ICP-Fusion	ug/g	100.0	<5.00e-03	< 92.40	<9.68e1	n/a	n/a	n/a	92.40	n/a
S967005556	5	Cerium - ICP-Fusion	ug/g	100.0	<1.00e-01	<1.85e+03	<1.94e3	n/a	n/a	n/a	1.85e+03	n/a
S967005556	5	Cobalt - ICP-Fusion	ug/g	100.6	<2.00e-02	<5.70e+02	<3.87e2	n/a	n/a	n/a	370.0	n/a
S967005556	5	Chromium - ICP-Fusion	ug/g	99.40	<1.00e-02	5.04e+03	1.38e+03	2.21e+03	75.1	n/a	185.0	n/a
S967005556	5	Copper - ICP-Fusion	ug/g	103.0	<1.00e-02	<1.85e+03	<1.94e2	n/a	n/a	n/a	924.0	n/a
S967005556	5	Iron - ICP-Fusion	ug/g	98.20	<5.00e-02	<9.24e+02	<9.68e2	n/a	n/a	n/a	924.0	n/a
S967005556	5	Lanthanum - ICP-Fusion	ug/g	100.8	<5.00e-02	<9.24e+02	<9.68e2	n/a	n/a	n/a	924.0	n/a
S967005556	5	Lithium - ICP-Fusion	ug/g	101.8	<1.00e-02	<1.85e+02	<1.94e2	n/a	n/a	n/a	185.0	n/a
S967005556	5	Magnesium - ICP-Fusion	ug/g	100.0	<1.00e-01	<1.85e+03	<1.94e3	n/a	n/a	n/a	1.85e+03	n/a
S967005556	5	Manganese - ICP-Fusion	ug/g	98.60	<1.00e-02	<1.85e+02	<1.94e2	n/a	n/a	n/a	185.0	n/a
S967005556	5	Molybdenum - ICP-Fusion	ug/g	102.1	6.80e-02	<9.24e+02	<9.68e2	n/a	n/a	n/a	924.0	n/a
S967005556	5	Sodium - ICP-Fusion	ug/g	100.0	<1.940	2.56e+05	2.43e+05	2.50e+05	5.21	n/a	924.0	n/a
S967005556	5	Neodymium - ICP-Fusion	ug/g	100.8	<1.00e-01	<1.85e+03	<1.94e3	n/a	n/a	n/a	1.85e+03	n/a
S967005556	5	Phosphorus - ICP-Fusion	ug/g	105.0	<2.00e-01	<3.70e+03	<3.87e3	n/a	n/a	n/a	3.70e+03	n/a
S967005556	5	Lead - ICP-Fusion	ug/g	96.60	<1.00e-01	<1.85e+03	<1.94e3	n/a	n/a	n/a	1.85e+03	n/a
S967005556	5	Sulfur - ICP-Fusion	ug/g	102.8	<1.00e-01	5.56e+03	5.47e+03	5.52e+03	1.63	n/a	1.11e+03	n/a
S967005556	5	Antimony - ICP-Fusion	ug/g	105.6	<6.00e-02	<1.11e+03	<1.16e3	n/a	n/a	n/a	1.85e+03	n/a
S967005556	5	Selenium - ICP-Fusion	ug/g	87.00	<1.00e-01	<1.85e+03	<1.94e3	n/a	n/a	n/a	1.85e+03	n/a
S967005556	5	Silicon - ICP-Fusion	ug/g	97.00	<5.00e-02	<9.24e+02	<9.68e2	n/a	n/a	n/a	924.0	n/a
S967005556	5	Samarium - ICP-Fusion	ug/g	104.2	<1.00e-01	<1.85e+03	<1.94e3	n/a	n/a	n/a	1.85e+03	n/a
S967005556	5	Strontium - ICP-Fusion	ug/g	103.6	<1.00e-02	<1.85e+02	<1.94e2	n/a	n/a	n/a	185.0	n/a
S967005556	5	Titanium - ICP-Fusion	ug/g	99.60	2.80e-02	<3.70e+03	<3.87e3	n/a	n/a	n/a	3.70e+03	n/a
S967005556	5	Thallium - ICP-Fusion	ug/g	103.2	<2.00e-01	<3.70e+03	<3.87e3	n/a	n/a	n/a	924.0	n/a
S967005556	5	Uranium - ICP-Fusion	ug/g	104.0	<5.00e-01	<9.24e+03	<9.68e3	n/a	n/a	n/a	924.0	n/a
S967005556	5	Vanadium - ICP-Fusion	ug/g	101.6	<5.00e-02	<9.24e+02	<9.68e2	n/a	n/a	n/a	924.0	n/a
S967005556	5	Zinc - ICP-Fusion	ug/g	101.8	<1.00e-02	<1.85e+02	<1.94e2	n/a	n/a	n/a	185.0	n/a
S967005556	5	Zirconium - ICP-Fusion	ug/g	101.4	1.70e-02	<1.85e+02	<1.94e2	n/a	n/a	n/a	185.0	n/a
S967005557	A	Silver - ICP-Acid Digest	ug/g	34.80	<1.00e-02	15.70	15.40	15.55	1.93	n/a	3.800	n/a
S967005557	A	Aluminum - ICP-Acid Digest	ug/g	91.20	1.01e-01	1.75e+04	1.79e+04	1.77e+04	2.26	n/a	19.00	n/a
S967005557	A	Arsenic - ICP-Acid Digest	ug/g	94.40	<1.00e-01	< 38.00	44.01e1	n/a	n/a	n/a	38.00	n/a

Sample#	R.#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec. %	Det Limit	Count Err%
S961005557	A	Boron - ICP-Acid Digest	ug/g	102.6	4.92e-01	1.67e+02	167.0	167.0	0.00	n/a	19.00	n/a
S961005557	A	Barium - ICP-Acid Digest	ug/g	90.20	< 5.00e-02	< 19.00	< 2.01e1	n/a	n/a	n/a	19.00	n/a
S961005557	A	Beryllium - ICP-Acid Digest	ug/g	94.00	< 5.00e-01	< 1.900	< 2.01e1	n/a	n/a	n/a	1.900	n/a
S961005557	A	Bismuth - ICP-Acid Digest	ug/g	92.20	< 1.00e-01	< 38.00	< 4.01e1	n/a	n/a	n/a	38.00	n/a
S961005557	A	Calcium - ICP-Acid Digest	ug/g	91.20	< 1.00e-01	3.59e+02	343.0	351.0	4.56	n/a	38.00	n/a
S961005557	A	Cadmium - ICP-Acid Digest	ug/g	90.40	< 5.00e-03	10.60	10.50	10.55	0.95	n/a	1.900	n/a
S961005557	A	Cerium - ICP-Acid Digest	ug/g	93.00	< 1.00e-01	< 38.00	< 4.01e1	n/a	n/a	n/a	38.00	n/a
S961005557	A	Cobalt - ICP-Acid Digest	ug/g	91.60	< 2.00e-02	< 7.590	< 8.02e0	n/a	n/a	n/a	7.600	n/a
S961005557	A	Chromium - ICP-Acid Digest	ug/g	91.00	< 1.00e-02	1.47e+03	1.45e+03	1.46e+03	1.37	n/a	3.800	n/a
S961005557	A	Copper - ICP-Acid Digest	ug/g	88.60	< 1.00e-02	4.390	4.060	4.225	7.81	n/a	3.800	n/a
S961005557	A	Iron - ICP-Acid Digest	ug/g	91.60	< 5.00e-02	1.04e+02	107.0	105.5	2.84	n/a	19.00	n/a
S961005557	A	Potassium - ICP-Acid Digest	ug/g	92.60	< 5.00e-01	3.07e+02	3.22e+03	3.14e+03	4.77	n/a	190.0	n/a
S961005557	A	Lanthanum - ICP-Acid Digest	ug/g	93.20	< 5.00e-02	< 19.00	< 2.01e1	n/a	n/a	n/a	19.00	n/a
S961005557	A	Lithium - ICP-Acid Digest	ug/g	91.80	< 5.00e-02	7.830	8.180	8.005	4.37	n/a	3.800	n/a
S961005557	A	Magnesium - ICP-Acid Digest	ug/g	85.00	< 1.00e-01	< 38.00	< 4.01e1	n/a	n/a	n/a	38.00	n/a
S961005557	A	Manganese - ICP-Acid Digest	ug/g	88.80	< 1.00e-02	15.30	15.10	15.20	1.32	n/a	19.00	n/a
S961005557	A	Molybdenum - ICP-Acid Digest	ug/g	89.80	< 5.00e-02	2.02e+05	2.02e+05	2.02e+05	0.00	n/a	38.00	n/a
S961005557	A	Sodium - ICP-Acid Digest	ug/g	106.8	7.46e-01	62.20	< 4.01e1	n/a	n/a	n/a	38.00	n/a
S961005557	A	Neodymium - ICP-Acid Digest	ug/g	91.60	< 1.00e-01	< 38.00	< 4.01e1	n/a	n/a	n/a	38.00	n/a
S961005557	A	Nickel - ICP-Acid Digest	ug/g	93.00	< 2.00e-02	58.30	58.30	60.25	6.47	n/a	7.600	n/a
S961005557	A	Phosphorus - ICP-Acid Digest	ug/g	91.80	< 1.00e-01	1.40e+03	1.61e+03	1.50e+03	14.0	n/a	76.00	n/a
S961005557	A	Lead - ICP-Acid Digest	ug/g	88.60	< 1.00e-01	< 38.00	166.0	n/a	n/a	n/a	38.00	n/a
S961005557	A	Sulfur - ICP-Acid Digest	ug/g	89.80	< 1.00e-01	5.16e+03	5.03e+03	5.10e+03	2.55	n/a	38.00	n/a
S961005557	A	Antimony - ICP-Acid Digest	ug/g	88.60	< 5.00e-02	< 22.80	< 2.01e1	n/a	n/a	n/a	22.80	n/a
S961005557	A	Selenium - ICP-Acid Digest	ug/g	86.20	< 1.00e-01	< 38.00	< 4.01e1	n/a	n/a	n/a	38.00	n/a
S961005557	A	Silicon - ICP-Acid Digest	ug/g	151.6	1.470	7.42e+02	625.0	683.5	17.1	n/a	19.00	n/a
S961005557	A	Samarium - ICP-Acid Digest	ug/g	89.40	< 1.00e-01	< 38.00	< 4.01e1	n/a	n/a	n/a	38.00	n/a
S961005557	A	Strontium - ICP-Acid Digest	ug/g	90.00	< 1.00e-02	< 3.800	< 4.01e0	n/a	n/a	n/a	3.800	n/a
S961005557	A	Titanium - ICP-Acid Digest	ug/g	81.60	< 1.00e-02	< 3.800	< 4.01e0	n/a	n/a	n/a	3.800	n/a
S961005557	A	Thallium - ICP-Acid Digest	ug/g	86.80	< 2.00e-01	< 75.90	< 8.02e1	n/a	n/a	n/a	76.00	n/a
S961005557	A	Uranium - ICP-Acid Digest	ug/g	86.10	< 5.00e-01	2.37e+02	235.0	236.0	0.85	n/a	190.0	n/a
S961005557	A	Vanadium - ICP-Acid Digest	ug/g	89.00	< 5.00e-02	< 19.00	< 2.01e1	n/a	n/a	n/a	19.00	n/a
S961005557	A	Zinc - ICP-Acid Digest	ug/g	88.20	7.90e-02	24.10	25.80	24.95	6.81	n/a	3.800	n/a
S961005557	A	Zirconium - ICP-Acid Digest	ug/g	90.80	< 1.00e-02	19.30	19.20	19.25	0.52	n/a	3.800	n/a
S961005558	W	Acetate by IC-DIONEX 4000/4500	ug/g	80.16	6.20e-02	4.84e+02	493.0	488.2	1.84	83.06	82.00	n/a
S961005558	W	Formate by IC-DIONEX 4000/4500	ug/g	95.83	< 1.20e-02	6.91e+02	738.0	714.5	6.58	98.33	86.12	n/a
S961005558	W	Fluoride-IC-DIONEX 4000/4500	ug/g	103.7	< 1.20e-02	8.92e+02	985.0	939.1	9.80	136.8	49.20	n/a
S961005558	W	Chloride-IC-DIONEX 4000/4500	ug/g	94.81	< 1.70e-01	5.03e+03	4.00e+03	3.92e+03	3.82	100.4	69.72	n/a
S961005558	W	Nitrite-IC - Dionex 4000/4500	ug/g	105.5	< 1.08e-01	6.15e+02	6.22e+04	6.12e+04	3.27	112.7	442.9	n/a
S961005558	W	Bromide by Ion Chromatograph	ug/g	97.96	< 1.25e-01	< 1.32e+02	< 4.94e2	n/a	n/a	93.04	512.6	n/a
S961005558	W	Nitrate by IC-DIONEX 4000/4500	ug/g	96.13	< 1.39e-01	1.40e+05	1.22e+05	1.31e+05	13.7	92.93	569.9	n/a
S961005558	W	Phosphate-IC-DIONEX 4000/4500	ug/g	98.35	< 1.20e-01	3.70e+03	4.07e+03	3.89e+03	9.52	100.6	492.0	n/a
S961005558	W	Sulfate by IC-DIONEX 4000/4500	ug/g	96.83	< 1.38e-01	1.44e+04	1.49e+04	1.46e+04	3.41	102.7	565.9	n/a
S961005558	W	Oxalate-IC-DIONEX 4000/4500	ug/g	98.31	< 1.05e-01	6.20e+03	6.80e+03	6.50e+03	9.23	102.8	430.5	n/a

L Lower Half of Segment: L Lower Half of Segment

Sample#	Rt#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T005549		DSC Exotherm DRY Calculated	Joules/g DRY		n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S96T005549		DSC Exotherm on Perkin Elmer	Joules/g	99.36	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S96T005549		% Water by TGA on Perkin Elmer	%	99.34	n/a	41.27	40.91	41.09	0.88	n/a	n/a	n/a
S96T005553		Bulk Density of Sample	g/mL		n/a	1.640				n/a	5.00e-01	n/a
S96T005559		F Potassium - ICP-Fusion	ug/g	99.20	<5.00e-01	6.33e+06	n/a	n/a	n/a	n/a	9.76e+03	n/a
S96T005559		F Nickel - ICP-Fusion	ug/g	99.20	<1.31e-01	1.47e+03	3.22e+03	2.34e+03	74.5	96.36	391.0	n/a
S96T005559		F Silver - ICP-Fusion	ug/g	99.20	<1.00e-02	<1.95e+02	<1.95e2	n/a	n/a	72.50	195.0	n/a
S96T005559		F Aluminum - ICP-Fusion	ug/g	99.60	<5.00e-02	1.67e+04	2.14e+04	1.90e+04	24.7	97.10	976.0	n/a
S96T005559		F Arsenic - ICP-Fusion	ug/g	104.0	<1.00e-01	<1.95e+03	<1.95e3	n/a	n/a	102.0	1.95e+03	n/a
S96T005559		F Boron - ICP-Fusion	ug/g	100.8	<5.00e-02	<9.77e+02	<9.73e2	n/a	n/a	97.60	976.0	n/a
S96T005559		F Beryllium - ICP-Fusion	ug/g	104.0	<5.00e-02	<9.77e+02	<9.73e2	n/a	n/a	<1.00	976.0	n/a
S96T005559		F Barium - ICP-Fusion	ug/g	102.4	<5.00e-03	< 97.70	<9.73e1	n/a	n/a	100.0	97.60	n/a
S96T005559		F Bismuth - ICP-Fusion	ug/g	99.60	<1.00e-01	<1.95e+03	<1.95e3	n/a	n/a	98.90	1.95e+03	n/a
S96T005559		F Calcium - ICP-Fusion	ug/g	100.0	<1.00e-01	<1.95e+03	<1.95e3	n/a	n/a	100.0	1.95e+03	n/a
S96T005559		F Cadmium - ICP-Fusion	ug/g	100.0	<5.00e-03	< 97.70	<9.73e1	n/a	n/a	< 97.30	97.60	n/a
S96T005559		F Cerium - ICP-Fusion	ug/g	100.0	<1.00e-01	<1.95e+03	<1.95e3	n/a	n/a	97.10	1.95e+03	n/a
S96T005559		F Cobalt - ICP-Fusion	ug/g	100.6	<2.00e-02	<5.91e+02	<5.89e2	n/a	n/a	97.20	391.0	n/a
S96T005559		F Chromium - ICP-Fusion	ug/g	99.40	<1.00e-02	1.10e+03	3.01e+03	2.06e+03	92.9	97.70	195.0	n/a
S96T005559		F Copper - ICP-Fusion	ug/g	98.20	<1.00e-02	<1.95e+02	<1.95e2	n/a	n/a	102.0	976.0	n/a
S96T005559		F Iron - ICP-Fusion	ug/g	103.0	<1.00e-02	<1.95e+02	<1.95e2	n/a	n/a	100.0	976.0	n/a
S96T005559		F Lanthanum - ICP-Fusion	ug/g	101.8	<5.00e-02	<1.95e+02	<1.95e2	n/a	n/a	100.0	976.0	n/a
S96T005559		F Lithium - ICP-Fusion	ug/g	100.8	<1.00e-02	<1.95e+02	<1.95e2	n/a	n/a	94.30	195.0	n/a
S96T005559		F Manganese - ICP-Fusion	ug/g	100.0	<1.00e-01	<1.95e+03	<1.95e3	n/a	n/a	96.10	1.95e+03	n/a
S96T005559		F Molybdenum - ICP-Fusion	ug/g	102.6	<6.80e-02	<1.95e+02	<1.95e2	n/a	n/a	97.90	195.0	n/a
S96T005559		F Sodium - ICP-Fusion	ug/g	100.0	1.940	2.41e+05	2.48e+05	2.44e+05	2.86	96.30	1.95e+03	n/a
S96T005559		F Neodymium - ICP-Fusion	ug/g	100.8	<1.00e-01	<1.95e+03	<1.95e3	n/a	n/a	102.0	1.95e+03	n/a
S96T005559		F Phosphorus - ICP-Fusion	ug/g	105.0	<2.00e-01	5.36e+03	<3.89e3	n/a	n/a	98.20	3.91e+03	n/a
S96T005559		F Lead - ICP-Fusion	ug/g	96.60	<1.00e-01	<1.95e+03	<1.95e3	n/a	n/a	98.00	1.95e+03	n/a
S96T005559		F Sulfur - ICP-Fusion	ug/g	102.8	<1.00e-01	3.97e+03	5.52e+03	4.74e+03	32.7	97.60	1.95e+03	n/a
S96T005559		F Antimony - ICP-Fusion	ug/g	105.0	<6.00e-02	<1.17e+03	<1.17e3	n/a	n/a	99.10	1.17e+03	n/a
S96T005559		F Selenium - ICP-Fusion	ug/g	87.00	<1.00e-01	<1.95e+03	<1.95e3	n/a	n/a	86.40	1.95e+03	n/a
S96T005559		F Silicon - ICP-Fusion	ug/g	97.00	<5.00e-02	<9.77e+02	<9.73e2	n/a	n/a	98.50	976.0	n/a
S96T005559		F Samarium - ICP-Fusion	ug/g	104.2	<1.00e-01	<1.95e+03	<1.95e3	n/a	n/a	103.0	1.95e+03	n/a
S96T005559		F Strontium - ICP-Fusion	ug/g	99.60	<2.80e-02	<1.95e+02	<1.95e2	n/a	n/a	101.0	195.0	n/a
S96T005559		F Tantalum - ICP-Fusion	ug/g	103.2	<2.00e-02	<1.95e+02	<1.95e2	n/a	n/a	95.80	195.0	n/a
S96T005559		F Thallium - ICP-Fusion	ug/g	103.2	<2.00e-01	<3.97e+03	<3.89e3	n/a	n/a	105.0	3.91e+03	n/a
S96T005559		F Uranium - ICP-Fusion	ug/g	104.0	<5.00e-01	<9.77e+03	<9.73e3	n/a	n/a	101.5	9.76e+03	n/a
S96T005559		F Vanadium - ICP-Fusion	ug/g	101.6	<5.00e-02	<9.77e+02	<9.73e2	n/a	n/a	100.0	976.0	n/a
S96T005559		F Zinc - ICP-Fusion	ug/g	101.8	<1.00e-02	<1.95e+02	<1.95e2	n/a	n/a	98.40	195.0	n/a
S96T005559		F Zirconium - ICP-Fusion	ug/g	101.4	<1.70e-02	<1.95e+02	<1.95e2	n/a	n/a	101.0	195.0	n/a
S96T005559		F Alpha of Digested Solid	ug/g	80.09	<2.80e-02	4.98e+02	2.49e+02	3.73e+02	66.7	67.41	3.30e+02	6.51e+01
S96T005560		A Silver - ICP-Acid Digest	ug/g	34.80	<1.01e-02	17.70	14.80	16.25	17.8	52.80	4.420	n/a
S96T005560		A Aluminum - ICP-Acid Digest	ug/g	91.20	<1.01e-01	1.88e+04	1.53e+04	1.70e+04	20.5	-2.020e2	22.20	n/a
S96T005560		A Arsenic - ICP-Acid Digest	ug/g	94.40	<1.00e-01	< 44.20	<3.73e1	n/a	n/a	95.40	44.20	n/a
S96T005560		A Boron - ICP-Acid Digest	ug/g	102.6	<4.93e-01	1.68e+02	156.0	162.0	7.41	85.80	22.20	n/a
S96T005560		A Barium - ICP-Acid Digest	ug/g	90.20	<5.00e-02	< 22.10	<1.87e1	n/a	n/a	89.00	22.20	n/a
S96T005560		A Beryllium - ICP-Acid Digest	ug/g	94.00	<5.00e-03	< 2.210	<1.87e0	n/a	n/a	91.80	2.220	n/a
S96T005560		A Bismuth - ICP-Acid Digest	ug/g	92.20	<1.00e-01	< 44.20	<3.73e1	n/a	n/a	91.60	44.20	n/a

Sample #	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk	Rec %	Det Limit	Count Err%
S961005560	A	Calcium - ICP-Acid Digest	ug/g	91.40	< 1.00e-01	2.96e+02	244.0	270.0	12.2	88.00	88.00	44.20	N/A
S961005560	A	Cadmium - ICP-Acid Digest	ug/g	90.40	< 5.00e-03	11.00	9.740	10.37	19.3	91.60	91.60	2.220	N/A
S961005560	A	Cerium - ICP-Acid Digest	ug/g	93.00	< 1.00e-01	< 44.20	< 3.72e1	N/A	N/A	N/A	N/A	44.20	N/A
S961005560	A	Cobalt - ICP-Acid Digest	ug/g	91.60	< 2.00e-02	8.850	< 7.46e0	N/A	N/A	92.20	92.20	8.840	N/A
S961005560	A	Chromium - ICP-Acid Digest	ug/g	91.00	< 1.00e-02	1.39e+03	1.12e+03	1.26e+03	21.5	68.40	68.40	4.420	N/A
S961005560	A	Copper - ICP-Acid Digest	ug/g	88.60	< 1.00e-02	4.420	4.380	N/A	N/A	86.80	86.80	4.420	N/A
S961005560	A	Iron - ICP-Acid Digest	ug/g	91.60	< 5.00e-02	1.71e+02	92.30	131.7	59.8	86.40	86.40	22.20	N/A
S961005560	A	Potassium - ICP-Acid Digest	ug/g	92.60	< 5.00e-01	3.35e+03	2.68e+03	3.02e+03	22.2	68.60	68.60	222.0	N/A
S961005560	A	Lanthanum - ICP-Acid Digest	ug/g	93.20	< 5.00e-02	8.390	< 1.87e1	N/A	N/A	92.60	92.60	22.20	N/A
S961005560	A	Lithium - ICP-Acid Digest	ug/g	85.00	< 1.00e-01	44.20	< 3.72e1	N/A	N/A	83.80	83.80	44.20	N/A
S961005560	A	Magnesium - ICP-Acid Digest	ug/g	88.80	< 1.00e-02	26.10	20.70	23.40	23.1	87.80	87.80	4.420	N/A
S961005560	A	Manganese - ICP-Acid Digest	ug/g	89.80	< 5.00e-02	40.60	33.10	36.85	20.4	89.60	89.60	22.20	N/A
S961005560	A	Molybdenum - ICP-Acid Digest	ug/g	106.8	< 7.46e-01	2.31e+05	1.83e+05	2.07e+05	23.2	-2.940e3	-2.940e3	44.20	N/A
S961005560	A	Sodium - ICP-Acid Digest	ug/g	91.60	< 1.00e-02	44.20	< 3.72e1	N/A	N/A	90.60	90.60	44.20	N/A
S961005560	A	Neodymium - ICP-Acid Digest	ug/g	93.00	< 2.00e-02	59.80	45.20	52.50	27.8	92.80	92.80	8.840	N/A
S961005560	A	Nickel - ICP-Acid Digest	ug/g	91.80	< 2.00e-01	6.21e+03	5.38e+03	5.80e+03	14.3	-1.810e1	-1.810e1	88.40	N/A
S961005560	A	Lead - ICP-Acid Digest	ug/g	88.60	< 1.00e-01	44.20	< 3.72e1	N/A	N/A	93.80	93.80	44.20	N/A
S961005560	A	Sulfur - ICP-Acid Digest	ug/g	89.80	< 1.00e-01	4.33e+03	3.52e+03	3.92e+03	20.6	28.00	28.00	44.20	N/A
S961005560	A	Antimony - ICP-Acid Digest	ug/g	88.60	< 6.00e-02	26.50	< 2.24e1	N/A	N/A	91.00	91.00	26.60	N/A
S961005560	A	Selenium - ICP-Acid Digest	ug/g	86.20	< 1.00e-01	44.20	< 3.72e1	N/A	N/A	88.60	88.60	44.20	N/A
S961005560	A	Silicon - ICP-Acid Digest	ug/g	131.6	1.470	8.82e+02	770.0	826.0	13.6	71.60	71.60	22.20	N/A
S961005560	A	Samarium - ICP-Acid Digest	ug/g	89.40	< 1.00e-02	44.20	< 3.72e1	N/A	N/A	89.20	89.20	44.20	N/A
S961005560	A	Strontium - ICP-Acid Digest	ug/g	90.00	< 1.00e-02	4.420	< 3.72e1	N/A	N/A	88.80	88.80	4.420	N/A
S961005560	A	Titanium - ICP-Acid Digest	ug/g	81.60	< 1.00e-02	4.420	< 3.72e1	N/A	N/A	81.00	81.00	4.420	N/A
S961005560	A	Thallium - ICP-Acid Digest	ug/g	86.80	< 2.00e-01	88.50	< 7.46e1	N/A	N/A	88.40	88.40	4.420	N/A
S961005560	A	Uranium - ICP-Acid Digest	ug/g	86.10	< 5.00e-01	3.53e+02	283.0	318.0	22.0	81.40	81.40	222.0	N/A
S961005560	A	Zinc - ICP-Acid Digest	ug/g	89.00	< 5.00e-02	22.10	< 1.87e1	N/A	N/A	89.40	89.40	22.20	N/A
S961005560	A	Zirconium - ICP-Acid Digest	ug/g	88.20	< 7.90e-02	27.20	19.60	25.00	17.6	90.40	90.40	4.420	N/A
S961005560	A	Acetate by IC-DIONEX 4000/4500	ug/g	90.80	< 1.00e-02	24.20	22.80	21.90	21.0	90.40	90.40	4.420	N/A
S961005561	W	Formate by IC-DIONEX 4000/4500	ug/g	80.16	6.20e-02	4.40e+02	459.0	449.2	4.23	111.3	111.3	76.38	N/A
S961005561	W	Fluoride by IC-DIONEX 4000/4500	ug/g	95.83	< 2.00e-02	6.36e+02	603.0	619.6	5.33	95.00	95.00	80.20	N/A
S961005561	W	Chloride by IC-DIONEX 4000/4500	ug/g	103.7	< 1.20e-02	3.70e+03	3.61e+03	3.22e+03	4.97	93.73	93.73	45.82	N/A
S961005561	W	Nitrate by IC-DIONEX 4000/4500	ug/g	94.81	< 1.70e-02	3.70e+03	3.61e+03	3.22e+03	2.73	102.3	102.3	64.91	N/A
S961005561	W	Nitrite by Ion Chromatograph	ug/g	105.5	< 1.08e-01	5.69e+04	5.61e+04	5.65e+04	1.42	115.1	115.1	477.3	N/A
S961005561	W	Bromide by Ion Chromatograph	ug/g	97.96	< 1.25e-01	44.77e+02	44.91e2	N/A	N/A	90.15	90.15	447.3	N/A
S961005561	W	Nitrate by IC-DIONEX 4000/4500	ug/g	96.13	< 1.39e-01	1.67e+05	1.73e+05	1.67e+05	7.19	71.04	71.04	530.9	N/A
S961005561	W	Phosphate by IC-DIONEX 4000/4500	ug/g	98.35	< 1.20e-01	1.59e+04	1.53e+04	1.56e+04	3.85	102.9	102.9	458.2	N/A
S961005561	W	Sulfate by IC-DIONEX 4000/4500	ug/g	96.83	< 1.38e-01	1.04e+04	1.05e+04	1.04e+04	0.96	101.7	101.7	527.1	N/A
S961005561	W	Oxalate by IC-DIONEX 4000/4500	ug/g	98.31	< 1.05e-01	8.44e+03	7.78e+03	8.11e+03	8.14	97.94	97.94	400.9	N/A

Table 1. Data Summary Report
AN-104

CORE NUMBER: 164

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%
S96T004772		DSC Exotherm Dry	Joules/g Dry	n/a	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S96T004772		DSC Exotherm on Perkin Elmer	Joules/g	95.96	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S96T004772		% Water by TGA on Perkin Elmer	%	99.07	n/a	41.31	43.60	42.45	5.39	n/a	n/a	n/a
S96T004795	F	Nickel - ICP-Fusion	ug/g	100.4	2.32e-01	5.82e+03	4.30e+03	5.06e+03	30.0	n/a	409.0	n/a
S96T004795	F	Silver - ICP-Fusion	ug/g	100.6	<2.04e-02	<2.04e+02	<2.01e2	n/a	95.30	101.0	204.0	n/a
S96T004795	F	Aluminum - ICP-Fusion	ug/g	100.4	<5.00e-01	2.28e+04	2.20e+04	2.24e+04	3.57	n/a	1.02e+03	n/a
S96T004795	F	Arsenic - ICP-Fusion	ug/g	100.5	<1.00e-01	<2.04e+03	<2.01e3	n/a	107.0	n/a	1.02e+03	n/a
S96T004795	F	Boron - ICP-Fusion	ug/g	100.8	<5.00e-02	<1.02e+03	<1.00e3	n/a	98.30	n/a	1.02e+03	n/a
S96T004795	F	Barium - ICP-Fusion	ug/g	101.8	<5.00e-01	<1.02e+03	<1.00e3	n/a	99.40	n/a	1.02e+03	n/a
S96T004795	F	Beryllium - ICP-Fusion	ug/g	103.2	<1.00e-01	<2.04e+03	<2.01e2	n/a	103.0	n/a	102.0	n/a
S96T004795	F	Blismuth - ICP-Fusion	ug/g	103.2	<1.00e-01	<2.04e+03	<2.01e2	n/a	104.0	n/a	2.04e+03	n/a
S96T004795	F	Calcium - ICP-Fusion	ug/g	100.6	<1.00e-01	<2.04e+03	<2.01e3	n/a	102.0	n/a	102.0	n/a
S96T004795	F	Cadmium - ICP-Fusion	ug/g	100.2	<5.00e-03	<1.02e+02	<1.00e2	n/a	104.0	n/a	2.04e+03	n/a
S96T004795	F	Cerium - ICP-Fusion	ug/g	99.40	<1.00e-01	<2.04e+03	<2.01e3	n/a	102.0	n/a	2.04e+03	n/a
S96T004795	F	Cobalt - ICP-Fusion	ug/g	101.8	<1.00e-02	<4.09e+02	<4.02e2	n/a	100.0	n/a	409.0	n/a
S96T004795	F	Chromium - ICP-Fusion	ug/g	101.8	<1.00e-02	<2.04e+03	<2.01e3	1.82e+03	4.93	n/a	102.0	n/a
S96T004795	F	Copper - ICP-Fusion	ug/g	104.8	<1.00e-02	<2.04e+03	<2.01e2	n/a	103.0	n/a	204.0	n/a
S96T004795	F	Iron - ICP-Fusion	ug/g	101.0	<5.00e-02	<1.02e+03	<1.00e3	n/a	101.0	n/a	1.02e+03	n/a
S96T004795	F	Lanthanum - ICP-Fusion	ug/g	104.2	<5.00e-02	<2.04e+03	<2.01e2	n/a	103.0	n/a	1.02e+03	n/a
S96T004795	F	Lithium - ICP-Fusion	ug/g	104.6	<1.00e-01	<2.04e+03	<2.01e2	n/a	100.0	n/a	204.0	n/a
S96T004795	F	Magnesium - ICP-Fusion	ug/g	98.20	<1.00e-02	<2.04e+03	<2.01e2	n/a	96.40	n/a	2.04e+03	n/a
S96T004795	F	Manganese - ICP-Fusion	ug/g	98.60	<1.00e-02	<2.04e+03	<2.01e2	n/a	97.40	n/a	204.0	n/a
S96T004795	F	Molybdenum - ICP-Fusion	ug/g	99.80	<5.00e-02	<1.02e+03	<1.00e3	n/a	102.0	n/a	1.02e+03	n/a
S96T004795	F	Sodium - ICP-Fusion	ug/g	98.80	2.600	2.48e+05	2.40e+05	2.44e+05	3.28	n/a	2.04e+03	n/a
S96T004795	F	Neodymium - ICP-Fusion	ug/g	103.2	<1.00e-01	<2.04e+03	<2.01e3	n/a	102.0	n/a	2.04e+03	n/a
S96T004795	F	Phosphorus - ICP-Fusion	ug/g	99.00	<2.00e-01	<4.09e+03	<4.02e3	n/a	102.0	n/a	2.04e+03	n/a
S96T004795	F	Lead - ICP-Fusion	ug/g	97.80	<1.00e-01	<3.48e+03	<2.01e3	n/a	106.0	n/a	2.04e+03	n/a
S96T004795	F	Sulfur - ICP-Fusion	ug/g	97.80	<1.00e-01	<3.48e+03	<3.31e+03	10.3	99.30	n/a	1.23e+03	n/a
S96T004795	F	Antimony - ICP-Fusion	ug/g	95.20	<6.00e-02	<2.04e+03	<2.01e3	n/a	97.30	n/a	1.23e+03	n/a
S96T004795	F	Selenium - ICP-Fusion	ug/g	98.40	<1.00e-01	<2.04e+03	<2.01e3	n/a	107.0	n/a	1.02e+03	n/a
S96T004795	F	Silicon - ICP-Fusion	ug/g	95.20	<5.00e-02	<1.02e+03	<1.00e3	n/a	98.30	n/a	2.04e+03	n/a
S96T004795	F	Samarium - ICP-Fusion	ug/g	101.2	<1.00e-01	<2.04e+03	<2.01e3	n/a	99.30	n/a	2.04e+03	n/a
S96T004795	F	Strontium - ICP-Fusion	ug/g	100.8	<1.00e-02	<2.04e+02	<2.01e2	n/a	99.40	n/a	204.0	n/a
S96T004795	F	Titanium - ICP-Fusion	ug/g	97.80	<1.00e-02	<2.04e+02	<2.01e2	n/a	98.10	n/a	204.0	n/a
S96T004795	F	Thallium - ICP-Fusion	ug/g	98.40	<2.00e-01	<4.09e+03	<4.02e3	n/a	97.50	n/a	4.09e+03	n/a
S96T004795	F	Vanadium - ICP-Fusion	ug/g	97.10	<5.00e-01	<1.02e+04	<1.00e4	n/a	90.50	n/a	1.02e+04	n/a
S96T004795	F	Zinc - ICP-Fusion	ug/g	100.0	<5.00e-02	<1.02e+03	<1.00e3	n/a	100.0	n/a	1.02e+03	n/a
S96T004795	F	Zirconium - ICP-Fusion	ug/g	99.40	<1.00e-02	<2.04e+02	<2.01e2	n/a	101.0	n/a	204.0	n/a
S96T004795	F	Alpha of Digested Solid	ug/g	108.2	<3.52e-02	<4.27e-02	<4.20E-2	n/a	98.20	n/a	204.0	n/a
S96T004797	A	Silver - ICP-Acid Digest	ug/g	91.30	<9.00e-02	13.70	14.20	13.95	3.58	n/a	4.80e-02	5.00e+02
S96T004797	A	Aluminum - ICP-Acid Digest	ug/g	94.00	<1.00e-02	2.03e+04	2.05e+04	2.04e+04	0.98	n/a	4.700	n/a
S96T004797	A	Arsenic - ICP-Acid Digest	ug/g	94.00	<1.00e-01	<46.90	<46.71e1	n/a	97.00	n/a	47.00	n/a
S96T004797	A	Boron - ICP-Acid Digest	ug/g	103.8	5.52e-01	1.46e+02	120.0	133.0	19.5	91.80	23.40	n/a

HNF-SD-WM-DP-226, REV. 0

Sample#	R.I.#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T004797	A	Beryllium - ICP-Acid Digest	ug/g	91.20	< 5.00e-02	< 23.40	< 2.35e1	n/a	n/a	93.40	23.40	n/a
S96T004797	A	Beryllium - ICP-Acid Digest	ug/g	91.20	< 5.00e-02	< 2.340	< 4.71e1	n/a	n/a	94.60	2.340	n/a
S96T004797	A	Bismuth - ICP-Acid Digest	ug/g	91.00	< 1.00e-01	< 46.90	< 4.71e1	n/a	n/a	93.80	47.00	n/a
S96T004797	A	Calcium - ICP-Acid Digest	ug/g	89.80	< 1.00e-01	1.43e+02	132.0	137.5	8.00	90.20	47.00	n/a
S96T004797	A	Cadmium - ICP-Acid Digest	ug/g	89.40	< 5.00e-03	4.340	4.690	4.515	7.75	93.20	2.340	n/a
S96T004797	A	Cerium - ICP-Acid Digest	ug/g	93.80	< 1.00e-01	< 46.90	< 4.71e1	n/a	n/a	97.00	47.00	n/a
S96T004797	A	Cobalt - ICP-Acid Digest	ug/g	92.20	< 2.00e-02	< 9.380	< 9.42e0	n/a	n/a	95.20	9.390	n/a
S96T004797	A	Chromium - ICP-Acid Digest	ug/g	89.80	< 1.00e-02	7.78e+02	783.0	780.5	0.64	95.00	4.700	n/a
S96T004797	A	Copper - ICP-Acid Digest	ug/g	92.00	< 1.00e-02	5.340	5.790	5.565	8.09	93.00	4.700	n/a
S96T004797	A	Copper - ICP-Acid Digest	ug/g	89.40	< 5.00e-02	58.10	51.10	54.60	12.8	91.80	23.40	n/a
S96T004797	A	Lanthanum - ICP-Acid Digest	ug/g	92.20	< 5.00e-01	3.69e+03	3.72e+03	3.70e+03	0.81	100.6	234.0	n/a
S96T004797	A	Lithium - ICP-Acid Digest	ug/g	94.00	< 1.00e-02	< 46.90	< 4.71e1	n/a	n/a	97.60	47.00	n/a
S96T004797	A	Magnesium - ICP-Acid Digest	ug/g	84.60	< 1.00e-01	< 46.90	< 4.71e1	n/a	n/a	87.00	47.00	n/a
S96T004797	A	Manganese - ICP-Acid Digest	ug/g	87.60	< 1.00e-02	8.220	8.330	8.260	0.97	89.20	4.700	n/a
S96T004797	A	Molybdenum - ICP-Acid Digest	ug/g	91.20	< 5.00e-02	42.40	43.70	43.05	3.02	94.40	23.40	n/a
S96T004797	A	Sodium - ICP-Acid Digest	ug/g	106.6	< 7.56e-01	1.92e+05	1.95e+05	1.94e+05	1.55	-9.020e2	47.00	n/a
S96T004797	A	Nickel - ICP-Acid Digest	ug/g	92.40	< 1.00e-01	< 46.90	< 4.71e1	n/a	n/a	95.20	47.00	n/a
S96T004797	A	Nickel - ICP-Acid Digest	ug/g	92.00	< 2.00e-02	30.70	27.30	29.00	11.7	94.60	9.390	n/a
S96T004797	A	Phosphorus - ICP-Acid Digest	ug/g	95.60	< 2.00e-01	2.07e+03	1.77e+03	1.92e+03	15.6	64.80	93.90	n/a
S96T004797	A	Lead - ICP-Acid Digest	ug/g	87.20	< 1.00e-01	< 46.90	< 4.71e1	n/a	n/a	95.60	47.00	n/a
S96T004797	A	Antimony - ICP-Acid Digest	ug/g	92.60	< 1.00e-01	2.50e+03	2.53e+03	2.52e+03	1.19	106.8	47.00	n/a
S96T004797	A	Selenium - ICP-Acid Digest	ug/g	91.00	< 5.00e-02	< 26.10	< 2.83e1	n/a	n/a	96.20	26.10	n/a
S96T004797	A	Silicon - ICP-Acid Digest	ug/g	86.20	< 1.00e-01	< 46.90	< 4.71e1	n/a	n/a	89.20	47.00	n/a
S96T004797	A	Samarium - ICP-Acid Digest	ug/g	143.2	5.15e-01	8.87e+02	897.0	892.0	1.12	79.00	23.40	n/a
S96T004797	A	Strontium - ICP-Acid Digest	ug/g	91.00	< 1.00e-01	< 46.90	< 4.71e1	n/a	n/a	93.60	47.00	n/a
S96T004797	A	Titanium - ICP-Acid Digest	ug/g	90.80	< 1.00e-02	< 4.690	< 4.71e1	n/a	n/a	93.20	4.700	n/a
S96T004797	A	Thallium - ICP-Acid Digest	ug/g	84.20	< 1.00e-02	< 4.690	< 4.71e1	n/a	n/a	86.60	4.700	n/a
S96T004797	A	Uranium - ICP-Acid Digest	ug/g	88.60	< 5.00e-01	< 93.80	< 9.42e1	n/a	n/a	89.40	93.90	n/a
S96T004797	A	Vanadium - ICP-Acid Digest	ug/g	85.60	< 5.00e-01	< 2.340	< 2.35e2	n/a	n/a	97.10	234.0	n/a
S96T004797	A	Zinc - ICP-Acid Digest	ug/g	90.40	< 5.00e-02	< 23.40	< 2.35e1	n/a	n/a	93.20	23.40	n/a
S96T004797	A	Zinc - ICP-Acid Digest	ug/g	88.60	1.70e-02	29.50	29.50	29.50	0.00	91.80	4.700	n/a
S96T004797	A	Zinc - ICP-Acid Digest	ug/g	93.60	< 1.00e-02	9.940	9.520	9.730	4.32	91.20	4.700	n/a
S96T004797	A	Fluoride - ICP-Dioxin 4000/4500	ug/g	103.9	< 1.00e-02	8.51e+02	825.0	837.9	3.10	93.62	96.64	n/a
S96T004797	A	Chloride - ICP-Dioxin 4000/4500	ug/g	103.2	< 1.70e-02	4.82e+03	4.91e+03	4.87e+03	1.85	97.59	136.9	n/a
S96T004797	A	Chloride - ICP-Dioxin 4000/4500	ug/g	103.3	< 1.00e-02	6.33e+04	6.37e+04	6.35e+04	0.63	102.0	869.6	n/a
S96T004797	A	Bromide by Ion Chromatograph	ug/g	100.8	< 1.25e-01	< 1.0e+03	< 1.02e3	n/a	n/a	103.7	1.01e+03	n/a
S96T004797	A	Nitrate by IC-Dioxin 4000/4500	ug/g	103.0	1.71e-01	1.46e+05	1.47e+05	1.47e+05	0.68	96.46	1.12e+03	n/a
S96T004797	A	Phosphate by IC-Dioxin 4000/4500	ug/g	100.2	< 1.00e-01	5.75e+03	5.83e+03	5.79e+03	1.38	97.98	966.4	n/a
S96T004797	A	Sulfate by IC-Dioxin 4000/4500	ug/g	104.9	< 1.38e-01	8.36e+03	8.61e+03	8.48e+03	2.95	101.1	1.11e+03	n/a
S96T000648	A	Oxalate by IC-Dioxin 4000/4500	ug/g	107.6	< 1.09e-01	7.61e+03	7.81e+03	7.71e+03	2.59	106.3	845.4	n/a
S97T000648	A	Acetate by IC-Dioxin 4000/4500	ug/g	102.5	< 2.00e-02	3.32e+02	354.0	343.0	6.41	113.1	84.00	n/a
S97T000648	A	Formate by IC-Dioxin 4000/4500	ug/g	107.5	< 6.20e-02	5.69e+02	601.0	585.1	5.47	106.7	260.4	n/a

Drainable Liquid: Drainable Liquid

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec. %	Det Limit	Count Err%
S96T004774		DSC Exotherm using Mettler	Joules/g	93.15	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S96T004774		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
S96T004774		% Specific Gravity	Sp. G.	99.03	n/a	1.442	1.414	1.428	1.96	n/a	1.00e-03	n/a
S96T004774		% Water by TGA using Mettler	%	100.9	n/a	47.35	51.28	49.31	7.97	n/a	n/a	n/a
S96T004774		D Silver-ICP-Acid Dil.	ug/mL	97.80	<1.00e-02	<12.00	<1.20e1	n/a	n/a	53.10	12.00	n/a
S96T004774		D Aluminum-ICP-Acid Dil.	ug/mL	96.40	<5.00e-02	4.06e+04	4.15e+04	4.10e+04	2.19	148.0	60.10	n/a
S96T004774		D Arsenic-ICP-Acid Dil.	ug/mL	99.40	<1.00e-01	<1.20e+02	<1.20e2	n/a	n/a	96.40	120.0	n/a
S96T004774		D Boron-ICP-Acid Dil.	ug/mL	100.2	<5.00e-02	67.80	67.90	67.85	0.15	97.30	60.10	n/a
S96T004774		D Barium-ICP-Acid Dil.	ug/mL	98.80	<5.00e-02	<60.10	<6.01e1	n/a	n/a	100.0	60.10	n/a
S96T004774		D Beryllium-ICP-Acid Dil.	ug/mL	100.8	<5.00e-03	<6.000	<6.00e0	n/a	n/a	98.80	6.000	n/a
S96T004774		D Bismuth-ICP-Acid Dil.	ug/mL	99.40	<1.00e-01	<1.20e+02	<1.20e2	n/a	n/a	98.40	120.0	n/a
S96T004774		D Calcium-ICP-Acid Dil.	ug/mL	96.20	<1.00e-01	<1.20e+02	<1.20e2	n/a	n/a	95.10	120.0	n/a
S96T004774		D Cadmium-ICP-Acid Dil.	ug/mL	97.60	<5.00e-03	<6.000	<6.00e0	n/a	n/a	96.00	6.000	n/a
S96T004774		D Cerium-ICP-Acid Dil.	ug/mL	96.80	<1.00e-01	<1.20e+02	<1.20e2	n/a	n/a	97.50	120.0	n/a
S96T004774		D Cobalt-ICP-Acid Dil.	ug/mL	95.80	<2.00e-02	65.60	66.10	63.85	5.48	94.70	24.00	n/a
S96T004774		D Chromium-ICP-Acid Dil.	ug/mL	97.00	<1.00e-02	3.45e+02	3.69	3.67	1.15	95.70	12.00	n/a
S96T004774		D Copper-ICP-Acid Dil.	ug/mL	98.20	<1.00e-02	<60.10	<6.01e1	n/a	n/a	99.50	12.00	n/a
S96T004774		D Iron-ICP-Acid Dil.	ug/mL	98.40	<5.00e-02	<60.10	<6.01e1	n/a	n/a	99.50	60.10	n/a
S96T004774		D Potassium-ICP-Acid Dil.	ug/mL	99.40	<5.00e-01	6.82e+03	6.96e+03	6.89e+03	2.03	98.60	600.0	n/a
S96T004774		D Lanthanum-ICP-Acid Dil.	ug/mL	100.0	<5.00e-02	<60.10	<6.01e1	n/a	n/a	100.0	60.10	n/a
S96T004774		D Lithium-ICP-Acid Dil.	ug/mL	99.40	<1.00e-01	<12.00	<1.20e1	n/a	n/a	97.10	12.00	n/a
S96T004774		D Magnesium-ICP-Acid Dil.	ug/mL	96.60	<1.00e-01	<1.20e+02	<1.20e2	n/a	n/a	94.30	120.0	n/a
S96T004774		D Manganese-ICP-Acid Dil.	ug/mL	97.60	<1.00e-02	<12.00	<1.20e1	n/a	n/a	96.30	12.00	n/a
S96T004774		D Molybdenum-ICP-Acid Dil.	ug/mL	95.40	<5.00e-02	80.00	82.80	81.40	3.44	94.70	60.10	n/a
S96T004774		D Sodium-ICP-Acid Dil.	ug/mL	97.40	<1.00e-01	2.54e+05	2.61e+05	2.58e+05	2.72	542.0	120.0	n/a
S96T004774		D Neodymium-ICP-Acid Dil.	ug/mL	105.6	<1.00e-01	<1.20e+02	<1.20e2	n/a	n/a	105.0	120.0	n/a
S96T004774		D Nickel-ICP-Acid Dil.	ug/mL	98.60	<2.00e-02	<24.00	<2.40e1	n/a	n/a	96.20	24.00	n/a
S96T004774		D Phosphorus-ICP-Acid Dil.	ug/mL	98.60	<2.00e-01	9.08e+02	895.0	901.5	1.44	97.30	240.0	n/a
S96T004774		D Lead-ICP-Acid Dil.	ug/mL	97.20	<1.00e-01	<1.20e+02	<1.20e2	n/a	n/a	100.0	120.0	n/a
S96T004774		D Sulfur-ICP-Acid Dil.	ug/mL	95.40	<1.00e-01	1.20e+03	1.22e+03	1.21e+03	1.65	96.20	120.0	n/a
S96T004774		D Antimony-ICP-Acid Dil.	ug/mL	92.60	<6.00e-02	<72.10	<7.21e1	n/a	n/a	89.80	72.10	n/a
S96T004774		D Selenium-ICP-Acid Dil.	ug/mL	95.80	<1.00e-01	<1.20e+02	<1.20e2	n/a	n/a	96.90	120.0	n/a
S96T004774		D Strontium-ICP-Acid Dil.	ug/mL	98.00	<5.00e-02	4.78e+02	507.0	492.5	5.89	99.10	60.10	n/a
S96T004774		D Samarium-ICP-Acid Dil.	ug/mL	98.20	<1.00e-01	<1.20e+02	<1.20e2	n/a	n/a	99.10	120.0	n/a
S96T004774		D Strontium-ICP-Acid Dil.	ug/mL	97.40	<1.00e-02	<12.00	<1.20e1	n/a	n/a	98.90	12.00	n/a
S96T004774		D Titanium-ICP-Acid Dil.	ug/mL	94.00	<1.00e-02	<12.00	<1.20e1	n/a	n/a	94.20	12.00	n/a
S96T004774		D Thallium-ICP-Acid Dil.	ug/mL	101.4	<2.00e-01	<6.00e+02	<6.00e2	n/a	n/a	97.30	240.0	n/a
S96T004774		D Uranium-ICP-Acid Dil.	ug/mL	97.50	<5.00e-01	<6.00e+02	<6.00e2	n/a	n/a	96.50	600.0	n/a
S96T004774		D Vanadium-ICP-Acid Dil.	ug/mL	97.40	<5.00e-02	<60.10	<6.01e1	n/a	n/a	96.90	60.10	n/a
S96T004774		D Zinc-ICP-Acid Dil.	ug/mL	97.80	<1.00e-02	12.20	14.70	13.45	18.6	96.90	12.00	n/a
S96T004774		D Zirconium-ICP-Acid Dil.	ug/mL	96.40	<1.00e-02	<12.00	<1.20e1	n/a	n/a	97.20	12.00	n/a
S96T004774		Acetate by IC-Dionex 4000/4500	ug/mL	97.58	<5.80e-02	5.16e+02	532.0	523.9	3.05	129.8	82.82	n/a
S96T004774		Formate by Ion Chromatograph	ug/mL	99.17	<2.10e-02	1.14e+03	1.14e+03	1.14e+03	0.00	105.0	86.96	n/a
S96T004774		Fluoride-IC-Dionex 4000/4500	ug/mL	95.42	<1.20e-02	<61.81	<6.18e1	n/a	n/a	80.00	61.81	n/a
S96T004774		Chloride-IC-Dionex 4000/4500	ug/mL	102.5	<1.70e-02	8.28e+03	8.08e+03	8.18e+03	2.44	96.08	87.57	n/a
S96T004774		Nitrite-IC-Dionex 4000/4500	ug/mL	99.63	<1.08e-01	1.14e+05	1.14e+05	1.14e+05	0.00	97.41	556.3	n/a
S96T004774		Bromide by Ion Chromatograph	ug/mL	98.30	<1.25e-01	<6.44e+02	<6.44e2	n/a	n/a	90.83	643.9	n/a
S96T004774		Nitrate by IC-Dionex 4000/4500	ug/mL	104.7	<1.35e-01	1.60e+05	1.60e+05	1.60e+05	0.00	81.82	716.0	n/a
S96T004774		Phosphate-IC-Dionex 4000/4500	ug/mL	95.59	<1.20e-01	2.16e+03	2.31e+03	2.24e+03	6.71	90.99	618.1	n/a

Sample#	R / A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S961004774		Sulfate by IC-Dionex 4000/4500	ug/mL	107.1	<1.38e-01	1.98e+03	1.87e+03	1.92e+03	5.71	102.7	710.8	n/a
S961004774		Oxalate-IC-Dionex 4000/450	ug/mL	109.5	<1.05e-01	6.03e+02	616.0	609.7	2.13	105.1	540.9	n/a
S961004774		Alpha in Liquid Samples	UCI/mL	93.51	<1.42e-02	<1.42e-02	<1.42E-2	n/a	n/a	96.66	3.60e-02	5.00e+02

Table 1. Data Summary Report
AN-104

CORE NUMBER: 164
SEGMENT #: 2

SEGMENT PORTION: Drainable Liquid

Sample #	R #	Analysis	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T004778		BSC Exotherm using Mettler	Joules/g	93.15	N/A	0.00e+00	0.00e+00	0.00e+00	0.00	N/A	N/A	N/A
S96T004778		BSC 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
S96T004778		Specific Gravity	Sp.G.	99.03	N/A	1.384	1.399	1.391	1.08	N/A	1.00e-03	N/A
S96T004778		% Water by TGA using Mettler	%	100.9	N/A	52.25	49.11	50.68	6.20	N/A	N/A	N/A
S96T004778		Z Silver-ICP-Acid Dil.	ug/mL	97.80	<1.00e-02	<12.00	<1.20e1	<1.20e1	N/A	N/A	12.00	N/A
S96T004778		D Aluminum-ICP-Acid Dil.	ug/mL	96.40	<1.00e-02	3.54e+04	4.16e+04	3.85e+04	16.1	N/A	60.10	N/A
S96T004778		D Arsenic-ICP-Acid Dil.	ug/mL	99.40	<1.00e-02	<1.20e+02	<1.20e2	<1.20e2	N/A	N/A	120.0	N/A
S96T004778		D Boron-ICP-Acid Dil.	ug/mL	100.2	<5.00e-02	<60.10	65.10	N/A	N/A	N/A	60.10	N/A
S96T004778		D Barium-ICP-Acid Dil.	ug/mL	98.80	<5.00e-02	<60.10	<6.01e1	N/A	N/A	N/A	60.10	N/A
S96T004778		D Beryllium-ICP-Acid Dil.	ug/mL	100.8	<5.00e-03	<6.000	<6.00e0	N/A	N/A	N/A	6.000	N/A
S96T004778		D Bismuth-ICP-Acid Dil.	ug/mL	99.40	<1.00e-01	<1.20e+02	<1.20e2	N/A	N/A	N/A	120.0	N/A
S96T004778		D Calcium-ICP-Acid Dil.	ug/mL	96.20	<1.00e-01	<1.20e+02	<1.20e2	N/A	N/A	N/A	120.0	N/A
S96T004778		D Cadmium-ICP-Acid Dil.	ug/mL	97.00	<5.00e-03	<6.000	<6.00e0	N/A	N/A	N/A	6.000	N/A
S96T004778		D Cerium-ICP-Acid Dil.	ug/mL	96.80	<1.00e-01	<1.20e+02	<1.20e2	N/A	N/A	N/A	120.0	N/A
S96T004778		D Cobalt-ICP-Acid Dil.	ug/mL	95.80	<2.00e-02	54.80	66.50	60.65	19.3	N/A	24.00	N/A
S96T004778		D Chromium-ICP-Acid Dil.	ug/mL	97.00	<1.00e-02	2.91e+02	340.0	315.5	15.5	N/A	12.00	N/A
S96T004778		D Copper-ICP-Acid Dil.	ug/mL	98.20	<1.00e-02	<12.00	<1.20e1	N/A	N/A	N/A	12.00	N/A
S96T004778		D Iron-ICP-Acid Dil.	ug/mL	99.40	<5.00e-02	<60.10	<6.01e1	N/A	N/A	N/A	60.10	N/A
S96T004778		D Potassium-ICP-Acid Dil.	ug/mL	100.0	<5.00e-01	5.91e+03	6.96e+03	6.43e+03	16.2	N/A	600.0	N/A
S96T004778		D Lanthanum-ICP-Acid Dil.	ug/mL	99.40	<5.00e-02	<60.10	<6.01e1	N/A	N/A	N/A	60.10	N/A
S96T004778		D Lithium-ICP-Acid Dil.	ug/mL	99.40	<1.00e-02	<12.00	<1.20e1	N/A	N/A	N/A	12.00	N/A
S96T004778		D Manganese-ICP-Acid Dil.	ug/mL	96.60	<1.00e-01	<1.20e+02	<1.20e2	N/A	N/A	N/A	120.0	N/A
S96T004778		D Molybdenum-ICP-Acid Dil.	ug/mL	97.60	<1.00e-01	<12.00	<1.20e1	N/A	N/A	N/A	12.00	N/A
S96T004778		D Sodium-ICP-Acid Dil.	ug/mL	95.40	<5.00e-02	69.20	81.60	75.40	16.4	N/A	60.10	N/A
S96T004778		D Neodymium-ICP-Acid Dil.	ug/mL	105.6	<1.00e-01	2.29e+05	2.71e+05	2.50e+05	16.8	N/A	120.0	N/A
S96T004778		D Nickel-ICP-Acid Dil.	ug/mL	96.60	<2.00e-02	<24.00	<1.20e2	N/A	N/A	N/A	120.0	N/A
S96T004778		D Phosphorus-ICP-Acid Dil.	ug/mL	98.60	<2.00e-01	8.47e+02	<1.20e2	973.0	13.8	N/A	24.00	N/A
S96T004778		D Lead-ICP-Acid Dil.	ug/mL	98.20	<1.00e-01	1.01e+03	1.16e+03	1.08e+03	13.8	N/A	120.0	N/A
S96T004778		D Sulfur-ICP-Acid Dil.	ug/mL	95.40	<6.00e-02	<72.10	<7.21e1	N/A	N/A	N/A	72.10	N/A
S96T004778		D Antimony-ICP-Acid Dil.	ug/mL	92.60	<1.00e-01	<1.20e+02	<1.20e2	N/A	N/A	N/A	120.0	N/A
S96T004778		D Selenium-ICP-Acid Dil.	ug/mL	95.80	<1.00e-01	1.70e+02	<1.20e2	205.0	18.7	N/A	60.10	N/A
S96T004778		D Silicon-ICP-Acid Dil.	ug/mL	98.00	<5.00e-02	<1.20e+02	<1.20e2	187.5	18.7	N/A	120.0	N/A
S96T004778		D Samarium-ICP-Acid Dil.	ug/mL	97.40	<1.00e-02	<12.00	<1.20e1	N/A	N/A	N/A	12.00	N/A
S96T004778		D Strontium-ICP-Acid Dil.	ug/mL	94.00	<1.00e-02	<12.00	<1.20e1	N/A	N/A	N/A	12.00	N/A
S96T004778		D Tantalum-ICP-Acid Dil.	ug/mL	101.4	<2.00e-02	<42.00	<2.40e2	N/A	N/A	N/A	240.0	N/A
S96T004778		D Thallium-ICP-Acid Dil.	ug/mL	97.50	<5.00e-01	<6.00e+02	<6.00e2	N/A	N/A	N/A	600.0	N/A
S96T004778		D Uranium-ICP-Acid Dil.	ug/mL	97.40	<5.00e-02	<60.10	<6.01e1	N/A	N/A	N/A	60.10	N/A
S96T004778		D Vanadium-ICP-Acid Dil.	ug/mL	97.80	<1.00e-02	<12.00	<1.20e1	N/A	N/A	N/A	12.00	N/A
S96T004778		D Zinc-ICP-Acid Dil.	ug/mL	96.40	<1.00e-02	<12.00	<1.20e1	N/A	N/A	N/A	12.00	N/A
S96T004778		D Zirconium-ICP-Acid Dil.	ug/mL	91.94	<2.00e-02	5.50e+02	665.0	611.3	17.5	N/A	82.82	N/A
S96T004778		Acetate by IC-Dionex 4000/4500	ug/mL	97.50	<2.10e-02	7.59e+02	873.0	871.0	15.2	N/A	86.96	N/A
S96T004778		Formate by Ion Chromatograph	ug/mL	97.50	<2.10e-02	7.59e+02	873.0	871.0	15.2	N/A	86.96	N/A
S96T004778		Fluoride-IC-Dionex 4000/4500	ug/mL	95.42	<1.20e-02	<61.81	<6.18e1	N/A	N/A	N/A	61.81	N/A

Sample#	R A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count	Err%
S96T004778		Chloride-IC-Dionex 4000/4500	ug/mL	102.5	<1.70e-02	8.38e+03	8.36e+03	8.37e+03	0.24	n/a	87.57	n/a	n/a
S96T004778		Nitrite-IC - Dionex 4000/4500	ug/mL	99.63	<1.08e-01	1.18e+05	1.18e+05	1.18e+05	0.00	n/a	556.3	n/a	n/a
S96T004778		Bromide by Ion Chromatograph	ug/mL	98.30	<1.25e-01	1.17e+03	1.12e+03	1.14e+03	4.37	n/a	643.9	n/a	n/a
S96T004778		Nitrate by IC-Dionex 4000/4500	ug/mL	104.7	<1.39e-01	1.89e+05	1.86e+05	1.87e+05	1.60	n/a	716.0	n/a	n/a
S96T004778		Phosphate-IC-Dionex 4000/4500	ug/mL	95.59	<1.20e-01	2.66e+03	2.75e+03	2.71e+03	3.33	n/a	618.1	n/a	n/a
S96T004778		Sulfate by IC-Dionex 4000/4500	ug/mL	107.1	<1.38e-01	2.10e+03	1.81e+03	1.96e+03	14.8	n/a	710.8	n/a	n/a
S96T004778		Oxalate-IC-Dionex 4000/450	ug/mL	109.5	<1.05e-01	1.02e+03	<5.41e2	n/a	n/a	n/a	540.9	n/a	n/a
S96T004778		Alpha in Liquid Samples	uCi/mL	93.51	<1.42e-02	<2.72e-02	<1.42E-2	n/a	n/a	n/a	3.60e-02	1.89E+02	

Table 1. Data Summary Report
AN-104

CORE NUMBER: 164
SEGMENT #: 3

SEGMENT PORTION: Drainable Liquid

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T004779		DSC Exotherm using Mettler	Joules/g	95.96	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S96T004779		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
S96T004779		Specific Gravity	Sp.-G.	99.03	n/a	1.407	1.396	1.401	0.78	n/a	1.00e-03	n/a
S96T004779		% Water by TGA using Mettler	%	98.61	n/a	51.03	51.09	51.06	0.12	n/a	n/a	n/a
S96T004779		D Silver-ICP-Acid Dil.	ug/mL	97.80	<1.00e-02	<12.00	<1.20e1	n/a	n/a	n/a	12.00	n/a
S96T004779		D Aluminum-ICP-Acid Dil.	ug/mL	96.40	<5.00e-02	4.00e+04	3.96e+04	4.01e+04	2.49	n/a	60.10	n/a
S96T004779		D Arsenic-ICP-Acid Dil.	ug/mL	99.40	<1.00e-01	<1.20e+02	<1.20e2	n/a	n/a	n/a	120.0	n/a
S96T004779		D Boron-ICP-Acid Dil.	ug/mL	100.2	<5.00e-02	66.60	64.20	66.40	6.63	n/a	60.10	n/a
S96T004779		D Barium-ICP-Acid Dil.	ug/mL	98.80	<5.00e-02	<60.10	<6.01e1	n/a	n/a	n/a	60.10	n/a
S96T004779		D Beryllium-ICP-Acid Dil.	ug/mL	100.8	<5.00e-03	<6.000	<6.00e00	n/a	n/a	n/a	6.000	n/a
S96T004779		D Bismuth-ICP-Acid Dil.	ug/mL	99.40	<1.00e-01	<1.20e+02	<1.20e2	n/a	n/a	n/a	120.0	n/a
S96T004779		D Calcium-ICP-Acid Dil.	ug/mL	96.20	<1.00e-01	<1.20e+02	<1.20e2	n/a	n/a	n/a	120.0	n/a
S96T004779		D Cadmium-ICP-Acid Dil.	ug/mL	96.60	<5.00e-03	<6.000	<6.00e0	n/a	n/a	n/a	6.000	n/a
S96T004779		D Cerium-ICP-Acid Dil.	ug/mL	96.80	<1.00e-01	<1.20e+02	<1.20e2	n/a	n/a	n/a	120.0	n/a
S96T004779		D Cobalt-ICP-Acid Dil.	ug/mL	97.00	<1.00e-02	64.50	63.70	64.10	1.25	n/a	24.00	n/a
S96T004779		D Chromium-ICP-Acid Dil.	ug/mL	98.20	<1.00e-02	3.47e+02	330.0	335.5	3.28	n/a	12.00	n/a
S96T004779		D Copper-ICP-Acid Dil.	ug/mL	98.40	<5.00e-02	<60.10	<6.01e1	n/a	n/a	n/a	12.00	n/a
S96T004779		D Iron-ICP-Acid Dil.	ug/mL	99.40	<5.00e-01	6.86e+03	6.62e+03	6.74e+03	3.56	n/a	60.10	n/a
S96T004779		D Potassium-ICP-Acid Dil.	ug/mL	100.0	<5.00e-02	<60.10	<6.01e1	n/a	n/a	n/a	60.10	n/a
S96T004779		D Lanthanum-ICP-Acid Dil.	ug/mL	99.40	<1.00e-02	<12.00	<1.20e1	n/a	n/a	n/a	12.00	n/a
S96T004779		D Lithium-ICP-Acid Dil.	ug/mL	96.60	<1.00e-01	<1.20e+02	<1.20e2	n/a	n/a	n/a	120.0	n/a
S96T004779		D Magnesium-ICP-Acid Dil.	ug/mL	97.60	<1.00e-02	<12.00	<1.20e1	n/a	n/a	n/a	12.00	n/a
S96T004779		D Manganese-ICP-Acid Dil.	ug/mL	95.40	<5.00e-02	80.30	76.40	78.35	4.98	n/a	60.10	n/a
S96T004779		D Molybdenum-ICP-Acid Dil.	ug/mL	97.40	<1.00e-01	2.50e+03	2.56e+03	2.57e+03	0.78	n/a	120.0	n/a
S96T004779		D Sodium-ICP-Acid Dil.	ug/mL	105.6	<1.00e-01	<1.20e+02	<1.20e2	n/a	n/a	n/a	120.0	n/a
S96T004779		D Neodymium-ICP-Acid Dil.	ug/mL	96.60	<2.00e-02	<24.00	<2.40e1	n/a	n/a	n/a	24.00	n/a
S96T004779		D Nickel-ICP-Acid Dil.	ug/mL	98.60	<2.00e-01	9.54e+02	909.0	931.5	4.83	n/a	240.0	n/a
S96T004779		D Phosphorus-ICP-Acid Dil.	ug/mL	97.20	<1.00e-01	<1.20e+02	<1.20e2	n/a	n/a	n/a	120.0	n/a
S96T004779		D Lead-ICP-Acid Dil.	ug/mL	95.40	<1.00e-01	1.16e+03	1.13e+03	1.14e+03	2.62	n/a	120.0	n/a
S96T004779		D Antimony-ICP-Acid Dil.	ug/mL	92.60	<6.00e-02	<72.10	<7.21e1	n/a	n/a	n/a	72.10	n/a
S96T004779		D Selenium-ICP-Acid Dil.	ug/mL	95.80	<1.00e-01	<1.20e+02	<1.20e2	n/a	n/a	n/a	120.0	n/a
S96T004779		D Silicon-ICP-Acid Dil.	ug/mL	98.00	<5.00e-02	2.03e+02	192.0	197.5	5.57	n/a	60.10	n/a
S96T004779		D Strontium-ICP-Acid Dil.	ug/mL	98.20	<1.00e-01	<1.20e+02	<1.20e2	n/a	n/a	n/a	120.0	n/a
S96T004779		D Thallium-ICP-Acid Dil.	ug/mL	94.00	<1.00e-02	<12.00	<1.20e1	n/a	n/a	n/a	12.00	n/a
S96T004779		D Titanium-ICP-Acid Dil.	ug/mL	101.4	<2.00e-01	<2.40e+02	<2.40e2	n/a	n/a	n/a	12.00	n/a
S96T004779		D Uranium-ICP-Acid Dil.	ug/mL	97.50	<5.00e-01	<6.00e+02	<6.00e2	n/a	n/a	n/a	600.0	n/a
S96T004779		D Vanadium-ICP-Acid Dil.	ug/mL	97.40	<5.00e-02	<60.10	<6.01e1	n/a	n/a	n/a	60.10	n/a
S96T004779		D Zinc-ICP-Acid Dil.	ug/mL	97.80	<1.00e-02	17.50	15.70	16.60	10.8	n/a	12.00	n/a
S96T004779		D Zirconium-ICP-Acid Dil.	ug/mL	96.40	<1.00e-02	<12.00	<1.20e1	n/a	n/a	n/a	12.00	n/a
S96T004779		Acetate by IC-Dioxex 4000/4500	ug/mL	90.32	<2.00e-02	5.23e+02	536.0	529.6	2.46	80.56	22.22	n/a
S96T004779		Formate by Ion Chromatograph	ug/mL	94.17	<2.00e-02	1.03e+03	1.05e+03	1.04e+03	1.92	107.5	25.33	n/a
S96T004779		Fluoride-IC-Dioxex 4000/4500	ug/mL	98.98	<1.20e-02	<1.22e+02	<1.22e2	n/a	n/a	108.8	122.4	n/a

Sample#	R A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T004779		Chloride-IC-Dionex 4000/4500	ug/mL	97.34	<1.70e-02	8.02e+03	8.11e+03	8.06e+03	1.12	102.8	173.4	n/a
S96T004779		Nitrite-IC - Dionex 4000/4500	ug/mL	98.15	<1.08e-01	1.09e+05	1.09e+05	1.09e+05	0.00	110.9	1.10e+03	n/a
S96T004779		Bromide by Ion Chromatograph	ug/mL	100.8	<1.25e-01	1.76e+03	1.74e+03	1.75e+03	1.14	101.9	1.28e+03	n/a
S96T004779		Nitrate by IC-Dionex 4000/4500	ug/mL	101.7	<1.39e-01	1.68e+05	1.66e+05	1.67e+05	1.20	105.4	1.42e+03	n/a
S96T004779		Phosphate-IC-Dionex 4000/4500	ug/mL	97.79	<1.20e-01	2.83e+03	3.11e+03	2.97e+03	9.43	97.79	1.22e+03	n/a
S96T004779		Sulfate by IC-Dionex 4000/4500	ug/mL	101.4	<1.38e-01	2.00e+03	2.02e+03	2.01e+03	1.00	101.3	1.47e+03	n/a
S96T004779		Oxalate-IC-Dionex 4000/450	ug/mL	105.9	<1.05e-01	<1.07e+03	<1.07e+03	<1.07e+03	n/a	108.2	1.07e+03	n/a
S96T004779		Alpha in Liquid Samples	uCi/mL	93.51	<1.42e-02	<1.42e-02	<1.42E-2	n/a	n/a	n/a	3.60e-02	5.00E+02

Table 1. Data Summary Report
AN-104

CORE NUMBER: 164
SEGMENT #: 4

SEGMENT PORTION: Drainable Liquid

Sample#	R/A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD	Spk Rec %	Det Limit	Count Err%
S96T004780		DSC Exotherm using Mettler	Joules/g	95.9%	n/a	0.00e+00	15.70	7.850	200	n/a	n/a	n/a
S96T004780		DSC Exotherm DRY Calculated	Joules/g DRY	95.9%	n/a	0.00e+00	32.50	16.25	200	n/a	n/a	n/a
S96T004780		Specific Gravity	Sp.G.	99.03	n/a	1.415	1.416	1.415	0.07	n/a	1.00e-03	n/a
S96T004780		% Water by TGA using Mettler	%	98.61	<1.00e-02	51.65	51.61	51.63	0.08	n/a	6.010	n/a
S96T004780		D Silver-ICP-Acid Dil.	ug/mL	98.80	<5.00e-02	18.50	18.80	18.65	1.61	92.00	30.10	n/a
S96T004780		D Aluminum-ICP-Acid Dil.	ug/mL	102.8	<5.00e-01	3.75e+04	3.85e+04	3.78e+04	2.65	477.0	60.10	n/a
S96T004780		D Arsenic-ICP-Acid Dil.	ug/mL	99.80	<5.00e-02	65.40	65.10	65.25	0.46	99.70	30.10	n/a
S96T004780		D Boron-ICP-Acid Dil.	ug/mL	99.40	<5.00e-02	30.10	30.10	30.10	n/a	99.60	30.10	n/a
S96T004780		D Barium-ICP-Acid Dil.	ug/mL	103.4	<5.00e-03	3.000	3.000	3.000	n/a	103.0	3.000	n/a
S96T004780		D Bismuth-ICP-Acid Dil.	ug/mL	101.4	<1.00e-01	60.10	60.10	60.10	n/a	103.0	60.10	n/a
S96T004780		D Calcium-ICP-Acid Dil.	ug/mL	99.00	<1.00e-03	3.000	3.000	3.000	n/a	104.0	3.000	n/a
S96T004780		D Cadmium-ICP-Acid Dil.	ug/mL	99.80	<5.00e-03	3.000	3.000	3.000	n/a	100.0	3.000	n/a
S96T004780		D Cerium-ICP-Acid Dil.	ug/mL	99.60	<1.00e-01	60.10	60.10	60.10	n/a	101.0	60.10	n/a
S96T004780		D Cobalt-ICP-Acid Dil.	ug/mL	100.4	<2.00e-02	12.00	12.00	12.00	n/a	99.30	12.00	n/a
S96T004780		D Chromium-ICP-Acid Dil.	ug/mL	103.6	<1.00e-02	3.33e+02	339.0	336.0	1.79	103.0	6.010	n/a
S96T004780		D Copper-ICP-Acid Dil.	ug/mL	100.8	<5.00e-02	6.010	6.010	6.010	n/a	104.0	6.010	n/a
S96T004780		D Iron-ICP-Acid Dil.	ug/mL	99.80	<5.00e-01	6.34e+03	6.60e+03	6.47e+03	4.02	155.0	300.0	n/a
S96T004780		D Potassium-ICP-Acid Dil.	ug/mL	101.4	<5.00e-02	30.10	30.10	30.10	n/a	103.0	30.10	n/a
S96T004780		D Lanthanum-ICP-Acid Dil.	ug/mL	101.0	<1.00e-02	6.330	6.330	6.330	n/a	103.0	6.010	n/a
S96T004780		D Lithium-ICP-Acid Dil.	ug/mL	96.80	<1.00e-01	60.10	60.10	60.10	n/a	95.90	60.10	n/a
S96T004780		D Manganese-ICP-Acid Dil.	ug/mL	97.80	<1.00e-02	6.010	6.010	6.010	n/a	95.70	6.010	n/a
S96T004780		D Molybdenum-ICP-Acid Dil.	ug/mL	100.6	<5.00e-02	80.20	82.90	81.55	3.31	102.0	30.10	n/a
S96T004780		D Sodium-ICP-Acid Dil.	ug/mL	97.80	<1.00e-01	2.49e+05	2.58e+05	2.54e+05	3.55	2.67e+03	60.10	n/a
S96T004780		D Neodymium-ICP-Acid Dil.	ug/mL	101.2	<1.00e-01	60.10	60.10	60.10	n/a	103.0	60.10	n/a
S96T004780		D Nickel-ICP-Acid Dil.	ug/mL	99.00	<2.00e-02	12.00	12.00	12.00	n/a	99.00	12.00	n/a
S96T004780		D Phosphorus-ICP-Acid Dil.	ug/mL	94.60	<2.00e-02	12.00	12.00	12.00	n/a	99.00	12.00	n/a
S96T004780		D Lead-ICP-Acid Dil.	ug/mL	99.00	<1.00e-01	9.08e+02	877.0	892.5	3.47	90.00	120.0	n/a
S96T004780		D Sulfur-ICP-Acid Dil.	ug/mL	98.00	<1.00e-01	60.10	60.10	60.10	n/a	109.0	60.10	n/a
S96T004780		D Antimony-ICP-Acid Dil.	ug/mL	96.00	<6.00e-02	36.10	36.10	36.10	0.90	113.0	60.10	n/a
S96T004780		D Selenium-ICP-Acid Dil.	ug/mL	97.20	<1.00e-01	60.10	60.10	60.10	n/a	97.10	36.10	n/a
S96T004780		D Silicon-ICP-Acid Dil.	ug/mL	98.60	<5.00e-02	2.24e+02	216.0	220.0	3.64	105.0	60.10	n/a
S96T004780		D Samarium-ICP-Acid Dil.	ug/mL	98.20	<1.00e-01	60.10	60.10	60.10	n/a	98.40	60.10	n/a
S96T004780		D Strontium-ICP-Acid Dil.	ug/mL	99.00	<1.00e-02	6.010	6.010	6.010	n/a	99.70	6.010	n/a
S96T004780		D Titanium-ICP-Acid Dil.	ug/mL	97.80	<1.00e-02	6.010	6.010	6.010	n/a	98.30	6.010	n/a
S96T004780		D Thallium-ICP-Acid Dil.	ug/mL	96.00	<2.00e-01	1.20e+02	1.20e+02	1.20e+02	n/a	96.60	120.0	n/a
S96T004780		D Vanadium-ICP-Acid Dil.	ug/mL	96.20	<5.00e-01	3.00e+02	3.00e+02	3.00e+02	n/a	95.50	300.0	n/a
S96T004780		D Vanadium-ICP-Acid Dil.	ug/mL	100.4	<5.00e-02	30.10	30.10	30.10	n/a	100.0	30.10	n/a
S96T004780		D Zinc-ICP-Acid Dil.	ug/mL	100.4	<1.00e-02	24.20	26.40	25.30	8.70	101.0	6.010	n/a
S96T004780		D Zirconium-ICP-Acid Dil.	ug/mL	99.00	<1.00e-02	7.510	6.750	7.120	11.0	100.0	6.010	n/a
S96T004780		D Acetate by IC-Bioxex 4000/4500	ug/mL	90.32	<2.00e-02	5.53e+02	567.0	560.0	2.50	n/a	23.22	n/a
S96T004780		D Formate by Ion Chromatograph	ug/mL	94.17	<2.00e-02	1.01e+03	1.02e+03	1.01e+03	0.99	n/a	25.33	n/a
S96T004780		D Fluoride-IC-Bioxex 4000/4500	ug/mL	98.98	<1.20e-02	1.22e+02	1.22e+02	1.22e+02	n/a	n/a	122.4	n/a

Sample#	P. A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T004780		Chloride-IC-Dionex 4000/4500	µg/ml	97.34	<1.70e-02	7.84e+03	8.14e+03	7.99e+03	3.75	n/a	173.4	n/a
S96T004780		Nitrite-IC - Dionex 4000/4500	µg/ml	98.15	<1.08e-01	1.08e+03	1.08e+03	1.08e+03	0.00	n/a	1.10e+03	n/a
S96T004780		Bromide by Ion Chromatograph	µg/ml	100.8	<1.25e-01	1.74e+03	1.74e+03	1.74e+03	0.00	n/a	1.28e+03	n/a
S96T004780		Nitrate by IC-Dionex 4000/4500	µg/ml	101.7	<1.39e-01	1.72e+03	1.68e+03	1.70e+03	2.35	n/a	1.42e+03	n/a
S96T004780		Phosphate-IC-Dionex 4000/4500	µg/ml	97.79	<1.20e-01	2.77e+03	3.10e+03	2.93e+03	11.2	n/a	1.22e+03	n/a
S96T004780		Sulfate by IC-Dionex 4000/4500	µg/ml	101.4	<1.38e-01	1.93e+03	1.98e+03	1.96e+03	2.56	n/a	1.41e+03	n/a
S96T004780		Oxalate-IC-Dionex 4000/450	µg/ml	105.9	<1.05e-01	<1.07e+03	<1.07e3	n/a	n/a	n/a	1.07e+03	n/a
S96T004780		Alpha In Liquid Samples	µCi/ml	93.51	<1.42e-02	<1.42e-02	<1.42E-2	n/a	n/a	n/a	3.60e-02	5.00E+02

Table 1. Data Summary Report
AN-104

COPE NUMBER: 164
SEGMENT #: 5

SEGMENT PORTION: Drainable Liquid

Sample#	R. #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPB %	Spk Rec %	Det Limit	Count Err%
S96T004976		DSC Exotherm using Mettler	Joules/g	89.98	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S96T004976		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
S96T004976		Specific Gravity	Sp.G.	99.03	n/a	1.418	1.403	1.410	1.06	n/a	1.00e-03	n/a
S96T004976		% Water by IGA using Mettler	%	99.97	<1.00e-02	51.77	49.57	50.67	4.34	n/a	n/a	n/a
S96T004976		% Silver-ICP-Acid Dil.	ug/mL	99.60	<5.00e-02	19.80	18.70	19.25	5.71	90.20	6.010	n/a
S96T004976		% Aluminum-ICP-Acid Dil.	ug/mL	98.20	<5.00e-02	4.01e+04	3.78e+04	3.90e+04	5.91	-2.810e2	30.10	n/a
S96T004976		% Arsenic-ICP-Acid Dil.	ug/mL	102.4	<1.00e-01	<60.10	<60.10e1	n/a	n/a	97.70	60.10	n/a
S96T004976		% Boron-ICP-Acid Dil.	ug/mL	99.60	<5.00e-02	67.70	65.70	66.70	3.00	98.10	30.10	n/a
S96T004976		% Barium-ICP-Acid Dil.	ug/mL	100.8	<5.00e-02	<30.10	<30.10e1	n/a	n/a	100.10	30.10	n/a
S96T004976		% Beryllium-ICP-Acid Dil.	ug/mL	103.2	<5.00e-03	<3.000	<3.000e0	n/a	n/a	103.0	3.000	n/a
S96T004976		% Bismuth-ICP-Acid Dil.	ug/mL	101.8	<1.00e-01	<60.10	<60.10e1	n/a	n/a	102.0	60.10	n/a
S96T004976		% Calcium-ICP-Acid Dil.	ug/mL	100.6	<5.00e-03	<3.000	<3.000e0	n/a	n/a	104.0	60.10	n/a
S96T004976		% Cadmium-ICP-Acid Dil.	ug/mL	100.6	<5.00e-03	<3.000	<3.000e0	n/a	n/a	101.0	3.000	n/a
S96T004976		% Cerium-ICP-Acid Dil.	ug/mL	100.2	<1.00e-01	<60.10	<60.10e1	n/a	n/a	102.0	60.10	n/a
S96T004976		% Cobalt-ICP-Acid Dil.	ug/mL	101.0	<2.00e-02	<12.00	<1.20e1	n/a	n/a	101.0	12.00	n/a
S96T004976		% Chromium-ICP-Acid Dil.	ug/mL	101.6	<1.00e-02	3.58e+02	338.0	348.0	5.75	98.90	6.010	n/a
S96T004976		% Copper-ICP-Acid Dil.	ug/mL	103.8	<1.00e-02	<30.10	<30.10e1	n/a	n/a	104.0	6.010	n/a
S96T004976		% Iron-ICP-Acid Dil.	ug/mL	101.6	<5.00e-02	<30.10	<30.10e1	n/a	n/a	103.0	30.10	n/a
S96T004976		% Potassium-ICP-Acid Dil.	ug/mL	96.00	<5.00e-01	6.64e+03	6.33e+03	6.48e+03	4.78	27.30	300.0	n/a
S96T004976		% Lanthanum-ICP-Acid Dil.	ug/mL	102.4	<5.00e-02	<46.00	<46.00e1	n/a	n/a	103.0	30.10	n/a
S96T004976		% Lithium-ICP-Acid Dil.	ug/mL	101.0	<1.00e-02	<60.10	<60.10e1	28.25	126	97.70	6.010	n/a
S96T004976		% Magnesium-ICP-Acid Dil.	ug/mL	96.40	<1.00e-01	<6.010	<6.010e1	n/a	n/a	95.90	60.10	n/a
S96T004976		% Manganese-ICP-Acid Dil.	ug/mL	98.60	<1.00e-02	<6.010	<6.010e1	n/a	n/a	97.00	6.010	n/a
S96T004976		% Molybdenum-ICP-Acid Dil.	ug/mL	101.6	<5.00e-02	87.40	82.70	85.05	5.53	102.0	30.10	n/a
S96T004976		% Sodium-ICP-Acid Dil.	ug/mL	98.20	<1.00e-01	2.65e+05	2.52e+05	2.58e+05	5.03	-2.020e3	60.10	n/a
S96T004976		% Neodymium-ICP-Acid Dil.	ug/mL	102.2	<1.00e-01	<60.10	<60.10e1	n/a	n/a	103.0	60.10	n/a
S96T004976		% Nickel-ICP-Acid Dil.	ug/mL	99.80	<2.00e-02	<12.00	<1.20e1	n/a	n/a	101.0	12.00	n/a
S96T004976		% Phosphorus-ICP-Acid Dil.	ug/mL	92.80	<2.00e-02	1.15e+03	886.0	1.02e+03	25.9	65.00	120.0	n/a
S96T004976		% Lead-ICP-Acid Dil.	ug/mL	100.6	<1.00e-01	<60.10	<60.10e1	n/a	n/a	110.0	60.10	n/a
S96T004976		% Sulfur-ICP-Acid Dil.	ug/mL	96.80	<1.00e-01	1.21e+03	1.14e+03	1.18e+03	5.96	90.50	60.10	n/a
S96T004976		% Antimony-ICP-Acid Dil.	ug/mL	96.20	<6.00e-02	<36.10	<3.61e1	n/a	n/a	98.20	36.10	n/a
S96T004976		% Selenium-ICP-Acid Dil.	ug/mL	97.20	<1.00e-01	<60.10	<60.10e1	n/a	n/a	107.0	60.10	n/a
S96T004976		% Silicon-ICP-Acid Dil.	ug/mL	99.20	<5.00e-02	3.90e+02	249.0	319.5	44.1	82.70	30.10	n/a
S96T004976		% Samarium-ICP-Acid Dil.	ug/mL	99.00	<1.00e-01	<60.10	<60.10e1	n/a	n/a	99.40	60.10	n/a
S96T004976		% Strontium-ICP-Acid Dil.	ug/mL	99.80	<1.00e-02	<6.010	<6.010e1	n/a	n/a	99.90	6.010	n/a
S96T004976		% Tantalum-ICP-Acid Dil.	ug/mL	98.40	<1.00e-02	<6.010	<6.010e1	n/a	n/a	98.30	6.010	n/a
S96T004976		% Thallium-ICP-Acid Dil.	ug/mL	97.40	<2.00e-01	<1.20e+02	<1.20e2	n/a	n/a	96.30	120.0	n/a
S96T004976		% Uranium-ICP-Acid Dil.	ug/mL	96.90	<5.00e-01	<3.00e+02	<3.00e2	n/a	n/a	97.50	300.0	n/a
S96T004976		% Vanadium-ICP-Acid Dil.	ug/mL	101.0	<5.00e-02	<30.10	<30.10e1	n/a	n/a	101.0	30.10	n/a
S96T004976		% Zinc-ICP-Acid Dil.	ug/mL	100.8	<1.00e-02	24.90	22.40	23.65	10.6	102.0	6.010	n/a
S96T004976		% Zirconium-ICP-Acid Dil.	ug/mL	99.80	<1.00e-02	8.720	7.770	8.245	11.5	101.0	6.010	n/a
S96T004976		% Acetate by IC-Dionex 4000/4500	ug/mL	100.8	<6.50e-02	4.52e+02	452.0	452.8	0.22	127.4	86.96	n/a
S96T004976		% Formate by Ion Chromatograph	ug/mL	99.17	<2.00e-02	1.00e+03	972.0	987.5	2.84	100.8	86.96	n/a
S96T004976		% Fluoride-IC-Dionex 4000/4500	ug/mL	109.0	<1.20e-02	2.73e+02	<1.22e2	n/a	n/a	121.4	122.4	n/a

Sample#	P.A.#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T004976		Chloride-IC-Dionex 4000/4500	ug/ml	106.8	<1.70e-02	6.83e+03	6.81e+03	6.82e+03	0.29	105.3	173.4	N/A
S96T004976		Nitrite-IC-Dionex 4000/4500	ug/ml	106.7	<1.08e-01	9.43e+04	9.40e+04	9.41e+04	0.32	117.4	1.10e+03	N/A
S96T004976		Bromide by Ion Chromatograph	ug/ml	100.8	<1.25e-01	<1.28e3	<1.28e3	<1.28e3	N/A	110.5	1.28e+03	N/A
S96T004976		Nitrate by IC-Dionex 4000/4500	ug/ml	102.2	<1.39e-01	1.47e+03	1.49e+03	1.48e+03	1.35	120.9	1.42e+03	N/A
S96T004976		Phosphate-IC-Dionex 4000/4500	ug/ml	108.5	<1.20e-01	1.68e+03	<1.22e3	<1.47e3	N/A	110.7	1.22e+03	N/A
S96T004976		Sulfate by IC-Dionex 4000/4500	ug/ml	101.9	<1.38e-01	<1.41e+03	<1.41e+03	<1.41e+03	N/A	107.6	1.41e+03	N/A
S96T004976		Oxalate-IC-Dionex 4000/4500	ug/ml	102.6	<1.05e-01	<5.41e+02	<5.41e+02	<5.41e+02	N/A	100.6	540.9	N/A
S96T004976		Alpha In Liquid Samples	uc1/ml	103.9	<3.16e-02	<5.39e-02	<3.48E-2	<3.48E-2	N/A	102.2	4.50e-02	5.00E+02

Table 1. Data Summary Report
AN-104

CORE NUMBER: 164
SEGMENT #: 7

SEGMENT PORTION: Drainable Liquid

Sample#	R. #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk	Rec %	Det Limit	Count Err%
S96T004781		DSC Exotherm using Mettler	Joules/g	95.96	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a	n/a
S96T004781		DSC Exotherm Dry Calculated	Joules/g	n/a	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a	n/a
S96T004781		Specific Gravity	g/cc	99.03	n/a	1.412	1.412	1.412	0.00	n/a	n/a	1.00e-03	n/a
S96T004781		% Water by TGA using Mettler	%	100.1	<1.00e-02	51.82	52.23	52.02	0.79	n/a	n/a	6.010	n/a
S96T004781		D Silver-ICP-Acid Dil.	ug/mL	98.80	<5.00e-02	18.00	18.90	18.45	4.88	91.60	n/a	6.010	n/a
S96T004781		D Aluminum-ICP-Acid Dil.	ug/mL	98.00	<5.00e-02	3.69e+04	3.80e+04	3.74e+04	2.94	688.0	n/a	30.10	n/a
S96T004781		D Arsenic-ICP-Acid Dil.	ug/mL	102.8	<1.00e-01	< 60.10	<6.01e1	< 60.10	n/a	96.60	n/a	60.10	n/a
S96T004781		D Boron-ICP-Acid Dil.	ug/mL	99.80	<5.00e-02	65.40	67.10	66.25	2.57	98.10	n/a	30.10	n/a
S96T004781		D Barium-ICP-Acid Dil.	ug/mL	99.40	<5.00e-02	< 30.10	<3.01e1	< 30.10	n/a	98.40	n/a	30.10	n/a
S96T004781		D Beryllium-ICP-Acid Dil.	ug/mL	103.4	<1.00e-03	< 3.000	<3.00e0	n/a	n/a	103.0	n/a	3.000	n/a
S96T004781		D Bismuth-ICP-Acid Dil.	ug/mL	101.4	<1.00e-01	< 60.10	<6.01e1	n/a	n/a	101.0	n/a	60.10	n/a
S96T004781		D Calcium-ICP-Acid Dil.	ug/mL	99.00	<1.00e-03	< 3.000	<3.00e0	n/a	n/a	99.60	n/a	3.000	n/a
S96T004781		D Cadmium-ICP-Acid Dil.	ug/mL	99.80	<5.00e-03	< 3.000	<3.00e0	n/a	n/a	99.40	n/a	3.000	n/a
S96T004781		D Cerium-ICP-Acid Dil.	ug/mL	99.60	<1.00e-01	< 60.10	<6.01e1	n/a	n/a	100.0	n/a	60.10	n/a
S96T004781		D Cobalt-ICP-Acid Dil.	ug/mL	100.4	<2.00e-02	< 12.00	<1.20e1	n/a	n/a	98.80	n/a	12.00	n/a
S96T004781		D Chromium-ICP-Acid Dil.	ug/mL	101.0	<1.00e-02	3.22e+02	334.0	328.5	3.35	105.0	n/a	6.010	n/a
S96T004781		D Copper-ICP-Acid Dil.	ug/mL	103.6	<1.00e-02	< 6.010	<6.01e0	n/a	n/a	103.0	n/a	6.010	n/a
S96T004781		D Iron-ICP-Acid Dil.	ug/mL	100.8	<5.00e-02	< 30.10	<3.01e1	n/a	n/a	102.0	n/a	30.10	n/a
S96T004781		D Potassium-ICP-Acid Dil.	ug/mL	101.4	<5.00e-01	< 17.0e+03	6.41e+03	6.29e+03	3.82	217.0	n/a	300.0	n/a
S96T004781		D Lanthanum-ICP-Acid Dil.	ug/mL	101.4	<5.00e-02	< 30.10	<3.01e1	n/a	n/a	102.0	n/a	30.10	n/a
S96T004781		D Magnesium-ICP-Acid Dil.	ug/mL	96.80	<1.00e-01	< 60.10	<6.01e1	n/a	n/a	94.80	n/a	60.10	n/a
S96T004781		D Manganese-ICP-Acid Dil.	ug/mL	97.80	<1.00e-02	< 6.010	<6.01e0	n/a	n/a	95.80	n/a	6.010	n/a
S96T004781		D Molybdenum-ICP-Acid Dil.	ug/mL	100.6	<5.00e-02	76.90	81.40	79.15	5.69	102.0	n/a	30.10	n/a
S96T004781		D Sodium-ICP-Acid Dil.	ug/mL	97.80	<1.00e-01	< 60.10	<6.01e1	2.44e+05	2.83	4.28e+03	n/a	60.10	n/a
S96T004781		D Neodymium-ICP-Acid Dil.	ug/mL	101.2	<1.00e-01	< 60.10	<6.01e1	n/a	n/a	101.0	n/a	60.10	n/a
S96T004781		D Nickel-ICP-Acid Dil.	ug/mL	99.00	<2.00e-02	< 12.00	<1.20e1	n/a	n/a	97.60	n/a	12.00	n/a
S96T004781		D Phosphorus-ICP-Acid Dil.	ug/mL	94.60	<2.00e-01	8.60e+02	878.0	869.0	2.07	110.0	n/a	120.0	n/a
S96T004781		D Lead-ICP-Acid Dil.	ug/mL	99.00	<1.00e-01	< 60.10	<6.01e1	1.17e+03	6.17	107.0	n/a	60.10	n/a
S96T004781		D Sulfur-ICP-Acid Dil.	ug/mL	98.00	<6.00e-02	< 36.10	<3.61e1	1.14e+03	n/a	97.20	n/a	36.10	n/a
S96T004781		D Antimony-ICP-Acid Dil.	ug/mL	97.20	<1.00e-01	< 60.10	<6.01e1	n/a	n/a	105.0	n/a	60.10	n/a
S96T004781		D Selenium-ICP-Acid Dil.	ug/mL	98.60	<5.00e-02	2.16e+02	221.0	218.5	2.29	110.0	n/a	30.10	n/a
S96T004781		D Silicon-ICP-Acid Dil.	ug/mL	98.20	<1.00e-01	< 60.10	<6.01e1	n/a	n/a	97.00	n/a	60.10	n/a
S96T004781		D Samarium-ICP-Acid Dil.	ug/mL	99.00	<1.00e-02	< 6.010	<6.01e0	n/a	n/a	98.30	n/a	6.010	n/a
S96T004781		D Strontium-ICP-Acid Dil.	ug/mL	97.80	<1.00e-02	< 6.010	<6.01e0	n/a	n/a	96.90	n/a	6.010	n/a
S96T004781		D Thallium-ICP-Acid Dil.	ug/mL	96.00	<2.00e-01	<1.20e+02	<1.20e2	n/a	n/a	92.30	n/a	120.0	n/a
S96T004781		D Uranium-ICP-Acid Dil.	ug/mL	96.20	<5.00e-01	<3.00e+02	<3.00e2	n/a	n/a	94.50	n/a	300.0	n/a
S96T004781		D Vanadium-ICP-Acid Dil.	ug/mL	100.4	<5.00e-02	< 30.10	<3.01e1	n/a	n/a	99.20	n/a	30.10	n/a
S96T004781		D Zinc-ICP-Acid Dil.	ug/mL	100.4	<1.00e-02	24.80	25.00	24.90	0.85	101.0	n/a	6.010	n/a
S96T004781		D Zirconium-ICP-Acid Dil.	ug/mL	99.00	<1.00e-02	6.490	6.950	6.720	6.80	99.00	n/a	6.010	n/a
S96T004781		Acetate by IC-Dionex 4000/4500	ug/mL	106.5	<2.00e-02	6.26e+02	566.0	596.1	10.1	116.1	n/a	103.0	n/a
S96T004781		Formate by Ion Chromatograph	ug/mL	104.2	<2.00e-02	1.10e+03	1.02e+03	1.06e+03	7.55	94.17	n/a	108.2	n/a
S96T004781		Fluoride by IC-Dionex 4000/4500	ug/mL	99.66	<1.20e-02	<1.22e+02	<1.22e2	n/a	n/a	107.3	n/a	122.4	n/a

Sample #	R. A.#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S961004781		Chloride-IC-Dionex 4000/4500	ug/mL	93.67	<1.70e-01	7.22e+03	7.34e+03	7.28e+03	1.65	79.62	173.4	N/A
S961004781		Nitrite-IC - Dionex 4000/4500	ug/mL	93.17	<1.08e-01	1.09e+03	1.10e+03	1.10e+03	0.91	33.21	1.10e+03	N/A
S961004781		Bromide by Ion Chromatograph	ug/mL	101.0	<1.25e-01	<1.28e+03	<1.28e+03	N/A	N/A	101.0	1.28e+03	N/A
S961004781		Nitrate by IC-Dionex 4000/4500	ug/mL	101.9	1.69e-01	1.70e+03	1.67e+03	1.68e+03	1.78	6.04e-01	1.42e+03	N/A
S961004781		Phosphate-IC-Dionex 4000/4500	ug/mL	94.48	<1.20e-01	3.78e+03	1.81e+03	2.79e+03	70.5	94.67	1.22e+03	N/A
S961004781		Sulfate by IC-Dionex 4000/4500	ug/mL	99.21	<1.38e-01	2.72e+03	1.50e+03	2.11e+03	57.8	101.1	1.41e+03	N/A
S961004781		Oxalate-IC-Dionex 4000/450	ug/mL	95.69	<1.05e-01	1.43e+03	<1.07e3	N/A	N/A	98.69	1.07e+03	N/A
S961004781		Alpha in Liquid Samples	ug/mL	89.61	<5.65e-02	<6.45e-02	<5.65E-2	N/A	N/A	80.22	9.10e-02	5.00E+02

Table 1. Data Summary Report
AN-104

CORE NUMBER: 164
SEGMENT #: 8
SEGMENT PORTION: Drainable Liquid

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T004977	D	DSC Exotherm using Mettler	Joules/g	89.98	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S96T004977	D	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
S96T004977	D	Specific Gravity	Sp. G.	99.03	n/a	1.408	1.408	1.408	0.00	n/a	1.00e-03	n/a
S96T004977	D	% Water by TGA using Mettler	%	99.97	< 1.00e-02	49.32	51.88	50.60	15.6	n/a	6.01	n/a
S96T004977	D	Silver-ICP-Acid Dil.	ug/mL	97.80	< 1.00e-02	20.80	17.30	19.05	18.4	90.90	6.01	n/a
S96T004977	D	Armenic-ICP-Acid Dil.	ug/mL	104.0	< 1.00e-02	4.35e+04	3.72e+04	4.04e+04	15.6	-5.44e02	30.10	n/a
S96T004977	D	Aluminum-ICP-Acid Dil.	ug/mL	97.80	< 1.00e-02	< 60.10	< 60.10	< 60.10	n/a	96.60	60.10	n/a
S96T004977	D	Boron-ICP-Acid Dil.	ug/mL	101.4	< 5.00e-02	< 30.10	62.20	66.15	11.2	98.30	30.10	n/a
S96T004977	D	Barium-ICP-Acid Dil.	ug/mL	98.40	< 5.00e-02	< 3.000	< 3.01e1	n/a	n/a	98.30	30.10	n/a
S96T004977	D	Beryllium-ICP-Acid Dil.	ug/mL	101.2	< 5.00e-03	< 60.10	< 3.00e0	n/a	n/a	102.0	3.000	n/a
S96T004977	D	Bismuth-ICP-Acid Dil.	ug/mL	104.0	< 1.00e-01	< 60.10	< 60.10	n/a	n/a	99.90	60.10	n/a
S96T004977	D	Calcium-ICP-Acid Dil.	ug/mL	96.20	< 1.00e-03	< 3.000	< 3.00e0	n/a	n/a	101.0	60.10	n/a
S96T004977	D	Cadmium-ICP-Acid Dil.	ug/mL	98.60	< 5.00e-03	< 60.10	< 3.00e0	n/a	n/a	98.90	3.000	n/a
S96T004977	D	Cerium-ICP-Acid Dil.	ug/mL	98.60	< 1.00e-01	< 12.00	< 6.01e1	n/a	n/a	99.90	60.10	n/a
S96T004977	D	Cobalt-ICP-Acid Dil.	ug/mL	99.20	< 1.00e-02	3.74e+02	322.0	348.0	14.9	94.10	12.00	n/a
S96T004977	D	Chromium-ICP-Acid Dil.	ug/mL	104.4	< 1.00e-02	< 6.010	9.260	n/a	n/a	104.0	6.010	n/a
S96T004977	D	Copper-ICP-Acid Dil.	ug/mL	99.20	< 5.00e-02	< 30.10	< 3.01e1	n/a	n/a	101.0	30.10	n/a
S96T004977	D	Iron-ICP-Acid Dil.	ug/mL	96.00	< 5.00e-01	7.44e+03	6.29e+03	6.86e+03	16.8	-3.48e01	300.0	n/a
S96T004977	D	Potassium-ICP-Acid Dil.	ug/mL	100.4	< 5.00e-02	< 30.10	< 3.01e1	n/a	n/a	101.0	30.10	n/a
S96T004977	D	Lanthanum-ICP-Acid Dil.	ug/mL	103.6	< 1.00e-02	18.60	28.70	23.65	42.7	105.0	6.010	n/a
S96T004977	D	Lithium-ICP-Acid Dil.	ug/mL	97.40	< 1.00e-01	< 60.10	< 6.01e1	n/a	n/a	96.10	60.10	n/a
S96T004977	D	Magnesium-ICP-Acid Dil.	ug/mL	96.20	< 1.00e-02	< 6.010	< 6.01e0	n/a	n/a	94.80	6.010	n/a
S96T004977	D	Manganese-ICP-Acid Dil.	ug/mL	99.80	< 5.00e-02	91.90	78.10	85.00	16.2	98.70	30.10	n/a
S96T004977	D	Molybdenum-ICP-Acid Dil.	ug/mL	98.80	< 1.00e-01	2.88e+05	2.44e+05	2.66e+05	16.5	-4.24e03	60.10	n/a
S96T004977	D	Sodium-ICP-Acid Dil.	ug/mL	100.4	< 1.00e-01	< 60.10	< 6.01e1	n/a	n/a	101.0	60.10	n/a
S96T004977	D	Neodymium-ICP-Acid Dil.	ug/mL	98.60	< 2.00e-02	< 12.00	< 1.20e1	n/a	n/a	98.30	12.00	n/a
S96T004977	D	Nickel-ICP-Acid Dil.	ug/mL	101.4	< 2.00e-01	1.13e+03	937.0	1.03e+03	18.7	79.40	120.0	n/a
S96T004977	D	Lead-ICP-Acid Dil.	ug/mL	97.60	< 1.00e-01	1.31e+03	1.10e+03	1.20e+03	17.4	97.20	60.10	n/a
S96T004977	D	Sulfur-ICP-Acid Dil.	ug/mL	98.80	< 1.00e-02	< 36.10	< 3.61e1	n/a	n/a	84.60	60.10	n/a
S96T004977	D	Antimony-ICP-Acid Dil.	ug/mL	95.80	< 5.00e-02	< 60.10	< 6.01e1	n/a	n/a	97.00	36.10	n/a
S96T004977	D	Selenium-ICP-Acid Dil.	ug/mL	97.20	< 1.00e-01	< 60.10	< 6.01e1	n/a	n/a	109.80	60.10	n/a
S96T004977	D	Silicon-ICP-Acid Dil.	ug/mL	97.40	< 5.00e-02	3.58e+02	317.0	337.5	12.1	89.80	30.10	n/a
S96T004977	D	Samarium-ICP-Acid Dil.	ug/mL	97.60	< 1.00e-01	< 60.10	< 6.01e1	n/a	n/a	97.30	60.10	n/a
S96T004977	D	Strontium-ICP-Acid Dil.	ug/mL	98.20	< 1.00e-02	< 6.010	< 6.01e0	n/a	n/a	98.60	6.010	n/a
S96T004977	D	Titanium-ICP-Acid Dil.	ug/mL	97.20	< 1.00e-02	< 6.010	< 6.01e0	n/a	n/a	97.30	6.010	n/a
S96T004977	D	Thallium-ICP-Acid Dil.	ug/mL	95.40	< 2.00e-01	< 1.20e+02	< 1.20e2	n/a	n/a	94.20	120.0	n/a
S96T004977	D	Vanadium-ICP-Acid Dil.	ug/mL	95.80	< 5.00e-01	< 3.00e+02	< 3.00e2	n/a	n/a	95.90	300.0	n/a
S96T004977	D	Uranium-ICP-Acid Dil.	ug/mL	99.00	< 5.00e-02	< 30.10	< 3.01e1	n/a	n/a	98.50	30.10	n/a
S96T004977	D	Vanadium-ICP-Acid Dil.	ug/mL	99.20	< 1.00e-02	24.10	24.00	24.05	0.42	99.70	6.010	n/a
S96T004977	D	Zinc-ICP-Acid Dil.	ug/mL	97.60	< 1.00e-02	11.70	11.10	11.40	5.26	98.10	6.010	n/a
S96T004977	D	Zirconium-ICP-Acid Dil.	ug/mL	100.8	6.50e-02	6.85e+02	506.0	595.6	30.1	n/a	82.82	n/a
S96T004977	D	Acetate by IC-Dionex 4000/4500	ug/mL	99.17	< 2.00e-02	1.37e+03	1.07e+03	1.22e+03	24.6	n/a	86.96	n/a
S96T004977	D	Formate by Ion Chromatograph	ug/mL	109.0	< 1.20e-02	3.58e+02	333.0	345.2	7.24	n/a	122.4	n/a
S96T004977	D	Fluoride-IC-Dionex 4000/4500	ug/mL	109.0	< 1.20e-02	3.58e+02	333.0	345.2	7.24	n/a	122.4	n/a

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T004977		Chloride-IC-Dionex 4000/4500	ug/mL	106.8	<1.70e-02	8.93e+03	8.65e+03	8.79e+03	3.19	n/a	173.4	n/a
S96T004977		Nitrite-IC - Dionex 4000/4500	ug/mL	106.7	<1.08e-01	1.24e+05	1.22e+05	1.23e+05	1.63	n/a	1.10e+03	n/a
S96T004977		Bromide by Ion Chromatograph	ug/mL	100.8	<1.25e-01	<1.28e+03	<1.28e+3	n/a	n/a	n/a	1.28e+03	n/a
S96T004977		Nitrate by IC-Dionex 4000/4500	ug/mL	102.2	<1.39e-01	1.75e+05	1.76e+05	1.76e+05	0.57	n/a	1.42e+03	n/a
S96T004977		Phosphate-IC-Dionex 4000/4500	ug/mL	108.5	<1.20e-01	2.19e+03	2.15e+03	2.17e+03	1.84	n/a	1.22e+03	n/a
S96T004977		Sulfate by IC-Dionex 4000/4500	ug/mL	101.9	<1.38e-01	<1.41e+03	<1.41e+3	n/a	n/a	n/a	1.41e+03	n/a
S96T004977		Oxalate-IC-Dionex 4000/450	ug/mL	102.6	<1.05e-01	<5.41e+02	<5.41e+2	n/a	n/a	n/a	540.9	n/a
S96T004977		Alpha in Liquid Samples	uCi/mL	103.9	<3.16e-02	<1.89e-02	<3.16E-2	n/a	n/a	n/a	4.50e-02	5.00E+02

Table 1. Data Summary Report
AN-104

CORE NUMBER: 164
SEGMENT #: 9

SEGMENT PORTION: Drainable Liquid

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S961004978		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
S961004978		DSC Exotherm on Perkin Elmer	Joules/g	99.03	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S961004978		Specific Gravity	Sp.G.	99.97	n/a	1.414	1.409	1.411	0.35	n/a	1.00e-03	n/a
S961004978		% Water by TGA using Mettler	%	99.97	<1.00e-02	52.03	51.03	51.53	1.94	n/a	6.010	n/a
S961004978		D Silver-ICP-Acid Dil.	ug/mL	97.80	<1.00e-02	20.00	17.30	18.55	14.5	n/a	30.10	n/a
S961004978		D Aluminum-ICP-Acid Dil.	ug/mL	97.80	<1.00e-02	4.11e+04	3.47e+04	3.79e+04	16.9	n/a	60.10	n/a
S961004978		D Arsenic-ICP-Acid Dil.	ug/mL	104.0	<1.00e-01	60.10	<6.01e1	n/a	n/a	n/a	30.10	n/a
S961004978		D Boron-ICP-Acid Dil.	ug/mL	101.4	<5.00e-02	68.00	55.20	61.60	20.8	n/a	30.10	n/a
S961004978		D Barium-ICP-Acid Dil.	ug/mL	98.40	<5.00e-02	30.10	<3.01e1	n/a	n/a	n/a	30.10	n/a
S961004978		D Beryllium-ICP-Acid Dil.	ug/mL	101.4	<5.00e-03	3.000	<3.00e0	n/a	n/a	n/a	3.000	n/a
S961004978		D Bismuth-ICP-Acid Dil.	ug/mL	104.0	<1.00e-01	60.10	<6.01e1	n/a	n/a	n/a	60.10	n/a
S961004978		D Calcium-ICP-Acid Dil.	ug/mL	96.20	<1.00e-01	60.10	<6.01e1	n/a	n/a	n/a	60.10	n/a
S961004978		D Cadmium-ICP-Acid Dil.	ug/mL	98.60	<5.00e-03	3.000	<3.00e0	n/a	n/a	n/a	3.000	n/a
S961004978		D Cerium-ICP-Acid Dil.	ug/mL	98.60	<1.00e-01	60.10	<6.01e1	n/a	n/a	n/a	60.10	n/a
S961004978		D Cobalt-ICP-Acid Dil.	ug/mL	99.20	<1.00e-02	12.00	<1.20e1	n/a	n/a	n/a	12.00	n/a
S961004978		D Chromium-ICP-Acid Dil.	ug/mL	99.20	<1.00e-02	3.49e+02	298.0	323.5	15.8	n/a	6.010	n/a
S961004978		D Copper-ICP-Acid Dil.	ug/mL	104.4	<1.00e-02	9.130	<6.01e0	n/a	n/a	n/a	30.10	n/a
S961004978		D Iron-ICP-Acid Dil.	ug/mL	99.20	<5.00e-02	3.000	<3.01e0	n/a	n/a	n/a	300.0	n/a
S961004978		D Potassium-ICP-Acid Dil.	ug/mL	96.00	<5.00e-01	7.08e+03	5.98e+03	6.53e+03	16.8	n/a	30.10	n/a
S961004978		D Lanthanum-ICP-Acid Dil.	ug/mL	100.4	<1.00e-02	30.10	<3.01e1	n/a	n/a	n/a	30.10	n/a
S961004978		D Lithium-ICP-Acid Dil.	ug/mL	103.6	<1.00e-02	9.560	7.300	8.430	26.8	n/a	6.010	n/a
S961004978		D Magnesium-ICP-Acid Dil.	ug/mL	97.40	<1.00e-01	60.10	<6.01e0	n/a	n/a	n/a	60.10	n/a
S961004978		D Manganese-ICP-Acid Dil.	ug/mL	96.20	<1.00e-02	6.010	<6.01e0	n/a	n/a	n/a	6.010	n/a
S961004978		D Molybdenum-ICP-Acid Dil.	ug/mL	99.80	<5.00e-02	8.81e+05	72.50	78.40	15.1	n/a	30.10	n/a
S961004978		D Sodium-ICP-Acid Dil.	ug/mL	98.80	<1.00e-01	2.36e+05	2.36e+05	2.58e+05	17.4	n/a	60.10	n/a
S961004978		D Neodymium-ICP-Acid Dil.	ug/mL	100.4	<1.00e-02	60.10	<6.01e0	n/a	n/a	n/a	60.10	n/a
S961004978		D Nickel-ICP-Acid Dil.	ug/mL	98.60	<2.00e-02	12.00	<1.20e1	n/a	n/a	n/a	12.00	n/a
S961004978		D Phosphorus-ICP-Acid Dil.	ug/mL	101.4	<2.00e-01	1.02e+03	860.0	940.0	17.0	n/a	120.0	n/a
S961004978		D Lead-ICP-Acid Dil.	ug/mL	97.60	<1.00e-01	60.10	76.70	n/a	n/a	n/a	60.10	n/a
S961004978		D Sulfur-ICP-Acid Dil.	ug/mL	99.80	<1.00e-01	1.21e+03	1.04e+03	1.12e+03	15.1	n/a	60.10	n/a
S961004978		D Antimony-ICP-Acid Dil.	ug/mL	95.80	<6.00e-02	36.10	<3.61e1	n/a	n/a	n/a	36.10	n/a
S961004978		D Selenium-ICP-Acid Dil.	ug/mL	97.20	<1.00e-01	60.10	<6.01e0	n/a	n/a	n/a	60.10	n/a
S961004978		D Silicon-ICP-Acid Dil.	ug/mL	97.40	<5.00e-02	3.63e+02	263.0	313.0	31.9	n/a	30.10	n/a
S961004978		D Samarium-ICP-Acid Dil.	ug/mL	97.60	<1.00e-01	60.10	<6.01e0	n/a	n/a	n/a	60.10	n/a
S961004978		D Strontium-ICP-Acid Dil.	ug/mL	98.20	<1.00e-02	6.010	<6.01e0	n/a	n/a	n/a	6.010	n/a
S961004978		D Titanium-ICP-Acid Dil.	ug/mL	97.20	<1.00e-02	6.010	<6.01e0	n/a	n/a	n/a	6.010	n/a
S961004978		D Thallium-ICP-Acid Dil.	ug/mL	95.40	<2.00e-01	<1.20e+02	<1.20e0	n/a	n/a	n/a	120.0	n/a
S961004978		D Uranium-ICP-Acid Dil.	ug/mL	95.80	<5.00e-01	<3.00e+02	<3.00e0	n/a	n/a	n/a	300.0	n/a
S961004978		D Vanadium-ICP-Acid Dil.	ug/mL	99.00	<5.00e-02	30.10	<3.01e1	n/a	n/a	n/a	30.10	n/a
S961004978		D Zirconium-ICP-Acid Dil.	ug/mL	99.20	<1.00e-02	25.70	20.00	22.85	24.9	n/a	6.010	n/a
S961004978		D Zinc-ICP-Acid Dil.	ug/mL	97.60	<1.00e-02	6.010	<6.01e0	n/a	n/a	n/a	6.010	n/a
S961004978		D Zirconium-ICP-Acid Dil.	ug/mL	99.19	<2.00e-02	6.09e+02	621.0	615.1	1.95	n/a	82.82	n/a
S961004978		Acetate by IC-Pionex 4000/4500	ug/mL	98.33	<2.10e-02	1.10e+03	1.04e+03	1.07e+03	5.61	103.3	86.96	n/a
S961004978		Formate by Ion Chromatograph	ug/mL	98.33	<2.10e-02	1.10e+03	1.04e+03	1.07e+03	5.61	103.3	86.96	n/a
S961004978		Fluoride-IC-Pionex 4000/4500	ug/mL	110.5	<1.20e-02	<49.69	<44.97e1	n/a	n/a	119.8	49.69	n/a

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count	Err%
S96T004978		Chloride-IC-Dionex 4000/4500	ug/mL	94.30	<1.70e-02	8.09e+03	9.17e+03	8.63e+03	12.5	95.82	70.40		n/a
S96T004978		Nitrite-IC - Dionex 4000/4500	ug/mL	94.25	<1.08e-01	1.14e+05	1.16e+05	1.15e+05	1.74	92.61	447.2		n/a
S96T004978		Bromide by Ion Chromatograph	ug/mL	96.09	<1.25e-01	8.49e+02	844.0	846.4	0.59	86.76	517.6		n/a
S96T004978		Nitrate by IC-Dionex 4000/4500	ug/mL	97.31	<1.39e-01	1.79e+05	1.78e+05	1.78e+05	0.56	84.18	575.6		n/a
S96T004978		Phosphate-IC-Dionex 4000/4500	ug/mL	91.18	<1.20e-01	2.48e+03	2.23e+03	2.35e+03	10.6	90.26	496.9		n/a
S96T004978		Sulfate by IC-Dionex 4000/4500	ug/mL	101.6	<1.38e-01	1.64e+03	1.93e+03	1.79e+03	16.2	100.6	571.5		n/a
S96T004978		Oxalate-IC-Dionex 4000/450	ug/mL	103.6	<1.09e-01	5.06e+02	472.0	489.0	6.95	103.8	434.8		n/a
S96T004978		Alpha in Liquid Samples	uCi/mL	103.9	<3.18e-02	<1.89e-02	<1.89E-2	n/a	n/a	n/a	4.50e-02	5.00E+02	

Table 1. Data Summary Report
AN-104

CORE NUMBER: 164
SEGMENT #: 10

SEGMENT PORTION: Drainable Liquid

Sample#	R.#	Analyte	Unit	Standard	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T004979	D	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
S96T004979	D	DSC Exotherm on Perkin Elmer	Joules/g	100.4	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S96T004979	D	Specific Gravity	Sp.G.	99.03	n/a	1.383	1.377	1.380	0.43	n/a	1.00e-03	n/a
S96T004979	D	% Water by TGA on Perkin Elmer	%	99.85	< 1.00e-02	51.56	51.84	51.70	0.54	n/a	n/a	n/a
S96T004979	D	Silver-ICP-Acid Dil.	ug/mL	97.80	< 1.00e-02	18.60	18.20	18.40	2.17	n/a	6.010	n/a
S96T004979	D	Aluminum-ICP-Acid Dil.	ug/mL	97.80	< 5.00e-02	3.87e+04	3.72e+04	3.80e+04	3.95	n/a	30.10	n/a
S96T004979	D	Arsenic-ICP-Acid Dil.	ug/mL	104.0	< 1.00e-01	< 60.10	< 60.10e1	< 60.10	n/a	n/a	60.10	n/a
S96T004979	D	Boron-ICP-Acid Dil.	ug/mL	101.4	< 5.00e-02	64.80	63.60	64.20	1.87	n/a	30.10	n/a
S96T004979	D	Barium-ICP-Acid Dil.	ug/mL	98.40	< 5.00e-02	< 30.10	< 30.10e1	< 30.10	n/a	n/a	30.10	n/a
S96T004979	D	Beryllium-ICP-Acid Dil.	ug/mL	104.2	< 5.00e-03	< 3.000	< 3.00e0	< 3.000	n/a	n/a	3.000	n/a
S96T004979	D	Bismuth-ICP-Acid Dil.	ug/mL	101.0	< 1.00e-01	< 60.10	< 60.10e1	< 60.10	n/a	n/a	60.10	n/a
S96T004979	D	Calcium-ICP-Acid Dil.	ug/mL	98.20	< 5.00e-03	< 3.000	< 3.00e0	< 3.000	n/a	n/a	3.000	n/a
S96T004979	D	Cadmium-ICP-Acid Dil.	ug/mL	98.60	< 1.00e-01	< 60.10	< 60.10e1	< 60.10	n/a	n/a	60.10	n/a
S96T004979	D	Cerium-ICP-Acid Dil.	ug/mL	98.60	< 1.00e-01	< 60.10	< 60.10e1	< 60.10	n/a	n/a	60.10	n/a
S96T004979	D	Cobalt-ICP-Acid Dil.	ug/mL	98.80	< 2.00e-02	< 12.00	< 1.20e1	< 12.00	n/a	n/a	12.00	n/a
S96T004979	D	Chromium-ICP-Acid Dil.	ug/mL	99.20	< 1.00e-02	3.32e+02	3.19e+02	3.25e+02	3.99	n/a	6.010	n/a
S96T004979	D	Copper-ICP-Acid Dil.	ug/mL	104.4	< 1.00e-02	< 60.10	< 60.10e1	< 60.10	n/a	n/a	60.10	n/a
S96T004979	D	Iron-ICP-Acid Dil.	ug/mL	99.20	< 5.00e-02	< 30.10	< 3.01e1	< 30.10	n/a	n/a	30.10	n/a
S96T004979	D	Potassium-ICP-Acid Dil.	ug/mL	96.00	< 5.00e-01	6.57e+03	6.33e+03	6.42e+03	2.80	n/a	300.0	n/a
S96T004979	D	Lanthanum-ICP-Acid Dil.	ug/mL	100.4	< 5.00e-02	< 30.10	< 3.01e1	< 30.10	n/a	n/a	30.10	n/a
S96T004979	D	Lithium-ICP-Acid Dil.	ug/mL	103.6	< 1.00e-02	< 15.00	< 1.50e1	< 14.00	14.3	n/a	6.010	n/a
S96T004979	D	Magnesium-ICP-Acid Dil.	ug/mL	97.40	< 1.00e-01	< 60.10	< 60.10e1	< 60.10	n/a	n/a	60.10	n/a
S96T004979	D	Manganese-ICP-Acid Dil.	ug/mL	96.20	< 1.00e-02	< 60.10	< 60.10e1	< 60.10	n/a	n/a	60.10	n/a
S96T004979	D	Molybdenum-ICP-Acid Dil.	ug/mL	99.80	< 5.00e-02	79.90	77.40	78.65	3.18	n/a	30.10	n/a
S96T004979	D	Sodium-ICP-Acid Dil.	ug/mL	98.80	< 1.00e-01	2.57e+05	2.47e+05	2.52e+05	3.97	n/a	60.10	n/a
S96T004979	D	Neodymium-ICP-Acid Dil.	ug/mL	100.4	< 1.00e-01	< 60.10	< 60.10e1	< 60.10	n/a	n/a	60.10	n/a
S96T004979	D	Nickel-ICP-Acid Dil.	ug/mL	98.60	< 2.00e-02	< 12.00	< 1.20e1	< 12.00	n/a	n/a	12.00	n/a
S96T004979	D	Phosphorus-ICP-Acid Dil.	ug/mL	101.4	< 2.00e-01	9.59e+02	888.0	923.5	7.69	n/a	120.0	n/a
S96T004979	D	Lead-ICP-Acid Dil.	ug/mL	97.60	< 1.00e-01	< 60.10	< 60.10e1	< 60.10	n/a	n/a	60.10	n/a
S96T004979	D	Sulfur-ICP-Acid Dil.	ug/mL	96.80	< 1.00e-01	1.14e+03	1.10e+03	1.12e+03	3.57	n/a	60.10	n/a
S96T004979	D	Antimony-ICP-Acid Dil.	ug/mL	95.80	< 2.00e-02	< 36.10	< 3.61e1	< 36.10	n/a	n/a	36.10	n/a
S96T004979	D	Selenium-ICP-Acid Dil.	ug/mL	97.20	< 1.00e-01	< 60.10	< 60.10e1	< 60.10	n/a	n/a	60.10	n/a
S96T004979	D	Silicon-ICP-Acid Dil.	ug/mL	97.40	< 5.00e-02	2.45e+02	2.19e+02	232.0	11.2	n/a	30.10	n/a
S96T004979	D	Samarium-ICP-Acid Dil.	ug/mL	97.60	< 1.00e-01	< 60.10	< 60.10e1	< 60.10	n/a	n/a	60.10	n/a
S96T004979	D	Strontium-ICP-Acid Dil.	ug/mL	98.20	< 1.00e-02	< 60.10	< 60.10e1	< 60.10	n/a	n/a	60.10	n/a
S96T004979	D	Titanium-ICP-Acid Dil.	ug/mL	97.20	< 1.00e-02	< 60.10	< 60.10e1	< 60.10	n/a	n/a	60.10	n/a
S96T004979	D	Thallium-ICP-Acid Dil.	ug/mL	95.40	< 2.00e-01	< 1.20e+02	< 1.20e02	< 1.20e02	n/a	n/a	120.0	n/a
S96T004979	D	Uranium-ICP-Acid Dil.	ug/mL	95.80	< 5.00e-01	33.00e+02	33.00e+02	< 33.00e+02	n/a	n/a	300.0	n/a
S96T004979	D	Vanadium-ICP-Acid Dil.	ug/mL	99.00	< 5.00e-02	< 30.10	< 3.01e1	< 30.10	n/a	n/a	30.10	n/a
S96T004979	D	Zinc-ICP-Acid Dil.	ug/mL	99.20	< 1.00e-02	20.80	21.80	21.30	4.69	n/a	6.010	n/a
S96T004979	D	Zirconium-ICP-Acid Dil.	ug/mL	97.60	< 1.00e-02	< 60.10	< 60.10e1	< 60.10	n/a	n/a	60.10	n/a
S96T004979	D	Acetate by IC-Bioxex 4000/4500	ug/mL	98.33	< 2.00e-02	5.07e+03	512.0	508.0	1.57	n/a	82.82	n/a
S96T004979	D	Formate by Ion Chromatograph	ug/mL	99.19	< 2.10e-02	1.04e+03	1.04e+03	1.05e+03	2.84	n/a	86.96	n/a
S96T004979	D	Fluoride-IC-Bioxex 4000/4500	ug/mL	110.5	< 1.20e-02	< 49.69	< 4.97e1	< 49.69	n/a	n/a	49.69	n/a

Sample#	R A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T004979		Chloride-IC-Dionex 4000/4500	ug/mL	94.30	<1.70e-02	8.11e+03	8.12e+03	8.11e+03	0.12	n/a	70.40	n/a
S96T004979		Nitrite-IC - Dionex 4000/4500	ug/mL	94.25	<1.08e-01	1.11e+05	1.12e+05	1.12e+05	0.90	n/a	447.2	n/a
S96T004979		Bromide by Ion Chromatograph	ug/mL	96.09	<1.25e-01	8.25e+02	810.0	817.6	1.83	n/a	517.6	n/a
S96T004979		Nitrate by IC-Dionex 4000/4500	ug/mL	97.31	<1.39e-01	1.72e+05	1.73e+05	1.73e+05	0.58	n/a	575.6	n/a
S96T004979		Phosphate-IC-Dionex 4000/4500	ug/mL	91.18	<1.20e-01	2.17e+03	2.18e+03	2.18e+03	0.46	n/a	496.9	n/a
S96T004979		Sulfate by IC-Dionex 4000/4500	ug/mL	101.6	<1.38e-01	1.46e+03	1.78e+03	1.62e+03	19.8	n/a	571.5	n/a
S96T004979		Oxalate-IC-Dionex 4000/450	ug/mL	103.6	<1.05e-01	4.95e+02	616.0	555.7	21.8	n/a	434.8	n/a
S96T004979		Alpha in Liquid Samples	uCi/mL	103.9	<3.16e-02	<2.53e-02	<9.43E-2	n/a	n/a	n/a	4.50e+02	5.00E+02

Table 1. Data Summary Report
AN-104

CORE NUMBER: 164
SEGMENT #: 11

SEGMENT PORTION: Drainable Liquid

Sample#	R #	Sample Description	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T004782	D	PSC Exotherm using Mettler	Joules/g	95.9%	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S96T004782	D	PSC 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
S96T004782	D	Specific Gravity	Sp.G.	99.03	n/a	1.406	1.421	1.413	1.06	n/a	1.00e-03	n/a
S96T004782	D	% Water by TGA using Mettler	%	100.1	n/a	51.73	51.69	51.71	0.03	n/a	n/a	n/a
S96T004782	D	% Silver-ICP-Acid Dil.	ug/mL	98.80	< 1.00e-02	18.00	19.50	18.75	8.00	90.80	6.010	n/a
S96T004782	D	% Aluminum-ICP-Acid Dil.	ug/mL	98.00	< 5.00e-02	3.65e+04	3.85e+04	3.75e+04	5.33	607.0	30.10	n/a
S96T004782	D	% Arsenic-ICP-Acid Dil.	ug/mL	102.8	< 1.00e-01	< 60.10	< 60.10e1	< 60.10e1	97.90	97.90	60.10	n/a
S96T004782	D	% Boron-ICP-Acid Dil.	ug/mL	99.40	< 5.00e-02	63.90	66.20	65.05	3.54	100.0	30.10	n/a
S96T004782	D	% Barium-ICP-Acid Dil.	ug/mL	99.40	< 5.00e-02	< 30.10	< 30.10e1	< 30.10e1	99.60	99.60	30.10	n/a
S96T004782	D	% Beryllium-ICP-Acid Dil.	ug/mL	103.4	< 5.00e-03	< 3.000	< 3.00e0	n/a	n/a	104.0	3.000	n/a
S96T004782	D	% Bismuth-ICP-Acid Dil.	ug/mL	101.4	< 1.00e-01	< 60.10	< 60.10e1	n/a	n/a	103.0	60.10	n/a
S96T004782	D	% Cadmium-ICP-Acid Dil.	ug/mL	99.00	< 1.00e-01	< 3.000	< 3.00e0	n/a	n/a	101.0	60.10	n/a
S96T004782	D	% Calcium-ICP-Acid Dil.	ug/mL	99.80	< 5.00e-03	< 3.000	< 3.00e0	n/a	n/a	99.70	3.000	n/a
S96T004782	D	% Cerium-ICP-Acid Dil.	ug/mL	99.60	< 1.00e-01	< 60.10	< 60.10e1	n/a	n/a	101.0	60.10	n/a
S96T004782	D	% Cobalt-ICP-Acid Dil.	ug/mL	100.4	< 2.00e-02	< 12.00	< 1.20e1	n/a	n/a	99.10	12.00	n/a
S96T004782	D	% Chromium-ICP-Acid Dil.	ug/mL	101.0	< 1.00e-02	3.21e+02	333.0	327.0	3.67	104.0	6.010	n/a
S96T004782	D	% Copper-ICP-Acid Dil.	ug/mL	103.6	< 1.00e-02	< 6.010	< 6.01e0	n/a	n/a	105.0	6.010	n/a
S96T004782	D	% Potassium-ICP-Acid Dil.	ug/mL	99.80	< 5.00e-02	< 30.10	< 3.01e1	n/a	n/a	102.0	30.10	n/a
S96T004782	D	% Lanthanum-ICP-Acid Dil.	ug/mL	101.4	< 5.00e-02	< 30.10	< 3.01e1	6.29e+03	5.72	176.0	300.0	n/a
S96T004782	D	% Lithium-ICP-Acid Dil.	ug/mL	101.0	< 1.00e-02	46.90	24.50	35.70	68.7	99.50	6.010	n/a
S96T004782	D	% Magnesium-ICP-Acid Dil.	ug/mL	96.80	< 1.00e-01	< 60.10	< 60.10e1	n/a	n/a	96.30	60.10	n/a
S96T004782	D	% Manganese-ICP-Acid Dil.	ug/mL	97.80	< 1.00e-02	< 6.010	< 6.01e0	n/a	n/a	95.40	6.010	n/a
S96T004782	D	% Molybdenum-ICP-Acid Dil.	ug/mL	100.6	< 5.00e-02	78.00	81.10	79.55	3.90	101.0	30.10	n/a
S96T004782	D	% Sodium-ICP-Acid Dil.	ug/mL	97.80	< 1.00e-01	2.43e+05	2.57e+05	2.50e+05	5.60	3.89e+03	60.10	n/a
S96T004782	D	% Neodymium-ICP-Acid Dil.	ug/mL	101.2	< 1.00e-01	< 60.10	< 60.10e1	n/a	n/a	103.0	60.10	n/a
S96T004782	D	% Nickel-ICP-Acid Dil.	ug/mL	99.00	< 2.00e-02	< 12.00	< 1.20e1	n/a	n/a	100.0	12.00	n/a
S96T004782	D	% Phosphorus-ICP-Acid Dil.	ug/mL	94.60	< 2.00e-01	9.00e+02	899.0	899.5	0.11	109.0	120.0	n/a
S96T004782	D	% Lead-ICP-Acid Dil.	ug/mL	99.00	< 1.00e-01	< 60.10	< 6.01e1	1.14e+03	4.41	108.0	60.10	n/a
S96T004782	D	% Antimony-ICP-Acid Dil.	ug/mL	98.00	< 1.00e-01	1.11e+03	1.16e+03	1.14e+03	4.71	119.0	60.10	n/a
S96T004782	D	% Tellurium-ICP-Acid Dil.	ug/mL	96.00	< 5.00e-02	< 36.10	< 36.10e1	n/a	n/a	97.10	36.10	n/a
S96T004782	D	% Silicon-ICP-Acid Dil.	ug/mL	97.20	< 1.00e-01	< 60.10	< 60.10e1	n/a	n/a	105.0	60.10	n/a
S96T004782	D	% Selenium-ICP-Acid Dil.	ug/mL	98.60	< 5.00e-02	2.79e+02	269.0	274.0	3.65	95.60	30.10	n/a
S96T004782	D	% Samarium-ICP-Acid Dil.	ug/mL	98.20	< 1.00e-01	< 60.10	< 60.10e1	n/a	n/a	98.20	60.10	n/a
S96T004782	D	% Strontium-ICP-Acid Dil.	ug/mL	99.00	< 1.00e-02	< 6.010	< 6.01e0	n/a	n/a	99.60	6.010	n/a
S96T004782	D	% Thallium-ICP-Acid Dil.	ug/mL	97.80	< 1.00e-02	< 6.010	< 6.01e0	n/a	n/a	97.80	6.010	n/a
S96T004782	D	% Thallium-ICP-Acid Dil.	ug/mL	96.00	< 2.00e-01	< 1.20e+02	< 1.20e2	n/a	n/a	92.80	120.0	n/a
S96T004782	D	% Uranium-ICP-Acid Dil.	ug/mL	96.20	< 5.00e-01	< 3.00e+02	< 3.00e2	n/a	n/a	94.50	300.0	n/a
S96T004782	D	% Vanadium-ICP-Acid Dil.	ug/mL	100.4	< 5.00e-02	< 30.10	< 30.10e1	n/a	n/a	99.90	30.10	n/a
S96T004782	D	% Zinc-ICP-Acid Dil.	ug/mL	100.4	< 1.00e-02	24.00	24.80	24.40	3.28	100.0	6.010	n/a
S96T004782	D	% Zirconium-ICP-Acid Dil.	ug/mL	99.00	< 1.00e-02	7.340	6.040	6.690	19.4	99.40	6.010	n/a
S96T004782	D	Acetate by IC-Bioxon 4000/4500	ug/mL	106.5	< 2.00e-02	5.63e+02	546.0	554.5	3.07	n/a	103.0	n/a
S96T004782	D	Formate by Ion Chromatograph	ug/mL	104.2	< 2.10e-02	1.07e+03	1.06e+03	1.07e+03	0.94	n/a	108.2	n/a
S96T004782	D	Fluoride-IC-Bioxon 4000/4500	ug/mL	99.69	< 1.20e-02	< 1.22e+02	< 1.22e2	n/a	n/a	n/a	122.4	n/a

Sample#	R. A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count	Err%
S96T004782		Chloride-IC-Dionex 4000/4500	ug/mL	103.8	<1.70e-02	7.87e+03	7.91e+03	7.89e+03	0.51	n/a	173.4	n/a	n/a
S96T004782		Nitrite-IC - Dionex 4000/4500	ug/mL	98.32	<1.08e-01	1.05e+03	1.05e+03	1.05e+03	0.00	n/a	1.10e+03	n/a	n/a
S96T004782		Bromide by Ion Chromatograph	ug/mL	99.83	<1.25e-01	1.71e+03	1.75e+03	1.73e+03	2.31	n/a	1.28e+03	n/a	n/a
S96T004782		Nitrate by IC-Dionex 4000/4500	ug/mL	102.7	1.55e-01	1.66e+03	1.67e+03	1.66e+03	0.60	n/a	1.42e+03	n/a	n/a
S96T004782		Phosphate-IC-Dionex 4000/4500	ug/mL	97.79	<1.20e-01	3.08e+03	2.61e+03	2.85e+03	16.5	n/a	1.22e+03	n/a	n/a
S96T004782		Sulfate by IC-Dionex 4000/4500	ug/mL	101.7	<1.38e-01	1.96e+03	2.11e+03	2.04e+03	7.37	n/a	1.41e+03	n/a	n/a
S96T004782		Oxalate-IC-Dionex 4000/450	ug/mL	105.7	<1.05e-01	<1.07e+03	<1.07e+03	n/a	n/a	n/a	1.07e+03	n/a	n/a
S96T004782		Alpha in Liquid Samples	uCi/mL	110.4	<2.42e-02	<1.47e-02	<1.79E-2	n/a	n/a	n/a	3.60e-02	5,00E+02	n/a

Table 1. Data Summary Report
AN-104CORE NUMBER: 164
SEGMENT #: 12

SEGMENT PORTION: Drainable Liquid

Sample#	R/L#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec.	Det Limit	Count Err%
S96T004783	D	DSC Exotherm DRY	Joules/g DRY	n/a	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S96T004783	D	DSC Exotherm on Perkin Elmer	Joules/g	99.37	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S96T004783	D	Specific Gravity	Sp.-G.	99.03	n/a	1.419	1.422	1.421	0.21	n/a	1.00e-03	n/a
S96T004783	%	Water by TGA on Perkin Elmer		99.85	n/a	51.37	50.87	51.12	0.98	n/a	6.010	n/a
S96T004783	D	Silver-ICP-Acid Dil.	ug/mL	99.60	<1.00e-02	19.20	20.40	19.80	6.06	89.90	6.010	n/a
S96T004783	D	Aluminum-ICP-Acid Dil.	ug/mL	98.20	<5.00e-04	3.90e+04	4.34e+04	4.12e+04	10.7	82.70	30.10	n/a
S96T004783	D	Arsenic-ICP-Acid Dil.	ug/mL	102.4	<1.00e-01	< 60.10	<6.01e1	n/a	n/a	96.80	60.10	n/a
S96T004783	D	Boron-ICP-Acid Dil.	ug/mL	99.60	<5.00e-02	< 30.10	<69.20	68.15	3.08	98.70	30.10	n/a
S96T004783	D	Barium-ICP-Acid Dil.	ug/mL	100.8	<5.00e-02	< 30.10	<3.01e1	n/a	n/a	99.10	30.10	n/a
S96T004783	D	Beryllium-ICP-Acid Dil.	ug/mL	103.2	<5.00e-03	< 3.000	<3.00e0	n/a	n/a	102.0	3.000	n/a
S96T004783	D	Bismuth-ICP-Acid Dil.	ug/mL	101.8	<1.00e-01	< 60.10	<6.01e1	n/a	n/a	101.0	60.10	n/a
S96T004783	D	Calcium-ICP-Acid Dil.	ug/mL	100.6	<5.00e-03	< 3.000	<3.00e0	n/a	n/a	103.0	60.10	n/a
S96T004783	D	Cadmium-ICP-Acid Dil.	ug/mL	100.6	<5.00e-03	< 3.000	<3.00e0	n/a	n/a	99.90	3.000	n/a
S96T004783	D	Cerium-ICP-Acid Dil.	ug/mL	100.2	<1.00e-01	< 60.10	<6.01e1	n/a	n/a	100.0	60.10	n/a
S96T004783	D	Cobalt-ICP-Acid Dil.	ug/mL	101.0	<2.00e-02	< 12.00	<1.20e1	n/a	n/a	99.80	12.00	n/a
S96T004783	D	Chromium-ICP-Acid Dil.	ug/mL	101.6	<1.00e-02	3.43e+02	381.0	362.0	10.5	100.0	6.010	n/a
S96T004783	D	Copper-ICP-Acid Dil.	ug/mL	103.8	<1.00e-02	< 6.010	<6.01e0	n/a	n/a	103.0	6.010	n/a
S96T004783	D	Iron-ICP-Acid Dil.	ug/mL	101.6	<5.00e-02	< 30.10	<3.01e1	n/a	n/a	102.0	30.10	n/a
S96T004783	D	Potassium-ICP-Acid Dil.	ug/mL	96.00	<5.00e-01	6.54e+03	7.16e+03	6.85e+03	9.05	62.20	300.0	n/a
S96T004783	D	Lanthanum-ICP-Acid Dil.	ug/mL	102.4	<5.00e-02	< 30.10	<3.01e1	n/a	n/a	102.0	30.10	n/a
S96T004783	D	Lithium-ICP-Acid Dil.	ug/mL	101.0	<1.00e-02	< 6.010	<6.01e0	n/a	n/a	103.0	6.010	n/a
S96T004783	D	Magnesium-ICP-Acid Dil.	ug/mL	96.40	<1.00e-01	< 60.10	<6.01e1	n/a	n/a	95.60	60.10	n/a
S96T004783	D	Manganese-ICP-Acid Dil.	ug/mL	98.60	<1.00e-02	< 6.010	<6.01e0	n/a	n/a	95.70	6.010	n/a
S96T004783	D	Molybdenum-ICP-Acid Dil.	ug/mL	101.6	<5.00e-02	83.40	89.10	86.25	6.61	101.0	30.10	n/a
S96T004783	D	Sodium-ICP-Acid Dil.	ug/mL	98.20	<1.00e-01	2.58e+05	2.82e+05	2.70e+05	8.89	-7.03e2	60.10	n/a
S96T004783	D	Neodymium-ICP-Acid Dil.	ug/mL	102.2	<1.00e-01	< 60.10	<6.01e1	n/a	n/a	102.0	60.10	n/a
S96T004783	D	Nickel-ICP-Acid Dil.	ug/mL	99.80	<2.00e-02	< 12.00	<1.20e1	n/a	n/a	99.20	12.00	n/a
S96T004783	D	Phosphorus-ICP-Acid Dil.	ug/mL	92.80	<2.00e-01	8.83e+02	1.05e+03	966.5	17.3	94.00	120.0	n/a
S96T004783	D	Lead-ICP-Acid Dil.	ug/mL	100.6	<1.00e-01	1.14e+03	1.29e+03	1.22e+03	12.3	102.0	60.10	n/a
S96T004783	D	Sulfur-ICP-Acid Dil.	ug/mL	96.80	<1.00e-01	< 36.10	<3.61e1	n/a	n/a	97.00	36.10	n/a
S96T004783	D	Antimony-ICP-Acid Dil.	ug/mL	96.20	<6.00e-02	< 60.10	<6.01e1	n/a	n/a	105.0	60.10	n/a
S96T004783	D	Selenium-ICP-Acid Dil.	ug/mL	99.20	<5.00e-02	2.60e+02	288.0	274.0	10.2	102.0	30.10	n/a
S96T004783	D	Silicon-ICP-Acid Dil.	ug/mL	99.00	<1.00e-01	< 60.10	<6.01e1	n/a	n/a	99.30	60.10	n/a
S96T004783	D	Samarium-ICP-Acid Dil.	ug/mL	99.80	<1.00e-02	< 6.010	<6.01e0	n/a	n/a	99.20	6.010	n/a
S96T004783	D	Strontium-ICP-Acid Dil.	ug/mL	98.40	<1.00e-02	< 6.010	<6.01e0	n/a	n/a	97.80	6.010	n/a
S96T004783	D	Titanium-ICP-Acid Dil.	ug/mL	97.40	<2.00e-01	<1.20e+02	<1.20e2	n/a	n/a	94.80	120.0	n/a
S96T004783	D	Thallium-ICP-Acid Dil.	ug/mL	96.90	<5.00e-01	<3.00e+02	<3.00e2	n/a	n/a	96.00	300.0	n/a
S96T004783	D	Vanadium-ICP-Acid Dil.	ug/mL	101.0	<5.00e-02	< 30.10	<3.01e1	n/a	n/a	100.0	30.10	n/a
S96T004783	D	Zinc-ICP-Acid Dil.	ug/mL	100.8	<1.00e-02	22.50	25.40	23.95	12.1	101.0	6.010	n/a
S96T004783	D	Zirconium-ICP-Acid Dil.	ug/mL	99.00	<1.00e-02	8.170	8.590	8.380	5.01	99.50	6.010	n/a
S96T004783	D	Acetate by IC-Dionex 4000/4500	ug/mL	88.71	<2.00e-02	6.43e+02	623.0	635.2	3.16	n/a	22.22	n/a
S96T004783	D	Formate by Ion Chromatograph	ug/mL	95.00	<2.00e-02	1.06e+03	1.06e+03	1.06e+03	0.00	n/a	23.33	n/a
S96T004783	D	Fluoride-IC-Dionex 4000/4500	ug/mL	99.66	<1.20e-02	<1.22e+02	<1.22e2	n/a	n/a	n/a	122.4	n/a

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count	Err%
S96T004783		Chloride-IC-Dionex 4000/4500	ug/mL	93.67	<1.70e-02	8.43e+03	8.60e+03	8.51e+03	2.00	n/a	173.4		n/a
S96T004783		Nitrite-IC - Dionex 4000/4500	ug/mL	93.17	<1.08e-01	1.28e+03	1.30e+03	1.29e+03	1.55	n/a	1.10e+03		n/a
S96T004783		Bromide by Ion Chromatograph	ug/mL	101.0	<1.25e-01	<1.28e+03	<1.28e+03	n/a	n/a	n/a	1.28e+03		n/a
S96T004783		Nitrate by IC-Dionex 4000/4500	ug/mL	101.9	1.69e-01	1.80e+03	1.77e+03	1.78e+03	1.68	n/a	1.42e+03		n/a
S96T004783		Phosphate-IC-Dionex 4000/4500	ug/mL	94.48	<1.20e-01	2.65e+03	2.77e+03	2.68e+03	2.24	n/a	1.22e+03		n/a
S96T004783		Sulfate by IC-Dionex 4000/4500	ug/mL	99.21	<1.38e-01	1.82e+03	2.31e+03	2.06e+03	23.7	n/a	1.47e+03		n/a
S96T004783		Oxalate-IC-Dionex 4000/450	ug/mL	95.69	<1.09e-01	<1.07e+03	<1.07e+03	n/a	n/a	n/a	1.07e+03		n/a
S96T004783		Alpha In Liquid Samples	uCi/mL	110.4	<2.42e-02	<1.47e-02	<2.10E-2	n/a	n/a	n/a	3.60e-02	5,00E+02	

Table 1. Data Summary Report
AN-104CORE NUMBER: 164
SEGMENT #: 13

SEGMENT PORTION: L Lower Half of Segment

Sample#	R #/Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T004771	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
S96T004773	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
S96T004773	DSC Exotherm on Perkin Elmer	Joules/g	95.96	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S96T004773	% Water by TGA on Perkin Elmer	%	99.07	n/a	47.20	45.64	46.42	3.36	n/a	n/a	n/a
S96T004796	F Nickel - ICP-Fusion	ug/g	100.4	2.32e-01	6.18e+03	4.48e+03	5.33e+03	31.9	99.80	410.0	n/a
S96T004796	F Silver - ICP-Fusion	ug/g	100.6	<1.00e-02	<2.06e+02	<2.07e2	n/a	5.36	93.50	206.0	n/a
S96T004796	F Aluminum - ICP-Fusion	ug/g	100.4	<5.00e-02	2.30e+04	2.18e+04	2.24e+04	5.36	94.60	1.03e+03	n/a
S96T004796	F Arsenic - ICP-Fusion	ug/g	105.0	<1.00e-01	<1.03e+03	<2.07e3	n/a	n/a	106.0	1.03e+03	n/a
S96T004796	F Boron - ICP-Fusion	ug/g	100.6	<5.00e-02	<1.03e+03	<1.04e3	n/a	n/a	96.10	1.03e+03	n/a
S96T004796	F Barium - ICP-Fusion	ug/g	101.8	<5.00e-03	<1.03e+03	<1.04e3	n/a	n/a	98.40	1.03e+03	n/a
S96T004796	F Beryllium - ICP-Fusion	ug/g	103.2	<1.00e-01	<2.06e+03	<2.07e3	n/a	n/a	100.0	2.06e+03	n/a
S96T004796	F Bismuth - ICP-Fusion	ug/g	103.2	<1.00e-01	<2.06e+03	<2.07e3	n/a	n/a	103.0	2.06e+03	n/a
S96T004796	F Calcium - ICP-Fusion	ug/g	100.6	<5.00e-03	<1.03e+02	<1.04e2	n/a	n/a	101.0	103.0	n/a
S96T004796	F Cadmium - ICP-Fusion	ug/g	102.4	<1.00e-01	<2.06e+03	<2.07e3	n/a	n/a	99.60	2.06e+03	n/a
S96T004796	F Cerium - ICP-Fusion	ug/g	99.60	<2.00e-02	<4.12e+02	<4.15e2	n/a	n/a	99.10	410.0	n/a
S96T004796	F Cobalt - ICP-Fusion	ug/g	101.8	<1.00e-02	<3.59e+03	3.58e+03	3.58e+03	0.28	101.0	206.0	n/a
S96T004796	F Chromium - ICP-Fusion	ug/g	104.8	<1.00e-02	<2.06e+02	<2.07e2	n/a	n/a	100.0	206.0	n/a
S96T004796	F Copper - ICP-Fusion	ug/g	101.0	<5.00e-02	<1.03e+03	<1.04e3	n/a	n/a	101.0	1.03e+03	n/a
S96T004796	F Iron - ICP-Fusion	ug/g	104.2	<5.00e-02	<2.06e+02	<2.07e2	n/a	n/a	97.90	206.0	n/a
S96T004796	F Lanthanum - ICP-Fusion	ug/g	98.20	<1.00e-01	<2.06e+03	<2.07e3	n/a	n/a	95.30	2.06e+03	n/a
S96T004796	F Magnesium - ICP-Fusion	ug/g	98.20	<1.00e-01	<2.06e+02	<2.07e3	n/a	n/a	96.30	206.0	n/a
S96T004796	F Manganese - ICP-Fusion	ug/g	99.80	<5.00e-02	<1.03e+03	<1.04e3	n/a	n/a	100.0	1.03e+03	n/a
S96T004796	F Molybdenum - ICP-Fusion	ug/g	99.80	<5.00e-02	2.32e+05	2.27e+05	2.30e+05	2.18	74.80	2.06e+03	n/a
S96T004796	F Sodium - ICP-Fusion	ug/g	103.2	<1.00e-01	<2.06e+03	<2.07e3	n/a	n/a	99.10	2.06e+03	n/a
S96T004796	F Neodymium - ICP-Fusion	ug/g	99.00	<2.00e-01	<4.12e+03	<4.15e3	n/a	n/a	102.0	4.10e+03	n/a
S96T004796	F Phosphorus - ICP-Fusion	ug/g	100.6	<1.00e-01	<2.06e+03	<2.07e3	n/a	n/a	102.0	2.06e+03	n/a
S96T004796	F Lead - ICP-Fusion	ug/g	97.80	<1.00e-01	<2.06e+03	<2.07e3	n/a	n/a	98.30	2.06e+03	n/a
S96T004796	F Sulfur - ICP-Fusion	ug/g	95.20	<6.00e-02	<1.24e+03	<1.24e3	n/a	n/a	94.60	1.23e+03	n/a
S96T004796	F Antimony - ICP-Fusion	ug/g	98.40	<1.00e-01	<2.06e+03	<2.07e3	n/a	n/a	105.0	2.06e+03	n/a
S96T004796	F Selenium - ICP-Fusion	ug/g	95.20	<6.00e-02	1.09e+03	<1.04e3	n/a	n/a	96.00	1.03e+03	n/a
S96T004796	F Silicon - ICP-Fusion	ug/g	101.2	<1.00e-01	<2.06e+03	<2.07e3	n/a	n/a	98.10	2.06e+03	n/a
S96T004796	F Samarium - ICP-Fusion	ug/g	100.8	<1.00e-02	<2.06e+02	<2.07e2	n/a	n/a	97.20	206.0	n/a
S96T004796	F Strontium - ICP-Fusion	ug/g	97.80	<1.00e-02	<2.06e+02	<2.07e2	n/a	n/a	95.80	206.0	n/a
S96T004796	F Tantalum - ICP-Fusion	ug/g	98.40	<2.00e-01	<4.12e+03	<4.15e3	n/a	n/a	98.00	4.10e+03	n/a
S96T004796	F Thorium - ICP-Fusion	ug/g	97.10	<5.00e-01	<1.03e+04	<1.04e4	n/a	n/a	98.80	1.03e+04	n/a
S96T004796	F Uranium - ICP-Fusion	ug/g	100.0	<5.00e-02	<1.03e+03	<1.04e3	n/a	n/a	98.90	1.03e+03	n/a
S96T004796	F Vanadium - ICP-Fusion	ug/g	99.40	<1.00e-02	<2.06e+02	<2.07e2	n/a	n/a	100.0	206.0	n/a
S96T004796	F Zinc - ICP-Fusion	ug/g	98.40	<1.00e-02	<2.06e+02	<2.07e2	n/a	n/a	96.50	206.0	n/a
S96T004796	F Zirconium - ICP-Fusion	ug/g	108.2	<3.52e-02	4.99e-02	<4.95E-2	n/a	n/a	85.52	4.80e-02	1.03e+02
S96T004796	F Alpha of Digested Solid	ug/g	91.30	<1.00e-02	14.50	14.30	14.40	1.39	94.60	4.830	n/a
S96T004798	A Silver - ICP-Acid Digest	ug/g	91.60	9.00e-02	2.18e+04	2.31e+04	2.24e+04	5.79	294.0	24.20	n/a
S96T004798	A Aluminum - ICP-Acid Digest	ug/g	94.00	<1.00e-01	<48.40	<44.77e1	n/a	n/a	94.20	48.30	n/a
S96T004798	A Arsenic - ICP-Acid Digest	ug/g									

Sample#	RI#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec.	Det Limit	Count Err%
S96T004798	A	Boron - ICP-Acid Digest	ug/g	103.8	5.52e-01	1.55e+02	126.0	139.5	n/a	89.80	24.20	n/a
S96T004798	A	Boron - ICP-Acid Digest	ug/g	91.20	5.52e-02	< 24.20	< 2.38e1		n/a	89.80	24.20	n/a
S96T004798	A	Beryllium - ICP-Acid Digest	ug/g	95.60	< 5.00e-03	< 2.420	< 2.38e0		n/a	94.80	2.420	n/a
S96T004798	A	Bismuth - ICP-Acid Digest	ug/g	91.00	< 1.00e-01	< 48.40	< 4.77e1		n/a	96.20	48.30	n/a
S96T004798	A	Calcium - ICP-Acid Digest	ug/g	89.80	< 5.00e-03	2.78e+02	283.0	283.0	3.53	92.40	48.30	n/a
S96T004798	A	Cadmium - ICP-Acid Digest	ug/g	89.40	< 1.00e-01	24.00	25.50	24.75	6.06	92.80	2.420	n/a
S96T004798	A	Cerium - ICP-Acid Digest	ug/g	93.80	< 1.00e-01	< 48.40	< 4.77e1		n/a	97.40	48.30	n/a
S96T004798	A	Cobalt - ICP-Acid Digest	ug/g	92.20	< 2.00e-02	< 9.680	< 9.55e0		n/a	95.40	9.690	n/a
S96T004798	A	Chromium - ICP-Acid Digest	ug/g	92.00	< 1.00e-02	3.49e+03	3.58e+03	3.58e+03	5.30	116.8	4.830	n/a
S96T004798	A	Copper - ICP-Acid Digest	ug/g	92.00	< 1.00e-02	7.060	7.200	7.130	1.96	93.80	4.830	n/a
S96T004798	A	Iron - ICP-Acid Digest	ug/g	89.40	< 5.00e-02	1.88e+02	227.0	207.5	18.8	91.00	24.20	n/a
S96T004798	A	Potassium - ICP-Acid Digest	ug/g	94.20	< 5.00e-02	< 52.40	< 2.38e1		n/a	128.8	24.20	n/a
S96T004798	A	Lanthanum - ICP-Acid Digest	ug/g	94.00	< 1.00e-02	< 24.20	< 2.38e1		n/a	98.80	24.20	n/a
S96T004798	A	Lithium - ICP-Acid Digest	ug/g	84.60	< 1.00e-01	< 48.40	< 4.77e1		n/a	98.80	48.30	n/a
S96T004798	A	Magnesium - ICP-Acid Digest	ug/g	87.60	< 1.00e-02	39.00	41.10	40.05	5.24	89.20	4.830	n/a
S96T004798	A	Manganese - ICP-Acid Digest	ug/g	91.20	< 5.00e-02	44.70	48.50	46.60	8.15	95.40	24.20	n/a
S96T004798	A	Molybdenum - ICP-Acid Digest	ug/g	106.6	7.56e-01	1.87e+05	1.88e+05	1.88e+05	0.53	86.40	48.30	n/a
S96T004798	A	Sodium - ICP-Acid Digest	ug/g	92.00	< 1.00e-01	< 48.40	< 4.77e1		n/a	96.80	48.30	n/a
S96T004798	A	Neodymium - ICP-Acid Digest	ug/g	92.00	< 2.00e-02	1.48e+02	159.0	153.5	7.17	96.60	48.30	n/a
S96T004798	A	Nickel - ICP-Acid Digest	ug/g	95.60	< 2.00e-01	1.99e+03	1.97e+03	1.98e+03	1.01	2.14e1	96.90	n/a
S96T004798	A	Phosphorus - ICP-Acid Digest	ug/g	87.20	< 1.00e-01	< 48.40	< 4.77e1		n/a	96.20	48.30	n/a
S96T004798	A	Sulfur - ICP-Acid Digest	ug/g	92.60	< 1.00e-01	2.78e+03	2.86e+03	2.82e+03	2.84	102.6	48.30	n/a
S96T004798	A	Antimony - ICP-Acid Digest	ug/g	91.00	< 6.00e-02	< 29.00	< 2.86e1		n/a	97.00	29.00	n/a
S96T004798	A	Selenium - ICP-Acid Digest	ug/g	86.20	< 1.00e-01	< 48.40	< 4.77e1		n/a	89.80	48.30	n/a
S96T004798	A	Silicon - ICP-Acid Digest	ug/g	183.2	5.15e-01	1.04e+03	949.0	994.5	9.15	59.80	24.20	n/a
S96T004798	A	Samarium - ICP-Acid Digest	ug/g	91.00	< 1.00e-01	< 48.40	< 4.77e1		n/a	93.80	48.30	n/a
S96T004798	A	Strontium - ICP-Acid Digest	ug/g	90.80	< 1.00e-02	< 4.840	< 4.77e1		n/a	4.830	n/a	n/a
S96T004798	A	Titanium - ICP-Acid Digest	ug/g	84.20	< 1.00e-02	< 4.840	< 4.77e1		n/a	87.00	4.830	n/a
S96T004798	A	Thallium - ICP-Acid Digest	ug/g	85.60	< 2.00e-01	< 96.80	< 9.53e1		n/a	88.40	96.90	n/a
S96T004798	A	Uranium - ICP-Acid Digest	ug/g	88.60	< 5.00e-01	< 2.42e+02	< 2.38e2		n/a	105.0	24.20	n/a
S96T004798	A	Vanadium - ICP-Acid Digest	ug/g	90.40	< 5.00e-02	< 24.20	< 2.38e1		n/a	93.20	24.20	n/a
S96T004798	A	Zinc - ICP-Acid Digest	ug/g	88.60	1.70e-02	66.00	59.00	52.50	51.4	89.60	4.830	n/a
S96T004798	A	Zirconium - ICP-Acid Digest	ug/g	93.60	< 1.00e-02	21.70	22.00	22.05	3.17	96.80	4.830	n/a
S96T004800	W	Fluoride by IC-Dioxin 4000/4500	ug/g	98.98	< 1.20e-02	6.44e+02	622.0	632.8	3.48	89.32	99.67	n/a
S96T004800	W	Chloride by IC-Dioxin 4000/4500	ug/g	99.49	< 1.70e-02	3.15e+03	3.18e+03	3.16e+03	0.95	97.47	141.2	n/a
S96T004800	W	Nitrite by IC-Dioxin 4000/4500	ug/g	105.9	< 1.25e-01	5.78e+04	5.72e+04	5.75e+04	1.04	112.7	897.1	n/a
S96T004800	W	Bromide by Ion Chromatograph	ug/g	92.51	< 1.25e-01	1.04e+03	< 1.02e3		n/a	97.62	1.04e+03	n/a
S96T004800	W	Nitrate by IC-Dioxin 4000/4500	ug/g	98.65	< 1.30e-01	1.61e+03	1.59e+03	1.60e+03	1.25	113.6	1.15e+03	n/a
S96T004800	W	Phosphate by IC-Dioxin 4000/4500	ug/g	97.79	< 1.20e-01	1.53e+03	< 9.80e2		n/a	95.59	996.7	n/a
S96T004800	W	Sulfate by IC-Dioxin 4000/4500	ug/g	99.68	< 1.35e-01	4.39e+03	4.37e+03	4.38e+03	0.46	97.78	1.15e+03	n/a
S96T004800	W	Oxalate by IC-Dioxin 4000/4500	ug/g	99.06	< 1.30e-01	2.10e+03	2.11e+03	2.11e+03	0.48	97.37	872.1	n/a
S97T000649	W	Acetate by IC-Dioxin 4000/4500	ug/g	107.5	< 2.00e-02	6.09e+02	591.0	598.0	2.34	127.0	84.38	n/a
S97T000649	W	Formate by IC-Dioxin 4000/4500	ug/g	102.5	< 6.20e-02	9.46e+02	832.0	888.8	12.8	105.2	261.4	n/a

Drainable Liquid: Drainable Liquid

Sample#	R#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T004784	D	DSC Exotherm Dry	Joules/g Dry	n/a	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S96T004784	D	DSC Exotherm on Perkin Elmer	Joules/g	99.37	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S96T004784	D	Specific Gravity	Sp.G.	99.03	n/a	1.380	1.399	1.389	0.00	n/a	1.00e-03	n/a
S96T004784	D	% Water by TGA on Perkin Elmer	%	99.85	n/a	51.44	51.76	51.60	0.62	n/a	n/a	n/a
S96T004784	D	Silver-ICP-Acid Dil.	ug/mL	99.60	<1.00e-02	17.90	18.80	18.35	4.90	89.40	6.010	n/a
S96T004784	D	Aluminum-ICP-Acid Dil.	ug/mL	98.20	<5.00e-02	3.62e+04	3.80e+04	3.71e+04	4.85	856.0	30.10	n/a
S96T004784	D	Arsenic-ICP-Acid Dil.	ug/mL	102.4	<1.00e-01	< 60.10	< 60.10	< 60.10	n/a	96.00	60.10	n/a
S96T004784	D	Boron-ICP-Acid Dil.	ug/mL	99.60	<5.00e-02	61.30	65.90	63.60	7.23	99.50	30.10	n/a
S96T004784	D	Barium-ICP-Acid Dil.	ug/mL	100.8	<5.00e-02	< 30.10	<3.00e1	n/a	n/a	99.60	30.10	n/a
S96T004784	D	Beryllium-ICP-Acid Dil.	ug/mL	103.2	<5.00e-03	< 3.000	<3.00e1	n/a	n/a	102.0	3.000	n/a
S96T004784	D	Bismuth-ICP-Acid Dil.	ug/mL	101.8	<1.00e-01	< 60.10	< 60.10	n/a	n/a	98.90	60.10	n/a
S96T004784	D	Calcium-ICP-Acid Dil.	ug/mL	100.6	<1.00e-01	< 60.10	< 60.10	n/a	n/a	105.0	60.10	n/a
S96T004784	D	Cadmium-ICP-Acid Dil.	ug/mL	100.6	<5.00e-03	< 3.000	<3.00e1	n/a	n/a	100.0	3.000	n/a
S96T004784	D	Cerium-ICP-Acid Dil.	ug/mL	100.2	<1.00e-01	< 60.10	< 60.10	n/a	n/a	101.0	60.10	n/a
S96T004784	D	Cobalt-ICP-Acid Dil.	ug/mL	101.0	<2.00e-02	< 12.00	<1.20e1	n/a	n/a	99.80	12.00	n/a
S96T004784	D	Chromium-ICP-Acid Dil.	ug/mL	101.6	<1.00e-02	< 6.010	< 6.010	333.5	4.50	101.0	6.010	n/a
S96T004784	D	Copper-ICP-Acid Dil.	ug/mL	103.8	<1.00e-02	< 30.10	< 30.10	n/a	n/a	103.0	30.10	n/a
S96T004784	D	Iron-ICP-Acid Dil.	ug/mL	101.6	<5.00e-02	< 30.10	<3.01e1	n/a	n/a	101.0	30.10	n/a
S96T004784	D	Potassium-ICP-Acid Dil.	ug/mL	96.00	<5.00e-01	6.08e+03	6.29e+03	6.29e+03	6.68	224.0	300.0	n/a
S96T004784	D	Lanthanum-ICP-Acid Dil.	ug/mL	102.4	<5.00e-02	< 30.10	<3.01e1	n/a	n/a	102.0	30.10	n/a
S96T004784	D	Lithium-ICP-Acid Dil.	ug/mL	101.0	<1.00e-02	7.430	7.800	7.615	4.86	102.0	6.010	n/a
S96T004784	D	Magnesium-ICP-Acid Dil.	ug/mL	96.40	<1.00e-01	< 60.10	< 60.10	n/a	n/a	95.50	60.10	n/a
S96T004784	D	Manganese-ICP-Acid Dil.	ug/mL	98.60	<1.00e-02	< 6.010	< 6.010	n/a	n/a	95.90	6.010	n/a
S96T004784	D	Molybdenum-ICP-Acid Dil.	ug/mL	101.6	<5.00e-02	< 79.20	83.20	81.20	4.93	103.0	30.10	n/a
S96T004784	D	Sodium-ICP-Acid Dil.	ug/mL	98.20	<1.00e-01	2.41e+05	2.54e+05	2.48e+05	5.25	5.56e+03	60.10	n/a
S96T004784	D	Neodymium-ICP-Acid Dil.	ug/mL	102.2	<1.00e-01	< 60.10	< 60.10	n/a	n/a	102.0	60.10	n/a
S96T004784	D	Nickel-ICP-Acid Dil.	ug/mL	99.80	<2.00e-02	< 12.00	<1.20e1	n/a	n/a	101.0	12.00	n/a
S96T004784	D	Phosphorus-ICP-Acid Dil.	ug/mL	92.80	<2.00e-01	8.04e+02	837.0	820.5	4.02	121.0	120.0	n/a
S96T004784	D	Lead-ICP-Acid Dil.	ug/mL	100.6	<1.00e-01	< 60.10	< 60.10	n/a	n/a	108.0	60.10	n/a
S96T004784	D	Sulfur-ICP-Acid Dil.	ug/mL	96.80	<1.00e-01	1.15e+03	1.22e+03	1.18e+03	5.91	128.0	60.10	n/a
S96T004784	D	Antimony-ICP-Acid Dil.	ug/mL	96.20	<6.00e-02	< 36.10	<3.61e1	n/a	n/a	97.00	36.10	n/a
S96T004784	D	Selenium-ICP-Acid Dil.	ug/mL	97.20	<1.00e-01	< 60.10	< 60.10	n/a	n/a	106.0	60.10	n/a
S96T004784	D	Silicon-ICP-Acid Dil.	ug/mL	99.20	<5.00e-02	2.13e+02	206.0	209.5	3.34	103.0	30.10	n/a
S96T004784	D	Samarium-ICP-Acid Dil.	ug/mL	99.00	<1.00e-01	< 60.10	< 60.10	n/a	n/a	98.30	60.10	n/a
S96T004784	D	Strontium-ICP-Acid Dil.	ug/mL	99.80	<1.00e-02	< 6.010	< 6.010	n/a	n/a	99.30	6.010	n/a
S96T004784	D	Titanium-ICP-Acid Dil.	ug/mL	98.40	<1.00e-02	< 6.010	< 6.010	n/a	n/a	97.70	6.010	n/a
S96T004784	D	Thallium-ICP-Acid Dil.	ug/mL	97.40	<2.00e-01	<1.20e+02	<1.20e2	n/a	n/a	96.60	120.0	n/a
S96T004784	D	Uranium-ICP-Acid Dil.	ug/mL	96.90	<5.00e-01	<3.00e+02	<3.00e2	n/a	n/a	96.00	300.0	n/a
S96T004784	D	Vanadium-ICP-Acid Dil.	ug/mL	101.0	<5.00e-02	< 30.10	<3.01e1	n/a	n/a	100.0	30.10	n/a
S96T004784	D	Zinc-ICP-Acid Dil.	ug/mL	100.8	<1.00e-02	27.80	22.60	25.20	20.6	101.0	6.010	n/a
S96T004784	D	Zirconium-ICP-Acid Dil.	ug/mL	99.80	<1.00e-02	7.780	7.820	7.800	0.51	100.0	6.010	n/a
S96T004784	D	Acetate by IC-Dionex 4000/4500	ug/mL	88.71	<2.00e-02	5.99e+02	578.0	588.3	3.57	73.39	22.22	n/a
S96T004784	D	Formate by Ion Chromatograph	ug/mL	95.00	<2.00e-02	9.95e+02	971.0	982.8	2.44	108.3	23.33	n/a
S96T004784	D	Fluoride-IC-Dionex 4000/4500	ug/mL	100.8	<1.20e-02	< 61.81	< 61.81	n/a	n/a	60.85	61.81	n/a
S96T004784	D	Chloride-IC-Dionex 4000/4500	ug/mL	96.20	<1.00e-01	8.24e+03	7.89e+03	8.06e+03	4.34	87.09	87.57	n/a
S96T004784	D	Nitrite-IC-Dionex 4000/4500	ug/mL	100.4	<1.70e-02	1.19e+05	1.14e+05	1.16e+05	4.29	89.89	556.3	n/a
S96T004784	D	Bromide by Ion Chromatograph	ug/mL	96.27	<1.25e-01	9.02e+02	887.0	894.8	1.68	84.24	643.9	n/a
S96T004784	D	Nitrate by IC-Dionex 4000/4500	ug/mL	97.14	<1.39e-01	1.72e+05	1.72e+05	1.77e+05	5.65	58.25	716.0	n/a
S96T004784	D	Phosphate-IC-Dionex 4000/4500	ug/mL	97.61	<1.20e-01	2.20e+03	2.10e+03	2.15e+03	4.65	95.78	618.1	n/a

Sample#	R A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count	Err%
S961004784		Sulfate by IC-Dionex 4000/4500	ug/mL	95.72	<1.33e-01	1.89e+03	2.09e+03	1.98e+03	10.6	93.50	710.8		n/a
S961004784		Oxalate-IC-Dionex 4000/450	ug/mL	99.62	<1.05e-01	-5.41e+02	-5.41e2	n/a	n/a	98.50	540.9		n/a
S961004784		Alpha In Liquid Samples	uCi/mL	110.4	<2.42e-02	-2.73e-02	-2.42E-2	n/a	n/a	110.9	3.60e-02	5,00E+02	

Table 1. Data Summary Report
AN-104

CORE NUMBER: 164
SEGMENT #: 14

SEGMENT PORTION: U Upper Half of Segment

Sample#	R/A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD	Spk Rec %	Det Limit	Count Err%
S96T004965		Bulk Density of Sample	g/mL	n/a	n/a	1.560	n/a	n/a	n/a	n/a	5.00e-01	n/a
S96T004964		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
S96T004964		DSC Exotherm on Perkin Elmer	Joules/g	95.68	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S96T004964		% Water by TGA on Perkin Elmer	%	99.07	n/a	46.04	45.63	45.84	0.89	n/a	n/a	n/a
S96T005035		F Potassium - ICP-Fusion	ug/g	97.80	<5.00e-01	9.33e+06	n/a	n/a	n/a	n/a	1.02e+04	n/a
S96T005035		F Nickel - ICP-Fusion	ug/g	100.4	2.32e-01	1.60e+03	5.87e+03	3.74e+03	114	n/a	408.0	n/a
S96T005035		F Silver - ICP-Fusion	ug/g	100.6	<1.00e-02	<2.04e+02	<2.06e2	n/a	n/a	n/a	204.0	n/a
S96T005035		F Aluminum - ICP-Fusion	ug/g	100.4	<1.00e-01	2.24e+04	2.02e+04	2.13e+04	10.3	n/a	1.02e+03	n/a
S96T005035		F Arsenic - ICP-Fusion	ug/g	105.0	<1.00e-01	<2.04e+03	<2.06e3	n/a	n/a	n/a	2.04e+03	n/a
S96T005035		F Boron - ICP-Fusion	ug/g	100.6	<5.00e-02	<1.02e+03	<1.03e3	n/a	n/a	n/a	102.0	n/a
S96T005035		F Barium - ICP-Fusion	ug/g	101.8	<5.00e-02	<1.02e+03	<1.03e3	n/a	n/a	n/a	1.02e+03	n/a
S96T005035		F Beryllium - ICP-Fusion	ug/g	104.8	<5.00e-01	<1.02e+02	<1.03e2	n/a	n/a	n/a	2.04e+03	n/a
S96T005035		F Bismuth - ICP-Fusion	ug/g	103.2	<1.00e-01	<2.04e+03	<2.06e3	n/a	n/a	n/a	2.04e+03	n/a
S96T005035		F Calcium - ICP-Fusion	ug/g	100.2	<5.00e-01	<2.04e+03	<2.06e3	n/a	n/a	n/a	102.0	n/a
S96T005035		F Cadmium - ICP-Fusion	ug/g	100.6	<5.00e-03	<1.03e2	<1.06e3	n/a	n/a	n/a	2.04e+03	n/a
S96T005035		F Cerium - ICP-Fusion	ug/g	102.4	<1.00e-01	<2.04e+03	<2.06e3	n/a	n/a	n/a	2.04e+03	n/a
S96T005035		F Cobalt - ICP-Fusion	ug/g	99.60	<2.00e-02	8.27e+02	44.12e2	n/a	n/a	n/a	408.0	n/a
S96T005035		F Chromium - ICP-Fusion	ug/g	101.8	<1.00e-02	<2.04e+02	776.0	801.5	6.36	n/a	204.0	n/a
S96T005035		F Copper - ICP-Fusion	ug/g	104.8	<1.00e-02	<2.04e+02	<2.06e2	n/a	n/a	n/a	1.02e+03	n/a
S96T005035		F Iron - ICP-Fusion	ug/g	101.0	<5.00e-02	<1.02e+03	<1.03e3	n/a	n/a	n/a	1.02e+03	n/a
S96T005035		F Lanthanum - ICP-Fusion	ug/g	104.2	<5.00e-02	<2.04e+03	<1.03e3	n/a	n/a	n/a	204.0	n/a
S96T005035		F Lithium - ICP-Fusion	ug/g	104.6	<1.00e-02	<2.04e+03	<2.06e2	n/a	n/a	n/a	2.04e+03	n/a
S96T005035		F Magnesium - ICP-Fusion	ug/g	98.20	<1.00e-01	<2.04e+03	<2.06e3	n/a	n/a	n/a	204.0	n/a
S96T005035		F Manganese - ICP-Fusion	ug/g	98.60	<1.00e-02	<2.04e+03	<2.06e2	n/a	n/a	n/a	1.02e+03	n/a
S96T005035		F Molybdenum - ICP-Fusion	ug/g	99.80	<5.00e-02	<1.02e+03	<1.03e3	n/a	n/a	n/a	2.04e+03	n/a
S96T005035		F Sodium - ICP-Fusion	ug/g	98.80	2.600	2.38e+05	2.38e+05	0.00	0.00	n/a	2.04e+03	n/a
S96T005035		F Neodymium - ICP-Fusion	ug/g	103.2	<1.00e-01	<2.04e+03	<2.06e3	n/a	n/a	n/a	2.04e+03	n/a
S96T005035		F Phosphorus - ICP-Fusion	ug/g	99.00	<2.00e-01	44.08e+03	44.12e3	n/a	n/a	n/a	4.08e+03	n/a
S96T005035		F Lead - ICP-Fusion	ug/g	100.6	<1.00e-01	<2.04e+03	<2.06e3	n/a	n/a	n/a	2.04e+03	n/a
S96T005035		F Sulfur - ICP-Fusion	ug/g	97.80	<1.00e-01	2.69e+03	2.75e+03	2.72e+03	2.21	n/a	2.04e+03	n/a
S96T005035		F Antimony - ICP-Fusion	ug/g	95.20	<6.00e-02	<1.22e+03	<1.24e3	n/a	n/a	n/a	1.22e+03	n/a
S96T005035		F Selenium - ICP-Fusion	ug/g	98.40	<1.00e-01	<2.04e+03	<2.06e3	n/a	n/a	n/a	2.04e+03	n/a
S96T005035		F Strontium - ICP-Fusion	ug/g	95.20	<5.00e-02	1.30e+03	1.24e+03	1.27e+03	4.72	n/a	1.02e+03	n/a
S96T005035		F Samarium - ICP-Fusion	ug/g	101.2	<1.00e-01	<2.04e+03	<2.06e3	n/a	n/a	n/a	2.04e+03	n/a
S96T005035		F Thallium - ICP-Fusion	ug/g	100.8	<1.00e-02	<2.04e+02	<2.06e2	n/a	n/a	n/a	204.0	n/a
S96T005035		F Titanium - ICP-Fusion	ug/g	97.80	<2.00e-01	44.08e+03	44.12e3	n/a	n/a	n/a	4.08e+03	n/a
S96T005035		F Uranium - ICP-Fusion	ug/g	97.10	<5.00e-01	<1.02e+04	<1.03e4	n/a	n/a	n/a	1.02e+04	n/a
S96T005035		F Vanadium - ICP-Fusion	ug/g	100.0	<5.00e-02	<1.02e+03	<1.03e3	n/a	n/a	n/a	204.0	n/a
S96T005035		F Zinc - ICP-Fusion	ug/g	99.40	<1.00e-02	<2.04e+02	<2.06e2	n/a	n/a	n/a	204.0	n/a
S96T005035		F Zirconium - ICP-Fusion	ug/g	98.40	<1.00e-02	<2.04e+02	<2.06e2	n/a	n/a	n/a	4.730	n/a
S96T005042		A Silver - ICP-Acid Digest	ug/g	91.30	<1.00e-02	13.70	14.40	14.05	4.98	n/a	23.70	n/a
S96T005042		A Aluminum - ICP-Acid Digest	ug/g	97.60	9.00e-02	2.17e+04	2.17e+04	0.00	0.00	n/a	47.30	n/a
S96T005042		A Arsenic - ICP-Acid Digest	ug/g	94.00	<1.00e-01	<47.40	<4.80e1	n/a	n/a	n/a	47.30	n/a

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S961005042	A	Boron - ICP-Acid Digest	ug/g	103.8	5.52e-01	1.19e-02	133.0	126.0	11.1	n/a	23.70	n/a
S961005042	A	Barium - ICP-Acid Digest	ug/g	91.20	<5.00e-02	< 23.70	<2.40e1	n/a	n/a	n/a	23.70	n/a
S961005042	A	Beryllium - ICP-Acid Digest	ug/g	95.60	<5.00e-03	< 2.370	<2.40e1	n/a	n/a	n/a	23.70	n/a
S961005042	A	Bismuth - ICP-Acid Digest	ug/g	91.00	<1.00e-01	< 47.40	<4.80e1	n/a	n/a	n/a	47.30	n/a
S961005042	A	Calcium - ICP-Acid Digest	ug/g	89.80	<1.00e-01	1.88e+02	197.0	192.5	4.68	n/a	47.30	n/a
S961005042	A	Calcium - ICP-Acid Digest	ug/g	89.40	<1.00e-01	11.70	11.80	11.75	0.85	n/a	23.70	n/a
S961005042	A	Cerium - ICP-Acid Digest	ug/g	92.80	<1.00e-01	< 47.40	<4.80e1	n/a	n/a	n/a	47.30	n/a
S961005042	A	Cobalt - ICP-Acid Digest	ug/g	92.20	<1.00e-02	< 9.490	<9.59e0	n/a	n/a	n/a	9.490	n/a
S961005042	A	Chromium - ICP-Acid Digest	ug/g	92.00	<1.00e-02	1.79e+03	1.77e+03	1.78e+03	1.12	n/a	47.30	n/a
S961005042	A	Copper - ICP-Acid Digest	ug/g	92.00	<1.00e-02	19.00	5.670	12.34	108	n/a	47.30	n/a
S961005042	A	Iron - ICP-Acid Digest	ug/g	89.40	<5.00e-02	97.60	97.10	97.35	0.51	n/a	23.70	n/a
S961005042	A	Potassium - ICP-Acid Digest	ug/g	92.20	<5.00e-01	3.82e+03	3.88e+03	3.85e+03	1.56	n/a	237.0	n/a
S961005042	A	Lanthanum - ICP-Acid Digest	ug/g	94.00	<5.00e-02	< 23.70	<2.40e1	n/a	n/a	n/a	23.70	n/a
S961005042	A	Lithium - ICP-Acid Digest	ug/g	84.60	<1.00e-01	22.00	21.90	21.95	0.46	n/a	47.30	n/a
S961005042	A	Magnesium - ICP-Acid Digest	ug/g	87.60	<1.00e-01	< 47.40	<4.80e1	n/a	n/a	n/a	47.30	n/a
S961005042	A	Manganese - ICP-Acid Digest	ug/g	87.60	<1.00e-01	19.00	18.80	18.90	1.06	n/a	47.30	n/a
S961005042	A	Molybdenum - ICP-Acid Digest	ug/g	106.6	7.56e-01	45.00	43.90	44.45	2.47	n/a	23.70	n/a
S961005042	A	Sodium - ICP-Acid Digest	ug/g	106.6	7.56e-01	1.97e+05	1.89e+05	1.90e+05	1.05	n/a	47.30	n/a
S961005042	A	Neodymium - ICP-Acid Digest	ug/g	92.40	<1.00e-01	< 47.40	<4.80e1	n/a	n/a	n/a	47.30	n/a
S961005042	A	Nickel - ICP-Acid Digest	ug/g	92.00	<2.00e-02	72.90	70.70	71.80	3.06	n/a	9.490	n/a
S961005042	A	Phosphorus - ICP-Acid Digest	ug/g	95.60	<2.00e-01	9.97e+02	1.17e+03	1.08e+03	16.6	n/a	94.90	n/a
S961005042	A	Lead - ICP-Acid Digest	ug/g	87.20	<1.00e-01	4.34e+02	706.0	570.0	47.7	n/a	47.30	n/a
S961005042	A	Sulfur - ICP-Acid Digest	ug/g	92.60	<1.00e-01	3.26e+03	3.27e+03	3.26e+03	0.31	n/a	47.30	n/a
S961005042	A	Antimony - ICP-Acid Digest	ug/g	91.00	<6.00e-02	< 28.50	<2.88e1	n/a	n/a	n/a	28.50	n/a
S961005042	A	Selenium - ICP-Acid Digest	ug/g	86.20	<1.00e-01	< 47.40	<4.80e1	n/a	n/a	n/a	47.30	n/a
S961005042	A	Silicon - ICP-Acid Digest	ug/g	143.2	5.15e-01	4.07e+02	5.47	474.0	30.8	n/a	23.70	n/a
S961005042	A	Samarium - ICP-Acid Digest	ug/g	91.00	<1.00e-01	< 47.40	<4.80e1	n/a	n/a	n/a	47.30	n/a
S961005042	A	Strontium - ICP-Acid Digest	ug/g	90.80	<1.00e-02	< 4.740	<4.80e1	n/a	n/a	n/a	47.30	n/a
S961005042	A	Titanium - ICP-Acid Digest	ug/g	84.20	<1.00e-02	< 4.740	<4.80e1	n/a	n/a	n/a	47.30	n/a
S961005042	A	Thallium - ICP-Acid Digest	ug/g	85.60	<2.00e-01	< 94.90	<9.59e1	n/a	n/a	n/a	94.90	n/a
S961005042	A	Uranium - ICP-Acid Digest	ug/g	88.60	<5.00e-01	<2.37e+02	<2.40e2	n/a	n/a	n/a	237.0	n/a
S961005042	A	Vanadium - ICP-Acid Digest	ug/g	90.40	<5.00e-02	< 23.70	<2.40e1	n/a	n/a	n/a	23.70	n/a
S961005042	A	Zinc - ICP-Acid Digest	ug/g	88.60	<1.00e-02	37.00	32.10	34.55	14.2	n/a	47.30	n/a
S961005042	A	Zirconium - ICP-Acid Digest	ug/g	93.60	<1.00e-02	15.50	15.50	15.60	1.28	n/a	47.30	n/a
S961005067	W	Acetate by IC-DIONEX 4000/4500	ug/g	88.71	6.00e-02	6.26e+02	637.0	630.1	2.22	93.55	163.8	n/a
S961005067	W	Formate by IC-DIONEX 4000/4500	ug/g	96.67	<2.00e-02	8.53e+02	850.0	851.6	0.35	93.33	171.9	n/a
S961005067	W	Fluoride-IC-DIONEX 4000/4500	ug/g	103.9	<1.20e-02	6.37e+02	635.0	635.9	0.31	90.68	98.24	n/a
S961005067	W	Chloride-IC-DIONEX 4000/4500	ug/g	103.2	<1.20e-02	5.03e+03	5.03e+03	5.03e+03	0.00	98.73	139.2	n/a
S961005067	W	Nitrite-IC - Dionex 4000/4500	ug/g	103.3	<1.08e-01	6.52e+04	6.48e+04	6.50e+04	0.62	104.7	884.4	n/a
S961005067	W	Bromide by Ion Chromatograph	ug/g	100.8	<1.20e-01	1.16e+03	1.16e+03	1.16e+03	0.96	99.83	1.02e+03	n/a
S961005067	W	Nitrate by IC-DIONEX 4000/4500	ug/g	103.0	<1.71e-01	1.04e+05	1.05e+05	1.04e+05	0.96	111.1	1.1e+03	n/a
S961005067	W	Phosphate-IC-DIONEX 4000/4500	ug/g	100.2	<1.20e-01	2.97e+03	2.93e+03	2.95e+03	1.36	98.35	982.4	n/a
S961005067	W	Sulfate by IC-DIONEX 4000/4500	ug/g	104.9	<1.38e-01	1.10e+04	1.10e+04	1.10e+04	0.00	101.9	1.1e+03	n/a
S961005067	W	Oxalate-IC-DIONEX 4000/4500	ug/g	107.6	<1.05e-01	1.08e+04	1.07e+04	1.08e+04	0.93	106.9	859.8	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%
S96T004966		Bulk Density of Sample	g/mL	N/A	N/A	1.520	N/A	N/A	N/A	N/A	5.00e-01	N/A
S96T004968		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
S96T004968		DSC Exotherm on Perkin Elmer	Joules/g	99.68	N/A	0.00e+00	0.00e+00	0.00e+00	0.00	N/A	N/A	N/A
S96T004985		% Water by IGA on Perkin Elmer	Joules/g	99.07	N/A	46.72	46.60	46.66	0.26	N/A	N/A	N/A
S96T005030	F	Potassium - ICP-Fusion	ug/g	97.80	< 5.00e-01	8.34e+06	N/A	N/A	N/A	N/A	1.02e+04	N/A
S96T005030	F	Nickel - ICP-Fusion	ug/g	100.4	2.32e-01	6.06e+03	2.92e+03	4.49e+03	69.9	N/A	410.0	N/A
S96T005030	F	Silver - ICP-Fusion	ug/g	100.6	< 1.00e-02	< 2.05e+02	< 2.05e+02	N/A	N/A	N/A	205.0	N/A
S96T005030	F	Aluminum - ICP-Fusion	ug/g	100.4	< 5.00e-02	2.29e+04	2.18e+04	2.24e+04	4.92	N/A	1.02e+03	N/A
S96T005030	F	Arsenic - ICP-Fusion	ug/g	105.0	< 1.00e-01	< 2.05e+03	< 2.05e+03	N/A	N/A	N/A	2.05e+03	N/A
S96T005030	F	Boron - ICP-Fusion	ug/g	100.6	< 5.00e-02	< 1.02e+03	< 1.02e+03	N/A	N/A	N/A	1.02e+03	N/A
S96T005030	F	Barium - ICP-Fusion	ug/g	101.8	< 5.00e-02	< 1.02e+03	< 1.02e+03	N/A	N/A	N/A	102.0	N/A
S96T005030	F	Beryllium - ICP-Fusion	ug/g	103.2	< 1.00e-01	< 2.05e+03	< 2.05e+03	N/A	N/A	N/A	2.05e+03	N/A
S96T005030	F	Bismuth - ICP-Fusion	ug/g	104.8	< 5.00e-02	< 1.02e+03	< 1.02e+03	N/A	N/A	N/A	2.05e+03	N/A
S96T005030	F	Calcium - ICP-Fusion	ug/g	103.2	< 1.00e-01	< 2.05e+03	< 2.05e+03	N/A	N/A	N/A	2.05e+03	N/A
S96T005030	F	Cadmium - ICP-Fusion	ug/g	100.6	< 5.00e-03	< 1.02e+03	< 1.02e+03	N/A	N/A	N/A	102.0	N/A
S96T005030	F	Cerium - ICP-Fusion	ug/g	102.4	< 1.00e-01	< 2.05e+03	< 2.05e+03	N/A	N/A	N/A	2.05e+03	N/A
S96T005030	F	Cobalt - ICP-Fusion	ug/g	99.60	< 2.00e-02	< 1.02e+03	< 1.02e+03	N/A	N/A	N/A	410.0	N/A
S96T005030	F	Chromium - ICP-Fusion	ug/g	101.8	< 1.00e-02	1.10e+03	998.0	1.01e+03	2.18	N/A	205.0	N/A
S96T005030	F	Copper - ICP-Fusion	ug/g	104.8	< 1.00e-02	< 2.05e+03	< 2.05e+03	N/A	N/A	N/A	2.05e+03	N/A
S96T005030	F	Lanthanum - ICP-Fusion	ug/g	104.2	< 5.00e-02	< 1.02e+03	< 1.02e+03	N/A	N/A	N/A	1.02e+03	N/A
S96T005030	F	Lithium - ICP-Fusion	ug/g	104.6	< 1.00e-02	< 2.05e+03	< 2.05e+03	N/A	N/A	N/A	1.02e+03	N/A
S96T005030	F	Manganese - ICP-Fusion	ug/g	98.20	< 1.00e-01	< 2.05e+03	< 2.05e+03	N/A	N/A	N/A	205.0	N/A
S96T005030	F	Molybdenum - ICP-Fusion	ug/g	99.80	< 5.00e-02	< 1.02e+03	< 1.02e+03	N/A	N/A	N/A	2.05e+03	N/A
S96T005030	F	Sodium - ICP-Fusion	ug/g	98.80	2.600	2.34e+05	2.33e+05	2.34e+05	0.43	N/A	1.02e+03	N/A
S96T005030	F	Neodymium - ICP-Fusion	ug/g	103.2	< 1.00e-01	< 2.05e+03	< 2.05e+03	N/A	N/A	N/A	2.05e+03	N/A
S96T005030	F	Phosphorus - ICP-Fusion	ug/g	99.00	< 2.00e-01	< 4.10e+03	< 4.07e3	N/A	N/A	N/A	4.10e+03	N/A
S96T005030	F	Lead - ICP-Fusion	ug/g	100.6	< 1.00e-01	< 2.05e+03	< 2.05e+03	N/A	N/A	N/A	2.05e+03	N/A
S96T005030	F	Sulfur - ICP-Fusion	ug/g	97.80	< 1.00e-01	3.30e+03	3.41e+03	3.36e+03	3.28	N/A	2.05e+03	N/A
S96T005030	F	Antimony - ICP-Fusion	ug/g	95.20	< 5.00e-02	< 1.22e+03	< 1.22e3	N/A	N/A	N/A	1.22e+03	N/A
S96T005030	F	Selenium - ICP-Fusion	ug/g	98.40	< 1.00e-01	< 2.05e+03	< 2.05e+03	N/A	N/A	N/A	2.05e+03	N/A
S96T005030	F	Silicon - ICP-Fusion	ug/g	95.20	< 5.00e-02	1.75e+03	< 1.75e+03	N/A	N/A	N/A	1.02e+03	N/A
S96T005030	F	Samarium - ICP-Fusion	ug/g	101.2	< 1.00e-01	< 2.05e+03	< 2.05e+03	N/A	N/A	N/A	2.05e+03	N/A
S96T005030	F	Strontium - ICP-Fusion	ug/g	100.8	< 1.00e-02	< 2.05e+02	< 2.05e+02	N/A	N/A	N/A	205.0	N/A
S96T005030	F	Titanium - ICP-Fusion	ug/g	97.80	< 1.00e-02	< 2.05e+02	< 2.05e+02	N/A	N/A	N/A	205.0	N/A
S96T005030	F	Thallium - ICP-Fusion	ug/g	98.40	< 2.00e-01	< 4.10e+03	< 4.07e3	N/A	N/A	N/A	4.10e+03	N/A
S96T005030	F	Uranium - ICP-Fusion	ug/g	97.10	< 5.00e-01	< 1.02e+04	< 1.02e4	N/A	N/A	N/A	1.02e+04	N/A
S96T005030	F	Vanadium - ICP-Fusion	ug/g	100.0	< 5.00e-02	< 1.02e+03	< 1.02e3	N/A	N/A	N/A	1.02e+03	N/A
S96T005030	F	Zinc - ICP-Fusion	ug/g	99.40	< 1.00e-02	< 2.05e+02	< 2.05e+02	N/A	N/A	N/A	205.0	N/A
S96T005030	F	Aluminum - ICP-Fusion	ug/g	98.40	< 1.00e-02	< 2.05e+02	< 2.05e+02	N/A	N/A	N/A	205.0	N/A
S96T005030	F	Alpha of Digested Solid	ug/g	108.2	< 5.52e-02	< 3.51e-2	< 3.51e-2	N/A	N/A	N/A	4.80e-02	5.00e+02
S96T005040	A	Silver - ICP-Acid Digest	ug/g	91.30	< 1.00e-02	2.22e+04	2.27e+04	2.25e+04	1.78	N/A	4.760	N/A
S96T005040	A	Aluminum - ICP-Acid Digest	ug/g	91.60	9.00e-01	< 4.77e	< 4.77e	N/A	N/A	N/A	23.90	N/A
S96T005040	A	Arsenic - ICP-Acid Digest	ug/g	94.00	< 1.00e-01	1.19e+02	134.0	126.5	11.9	N/A	47.60	N/A
S96T005040	A	Barium - ICP-Acid Digest	ug/g	103.8	5.52e-01	< 2.390	< 2.390	N/A	N/A	N/A	23.90	N/A
S96T005040	A	Beryllium - ICP-Acid Digest	ug/g	91.20	< 5.00e-02	< 3.59e1	< 3.59e1	N/A	N/A	N/A	2.390	N/A
S96T005040	A	Bismuth - ICP-Acid Digest	ug/g	91.00	< 1.00e-01	< 4.770e1	< 4.770e1	N/A	N/A	N/A	47.60	N/A

HNF-SD-WM-DP-226, REV. 0

Sample#	g #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T005040	A	Calcium - ICP-Acid Digest	ug/g	89.40	< 1.00e-01	1.65e+02	149.0	157.0	0.00	n/a	47.60	n/a
S96T005040	A	Cadmium - ICP-Acid Digest	ug/g	89.40	< 5.00e-03	6.52e	6.520	6.520	0.00	n/a	2.390	n/a
S96T005040	A	Cadmium - ICP-Acid Digest	ug/g	89.40	< 5.00e-03	6.52e	6.520	6.520	0.00	n/a	47.60	n/a
S96T005040	A	Cerium - ICP-Acid Digest	ug/g	93.80	< 1.00e-01	< 4.70	< 4.70e-1	n/a	n/a	n/a	9.560	n/a
S96T005040	A	Cobalt - ICP-Acid Digest	ug/g	92.20	< 2.00e-02	< 9.550	< 9.40e0	1.04e+03	0.00	n/a	4.760	n/a
S96T005040	A	Chromium - ICP-Acid Digest	ug/g	89.80	< 1.00e-02	1.04e+03	1.04e+03	1.04e+03	0.00	n/a	4.760	n/a
S96T005040	A	Copper - ICP-Acid Digest	ug/g	92.00	< 1.00e-02	5.120	6.010	5.565	16.0	n/a	4.760	n/a
S96T005040	A	Iron - ICP-Acid Digest	ug/g	89.40	< 5.00e-02	3.94e+03	53.60	55.05	5.27	n/a	23.90	n/a
S96T005040	A	Potassium - ICP-Acid Digest	ug/g	92.20	< 5.00e-01	5.96e+03	4.07e+03	4.00e+03	3.25	n/a	239.0	n/a
S96T005040	A	Lanthanum - ICP-Acid Digest	ug/g	94.20	< 5.00e-02	< 23.90	< 2.35e1	n/a	n/a	n/a	23.90	n/a
S96T005040	A	Lithium - ICP-Acid Digest	ug/g	94.00	< 1.00e-02	12.00	12.20	12.10	1.65	n/a	4.760	n/a
S96T005040	A	Magnesium - ICP-Acid Digest	ug/g	84.60	< 1.00e-01	< 47.70	< 4.70e1	84.60	n/a	n/a	47.60	n/a
S96T005040	A	Manganese - ICP-Acid Digest	ug/g	87.60	< 1.00e-02	11.10	10.90	11.00	1.82	n/a	4.760	n/a
S96T005040	A	Molybdenum - ICP-Acid Digest	ug/g	91.20	< 5.00e-02	46.90	49.40	48.15	5.19	n/a	23.90	n/a
S96T005040	A	Neodymium - ICP-Acid Digest	ug/g	106.6	7.56e-01	1.88e+05	1.90e+05	1.89e+05	1.06	n/a	47.60	n/a
S96T005040	A	Nickel - ICP-Acid Digest	ug/g	92.40	< 1.00e-01	< 47.70	< 4.70e1	40.60	n/a	n/a	47.60	n/a
S96T005040	A	Neodymium - ICP-Acid Digest	ug/g	92.00	< 2.00e-01	39.20	40.60	39.90	3.51	n/a	9.560	n/a
S96T005040	A	Nickel - ICP-Acid Digest	ug/g	95.60	< 2.00e-01	7.97e+02	688.0	742.5	14.7	n/a	95.60	n/a
S96T005040	A	Phosphorus - ICP-Acid Digest	ug/g	87.20	< 1.00e-01	< 47.70	< 4.70e1	n/a	n/a	n/a	47.60	n/a
S96T005040	A	Lead - ICP-Acid Digest	ug/g	92.60	< 1.00e-01	3.21e+03	3.16e+03	3.18e+03	1.57	n/a	47.60	n/a
S96T005040	A	Sulfur - ICP-Acid Digest	ug/g	91.00	< 6.00e-02	< 28.60	< 2.82e1	n/a	n/a	n/a	28.60	n/a
S96T005040	A	Selenium - ICP-Acid Digest	ug/g	86.20	< 1.00e-01	< 47.70	< 4.70e1	n/a	n/a	n/a	47.60	n/a
S96T005040	A	Silicon - ICP-Acid Digest	ug/g	143.2	5.15e-01	7.76e+02	1.06e+03	918.0	30.9	n/a	23.90	n/a
S96T005040	A	Samarium - ICP-Acid Digest	ug/g	91.00	< 1.00e-01	< 47.70	< 4.70e1	n/a	n/a	n/a	47.60	n/a
S96T005040	A	Strontium - ICP-Acid Digest	ug/g	90.80	< 1.00e-02	< 4.770	< 4.70e0	n/a	n/a	n/a	4.760	n/a
S96T005040	A	Tantalum - ICP-Acid Digest	ug/g	84.20	< 1.00e-02	< 95.50	< 9.40e1	n/a	n/a	n/a	4.760	n/a
S96T005040	A	Thallium - ICP-Acid Digest	ug/g	85.60	< 5.00e-01	< 2.39e+02	< 2.35e2	n/a	n/a	n/a	239.0	n/a
S96T005040	A	Uranium - ICP-Acid Digest	ug/g	90.40	< 5.00e-02	< 23.90	< 2.35e1	n/a	n/a	n/a	23.90	n/a
S96T005040	A	Vanadium - ICP-Acid Digest	ug/g	88.60	< 1.00e-02	29.40	21.10	25.25	32.9	n/a	4.760	n/a
S96T005040	A	Zinc - ICP-Acid Digest	ug/g	93.60	< 1.00e-02	12.50	12.50	12.50	0.00	n/a	4.760	n/a
S96T005065	W	Acetate by IC-DIONEX 4000/4500	ug/g	96.97	< 2.00e-02	5.25e+02	490.0	507.4	6.90	114.5	88.65	n/a
S96T005065	W	Formate by IC-DIONEX 4000/4500	ug/g	96.67	< 2.00e-02	7.42e+02	747.0	744.5	0.67	102.5	88.89	n/a
S96T005065	W	Fluoride by IC-DIONEX 4000/4500	ug/g	100.0	< 1.20e-02	5.63e+02	645.0	603.8	13.6	96.10	26.61	n/a
S96T005065	W	Chloride by IC-DIONEX 4000/4500	ug/g	102.0	< 1.70e-02	4.98e+03	4.98e+03	4.98e+03	0.20	99.87	37.70	n/a
S96T005065	W	Nitrite by IC-DIONEX 4000/4500	ug/g	100.7	< 1.08e-01	6.76e+04	6.81e+04	6.79e+04	0.74	98.89	239.5	n/a
S96T005065	W	Bromide by Ion Chromatograph	ug/g	100.7	< 1.25e-01	3.90e+02	513.0	451.3	27.2	101.7	277.2	n/a
S96T005065	W	Nitrate by IC-DIONEX 4000/4500	ug/g	101.9	1.88e-01	9.80e+04	1.01e+05	9.95e+04	3.02	86.53	308.2	n/a
S96T005065	W	Phosphate by IC-DIONEX 4000/4500	ug/g	98.71	< 1.20e-01	2.24e+03	3.01e+03	2.62e+03	29.3	99.26	266.1	n/a
S96T005065	W	Sulfate by IC-DIONEX 4000/4500	ug/g	102.2	< 1.38e-01	8.95e+03	8.75e+03	8.84e+03	2.49	104.4	306.0	n/a
S96T005065	W	Oxalate by IC-DIONEX 4000/4500	ug/g	108.1	< 1.05e-01	9.21e+03	9.39e+03	9.30e+03	1.94	111.0	232.9	n/a

Table 1. Data Summary Report
AN-104

CORE NUMBER: 164
SEGMENT #: 15

SEGMENT PORTION: U Upper Half of Segment

Sample#	Rt #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T004968		Bulk Density of Sample	g/mL	n/a	n/a	1.350	n/a	n/a	n/a	n/a	5.00e-01	n/a
S96T004986		DSC Exotherm using Mettler	Joules/g	101.9	n/a	35.70	19.70	27.70	57.8	n/a	n/a	n/a
S96T004986		DSC Exotherm Dry Calculated	Joules/g Dry	n/a	n/a	67.60	37.30	52.45	57.8	n/a	n/a	n/a
S96T004986		% Water by IGA using Mettler	%	99.68	n/a	47.48	46.86	47.17	1.31	n/a	1.00e+04	n/a
S96T005036	F	Potassium - ICP-Fusion	ug/g	104.2	< 5.00e-01	8.05e+06	n/a	n/a	n/a	n/a	400.0	n/a
S96T005036	F	Nickel - ICP-Fusion	ug/g	101.2	6.40e-02	4.92e+03	3.22e+03	4.08e+03	41.5	n/a	201.0	n/a
S96T005036	F	Silver - ICP-Fusion	ug/g	101.0	< 2.01e-02	< 2.01e-02	< 1.97e2	< 1.97e2	n/a	n/a	201.0	n/a
S96T005036	F	Aluminum - ICP-Fusion	ug/g	97.00	< 5.00e-02	2.22e+04	2.26e+04	2.24e+04	1.79	n/a	1.00e+03	n/a
S96T005036	F	Arsenic - ICP-Fusion	ug/g	103.0	< 2.01e-01	< 2.01e-03	< 1.97e3	n/a	n/a	n/a	2.01e+03	n/a
S96T005036	F	Boron - ICP-Fusion	ug/g	101.4	< 5.00e-02	< 1.00e+03	< 9.83e2	n/a	n/a	n/a	1.00e+03	n/a
S96T005036	F	Barium - ICP-Fusion	ug/g	99.60	< 5.00e-02	< 1.00e+03	< 9.83e2	n/a	n/a	n/a	100.0	n/a
S96T005036	F	Beryllium - ICP-Fusion	ug/g	103.6	< 5.00e-01	< 1.00e-02	< 9.83e1	n/a	n/a	n/a	2.01e+03	n/a
S96T005036	F	Bismuth - ICP-Fusion	ug/g	105.4	< 1.00e-01	< 2.01e-03	< 1.97e3	n/a	n/a	n/a	2.01e+03	n/a
S96T005036	F	Calcium - ICP-Fusion	ug/g	98.20	< 5.00e-01	< 2.01e-02	< 9.83e1	n/a	n/a	n/a	100.0	n/a
S96T005036	F	Cadmium - ICP-Fusion	ug/g	102.0	< 5.00e-01	< 2.01e-02	< 9.83e1	n/a	n/a	n/a	2.01e+03	n/a
S96T005036	F	Cerium - ICP-Fusion	ug/g	102.4	< 5.00e-01	< 2.01e-03	< 1.97e3	n/a	n/a	n/a	2.01e+03	n/a
S96T005036	F	Cobalt - ICP-Fusion	ug/g	102.4	< 2.00e-02	< 4.02e-02	< 3.93e2	n/a	n/a	n/a	400.0	n/a
S96T005036	F	Chromium - ICP-Fusion	ug/g	102.2	< 1.00e-02	1.36e+03	1.49e+03	1.42e+03	9.12	n/a	201.0	n/a
S96T005036	F	Copper - ICP-Fusion	ug/g	100.0	< 1.00e-02	< 2.01e-02	< 1.97e2	n/a	n/a	n/a	1.00e+03	n/a
S96T005036	F	Iron - ICP-Fusion	ug/g	103.0	< 5.00e-02	< 1.00e+03	< 9.83e2	n/a	n/a	n/a	201.0	n/a
S96T005036	F	Lanthanum - ICP-Fusion	ug/g	100.8	< 5.00e-02	< 2.01e-02	< 9.83e2	n/a	n/a	n/a	2.01e+03	n/a
S96T005036	F	Lithium - ICP-Fusion	ug/g	92.80	< 1.00e-02	< 2.01e-02	< 1.97e3	n/a	n/a	n/a	201.0	n/a
S96T005036	F	Magnesium - ICP-Fusion	ug/g	102.4	< 1.00e-01	< 2.01e-03	< 1.97e3	n/a	n/a	n/a	2.01e+03	n/a
S96T005036	F	Manganese - ICP-Fusion	ug/g	101.8	< 1.00e-02	< 2.01e-02	< 1.97e2	n/a	n/a	n/a	201.0	n/a
S96T005036	F	Molybdenum - ICP-Fusion	ug/g	102.4	< 5.00e-02	< 1.00e+03	< 9.83e2	n/a	n/a	n/a	1.00e+03	n/a
S96T005036	F	Sodium - ICP-Fusion	ug/g	92.20	2.66e2	2.39e+05	2.32e+05	2.36e+05	2.97	n/a	2.01e+03	n/a
S96T005036	F	Neodymium - ICP-Fusion	ug/g	102.0	< 1.00e-01	< 2.01e-03	< 1.97e3	n/a	n/a	n/a	2.01e+03	n/a
S96T005036	F	Phosphorus - ICP-Fusion	ug/g	102.4	< 2.00e-01	< 4.02e+03	< 3.93e3	n/a	n/a	n/a	4.00e+03	n/a
S96T005036	F	Lead - ICP-Fusion	ug/g	100.0	< 1.00e-01	< 2.01e-03	< 1.97e3	n/a	n/a	n/a	2.01e+03	n/a
S96T005036	F	Sulfur - ICP-Fusion	ug/g	99.00	< 1.00e-01	3.58e+03	3.46e+03	3.52e+03	3.41	n/a	2.01e+03	n/a
S96T005036	F	Antimony - ICP-Fusion	ug/g	97.00	< 2.00e-02	< 1.21e+03	< 1.18e3	n/a	n/a	n/a	1.20e+03	n/a
S96T005036	F	Selenium - ICP-Fusion	ug/g	96.00	< 1.00e-01	< 2.01e-03	< 1.97e3	n/a	n/a	n/a	2.01e+03	n/a
S96T005036	F	Silicon - ICP-Fusion	ug/g	96.40	< 5.00e-02	< 1.00e+03	< 9.83e2	n/a	n/a	n/a	1.00e+03	n/a
S96T005036	F	Samarium - ICP-Fusion	ug/g	99.40	< 1.00e-01	< 2.01e-02	< 1.97e3	n/a	n/a	n/a	2.01e+03	n/a
S96T005036	F	Strontium - ICP-Fusion	ug/g	100.4	< 1.00e-02	< 2.01e-02	< 1.97e2	n/a	n/a	n/a	201.0	n/a
S96T005036	F	Titanium - ICP-Fusion	ug/g	96.60	< 2.00e-02	< 4.02e+03	< 3.93e3	n/a	n/a	n/a	201.0	n/a
S96T005036	F	Thallium - ICP-Fusion	ug/g	94.40	< 2.00e-01	< 4.02e+03	< 3.93e3	n/a	n/a	n/a	4.00e+03	n/a
S96T005036	F	Vanadium - ICP-Fusion	ug/g	103.40	< 5.00e-01	< 1.00e+03	< 9.83e2	n/a	n/a	n/a	1.00e+04	n/a
S96T005036	F	Uranium - ICP-Fusion	ug/g	99.80	< 5.00e-02	< 4.30e+02	< 4.93e2	n/a	n/a	n/a	1.00e+03	n/a
S96T005036	F	Zinc - ICP-Fusion	ug/g	104.6	< 1.00e-02	< 4.30e+02	< 4.93e2	n/a	n/a	n/a	201.0	n/a
S96T005036	F	Zirconium - ICP-Fusion	ug/g	102.0	< 1.00e-02	< 2.01e-02	< 1.97e2	n/a	n/a	n/a	201.0	n/a
S96T005061	A	Silver - ICP-Acid Digest	ug/g	91.30	< 1.00e-02	14.50	14.80	14.65	2.05	n/a	4.830	n/a
S96T005061	A	Aluminum - ICP-Acid Digest	ug/g	91.60	9.00e-02	2.10e+04	2.13e+04	2.12e+04	1.42	n/a	24.10	n/a
S96T005061	A	Arsenic - ICP-Acid Digest	ug/g	94.00	< 1.00e-01	< 48.30	< 48.80e1	n/a	n/a	n/a	48.30	n/a

HNF-SD-WM-DP-226, REV. 0

Sample#	R#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T005061	A	Boron - ICP-Acid Digest	ug/g	103.8	5.52e-01	1.55e+02	128.0	143.0	21.0	n/a	24.10	n/a
S96T005061	A	Boron - ICP-Acid Digest	ug/g	91.20	<5.00e-01	<24.20	<24.20	n/a	n/a	n/a	24.10	n/a
S96T005061	A	Beryllium - ICP-Acid Digest	ug/g	95.60	<5.00e-03	<2.420	<2.40e-1	n/a	n/a	n/a	2.410	n/a
S96T005061	A	Bismuth - ICP-Acid Digest	ug/g	91.00	<1.00e-01	48.30	<4.80e-1	n/a	n/a	n/a	48.30	n/a
S96T005061	A	Calcium - ICP-Acid Digest	ug/g	89.80	<1.00e-01	1.70e+02	179.0	174.5	5.16	n/a	48.30	n/a
S96T005061	A	Calcium - ICP-Acid Digest	ug/g	89.40	<5.00e-03	9.280	8.680	8.980	6.68	n/a	2.410	n/a
S96T005061	A	Cerium - ICP-Acid Digest	ug/g	92.80	<1.00e-01	48.30	<4.80e-1	n/a	n/a	n/a	48.30	n/a
S96T005061	A	Cobalt - ICP-Acid Digest	ug/g	92.20	<1.00e-02	9.660	<9.60e-1	n/a	n/a	n/a	9.660	n/a
S96T005061	A	Chromium - ICP-Acid Digest	ug/g	89.80	<1.00e-02	1.35e+03	1.39e+03	1.38e+03	2.18	n/a	4.830	n/a
S96T005061	A	Copper - ICP-Acid Digest	ug/g	92.00	<1.00e-02	4.980	6.020	5.500	18.9	n/a	4.830	n/a
S96T005061	A	Iron - ICP-Acid Digest	ug/g	89.40	<5.00e-02	69.20	86.20	75.70	17.2	n/a	24.10	n/a
S96T005061	A	Potassium - ICP-Acid Digest	ug/g	92.20	<5.00e-01	3.75e+03	3.86e+03	3.80e+03	2.89	n/a	24.10	n/a
S96T005061	A	Lanthanum - ICP-Acid Digest	ug/g	94.00	<5.00e-02	<24.20	<2.40e-1	n/a	n/a	n/a	24.10	n/a
S96T005061	A	Lithium - ICP-Acid Digest	ug/g	87.60	<1.00e-02	12.50	12.70	12.60	1.59	n/a	4.830	n/a
S96T005061	A	Magnesium - ICP-Acid Digest	ug/g	84.60	<1.00e-01	<48.30	<4.80e-1	n/a	n/a	n/a	48.30	n/a
S96T005061	A	Manganese - ICP-Acid Digest	ug/g	91.20	<1.00e-02	15.00	15.30	15.15	1.98	n/a	4.830	n/a
S96T005061	A	Molybdenum - ICP-Acid Digest	ug/g	106.6	7.56e-01	1.94e+05	1.98e+05	1.96e+05	2.04	n/a	48.30	n/a
S96T005061	A	Sodium - ICP-Acid Digest	ug/g	92.40	<1.00e-02	48.30	<4.80e-1	n/a	n/a	n/a	48.30	n/a
S96T005061	A	Neodymium - ICP-Acid Digest	ug/g	92.00	<2.00e-02	52.30	55.50	53.90	5.94	n/a	9.660	n/a
S96T005061	A	Nickel - ICP-Acid Digest	ug/g	95.60	<2.00e-01	9.61e+02	1.19e+03	1.08e+03	21.3	n/a	48.30	n/a
S96T005061	A	Phosphorus - ICP-Acid Digest	ug/g	97.20	<1.00e-01	<48.30	<4.80e-1	n/a	n/a	n/a	48.30	n/a
S96T005061	A	Lead - ICP-Acid Digest	ug/g	92.60	<1.00e-01	3.39e+03	3.46e+03	3.42e+03	2.04	n/a	48.30	n/a
S96T005061	A	Antimony - ICP-Acid Digest	ug/g	91.00	<6.00e-02	<29.00	<2.88e-1	n/a	n/a	n/a	29.00	n/a
S96T005061	A	Selenium - ICP-Acid Digest	ug/g	86.20	<1.00e-01	<48.30	<4.80e-1	n/a	n/a	n/a	48.30	n/a
S96T005061	A	Silicon - ICP-Acid Digest	ug/g	143.2	5.15e-01	5.67e+02	540.0	553.5	4.88	n/a	24.10	n/a
S96T005061	A	Samarium - ICP-Acid Digest	ug/g	91.00	<1.00e-02	<48.30	<4.80e-1	n/a	n/a	n/a	48.30	n/a
S96T005061	A	Strontium - ICP-Acid Digest	ug/g	90.80	<1.00e-02	<4.830	<4.80e-1	n/a	n/a	n/a	4.830	n/a
S96T005061	A	Titanium - ICP-Acid Digest	ug/g	84.20	<1.00e-02	<96.60	<9.60e-1	n/a	n/a	n/a	96.60	n/a
S96T005061	A	Thallium - ICP-Acid Digest	ug/g	85.60	<5.00e-01	<2.42e+02	<2.40e-1	n/a	n/a	n/a	24.10	n/a
S96T005061	A	Uranium - ICP-Acid Digest	ug/g	90.40	<5.00e-02	<24.20	<2.40e-1	n/a	n/a	n/a	24.10	n/a
S96T005061	A	Vanadium - ICP-Acid Digest	ug/g	88.60	<1.70e-02	17.90	33.10	25.50	59.6	n/a	4.830	n/a
S96T005061	A	Zinc - ICP-Acid Digest	ug/g	93.60	<1.00e-02	13.70	13.90	13.80	1.45	n/a	4.830	n/a
S96T005071	W	Acetate by IC-DIONEX 4000/4500	ug/g	96.77	<2.00e-02	5.18e+02	516.0	516.8	0.39	111.3	83.29	n/a
S96T005071	W	Formate by IC-DIONEX 4000/4500	ug/g	99.61	<2.00e-02	4.28e+02	482.0	454.9	4.09	99.17	87.44	n/a
S96T005071	W	Fluoride-IC-Dionex 4000/4500	ug/g	99.49	<1.20e-02	4.75e+03	4.75e+03	4.80e+03	1.88	n/a	97.58	n/a
S96T005071	W	Chloride-IC-Dionex 4000/4500	ug/g	95.19	<3.20e-02	6.59e+04	6.42e+04	6.51e+04	2.61	n/a	138.2	n/a
S96T005071	W	Nitrite-IC - Dionex 4000/4500	ug/g	96.50	<1.09e-01	1.09e+05	<1.04e3	n/a	n/a	n/a	878.2	n/a
S96T005071	W	Bromide by Ion Chromatograph	ug/g	97.28	<1.25e-01	1.06e+05	1.03e+05	1.04e+05	2.87	n/a	1.02e+03	n/a
S96T005071	W	Nitrate by IC-Dionex 4000/4500	ug/g	100.5	<1.39e-01	2.23e+03	2.23e+03	2.29e+03	5.24	n/a	1.13e+03	n/a
S96T005071	W	Phosphate-IC-Dionex 4000/4500	ug/g	97.98	<1.20e-01	1.02e+04	9.88e+03	1.01e+04	3.19	n/a	975.8	n/a
S96T005071	W	Sulfate by IC-Dionex 4000/4500	ug/g	98.73	<1.38e-01	8.22e+03	8.10e+03	8.16e+03	1.47	n/a	1.12e+03	n/a
S96T005071	W	Oxalate-IC-Dionex 4000/4500	ug/g	98.50	<1.05e-01	8.22e+03	8.10e+03	8.16e+03	1.47	n/a	853.6	n/a

L Lower Half of Segment; I Lower Half of Segment

Sample#	R#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T004967		Bulk Density of Sample	g/mL	n/a	n/a	1.570	n/a	n/a	n/a	n/a	5.00e-01	n/a
S96T004987		DSC Exotherm using Mettler	Joules/g	101.9	n/a	25.90	33.60	29.75	25.9	n/a	n/a	n/a
S96T004987		DSC Exotherm DRY Calculated	Joules/g	n/a	n/a	47.50	61.60	54.55	25.8	n/a	n/a	n/a
S96T004987		% Water by TGA using Mettler	Joules/g DRY	99.68	n/a	45.45	45.42	45.44	0.07	n/a	n/a	n/a
S96T005032	F	Potassium - ICP-Fusion	ug/g	104.2	< 5.00e-01	1.01e+07	n/a	3.46e+03	115	n/a	9.88e+03	n/a
S96T005032	F	Nickel - ICP-Fusion	ug/g	101.2	6.40e-02	4.5e+03	1.47e+03	n/a	n/a	n/a	395.0	n/a
S96T005032	F	Nickel - ICP-Fusion	ug/g	101.0	< 1.00e-02	< 1.97e+02	< 2.00e2	2.16e+04	1.39	87.90	197.0	n/a
S96T005032	F	Aluminum - ICP-Fusion	ug/g	97.00	< 5.00e-02	2.17e+04	2.14e+04	2.16e+04	1.39	106.0	988.0	n/a
S96T005032	F	Arsenic - ICP-Fusion	ug/g	103.0	< 1.00e-01	< 1.97e+03	< 2.00e3	n/a	n/a	108.0	1.97e+03	n/a
S96T005032	F	Boron - ICP-Fusion	ug/g	99.60	< 5.00e-02	< 9.87e+02	< 1.00e3	n/a	n/a	105.0	988.0	n/a
S96T005032	F	Beryllium - ICP-Fusion	ug/g	103.6	< 5.00e-03	< 98.70	< 1.00e2	n/a	n/a	106.0	98.80	n/a
S96T005032	F	Bismuth - ICP-Fusion	ug/g	105.4	< 1.00e-01	< 1.97e+03	< 2.00e3	n/a	n/a	110.0	1.97e+03	n/a
S96T005032	F	Calcium - ICP-Fusion	ug/g	98.20	< 1.00e-01	< 1.97e+03	< 2.00e3	n/a	n/a	104.0	1.97e+03	n/a
S96T005032	F	Cadmium - ICP-Fusion	ug/g	102.0	< 5.00e-03	< 98.70	< 1.00e2	n/a	n/a	105.0	98.80	n/a
S96T005032	F	Cerium - ICP-Fusion	ug/g	100.4	< 1.00e-01	< 1.97e+03	< 2.00e3	n/a	n/a	105.0	1.97e+03	n/a
S96T005032	F	Cobalt - ICP-Fusion	ug/g	102.4	< 2.00e-02	< 3.59e+02	< 4.01e2	2.43e+03	0.82	106.0	197.0	n/a
S96T005032	F	Chromium - ICP-Fusion	ug/g	102.2	< 1.00e-02	< 2.44e+03	< 2.00e3	n/a	n/a	107.0	197.0	n/a
S96T005032	F	Copper - ICP-Fusion	ug/g	100.0	< 1.00e-02	< 1.97e+02	< 2.00e2	n/a	n/a	107.0	988.0	n/a
S96T005032	F	Iron - ICP-Fusion	ug/g	103.0	< 5.00e-02	< 9.87e+02	< 1.00e3	n/a	n/a	106.0	988.0	n/a
S96T005032	F	Lanthanum - ICP-Fusion	ug/g	92.80	< 5.00e-02	< 1.97e+02	< 2.00e2	n/a	n/a	94.70	197.0	n/a
S96T005032	F	Lithium - ICP-Fusion	ug/g	102.4	< 1.00e-02	< 1.97e+03	< 2.00e3	n/a	n/a	105.0	1.97e+03	n/a
S96T005032	F	Manganese - ICP-Fusion	ug/g	101.8	< 1.00e-02	< 1.97e+03	< 2.00e3	n/a	n/a	106.0	988.0	n/a
S96T005032	F	Molybdenum - ICP-Fusion	ug/g	102.4	< 5.00e-02	< 9.87e+02	< 2.00e2	n/a	n/a	106.0	197.0	n/a
S96T005032	F	Sodium - ICP-Fusion	ug/g	92.20	< 5.00e-02	< 2.44e+03	< 1.00e3	2.32e+05	6.90	166.0	1.97e+03	n/a
S96T005032	F	Neodymium - ICP-Fusion	ug/g	102.0	< 1.00e-01	< 1.97e+03	< 2.00e3	n/a	n/a	108.0	1.97e+03	n/a
S96T005032	F	Phosphorus - ICP-Fusion	ug/g	102.4	< 2.00e-01	< 3.59e+03	< 4.01e3	n/a	n/a	110.0	3.95e+03	n/a
S96T005032	F	Lead - ICP-Fusion	ug/g	99.80	< 1.00e-01	< 1.97e+03	< 2.00e3	3.97e+03	3.02	103.0	1.97e+03	n/a
S96T005032	F	Sulfur - ICP-Fusion	ug/g	99.80	< 1.00e-01	< 3.91e+03	4.03e+03	3.97e+03	3.02	103.0	1.97e+03	n/a
S96T005032	F	Antimony - ICP-Fusion	ug/g	97.00	< 6.00e-02	< 1.18e+03	< 1.20e3	n/a	n/a	101.0	1.18e+03	n/a
S96T005032	F	Selenium - ICP-Fusion	ug/g	96.00	< 1.00e-01	< 1.97e+03	< 2.00e3	n/a	n/a	100.0	1.97e+03	n/a
S96T005032	F	Silicon - ICP-Fusion	ug/g	99.40	< 5.00e-02	< 9.87e+02	< 1.00e3	n/a	n/a	106.0	988.0	n/a
S96T005032	F	Samarium - ICP-Fusion	ug/g	99.40	< 1.00e-01	< 1.97e+03	< 2.00e3	n/a	n/a	109.0	1.97e+03	n/a
S96T005032	F	Strontium - ICP-Fusion	ug/g	100.0	< 1.00e-02	< 1.97e+02	< 2.00e2	n/a	n/a	107.0	197.0	n/a
S96T005032	F	Titanium - ICP-Fusion	ug/g	96.60	< 1.00e-02	< 1.97e+02	< 2.00e2	n/a	n/a	102.0	197.0	n/a
S96T005032	F	Thallium - ICP-Fusion	ug/g	99.40	< 2.00e-01	< 3.59e+03	< 4.01e3	n/a	n/a	100.0	3.95e+03	n/a
S96T005032	F	Uranium - ICP-Fusion	ug/g	99.40	< 5.00e-01	< 9.87e+03	< 1.00e4	n/a	n/a	110.0	9.88e+03	n/a
S96T005032	F	Vanadium - ICP-Fusion	ug/g	103.8	< 5.00e-02	< 9.87e+02	< 1.00e3	n/a	n/a	108.0	988.0	n/a
S96T005032	F	Zinc - ICP-Fusion	ug/g	104.6	< 1.00e-02	3.16e+02	429.0	372.5	30.3	106.0	197.0	n/a
S96T005032	F	Zirconium - ICP-Fusion	ug/g	102.0	< 1.00e-02	< 1.97e+02	< 2.00e2	n/a	n/a	108.0	197.0	n/a
S96T005032	F	Alpha of Digested Solid	ug/g	109.1	< 2.18e-02	4.32e-02	4.57e-02	4.45e-02	5.62	n/a	2.50e-02	7.11e+01
S96T005043	A	Silver - ICP-Acid Digest	ug/g	91.30	< 1.00e-02	14.30	14.30	14.40	1.39	n/a	4.630	n/a
S96T005043	A	Aluminum - ICP-Acid Digest	ug/g	91.60	< 9.00e-02	2.12e+04	2.09e+04	2.10e+04	1.43	n/a	23.20	n/a
S96T005043	A	Arsenic - ICP-Acid Digest	ug/g	94.00	< 1.00e-01	< 46.40	< 46.40	n/a	n/a	n/a	46.30	n/a
S96T005043	A	Boron - ICP-Acid Digest	ug/g	103.8	5.52e-01	1.47e+02	127.0	137.0	14.6	n/a	23.20	n/a
S96T005043	A	Barium - ICP-Acid Digest	ug/g	91.20	< 5.00e-02	< 23.20	< 23.20	n/a	n/a	n/a	23.20	n/a
S96T005043	A	Beryllium - ICP-Acid Digest	ug/g	95.60	< 5.00e-03	< 2.320	< 2.320	n/a	n/a	n/a	2.320	n/a
S96T005043	A	Bismuth - ICP-Acid Digest	ug/g	91.00	< 1.00e-01	< 46.40	< 46.40	n/a	n/a	n/a	46.30	n/a

Sample #	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S94T005043	A	Calcium - ICP-Acid Digest	ug/g	89.80	< 1.00e-01	2.38e+02	230.0	234.0	3.42	n/a	46.30	n/a
S94T005043	A	Cadmium - ICP-Acid Digest	ug/g	89.80	< 5.00e-03	15.20	15.10	15.15	0.66	n/a	2.30	n/a
S94T005043	A	Cadmium - ICP-Acid Digest	ug/g	92.80	< 1.00e-01	46.40	44.77e1	n/a	n/a	n/a	46.30	n/a
S94T005043	A	Cerium - ICP-Acid Digest	ug/g	92.80	< 2.00e-02	9.280	-9.55e0	n/a	n/a	n/a	9.290	n/a
S94T005043	A	Cobalt - ICP-Acid Digest	ug/g	92.80	< 1.00e-02	2.34e+03	2.26e+03	2.30e+03	3.48	n/a	4.630	n/a
S94T005043	A	Chromium - ICP-Acid Digest	ug/g	92.80	< 1.00e-02	5.600	5.600	5.600	0.00	n/a	4.630	n/a
S94T005043	A	Copper - ICP-Acid Digest	ug/g	89.40	< 5.00e-01	1.07e+02	108.0	107.0	1.87	n/a	23.20	n/a
S94T005043	A	Potassium - ICP-Acid Digest	ug/g	92.20	< 5.00e-01	3.70e+03	3.72e+03	3.72e+03	1.08	n/a	232.0	n/a
S94T005043	A	Lanthanum - ICP-Acid Digest	ug/g	94.20	< 5.00e-02	23.20	< 2.39e1	n/a	n/a	n/a	23.20	n/a
S94T005043	A	Lithium - ICP-Acid Digest	ug/g	94.00	< 1.00e-02	9.640	9.300	9.470	3.59	n/a	4.630	n/a
S94T005043	A	Magnesium - ICP-Acid Digest	ug/g	84.60	< 1.00e-01	46.40	44.77e1	n/a	n/a	n/a	46.30	n/a
S94T005043	A	Manganese - ICP-Acid Digest	ug/g	87.60	< 1.00e-02	27.10	26.20	26.65	3.38	n/a	4.630	n/a
S94T005043	A	Molybdenum - ICP-Acid Digest	ug/g	91.20	< 5.00e-02	44.10	44.20	44.15	0.23	n/a	23.20	n/a
S94T005043	A	Sodium - ICP-Acid Digest	ug/g	106.6	7.56e-01	1.97e+05	1.94e+05	1.96e+05	1.53	n/a	46.30	n/a
S94T005043	A	Nickel - ICP-Acid Digest	ug/g	92.40	< 1.00e-02	46.40	44.77e1	n/a	n/a	n/a	46.30	n/a
S94T005043	A	Niobium - ICP-Acid Digest	ug/g	92.00	< 2.00e-02	89.80	89.90	89.85	0.11	n/a	9.290	n/a
S94T005043	A	Phosphorus - ICP-Acid Digest	ug/g	95.60	< 2.00e-01	7.98e+02	813.0	805.5	1.86	n/a	92.90	n/a
S94T005043	A	Lead - ICP-Acid Digest	ug/g	91.00	< 1.00e-01	46.40	44.77e1	n/a	n/a	n/a	46.30	n/a
S94T005043	A	Sulfur - ICP-Acid Digest	ug/g	92.60	< 1.00e-01	3.97e+03	3.78e+03	3.88e+03	4.90	n/a	46.30	n/a
S94T005043	A	Antimony - ICP-Acid Digest	ug/g	91.00	< 6.00e-02	27.80	< 2.86e1	n/a	n/a	n/a	27.80	n/a
S94T005043	A	Selenium - ICP-Acid Digest	ug/g	86.20	< 1.00e-01	46.40	44.77e1	n/a	n/a	n/a	46.30	n/a
S94T005043	A	Silicon - ICP-Acid Digest	ug/g	143.2	5.15e-01	7.17e+02	652.0	684.5	9.50	n/a	23.20	n/a
S94T005043	A	Samarium - ICP-Acid Digest	ug/g	91.00	< 1.00e-01	46.40	44.77e1	n/a	n/a	n/a	46.30	n/a
S94T005043	A	Strontium - ICP-Acid Digest	ug/g	90.80	< 1.00e-02	4.640	44.77e0	n/a	n/a	n/a	4.630	n/a
S94T005043	A	Titanium - ICP-Acid Digest	ug/g	84.20	< 1.00e-02	46.40	44.77e0	n/a	n/a	n/a	4.630	n/a
S94T005043	A	Thallium - ICP-Acid Digest	ug/g	85.60	< 2.00e-01	92.80	-9.55e1	n/a	n/a	n/a	4.630	n/a
S94T005043	A	Uranium - ICP-Acid Digest	ug/g	88.60	< 5.00e-01	-2.32e+02	< 2.39e1	n/a	n/a	n/a	232.0	n/a
S94T005043	A	Vanadium - ICP-Acid Digest	ug/g	90.40	< 5.00e-02	23.20	< 2.39e1	n/a	n/a	n/a	23.20	n/a
S94T005043	A	Zinc - ICP-Acid Digest	ug/g	88.60	< 1.00e-02	22.10	30.70	26.40	32.6	n/a	4.630	n/a
S94T005043	A	Zirconium - ICP-Acid Digest	ug/g	93.60	< 1.00e-02	17.60	16.70	17.15	5.25	n/a	4.630	n/a
S94T005068	W	Acetate by IC-Dioxex 4000/4500	ug/g	96.77	< 2.00e-02	5.09e+02	470.0	489.4	7.97	110.5	88.46	n/a
S94T005068	W	Formate by IC-Dioxex 4000/4500	ug/g	99.61	< 2.10e-02	7.41e+02	694.0	739.3	6.55	96.67	84.46	n/a
S94T005068	W	Fluoride-IC-Dioxex 4000/4500	ug/g	99.49	< 1.20e-02	7.70e+02	709.0	739.3	8.25	110.7	98.93	n/a
S94T005068	W	Chloride-IC-Dioxex 4000/4500	ug/g	95.19	< 3.20e-02	4.55e+03	4.41e+03	4.48e+03	3.12	97.97	140.1	n/a
S94T005068	W	Nitrite-IC - Dioxex 4000/4500	ug/g	96.50	< 1.00e-01	6.07e+04	5.90e+04	5.98e+04	2.84	109.0	890.5	n/a
S94T005068	W	Bromide by Ion Chromatograph	ug/g	97.28	< 1.25e-01	< 1.03e+03	< 1.00e3	n/a	n/a	96.26	1.03e+03	n/a
S94T005068	W	Nitrate by IC-Dioxex 4000/4500	ug/g	100.5	< 1.59e-01	1.03e+05	9.88e+04	1.01e+05	4.16	106.9	1.15e+03	n/a
S94T005068	W	Phosphate-IC-Dioxex 4000/4500	ug/g	97.98	< 1.20e-01	2.10e+03	2.19e+03	2.19e+03	7.78	99.08	989.3	n/a
S94T005068	W	Sulfate by IC-Dioxex 4000/4500	ug/g	98.73	< 1.38e-01	1.16e+04	1.08e+04	1.12e+04	7.14	97.78	1.14e+03	n/a
S94T005068	W	Oxalate-IC-Dioxex 4000/4500	ug/g	98.50	< 1.09e-01	8.72e+03	8.23e+03	8.48e+03	5.90	99.81	865.5	n/a

Table 1. Data Summary Report
AN-104

CORE NUMBER: 164
SEGMENT #: 16

SEGMENT PORTION: U Upper Half of Segment

Sample#	RA#	Analyte	Unit	Standard	Blank	Result	Duplicate	Average	RPD	Spk Rec %	Det Limit	Count Err%
S9670049270		Bulk Density of Sample	g/mL	n/a	n/a	1.560	n/a	n/a	n/a	n/a	5.00e-01	n/a
S9670049288		BSC Exotherm using Mettler	Joules/g	101.9	n/a	32.60	24.90	28.75	26.8	n/a	n/a	n/a
S9670049288		BSC Exotherm DRY Calculated	Joules/g Dry	n/a	n/a	60.60	46.30	53.45	26.8	n/a	n/a	n/a
S9670049288		% Water by TGA using Mettler	%	99.54	n/a	45.09	47.25	46.17	4.68	n/a	n/a	n/a
S967005037	F	Potassium - ICP-Fusion	ug/g	104.2	<5.00e-01	5.51e+06	n/a	n/a	n/a	n/a	9.60e+03	n/a
S967005037	F	Nickel - ICP-Fusion	ug/g	101.2	6.40e-02	7.79e+02	486.0	632.5	46.3	n/a	384.0	n/a
S967005037	F	Silver - ICP-Fusion	ug/g	101.0	<1.00e-02	<1.92e+02	<1.83e2	n/a	n/a	n/a	192.0	n/a
S967005037	F	Aluminum - ICP-Fusion	ug/g	97.00	<5.00e-02	2.34e+04	2.29e+04	2.32e+04	2.16	n/a	960.0	n/a
S967005037	F	Artenic - ICP-Fusion	ug/g	103.0	<1.00e-01	<1.92e+03	<1.83e3	n/a	n/a	n/a	1.92e+03	n/a
S967005037	F	Boron - ICP-Fusion	ug/g	101.4	<5.00e-02	<9.61e+02	<9.15e2	n/a	n/a	n/a	960.0	n/a
S967005037	F	Barium - ICP-Fusion	ug/g	99.60	<5.00e-02	<9.61e+02	<9.15e2	n/a	n/a	n/a	960.0	n/a
S967005037	F	Beryllium - ICP-Fusion	ug/g	103.6	<5.00e-03	<96.10	<9.15e1	n/a	n/a	n/a	96.00	n/a
S967005037	F	Strontium - ICP-Fusion	ug/g	105.4	<1.00e-01	<1.92e+03	<1.83e3	n/a	n/a	n/a	1.92e+03	n/a
S967005037	F	Calcium - ICP-Fusion	ug/g	98.20	<1.00e-01	<1.92e+03	<1.83e3	n/a	n/a	n/a	1.92e+03	n/a
S967005037	F	Cadmium - ICP-Fusion	ug/g	102.0	<5.00e-03	<96.10	<9.15e1	n/a	n/a	n/a	96.00	n/a
S967005037	F	Cerium - ICP-Fusion	ug/g	100.4	<1.00e-01	<1.92e+03	<1.83e3	n/a	n/a	n/a	1.92e+03	n/a
S967005037	F	Cobalt - ICP-Fusion	ug/g	102.4	<2.00e-02	<3.84e+03	<3.66e2	n/a	n/a	n/a	384.0	n/a
S967005037	F	Chromium - ICP-Fusion	ug/g	102.2	<1.00e-02	<1.40e+03	1.24e+03	1.32e+03	12.1	n/a	192.0	n/a
S967005037	F	Copper - ICP-Fusion	ug/g	100.0	<1.00e-02	<1.92e+02	<1.83e2	n/a	n/a	n/a	192.0	n/a
S967005037	F	Iron - ICP-Fusion	ug/g	103.0	<5.00e-02	<9.61e+02	<9.15e2	n/a	n/a	n/a	960.0	n/a
S967005037	F	Lanthanum - ICP-Fusion	ug/g	100.8	<5.00e-02	<9.61e+02	<9.15e2	n/a	n/a	n/a	960.0	n/a
S967005037	F	Lithium - ICP-Fusion	ug/g	92.80	<1.00e-02	<1.92e+02	<1.83e2	n/a	n/a	n/a	192.0	n/a
S967005037	F	Magnesium - ICP-Fusion	ug/g	102.4	<1.00e-01	<1.92e+03	<1.83e3	n/a	n/a	n/a	1.92e+03	n/a
S967005037	F	Manganese - ICP-Fusion	ug/g	101.8	<1.00e-02	<1.92e+02	<1.83e2	n/a	n/a	n/a	192.0	n/a
S967005037	F	Molybdenum - ICP-Fusion	ug/g	102.4	<5.00e-02	<9.61e+02	<9.15e2	n/a	n/a	n/a	960.0	n/a
S967005037	F	Sodium - ICP-Fusion	ug/g	92.20	2.660	2.74e+05	2.18e+05	2.16e+05	1.85	n/a	1.92e+03	n/a
S967005037	F	Neodymium - ICP-Fusion	ug/g	102.0	<1.00e-01	<1.92e+03	<1.83e3	n/a	n/a	n/a	1.92e+03	n/a
S967005037	F	Phosphorus - ICP-Fusion	ug/g	102.4	<2.00e-01	<3.84e+03	<3.66e3	n/a	n/a	n/a	3.84e+03	n/a
S967005037	F	Sulfur - ICP-Fusion	ug/g	100.0	<1.00e-01	<1.92e+03	<1.83e3	n/a	n/a	n/a	1.92e+03	n/a
S967005037	F	Antimony - ICP-Fusion	ug/g	99.80	<1.00e-02	<1.5e+03	3.36e+03	3.36e+03	1.18	n/a	1.92e+03	n/a
S967005037	F	Selenium - ICP-Fusion	ug/g	96.00	<5.00e-02	<1.92e+03	<1.83e3	n/a	n/a	n/a	1.92e+03	n/a
S967005037	F	Silicon - ICP-Fusion	ug/g	96.40	<5.00e-02	<9.61e+02	<9.15e2	n/a	n/a	n/a	960.0	n/a
S967005037	F	Samarium - ICP-Fusion	ug/g	99.40	<1.00e-01	<1.92e+03	<1.83e3	n/a	n/a	n/a	1.92e+03	n/a
S967005037	F	Strontium - ICP-Fusion	ug/g	100.4	<1.00e-02	<1.92e+02	<1.83e2	n/a	n/a	n/a	192.0	n/a
S967005037	F	Tantalum - ICP-Fusion	ug/g	96.60	<2.00e-01	<1.92e+02	<1.83e2	n/a	n/a	n/a	192.0	n/a
S967005037	F	Thallium - ICP-Fusion	ug/g	94.40	<2.00e-01	<3.84e+03	<3.66e3	n/a	n/a	n/a	3.84e+03	n/a
S967005037	F	Uranium - ICP-Fusion	ug/g	99.40	<5.00e-02	<9.61e+03	<9.15e3	n/a	n/a	n/a	9.60e+03	n/a
S967005037	F	Vanadium - ICP-Fusion	ug/g	103.8	<5.00e-02	<9.61e+02	<9.15e2	n/a	n/a	n/a	960.0	n/a
S967005037	F	Zinc - ICP-Fusion	ug/g	104.6	<1.00e-02	2.38e+02	635.0	436.5	91.0	n/a	192.0	n/a
S967005037	F	Zirconium - ICP-Fusion	ug/g	102.0	<1.00e-02	<1.92e+02	<1.83e2	n/a	n/a	n/a	192.0	n/a
S967005062	A	Silver - ICP-Acid Digest	ug/g	84.00	2.26e-02	<15.10	<1.49e1	n/a	n/a	n/a	15.10	n/a
S967005062	A	Aluminum - ICP-Acid Digest	ug/g	93.20	1.59e-01	2.38e+04	2.40e+04	2.39e+04	0.84	n/a	75.30	n/a
S967005062	A	Arsenic - ICP-Acid Digest	ug/g	94.00	<1.00e-01	<1.51e+02	<1.49e2	n/a	n/a	n/a	151.0	n/a

HNF-SD-WM-DP-226, REV. 0

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T005062	A	Boron -ICP-Acid Digest	ug/g	105.0	8.09e-02	1.41e-02	114.0	127.5	21.2	n/a	75.30	n/a
S96T005062	A	Barium -ICP-Acid Digest	ug/g	92.20	<5.00e-02	<75.30	<4.761	n/a	n/a	n/a	75.30	n/a
S96T005062	A	Beryllium -ICP-Acid Digest	ug/g	91.80	<5.00e-03	<7.530	<4.760	n/a	n/a	n/a	7.530	n/a
S96T005062	A	Bismuth -ICP-Acid Digest	ug/g	94.00	<1.00e-01	<1.51e-02	<1.4962	n/a	n/a	n/a	151.0	n/a
S96T005062	A	Calcium -ICP-Acid Digest	ug/g	92.40	<1.00e-01	<1.51e-02	166.0	n/a	n/a	n/a	151.0	n/a
S96T005062	A	Cadmium -ICP-Acid Digest	ug/g	89.80	<1.00e-03	<7.530	<4.760	n/a	n/a	n/a	7.530	n/a
S96T005062	A	Cerium -ICP-Acid Digest	ug/g	94.40	<1.00e-01	<1.51e-02	<1.4962	n/a	n/a	n/a	151.0	n/a
S96T005062	A	Cobalt -ICP-Acid Digest	ug/g	92.80	<2.00e-02	<30.10	30.00	n/a	n/a	n/a	30.10	n/a
S96T005062	A	Chromium -ICP-Acid Digest	ug/g	90.00	<1.00e-02	1.24e+03	1.37e+03	1.30e+03	9.96	n/a	15.10	n/a
S96T005062	A	Copper -ICP-Acid Digest	ug/g	90.00	<1.00e-02	<15.10	<4.761	n/a	n/a	n/a	15.10	n/a
S96T005062	A	Iron -ICP-Acid Digest	ug/g	93.40	<5.00e-02	<75.30	<4.761	n/a	n/a	n/a	75.30	n/a
S96T005062	A	Potassium -ICP-Acid Digest	ug/g	93.20	<5.00e-01	3.83e+03	3.82e+03	3.82e+03	0.26	n/a	75.30	n/a
S96T005062	A	Lanthanum -ICP-Acid Digest	ug/g	94.00	<5.00e-02	<75.30	<4.761	n/a	n/a	n/a	75.30	n/a
S96T005062	A	Lithium -ICP-Acid Digest	ug/g	93.60	<1.00e-02	<15.10	<4.761	n/a	n/a	n/a	15.10	n/a
S96T005062	A	Magnesium -ICP-Acid Digest	ug/g	88.80	<1.00e-01	<1.51e-02	<1.4962	n/a	n/a	n/a	151.0	n/a
S96T005062	A	Manganese -ICP-Acid Digest	ug/g	90.60	<1.00e-02	<15.10	<4.761	n/a	n/a	n/a	15.10	n/a
S96T005062	A	Molybdenum -ICP-Acid Digest	ug/g	90.40	<5.00e-02	<75.30	<4.761	n/a	n/a	n/a	75.30	n/a
S96T005062	A	Sodium -ICP-Acid Digest	ug/g	108.4	1.110	1.95e+05	2.05e+05	2.00e+05	5.00	n/a	151.0	n/a
S96T005062	A	Neodymium -ICP-Acid Digest	ug/g	93.40	<1.00e-01	<1.51e-02	<1.4962	n/a	n/a	n/a	151.0	n/a
S96T005062	A	Nickel -ICP-Acid Digest	ug/g	92.00	<2.00e-02	48.00	54.60	51.30	12.9	n/a	30.10	n/a
S96T005062	A	Phosphorus -ICP-Acid Digest	ug/g	93.20	<2.00e-01	6.92e+02	710.0	701.0	2.57	n/a	301.0	n/a
S96T005062	A	Lead -ICP-Acid Digest	ug/g	87.60	<1.00e-01	<1.51e-02	<1.4962	n/a	n/a	n/a	151.0	n/a
S96T005062	A	Sulfur -ICP-Acid Digest	ug/g	93.80	<1.00e-01	3.27e+03	3.67e+03	3.47e+03	11.5	n/a	151.0	n/a
S96T005062	A	Antimony -ICP-Acid Digest	ug/g	91.80	<6.00e-02	<90.40	<8.961	n/a	n/a	n/a	90.40	n/a
S96T005062	A	Selenium -ICP-Acid Digest	ug/g	81.80	<1.00e-01	1.94e+02	<1.4962	n/a	n/a	n/a	151.0	n/a
S96T005062	A	Strontium -ICP-Acid Digest	ug/g	144.8	2.140	4.77e+02	524.0	500.5	9.39	n/a	75.30	n/a
S96T005062	A	Samarium -ICP-Acid Digest	ug/g	95.40	<1.00e-02	<1.51e-02	<1.4962	n/a	n/a	n/a	151.0	n/a
S96T005062	A	Strontium -ICP-Acid Digest	ug/g	91.40	<1.00e-02	<15.10	<4.761	n/a	n/a	n/a	15.10	n/a
S96T005062	A	Titanium -ICP-Acid Digest	ug/g	84.20	<1.00e-02	<15.10	<4.761	n/a	n/a	n/a	15.10	n/a
S96T005062	A	Thallium -ICP-Acid Digest	ug/g	93.20	<2.00e-01	53.01e+02	<2.9962	n/a	n/a	n/a	301.0	n/a
S96T005062	A	Uranium -ICP-Acid Digest	ug/g	92.80	<5.00e-01	<27.53e+02	<2.7462	n/a	n/a	n/a	75.30	n/a
S96T005062	A	Vanadium -ICP-Acid Digest	ug/g	91.20	<5.00e-02	<75.30	<4.761	n/a	n/a	n/a	75.30	n/a
S96T005062	A	Zinc -ICP-Acid Digest	ug/g	89.00	<1.80e-02	<15.10	<1.4961	n/a	n/a	n/a	15.10	n/a
S96T005062	A	Zirconium -ICP-Acid Digest	ug/g	93.60	<1.00e-02	21.60	<1.4961	n/a	n/a	n/a	15.10	n/a
S96T005072	W	Acetate by IC-DIONEX 4000/4500	ug/g	86.29	<2.00e-02	5.53e+02	554.0	553.6	0.18	99.19	83.12	n/a
S96T005072	W	Formate by IC-Dionex 4000/4500	ug/g	94.17	6.25e-01	6.12e+02	652.0	632.1	6.33	97.50	87.28	n/a
S96T005072	W	Fluoride-IC-Dionex 4000/4500	ug/g	91.19	<1.20e-02	4.06e+02	422.0	413.8	3.86	81.69	49.88	n/a
S96T005072	W	Chloride-IC-Dionex 4000/4500	ug/g	101.1	3.70e-02	4.60e+02	4.63e+03	4.70e+03	2.77	99.75	70.64	n/a
S96T005072	W	Nitrite-IC - Dionex 4000/4500	ug/g	96.92	<1.08e-01	6.47e+04	6.24e+04	6.35e+04	3.62	112.0	448.8	n/a
S96T005072	W	Bromide by Ion Chromatograph	ug/g	97.79	<1.25e-01	<5.20e+02	<5.0762	n/a	n/a	95.08	519.5	n/a
S96T005072	W	Nitrate by IC-Dionex 4000/4500	ug/g	102.7	<1.35e-01	1.00e+05	1.01e+05	1.01e+05	1.00	111.3	577.7	n/a
S96T005072	W	Phosphate-IC-Dionex 4000/4500	ug/g	99.82	<1.20e-01	2.69e+03	1.88e+03	2.28e+03	35.4	98.53	498.8	n/a
S96T005072	W	Sulfate by IC-Dionex 4000/4500	ug/g	103.4	<1.38e-01	9.43e+03	1.20e+04	1.07e+04	23.5	101.4	573.5	n/a
S96T005072	W	Oxalate-IC-Dionex 4000/4500	ug/g	103.4	<1.05e-01	8.02e+03	1.02e+04	9.11e+03	23.9	101.4	436.4	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
S96T004969		Bulk Density of Sample	g/mL	n/a	n/a	1.580	n/a	n/a	n/a	n/a	5.00e-01	n/a
S96T004989		DSC Exotherm using Mettler	Joules/g	101.9	n/a	16.50	0.00e+00	8.250	200	n/a	n/a	n/a
S96T004989		DSC Exotherm DTA Calculated	Joules/g	n/a	n/a	31.90	0.00e+00	15.95	200	n/a	n/a	n/a
S96T004989		% Water by IGA using Mettler	Joules/g DRY	99.54	n/a	47.18	49.33	48.25	4.46	n/a	n/a	n/a
S96T005033	F	Potassium - ICP-Fusion	ug/g	104.2	< 5.00e-01	2.10e+03	n/a	n/a	30.4	n/a	9.56e+03	n/a
S96T005033	F	Nickel - ICP-Fusion	ug/g	101.2	6.40e-02	2.50e+03	1.84e+03	2.17e+03	n/a	n/a	383.0	n/a
S96T005033	F	Nickel - ICP-Fusion	ug/g	101.0	< 1.00e-02	1.91e+02	< 1.87e+02	n/a	n/a	n/a	191.0	n/a
S96T005033	F	Silver - ICP-Fusion	ug/g	97.00	< 5.00e-02	2.27e+04	2.27e+04	2.27e+04	0.00	n/a	956.0	n/a
S96T005033	F	Aluminum - ICP-Fusion	ug/g	103.0	< 1.00e-01	1.91e+03	< 1.87e+03	n/a	n/a	n/a	1.91e+03	n/a
S96T005033	F	Arsenic - ICP-Fusion	ug/g	101.4	< 5.00e-02	< 9.57e+02	< 9.33e+02	n/a	n/a	n/a	956.0	n/a
S96T005033	F	Boron - ICP-Fusion	ug/g	99.60	< 5.00e-02	< 9.57e+02	< 9.33e+02	n/a	n/a	n/a	956.0	n/a
S96T005033	F	Barium - ICP-Fusion	ug/g	103.6	< 5.00e-03	< 95.70	< 9.33e+02	n/a	n/a	n/a	956.0	n/a
S96T005033	F	Beryllium - ICP-Fusion	ug/g	105.4	< 1.00e-01	1.91e+03	< 1.87e+03	n/a	n/a	n/a	1.91e+03	n/a
S96T005033	F	Bismuth - ICP-Fusion	ug/g	98.20	< 1.00e-01	1.91e+03	< 1.87e+03	n/a	n/a	n/a	1.91e+03	n/a
S96T005033	F	Calcium - ICP-Fusion	ug/g	102.0	< 5.00e-03	< 95.70	< 9.33e+02	n/a	n/a	n/a	956.0	n/a
S96T005033	F	Cadmium - ICP-Fusion	ug/g	100.4	< 1.00e-01	1.91e+03	< 1.87e+03	n/a	n/a	n/a	1.91e+03	n/a
S96T005033	F	Cobalt - ICP-Fusion	ug/g	102.4	< 2.00e-02	< 5.83e+02	< 5.73e+02	n/a	n/a	n/a	383.0	n/a
S96T005033	F	Chromium - ICP-Fusion	ug/g	102.2	< 1.00e-02	1.25e+03	1.31e+03	1.28e+03	4.69	n/a	191.0	n/a
S96T005033	F	Copper - ICP-Fusion	ug/g	100.0	< 1.00e-02	1.91e+02	< 1.87e+02	n/a	n/a	n/a	191.0	n/a
S96T005033	F	Iron - ICP-Fusion	ug/g	103.0	< 5.00e-02	< 9.57e+02	< 9.33e+02	n/a	n/a	n/a	956.0	n/a
S96T005033	F	Lanthanum - ICP-Fusion	ug/g	100.8	< 5.00e-02	< 9.57e+02	< 9.33e+02	n/a	n/a	n/a	956.0	n/a
S96T005033	F	Lithium - ICP-Fusion	ug/g	92.80	< 1.00e-02	1.91e+02	< 1.87e+02	n/a	n/a	n/a	191.0	n/a
S96T005033	F	Magnesium - ICP-Fusion	ug/g	101.8	< 1.00e-01	1.91e+03	< 1.87e+03	n/a	n/a	n/a	1.91e+03	n/a
S96T005033	F	Manganese - ICP-Fusion	ug/g	102.4	< 5.00e-02	< 9.57e+02	< 9.33e+02	n/a	n/a	n/a	956.0	n/a
S96T005033	F	Molybdenum - ICP-Fusion	ug/g	92.20	< 5.00e-02	2.29e+05	2.37e+05	2.33e+05	3.43	n/a	1.91e+03	n/a
S96T005033	F	Sodium - ICP-Fusion	ug/g	102.0	< 1.00e-01	1.91e+03	< 1.87e+03	n/a	n/a	n/a	1.91e+03	n/a
S96T005033	F	Neodymium - ICP-Fusion	ug/g	102.4	< 2.00e-01	< 3.83e+03	< 3.75e+03	n/a	n/a	n/a	3.83e+03	n/a
S96T005033	F	Phosphorus - ICP-Fusion	ug/g	100.0	< 1.00e-01	1.91e+03	< 1.87e+03	n/a	n/a	n/a	1.91e+03	n/a
S96T005033	F	Lead - ICP-Fusion	ug/g	99.80	< 1.00e-01	3.58e+03	3.55e+03	3.56e+03	0.84	n/a	1.91e+03	n/a
S96T005033	F	Sulfur - ICP-Fusion	ug/g	97.00	< 5.00e-02	< 1.15e+03	< 1.12e+03	n/a	n/a	n/a	1.15e+03	n/a
S96T005033	F	Antimony - ICP-Fusion	ug/g	96.00	< 1.00e-01	1.91e+03	< 1.87e+03	n/a	n/a	n/a	1.91e+03	n/a
S96T005033	F	Selenium - ICP-Fusion	ug/g	96.40	< 5.00e-02	9.87e+02	< 9.33e+02	n/a	n/a	n/a	956.0	n/a
S96T005033	F	Strontium - ICP-Fusion	ug/g	99.40	< 1.00e-01	1.91e+03	< 1.87e+03	n/a	n/a	n/a	1.91e+03	n/a
S96T005033	F	Titanium - ICP-Fusion	ug/g	100.4	< 1.00e-02	1.91e+02	< 1.87e+02	n/a	n/a	n/a	191.0	n/a
S96T005033	F	Titanium - ICP-Fusion	ug/g	96.60	< 1.00e-02	< 3.83e+03	< 3.75e+03	n/a	n/a	n/a	3.83e+03	n/a
S96T005033	F	Thallium - ICP-Fusion	ug/g	94.40	< 5.00e-01	< 9.57e+03	< 9.33e+03	n/a	n/a	n/a	9.56e+03	n/a
S96T005033	F	Uranium - ICP-Fusion	ug/g	99.40	< 5.00e-02	< 9.57e+02	< 9.33e+02	n/a	n/a	n/a	956.0	n/a
S96T005033	F	Vanadium - ICP-Fusion	ug/g	103.8	< 5.00e-02	< 9.57e+02	< 9.33e+02	n/a	n/a	n/a	956.0	n/a
S96T005033	F	Zinc - ICP-Fusion	ug/g	104.6	< 1.00e-02	3.44e+02	< 3.36e+02	n/a	n/a	n/a	191.0	n/a
S96T005033	F	Zirconium - ICP-Fusion	ug/g	102.0	< 1.00e-02	1.91e+02	< 1.87e+02	n/a	n/a	n/a	191.0	n/a
S96T005033	F	Alpha of Digested Solid	ug/g	109.1	< 2.18e-02	44.19e+02	2.37e+02	n/a	n/a	n/a	2.50e+02	1.84e+02
S96T005044	A	Silver - ICP-Acid Digest	ug/g	84.00	2.50e-02	< 14.70	< 1.50e+01	2.23e+04	0.45	n/a	14.70	n/a
S96T005044	A	Aluminum - ICP-Acid Digest	ug/g	93.20	1.26e-01	2.26e+04	< 1.50e+02	2.24e+04	0.45	n/a	73.70	n/a
S96T005044	A	Arsenic - ICP-Acid Digest	ug/g	94.00	< 1.00e-01	1.47e+02	< 1.47e+02	< 1.50e+02	16.7	n/a	73.70	n/a
S96T005044	A	Boron - ICP-Acid Digest	ug/g	105.0	8.09e-01	1.36e+02	< 73.70	125.5	16.7	n/a	73.70	n/a
S96T005044	A	Barium - ICP-Acid Digest	ug/g	92.20	< 5.00e-02	< 73.70	< 73.70	< 73.70	n/a	n/a	7.370	n/a
S96T005044	A	Beryllium - ICP-Acid Digest	ug/g	94.80	< 5.00e-03	< 73.70	< 73.70	< 73.70	n/a	n/a	7.370	n/a
S96T005044	A	Bismuth - ICP-Acid Digest	ug/g	91.00	< 1.00e-01	< 1.47e+02	< 1.50e+02	< 1.50e+02	n/a	n/a	147.0	n/a

HNF-SD-WM-DP-226, REV. 0

Sample #	P. #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T005044	A	Calcium - ICP-Acid Digest	ug/g	92.40	<1.00e-01	1.72e+02	161.0	166.5	6.61	n/a	147.0	n/a
S96T005044	A	Cadmium - ICP-Acid Digest	ug/g	89.80	<5.00e-03	<1.47e-02	<1.47e-02	7.870	n/a	n/a	7.370	n/a
S96T005044	A	Cerium - ICP-Acid Digest	ug/g	94.40	<1.00e-01	<1.47e+02	<1.50e2	n/a	n/a	n/a	147.0	n/a
S96T005044	A	Cobalt - ICP-Acid Digest	ug/g	92.80	<2.00e-02	32.70	47.30	40.00	36.5	n/a	29.50	n/a
S96T005044	A	Chromium - ICP-Acid Digest	ug/g	90.00	<1.00e-02	1.31e+03	1.29e+03	1.30e+03	1.54	n/a	14.70	n/a
S96T005044	A	Copper - ICP-Acid Digest	ug/g	90.00	<1.00e-02	<1.47e-02	<1.50e1	n/a	n/a	n/a	14.70	n/a
S96T005044	A	Iron - ICP-Acid Digest	ug/g	91.40	<5.00e-02	73.70	<7.50e1	n/a	n/a	n/a	73.70	n/a
S96T005044	A	Potassium - ICP-Acid Digest	ug/g	93.20	<5.00e-01	3.53e+03	3.69e+03	3.61e+03	4.43	n/a	737.0	n/a
S96T005044	A	Lanthanum - ICP-Acid Digest	ug/g	94.00	<5.00e-02	73.70	<7.50e1	n/a	n/a	n/a	73.70	n/a
S96T005044	A	Lithium - ICP-Acid Digest	ug/g	93.60	<1.00e-02	14.70	<1.50e1	n/a	n/a	n/a	14.70	n/a
S96T005044	A	Magnesium - ICP-Acid Digest	ug/g	88.80	<1.00e-02	<1.47e+02	<1.50e2	n/a	n/a	n/a	147.0	n/a
S96T005044	A	Manganese - ICP-Acid Digest	ug/g	90.60	<1.00e-02	15.80	15.60	15.70	1.27	n/a	14.70	n/a
S96T005044	A	Molybdenum - ICP-Acid Digest	ug/g	90.40	<5.00e-02	73.70	<7.50e1	n/a	n/a	n/a	73.70	n/a
S96T005044	A	Sodium - ICP-Acid Digest	ug/g	108.4	1.110	1.99e+05	1.95e+05	1.97e+05	2.03	n/a	147.0	n/a
S96T005044	A	Neodymium - ICP-Acid Digest	ug/g	93.40	<1.00e-01	<1.47e+02	<1.50e2	n/a	n/a	n/a	147.0	n/a
S96T005044	A	Nickel - ICP-Acid Digest	ug/g	92.00	<2.00e-02	51.00	44.30	47.65	14.1	n/a	29.50	n/a
S96T005044	A	Phosphorus - ICP-Acid Digest	ug/g	93.20	<2.00e-01	1.09e+03	1.11e+03	1.10e+03	1.82	n/a	295.0	n/a
S96T005044	A	Lead - ICP-Acid Digest	ug/g	87.60	<1.00e-01	<1.47e+02	<1.50e2	n/a	n/a	n/a	147.0	n/a
S96T005044	A	Antimony - ICP-Acid Digest	ug/g	91.80	<6.00e-02	3.62e+03	3.60e+03	3.61e+03	0.55	n/a	147.0	n/a
S96T005044	A	Selenium - ICP-Acid Digest	ug/g	81.80	<1.00e-01	<1.47e+02	185.0	n/a	n/a	n/a	88.50	n/a
S96T005044	A	Samarium - ICP-Acid Digest	ug/g	144.8	2.140	6.82e+02	615.0	648.5	10.3	n/a	147.0	n/a
S96T005044	A	Silicon - ICP-Acid Digest	ug/g	95.40	<1.00e-01	<1.47e+02	<1.50e2	n/a	n/a	n/a	73.70	n/a
S96T005044	A	Strontium - ICP-Acid Digest	ug/g	91.40	<1.00e-02	<1.47e-02	<1.50e1	n/a	n/a	n/a	14.70	n/a
S96T005044	A	Titanium - ICP-Acid Digest	ug/g	84.20	<1.00e-02	<1.47e-02	<1.50e1	n/a	n/a	n/a	14.70	n/a
S96T005044	A	Thallium - ICP-Acid Digest	ug/g	93.20	<2.00e-01	<2.95e+02	<3.00e2	n/a	n/a	n/a	295.0	n/a
S96T005044	A	Uranium - ICP-Acid Digest	ug/g	92.80	<5.00e-01	<7.37e+02	<7.50e2	n/a	n/a	n/a	737.0	n/a
S96T005044	A	Vanadium - ICP-Acid Digest	ug/g	91.20	<5.00e-02	<1.47e-02	<1.50e1	n/a	n/a	n/a	73.70	n/a
S96T005044	A	Zinc - ICP-Acid Digest	ug/g	89.00	<1.00e-02	36.40	<1.50e1	n/a	n/a	n/a	14.70	n/a
S96T005044	A	Zirconium - ICP-Acid Digest	ug/g	93.60	<1.00e-02	17.50	<1.50e1	n/a	n/a	n/a	14.70	n/a
S96T005069	W	Acetate by IC-Dionex 4000/4500	ug/g	86.29	<2.00e-02	7.59e+02	635.0	693.4	16.9	91.94	169.7	n/a
S96T005069	W	Formate by IC-Dionex 4000/4500	ug/g	94.17	6.25e-01	6.95e+02	701.0	698.2	0.86	96.67	178.1	n/a
S96T005069	W	Fluoride by IC-Dionex 4000/4500	ug/g	101.0	<1.00e-02	4.68e+02	461.0	464.7	1.51	110.2	101.8	n/a
S96T005069	W	Chloride by IC-Dionex 4000/4500	ug/g	97.22	2.50e-02	4.96e+03	4.74e+03	4.85e+03	4.54	105.7	144.2	n/a
S96T005069	W	Nitrite by Ion Chromatograph	ug/g	96.49	<1.00e-01	7.44e+04	7.22e+04	7.33e+04	3.00	97.97	916.4	n/a
S96T005069	W	Bromide by Ion Chromatograph	ug/g	102.0	<1.25e-01	<1.00e+03	<1.06e3	n/a	n/a	101.4	1.06e+03	n/a
S96T005069	W	Nitrate by IC-Dionex 4000/4500	ug/g	91.9	1.64e-01	1.03e+05	1.05e+05	1.04e+05	1.92	112.1	1.18e+03	n/a
S96T005069	W	Phosphate by IC-Dionex 4000/4500	ug/g	99.63	<4.920	1.54e+03	1.54e+03	1.45e+03	11.7	100.0	1.02e+03	n/a
S96T005069	W	Sulfate by IC-Dionex 4000/4500	ug/g	101.7	<1.35e-01	1.01e+04	9.96e+03	1.00e+04	1.40	105.1	1.17e+03	n/a
S96T005069	W	Oxalate by IC-Dionex 4000/4500	ug/g	95.87	<1.05e-01	7.86e+03	7.31e+03	7.59e+03	7.25	101.9	890.9	n/a

Table 1. Data Summary Report
AN-104

CORE NUMBER: 164
SEGMENT #: 17

SEGMENT PORTION: U Upper Half of Segment

Sample#	R #	Analyte	Unit	Standard	Blank	Result	Duplicate	Average	RPD	Spk Rec	Det Limit	Count Err%
S96T004971		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
S96T004990		DSC Exotherm using Mettler	Joules/g	101.9	n/a	7.000	0.00e+00	3.500	200	n/a	n/a	n/a
S96T004990		DSC Exotherm Drying Calculated	Joules/g	n/a	n/a	14.00	0.00e+00	7.000	200	n/a	n/a	n/a
S96T004990		% Water by TGA using Mettler	%	n/a	n/a	49.51	49.85	49.68	0.68	n/a	9.64e+03	n/a
S96T005038		F Potassium - ICP-Fusion	ug/g	99.54	<5.00e-01	6.07e+06	n/a	n/a	n/a	n/a	n/a	n/a
S96T005038		F Nickel - ICP-Fusion	ug/g	97.60	6.80e-02	1.10e+03	506.0	803.0	74.0	n/a	386.0	n/a
S96T005038		F Silver - ICP-Fusion	ug/g	98.00	<1.00e-02	<1.92e+02	<1.90e2	n/a	n/a	n/a	193.0	n/a
S96T005038		F Aluminum - ICP-Fusion	ug/g	95.80	5.70e-02	2.26e+04	2.23e+04	2.24e+04	1.34	n/a	964.0	n/a
S96T005038		F Arsenic - ICP-Fusion	ug/g	103.0	<1.00e-01	<1.92e+03	<1.90e3	n/a	n/a	n/a	1.93e+03	n/a
S96T005038		F Boron - ICP-Fusion	ug/g	99.20	<5.00e-02	<9.66e+02	<9.49e2	n/a	n/a	n/a	964.0	n/a
S96T005038		F Barium - ICP-Fusion	ug/g	101.2	<5.00e-02	<9.66e+02	<9.49e2	n/a	n/a	n/a	964.0	n/a
S96T005038		F Beryllium - ICP-Fusion	ug/g	102.4	<5.00e-03	<9.66e+02	<9.49e2	n/a	n/a	n/a	964.0	n/a
S96T005038		F Bismuth - ICP-Fusion	ug/g	104.4	<1.00e-01	<1.92e+03	<1.90e3	n/a	n/a	n/a	1.92e+03	n/a
S96T005038		F Calcium - ICP-Fusion	ug/g	96.40	<1.00e-01	<1.92e+03	<1.90e3	n/a	n/a	n/a	1.92e+03	n/a
S96T005038		F Cadmium - ICP-Fusion	ug/g	98.20	<5.00e-03	<9.66e+02	<9.49e1	n/a	n/a	n/a	964.0	n/a
S96T005038		F Cerium - ICP-Fusion	ug/g	97.60	<1.00e-01	<1.92e+03	<1.90e3	n/a	n/a	n/a	1.92e+03	n/a
S96T005038		F Cobalt - ICP-Fusion	ug/g	97.20	<2.00e-02	<3.86e+02	<3.79e2	n/a	n/a	n/a	386.0	n/a
S96T005038		F Chromium - ICP-Fusion	ug/g	96.60	<1.00e-02	1.35e+03	1.47e+03	1.41e+03	8.51	n/a	193.0	n/a
S96T005038		F Copper - ICP-Fusion	ug/g	99.40	<1.00e-02	<1.92e+02	<1.90e2	n/a	n/a	n/a	964.0	n/a
S96T005038		F Iron - ICP-Fusion	ug/g	99.40	<5.00e-02	<9.66e+02	<9.49e2	n/a	n/a	n/a	964.0	n/a
S96T005038		F Lanthanum - ICP-Fusion	ug/g	99.20	<5.00e-02	<9.66e+02	<9.49e2	n/a	n/a	n/a	964.0	n/a
S96T005038		F Lithium - ICP-Fusion	ug/g	96.00	<1.00e-02	<1.92e+02	<1.90e2	n/a	n/a	n/a	193.0	n/a
S96T005038		F Magnesium - ICP-Fusion	ug/g	98.80	<1.00e-01	<1.92e+03	<1.90e3	n/a	n/a	n/a	1.92e+03	n/a
S96T005038		F Manganese - ICP-Fusion	ug/g	97.60	<1.00e-02	<1.92e+02	<1.90e2	n/a	n/a	n/a	193.0	n/a
S96T005038		F Molybdenum - ICP-Fusion	ug/g	98.80	<5.00e-02	<9.66e+02	<9.49e2	n/a	n/a	n/a	964.0	n/a
S96T005038		F Sodium - ICP-Fusion	ug/g	94.80	2.490	2.08e+05	2.10e+05	2.09e+05	0.96	n/a	1.92e+03	n/a
S96T005038		F Neodymium - ICP-Fusion	ug/g	100.0	<1.00e-01	<1.92e+03	<1.90e3	n/a	n/a	n/a	1.92e+03	n/a
S96T005038		F Phosphorus - ICP-Fusion	ug/g	101.2	<2.00e-01	<3.86e+03	<3.79e3	n/a	n/a	n/a	3.86e+03	n/a
S96T005038		F Lead - ICP-Fusion	ug/g	94.60	<1.00e-01	<1.92e+03	<1.90e3	n/a	n/a	n/a	1.92e+03	n/a
S96T005038		F Sulfur - ICP-Fusion	ug/g	100.0	<1.00e-01	2.79e+03	3.36e+03	3.08e+03	18.5	n/a	1.92e+03	n/a
S96T005038		F Antimony - ICP-Fusion	ug/g	101.4	6.70e-02	<1.16e+03	<1.14e3	n/a	n/a	n/a	1.16e+03	n/a
S96T005038		F Selenium - ICP-Fusion	ug/g	97.20	<1.00e-01	<1.92e+03	<1.90e3	n/a	n/a	n/a	1.92e+03	n/a
S96T005038		F Strontium - ICP-Fusion	ug/g	100.8	<5.00e-02	<9.66e+02	<9.49e2	n/a	n/a	n/a	964.0	n/a
S96T005038		F Samarium - ICP-Fusion	ug/g	104.2	<1.00e-01	<1.92e+03	<1.90e3	n/a	n/a	n/a	193.0	n/a
S96T005038		F Strontium - ICP-Fusion	ug/g	101.4	<1.00e-01	<1.92e+02	<1.90e2	n/a	n/a	n/a	193.0	n/a
S96T005038		F Titanium - ICP-Fusion	ug/g	94.20	<2.00e-02	<1.92e+02	<1.90e2	n/a	n/a	n/a	193.0	n/a
S96T005038		F Thallium - ICP-Fusion	ug/g	95.40	<2.00e-01	<3.86e+03	<3.79e3	n/a	n/a	n/a	3.86e+03	n/a
S96T005038		F Uranium - ICP-Fusion	ug/g	101.0	<5.00e-02	<9.66e+02	<9.49e2	n/a	n/a	n/a	964.0	n/a
S96T005038		F Vanadium - ICP-Fusion	ug/g	100.0	<5.00e-01	<9.66e+02	<9.49e2	n/a	n/a	n/a	193.0	n/a
S96T005038		F Zinc - ICP-Fusion	ug/g	99.20	<1.00e-02	<1.92e+02	<1.90e2	n/a	n/a	n/a	193.0	n/a
S96T005038		F Zirconium - ICP-Fusion	ug/g	100.8	<1.00e-02	<1.92e+02	<1.90e2	n/a	n/a	n/a	13.90	n/a
S96T005063		A Silver - ICP-Acid Digest	ug/g	84.00	2.50e-02	<13.90	<14.361	n/a	n/a	n/a	69.70	n/a
S96T005063		A Aluminum - ICP-Acid Digest	ug/g	93.20	1.28e-01	2.27e+04	2.39e+04	2.33e+04	5.15	n/a	n/a	n/a
S96T005063		A Arsenic - ICP-Acid Digest	ug/g	94.00	<1.00e-01	<1.39e+02	<1.4362	n/a	n/a	n/a	139.0	n/a

HNF-SD-WM-DP-226, REV. 0

Sample#	Element	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T005063	A	Boron - ICP-Acid Digest	ug/g	105.0	8.09e-01	1.42e+02	121.0	131.5	n/a	n/a	69.70	n/a
S96T005063	A	Barium - ICP-Acid Digest	ug/g	92.20	5.09e-01	< 69.70	< 1.4e1	n/a	n/a	n/a	69.70	n/a
S96T005063	A	Beryllium - ICP-Acid Digest	ug/g	94.80	5.00e-03	< 6.970	< 1.43e2	n/a	n/a	n/a	69.70	n/a
S96T005063	A	Bismuth - ICP-Acid Digest	ug/g	91.00	1.00e-01	< 1.39e+02	< 1.43e2	n/a	n/a	n/a	139.0	n/a
S96T005063	A	Calcium - ICP-Acid Digest	ug/g	92.40	5.00e-03	1.62e+02	181.0	171.5	11.1	n/a	139.0	n/a
S96T005063	A	Cadmium - ICP-Acid Digest	ug/g	89.80	5.00e-03	9.610	8.820	9.215	8.57	n/a	69.70	n/a
S96T005063	A	Cerium - ICP-Acid Digest	ug/g	94.40	1.00e-01	< 1.39e+02	< 1.43e2	n/a	n/a	n/a	139.0	n/a
S96T005063	A	Cobalt - ICP-Acid Digest	ug/g	92.80	2.00e-02	35.10	36.60	35.85	4.18	n/a	27.90	n/a
S96T005063	A	Chromium - ICP-Acid Digest	ug/g	90.00	1.00e-02	1.49e+03	1.62e+03	1.56e+03	8.36	n/a	13.90	n/a
S96T005063	A	Copper - ICP-Acid Digest	ug/g	90.00	1.00e-02	< 13.90	< 1.43e1	n/a	n/a	n/a	69.70	n/a
S96T005063	A	Iron - ICP-Acid Digest	ug/g	91.40	5.00e-02	< 69.70	< 1.4e1	n/a	n/a	n/a	69.70	n/a
S96T005063	A	Potassium - ICP-Acid Digest	ug/g	93.20	5.00e-01	3.81e+03	4.06e+03	3.94e+03	6.35	n/a	69.70	n/a
S96T005063	A	Lanthanum - ICP-Acid Digest	ug/g	94.00	5.00e-02	< 69.70	< 1.4e1	n/a	n/a	n/a	69.70	n/a
S96T005063	A	Lithium - ICP-Acid Digest	ug/g	93.60	1.00e-02	< 13.90	< 1.43e1	n/a	n/a	n/a	13.90	n/a
S96T005063	A	Magnesium - ICP-Acid Digest	ug/g	88.80	1.00e-01	< 1.39e+02	< 1.43e2	n/a	n/a	n/a	139.0	n/a
S96T005063	A	Manganese - ICP-Acid Digest	ug/g	90.60	1.00e-02	14.50	15.30	14.90	5.37	n/a	13.90	n/a
S96T005063	A	Molybdenum - ICP-Acid Digest	ug/g	90.40	5.00e-02	< 69.70	< 1.4e1	n/a	n/a	n/a	69.70	n/a
S96T005063	A	Sodium - ICP-Acid Digest	ug/g	108.4	1.10	1.90e+05	1.96e+05	1.93e+05	3.11	n/a	139.0	n/a
S96T005063	A	Neodymium - ICP-Acid Digest	ug/g	93.40	1.00e-01	< 1.39e+02	< 1.43e2	n/a	n/a	n/a	139.0	n/a
S96T005063	A	Nickel - ICP-Acid Digest	ug/g	92.00	2.00e-02	52.00	63.30	57.65	19.6	n/a	27.90	n/a
S96T005063	A	Phosphorus - ICP-Acid Digest	ug/g	93.20	2.00e-01	1.47e+03	861.0	1.17e+03	52.3	n/a	279.0	n/a
S96T005063	A	Lead - ICP-Acid Digest	ug/g	87.60	1.00e-01	< 1.39e+02	< 1.43e2	n/a	n/a	n/a	139.0	n/a
S96T005063	A	Sulfur - ICP-Acid Digest	ug/g	93.80	1.00e-01	3.39e+03	3.52e+03	3.46e+03	3.76	n/a	139.0	n/a
S96T005063	A	Antimony - ICP-Acid Digest	ug/g	91.80	5.00e-02	< 83.60	< 8.57e1	n/a	n/a	n/a	83.60	n/a
S96T005063	A	Selenium - ICP-Acid Digest	ug/g	81.80	1.00e-01	1.57e+02	182.0	169.5	14.7	n/a	139.0	n/a
S96T005063	A	Silicon - ICP-Acid Digest	ug/g	144.8	2.140	3.17e+02	309.0	313.0	2.56	n/a	69.70	n/a
S96T005063	A	Samarium - ICP-Acid Digest	ug/g	95.40	1.00e-02	< 1.39e+02	< 1.43e2	n/a	n/a	n/a	139.0	n/a
S96T005063	A	Strontium - ICP-Acid Digest	ug/g	91.40	1.00e-02	< 13.90	< 1.43e1	n/a	n/a	n/a	13.90	n/a
S96T005063	A	Titanium - ICP-Acid Digest	ug/g	84.20	1.00e-02	< 13.90	< 1.43e1	n/a	n/a	n/a	13.90	n/a
S96T005063	A	Thallium - ICP-Acid Digest	ug/g	93.20	2.00e-01	< 2.79e+02	< 2.86e2	n/a	n/a	n/a	279.0	n/a
S96T005063	A	Uranium - ICP-Acid Digest	ug/g	92.80	5.00e-01	< 6.97e+02	< 1.4e2	n/a	n/a	n/a	69.70	n/a
S96T005063	A	Vanadium - ICP-Acid Digest	ug/g	91.20	5.00e-02	< 69.70	< 1.4e1	n/a	n/a	n/a	69.70	n/a
S96T005063	A	Zinc - ICP-Acid Digest	ug/g	89.00	1.80e-02	14.40	14.40	14.40	0.00	n/a	13.90	n/a
S96T005063	A	Zirconium - ICP-Acid Digest	ug/g	93.60	1.00e-02	< 13.90	25.00	25.00	n/a	n/a	13.90	n/a
S96T005063	A	Acetate by IC-Dionex 4000/4500	ug/g	86.29	2.00e-02	5.44e+02	568.0	555.9	4.32	100.0	92.38	n/a
S96T005073	W	Formate by IC-Dionex 4000/4500	ug/g	94.17	6.25e-01	6.57e+02	625.0	641.0	4.99	98.33	96.98	n/a
S96T005073	W	Fluoride by IC-Dionex 4000/4500	ug/g	91.19	1.20e-02	4.50e+02	426.0	437.8	5.48	137.3	55.42	n/a
S96T005073	W	Chloride by IC-Dionex 4000/4500	ug/g	101.1	3.70e-02	4.44e+03	4.72e+03	4.58e+03	6.11	97.59	78.52	n/a
S96T005073	W	Nitrite by IC-Dionex 4000/4500	ug/g	96.92	1.00e-01	6.05e+04	6.34e+04	6.20e+04	4.68	99.28	498.8	n/a
S96T005073	W	Bromide by Ion Chromatograph	ug/g	97.79	1.25e-01	5.77e+02	< 5.79e2	n/a	n/a	n/a	577.3	n/a
S96T005073	W	Nitrate by IC-Dionex 4000/4500	ug/g	102.7	1.39e-01	1.10e+05	1.02e+05	1.06e+05	7.55	87.71	642.0	n/a
S96T005073	W	Phosphate by IC-Dionex 4000/4500	ug/g	99.82	1.20e-01	3.20e+03	2.80e+03	3.00e+03	13.3	96.51	554.2	n/a
S96T005073	W	Sulfate by IC-Dionex 4000/4500	ug/g	103.5	1.38e-01	9.42e+04	9.98e+03	1.01e+04	2.18	98.89	637.4	n/a
S96T005073	W	Oxalate by IC-Dionex 4000/4500	ug/g	103.4	1.05e-01	9.42e+03	8.59e+03	9.00e+03	9.22	99.82	484.9	n/a

L Lower Half of Segment: L Lower Half of Segment

Sample#	R.#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPP	Spk Rec %	Det Limit	Count Err%
S96T004972		Bulk Density of Sample	g/mL	n/a	n/a	1.550	n/a	n/a	n/a	n/a	5.00e-01	n/a
S96T004991		DSC Exotherm using Mettler	Joules/g	101.9	n/a	2.200	4.700	3.450	72.5	n/a	n/a	n/a
S96T004991		DSC Exotherm TGA Calculated	Joules/g	n/a	n/a	4.250	9.070	6.660	72.4	n/a	n/a	n/a
S96T004991		% Water by TGA using Mettler	%	99.54	n/a	47.76	48.57	48.16	1.68	n/a	n/a	n/a
S96T005031	F	Potassium - ICP-Fusion	ug/g	96.60	<5.00e-01	6.68e+06	n/a	n/a	n/a	n/a	1.09e+04	n/a
S96T005031	F	Nickel - ICP-Fusion	ug/g	97.60	6.80e-02	5.53e+02	2.67e+03	1.61e+03	131	95.20	436.0	n/a
S96T005031	F	Nickel - ICP-Fusion	ug/g	98.00	<1.00e-02	1.8e+02	<2.17e2	n/a	n/a	81.60	218.0	n/a
S96T005031	F	Aluminum - ICP-Fusion	ug/g	95.80	5.70e-02	2.04e+04	2.17e+04	2.10e+04	6.18	94.80	1.09e+03	n/a
S96T005031	F	Arsenic - ICP-Fusion	ug/g	103.0	<1.00e-01	<2.18e+03	<2.17e3	n/a	n/a	99.30	2.18e+03	n/a
S96T005031	F	Boron - ICP-Fusion	ug/g	99.20	<5.00e-02	<1.09e+03	<1.08e3	n/a	n/a	95.60	1.09e+03	n/a
S96T005031	F	Barium - ICP-Fusion	ug/g	101.2	<5.00e-02	<1.09e+03	<1.08e3	n/a	n/a	101.0	1.09e+03	n/a
S96T005031	F	Beryllium - ICP-Fusion	ug/g	102.4	<5.00e-03	<1.09e+02	<1.08e2	n/a	n/a	99.40	109.0	n/a
S96T005031	F	Bismuth - ICP-Fusion	ug/g	104.4	<1.00e-01	<2.18e+03	<2.17e3	n/a	n/a	104.0	2.18e+03	n/a
S96T005031	F	Calcium - ICP-Fusion	ug/g	96.40	<1.00e-03	<2.18e+03	<2.17e3	n/a	n/a	96.40	2.18e+03	n/a
S96T005031	F	Calcium - ICP-Fusion	ug/g	98.20	<1.00e-01	<2.18e+03	<2.17e3	n/a	n/a	96.00	109.0	n/a
S96T005031	F	Cadmium - ICP-Fusion	ug/g	97.60	<1.00e-01	<2.18e+03	<2.17e3	n/a	n/a	94.90	2.18e+03	n/a
S96T005031	F	Cerium - ICP-Fusion	ug/g	97.20	<2.00e-02	4.37e+02	4.34e2	n/a	n/a	94.50	436.0	n/a
S96T005031	F	Cobalt - ICP-Fusion	ug/g	96.60	<1.00e-02	<2.18e+02	<2.17e2	n/a	n/a	93.80	218.0	n/a
S96T005031	F	Chromium - ICP-Fusion	ug/g	100.0	<1.00e-02	<2.18e+02	<2.17e2	n/a	n/a	94.50	2.18e+03	n/a
S96T005031	F	Copper - ICP-Fusion	ug/g	98.80	<5.00e-02	<1.09e+03	<1.08e3	n/a	n/a	97.20	1.09e+03	n/a
S96T005031	F	Iron - ICP-Fusion	ug/g	94.80	2.490	2.18e+05	2.30e+05	2.24e+05	5.36	117.0	2.18e+03	n/a
S96T005031	F	Lanthanum - ICP-Fusion	ug/g	100.0	<1.00e-01	<2.18e+03	<2.17e3	n/a	n/a	100.0	2.18e+03	n/a
S96T005031	F	Lithium - ICP-Fusion	ug/g	101.2	<2.00e-01	<4.37e+03	<4.34e3	n/a	n/a	102.0	4.36e+03	n/a
S96T005031	F	Lead - ICP-Fusion	ug/g	94.60	<1.00e-01	<2.18e+03	<2.17e3	n/a	n/a	97.30	2.18e+03	n/a
S96T005031	F	Sulfur - ICP-Fusion	ug/g	100.0	<1.00e-01	4.07e+03	4.10e+03	4.08e+03	0.72	97.50	2.18e+03	n/a
S96T005031	F	Antimony - ICP-Fusion	ug/g	101.4	6.70e-02	<1.31e+03	<1.30e3	n/a	n/a	103.0	1.31e+03	n/a
S96T005031	F	Selenium - ICP-Fusion	ug/g	97.20	<1.00e-02	<2.18e+03	<2.17e3	n/a	n/a	93.10	2.18e+03	n/a
S96T005031	F	Silicon - ICP-Fusion	ug/g	100.8	<5.00e-02	<1.09e+03	1.11e+03	n/a	n/a	104.0	1.09e+03	n/a
S96T005031	F	Samarium - ICP-Fusion	ug/g	104.2	<1.00e-01	<2.18e+03	<2.17e3	n/a	n/a	103.0	2.18e+03	n/a
S96T005031	F	Strontium - ICP-Fusion	ug/g	101.4	<1.00e-02	<2.18e+02	<2.17e2	n/a	n/a	102.0	218.0	n/a
S96T005031	F	Titanium - ICP-Fusion	ug/g	94.20	<2.18e+02	<2.18e+02	<2.17e2	n/a	n/a	93.30	218.0	n/a
S96T005031	F	Thallium - ICP-Fusion	ug/g	95.40	<2.00e-01	<4.37e+03	<4.34e3	n/a	n/a	96.50	4.36e+03	n/a
S96T005031	F	Uranium - ICP-Fusion	ug/g	101.0	<5.00e-01	<1.09e+04	<1.08e4	n/a	n/a	100.0	1.09e+04	n/a
S96T005031	F	Vanadium - ICP-Fusion	ug/g	100.0	<5.00e-02	<1.09e+03	<1.08e3	n/a	n/a	99.10	1.09e+03	n/a
S96T005031	F	Zinc - ICP-Fusion	ug/g	99.20	<1.00e-02	<2.18e+02	<2.17e2	n/a	n/a	96.30	218.0	n/a
S96T005031	F	Zirconium - ICP-Fusion	ug/g	100.8	<1.00e-02	<2.18e+02	<2.17e2	n/a	n/a	101.0	218.0	n/a
S96T005031	F	Alpha of Digested Solid	ug/g	99.13	<3.36e-02	2.19e+02	5.42e+02	3.81e+02	84.9	87.19	3.90e+02	1.13e+02
S96T005041	A	Aluminum - ICP-Acid Digest	ug/g	84.00	2.50e-02	<15.20	<1.51e1	n/a	n/a	89.70	15.20	n/a
S96T005041	A	Silver - ICP-Acid Digest	ug/g	93.20	1.26e-01	2.18e+04	2.19e+04	2.18e+04	0.46	167.6	76.20	n/a
S96T005041	A	Aluminum - ICP-Acid Digest	ug/g	94.00	<1.00e-01	<1.52e+02	<1.51e2	n/a	n/a	94.40	152.0	n/a
S96T005041	A	Arsenic - ICP-Acid Digest	ug/g	105.0	8.09e-01	1.26e+02	122.0	124.0	3.23	94.60	76.20	n/a
S96T005041	A	Boron - ICP-Acid Digest	ug/g	92.20	<5.00e-02	<76.20	<7.56e1	n/a	n/a	95.00	76.20	n/a
S96T005041	A	Barium - ICP-Acid Digest	ug/g	94.80	<5.00e-03	<7.620	<7.56e1	n/a	n/a	94.20	7.620	n/a
S96T005041	A	Beryllium - ICP-Acid Digest	ug/g	91.00	<1.00e-01	<1.52e+02	<1.51e2	n/a	n/a	97.20	152.0	n/a

Sample#	R#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec. %	Det Limit	Count Err%
S96T005041	A	Calcium - ICP-Acid Digest	ug/g	92.40	<1.00e-01	2.17e+02	205.0	211.0	5.69	92.00	152.0	n/a
S96T005041	A	Cadmium - ICP-Acid Digest	ug/g	89.80	<1.00e-03	13.60	11.80	12.70	14.2	91.60	7.620	n/a
S96T005041	A	Cerium - ICP-Acid Digest	ug/g	94.40	<1.00e-01	<1.52e+02	<1.51e2	n/a	n/a	79.20	152.0	n/a
S96T005041	A	Cobalt - ICP-Acid Digest	ug/g	92.80	<2.00e-02	52.20	44.90	48.55	15.0	94.00	30.50	n/a
S96T005041	A	Chromium - ICP-Acid Digest	ug/g	90.00	<1.00e-02	2.12e+03	2.15e+03	2.14e+03	1.41	91.60	15.20	n/a
S96T005041	A	Copper - ICP-Acid Digest	ug/g	90.00	<1.00e-02	<15.20	<1.51e1	n/a	n/a	93.00	15.20	n/a
S96T005041	A	Iron - ICP-Acid Digest	ug/g	91.40	<5.00e-02	<76.20	<7.56e1	n/a	n/a	94.00	76.20	n/a
S96T005041	A	Potassium - ICP-Acid Digest	ug/g	93.20	<5.00e-01	3.47e+03	3.80e+03	3.64e+03	8.50	121.4	762.0	n/a
S96T005041	A	Lanthanum - ICP-Acid Digest	ug/g	94.00	<5.00e-02	<76.20	<7.56e1	n/a	n/a	96.80	76.20	n/a
S96T005041	A	Lithium - ICP-Acid Digest	ug/g	93.60	<1.00e-02	<15.20	<1.51e1	n/a	n/a	95.20	15.20	n/a
S96T005041	A	Magnesium - ICP-Acid Digest	ug/g	88.80	<1.00e-01	<1.52e+02	<1.51e2	n/a	n/a	91.60	152.0	n/a
S96T005041	A	Manganese - ICP-Acid Digest	ug/g	90.60	<1.00e-02	21.20	21.60	21.40	1.87	91.60	15.20	n/a
S96T005041	A	Molybdenum - ICP-Acid Digest	ug/g	90.40	<5.00e-02	<76.20	<7.56e1	n/a	n/a	99.40	76.20	n/a
S96T005041	A	Sodium - ICP-Acid Digest	ug/g	108.4	1.110	1.99e+05	1.94e+05	1.96e+05	2.54	906.0	152.0	n/a
S96T005041	A	Neodymium - ICP-Acid Digest	ug/g	93.40	<1.00e-01	<1.52e+02	<1.51e2	n/a	n/a	91.60	152.0	n/a
S96T005041	A	Nickel - ICP-Acid Digest	ug/g	92.00	<2.00e-01	84.30	88.30	86.30	4.63	94.20	30.50	n/a
S96T005041	A	Phosphorus - ICP-Acid Digest	ug/g	93.20	<2.00e-01	1.43e+03	1.05e+03	1.24e+03	30.6	87.00	305.0	n/a
S96T005041	A	Lead - ICP-Acid Digest	ug/g	87.60	<1.00e-01	<1.52e+02	<1.51e2	n/a	n/a	90.40	152.0	n/a
S96T005041	A	Sulfur - ICP-Acid Digest	ug/g	93.80	<1.00e-01	4.05e+03	4.08e+03	4.06e+03	0.74	106.2	152.0	n/a
S96T005041	A	Antimony - ICP-Acid Digest	ug/g	91.80	<6.00e-02	<91.50	<9.07e1	n/a	n/a	90.80	91.50	n/a
S96T005041	A	Selenium - ICP-Acid Digest	ug/g	144.8	2.140	2.13e+02	279.0	246.0	26.8	94.00	152.0	n/a
S96T005041	A	Silicon - ICP-Acid Digest	ug/g	81.80	<1.00e-01	5.67e+02	615.0	591.0	8.12	112.6	76.20	n/a
S96T005041	A	Samarium - ICP-Acid Digest	ug/g	95.40	<1.00e-01	<1.52e+02	<1.51e2	n/a	n/a	102.2	152.0	n/a
S96T005041	A	Strontium - ICP-Acid Digest	ug/g	91.40	<1.00e-02	<15.20	<1.51e1	n/a	n/a	94.20	15.20	n/a
S96T005041	A	Titanium - ICP-Acid Digest	ug/g	84.20	<1.00e-02	<3.05e+02	<3.02e2	n/a	n/a	83.60	305.0	n/a
S96T005041	A	Uranium - ICP-Acid Digest	ug/g	93.20	<2.00e-01	<7.62e+02	<7.56e2	n/a	n/a	112.0	762.0	n/a
S96T005041	A	Vanadium - ICP-Acid Digest	ug/g	92.80	<5.00e-01	<76.20	<7.56e1	n/a	n/a	91.80	76.20	n/a
S96T005041	A	Zinc - ICP-Acid Digest	ug/g	91.20	<5.00e-02	<31.60	<3.16e1	24.65	56.4	89.20	15.20	n/a
S96T005041	A	Zirconium - ICP-Acid Digest	ug/g	89.00	<1.00e-02	17.60	21.20	19.40	18.6	96.80	15.20	n/a
S96T005066	W	Acetate by IC-Dionex 4000/4500	ug/g	104.8	<2.00e-02	5.30e+02	511.0	520.4	3.65	112.1	77.74	n/a
S96T005066	W	Formate by IC-Dionex 4000/4500	ug/g	102.5	<2.10e-02	7.42e+02	737.0	739.8	0.68	97.50	81.63	n/a
S96T005066	W	Fluoride-IC-Dionex 4000/4500	ug/g	111.2	<1.20e-02	6.92e+02	674.0	683.1	2.64	124.2	91.06	n/a
S96T005066	W	Chloride-IC-Dionex 4000/4500	ug/g	97.59	2.90e-02	4.58e+03	4.43e+03	4.51e+03	3.33	94.68	129.0	n/a
S96T005066	W	Nitrite-IC - Dionex 4000/4500	ug/g	96.20	<1.08e-01	5.92e+04	5.90e+04	5.92e+04	0.51	102.4	819.6	n/a
S96T005066	W	Bromide by Ion Chromatograph	ug/g	101.0	<1.25e-01	<9.49e+02	<9.54e2	n/a	n/a	96.94	948.7	n/a
S96T005066	W	Nitrate by IC-Dionex 4000/4500	ug/g	100.3	<1.39e-01	1.03e+05	1.02e+05	1.02e+05	0.98	110.6	1.06e+03	n/a
S96T005066	W	Phosphate by IC-Dionex 4000/4500	ug/g	102.8	<1.20e-01	4.48e+03	4.84e+03	4.66e+03	7.73	99.82	910.6	n/a
S96T005066	W	Sulfate by IC-Dionex 4000/4500	ug/g	104.3	<1.38e-01	1.25e+04	1.26e+04	1.25e+04	0.80	103.3	1.05e+03	n/a
S96T005066	W	Oxalate-IC-Dionex 4000/4500	ug/g	106.5	<1.05e-01	1.22e+04	1.19e+04	1.20e+04	2.49	106.7	797.0	n/a

Table 1. Data Summary Report
AN-104

CORE NUMBER: 164
SEGMENT #: 19

SEGMENT PORTION: U Upper Half of Segment

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec.	Det Limit	Count Err%
S921004973		Bulk Density of Sample	g/ml	N/A	N/A	1.560		N/A	N/A	N/A	5.00e-01	N/A
S921004992		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
S921004992		DSC Exotherm on Perkin Elmer	Joules/g	98.81	N/A	0.00e+00	0.00e+00	0.00e+00	0.00	N/A	N/A	N/A
S921004992		% Water by IGA on Perkin Elmer	%	99.12	N/A	46.16	45.93	46.05	0.50	N/A	9.72e+03	N/A
S921005039	F	Potassium - ICP-Fusion	ug/g	96.60	< 5.00e-01	4.91e+06	N/A	N/A	N/A	N/A	9.72e+03	N/A
S921005039	F	Nickel - ICP-Fusion	ug/g	97.60	6.80e-02	4.67e+02	1.28e+03	1.22e+03	124	N/A	389.0	N/A
S921005039	F	Silver - ICP-Fusion	ug/g	98.00	< 1.00e-02	< 1.94e+02	< 2.00e2	N/A	N/A	N/A	194.0	N/A
S921005039	F	Aluminum - ICP-Fusion	ug/g	95.80	5.70e-02	2.08e+04	1.99e+04	2.04e+04	4.42	N/A	972.0	N/A
S921005039	F	Arsenic - ICP-Fusion	ug/g	103.0	< 1.00e-01	< 1.94e+03	< 2.00e3	N/A	N/A	N/A	1.94e+03	N/A
S921005039	F	Boron - ICP-Fusion	ug/g	99.20	< 5.00e-02	< 9.72e+02	< 1.00e3	N/A	N/A	N/A	972.0	N/A
S921005039	F	Beryllium - ICP-Fusion	ug/g	101.2	< 5.00e-03	< 97.20	< 1.00e2	N/A	N/A	N/A	97.20	N/A
S921005039	F	Bismuth - ICP-Fusion	ug/g	104.4	< 1.00e-01	< 1.94e+03	< 2.00e3	N/A	N/A	N/A	1.94e+03	N/A
S921005039	F	Calcium - ICP-Fusion	ug/g	96.40	< 1.00e-01	< 1.94e+03	< 2.00e3	N/A	N/A	N/A	1.94e+03	N/A
S921005039	F	Cadmium - ICP-Fusion	ug/g	98.20	< 5.00e-03	< 97.20	< 1.00e2	N/A	N/A	N/A	97.20	N/A
S921005039	F	Cerium - ICP-Fusion	ug/g	97.60	< 1.00e-01	< 1.94e+03	< 2.00e3	N/A	N/A	N/A	1.94e+03	N/A
S921005039	F	Cobalt - ICP-Fusion	ug/g	97.20	< 2.00e-02	< 3.89e+02	< 4.00e2	N/A	N/A	N/A	389.0	N/A
S921005039	F	Chromium - ICP-Fusion	ug/g	96.60	< 1.00e-02	< 1.94e+02	1.91e+03	1.94e+03	3.60	N/A	194.0	N/A
S921005039	F	Copper - ICP-Fusion	ug/g	100.0	< 1.00e-02	< 1.94e+02	< 2.00e2	N/A	N/A	N/A	194.0	N/A
S921005039	F	Iron - ICP-Fusion	ug/g	99.40	< 5.00e-02	< 9.72e+02	< 1.00e3	N/A	N/A	N/A	972.0	N/A
S921005039	F	Lanthanum - ICP-Fusion	ug/g	99.20	< 5.00e-02	< 9.72e+02	< 1.00e3	N/A	N/A	N/A	194.0	N/A
S921005039	F	Lithium - ICP-Fusion	ug/g	96.00	< 1.00e-02	< 1.94e+03	< 2.00e3	N/A	N/A	N/A	1.94e+03	N/A
S921005039	F	Magnesium - ICP-Fusion	ug/g	98.80	< 1.00e-01	< 1.94e+02	< 2.00e2	N/A	N/A	N/A	194.0	N/A
S921005039	F	Manganese - ICP-Fusion	ug/g	97.60	< 1.00e-02	< 1.94e+02	< 2.00e2	N/A	N/A	N/A	972.0	N/A
S921005039	F	Molybdenum - ICP-Fusion	ug/g	98.80	< 5.00e-02	< 9.72e+02	< 1.00e3	N/A	N/A	N/A	972.0	N/A
S921005039	F	Sodium - ICP-Fusion	ug/g	94.80	2.490	2.09e+05	2.20e+05	2.14e+05	5.13	N/A	1.94e+03	N/A
S921005039	F	Neodymium - ICP-Fusion	ug/g	100.0	< 1.00e-01	< 1.94e+03	< 2.00e3	N/A	N/A	N/A	1.94e+03	N/A
S921005039	F	Phosphorus - ICP-Fusion	ug/g	101.2	< 2.00e-01	< 3.89e+03	< 4.00e3	N/A	N/A	N/A	3.89e+03	N/A
S921005039	F	Lead - ICP-Fusion	ug/g	94.60	< 1.00e-01	< 1.94e+03	< 2.00e3	N/A	N/A	N/A	1.94e+03	N/A
S921005039	F	Sulfur - ICP-Fusion	ug/g	100.0	6.70e-02	< 1.7e+03	3.80e+03	3.94e+03	6.86	N/A	1.17e+03	N/A
S921005039	F	Antimony - ICP-Fusion	ug/g	97.20	< 1.00e-01	< 1.94e+03	< 2.00e3	N/A	N/A	N/A	1.94e+03	N/A
S921005039	F	Selenium - ICP-Fusion	ug/g	101.4	6.70e-02	< 1.7e+03	< 2.00e3	N/A	N/A	N/A	972.0	N/A
S921005039	F	Silicon - ICP-Fusion	ug/g	100.8	< 5.00e-02	< 9.72e+02	< 1.00e3	N/A	N/A	N/A	1.94e+03	N/A
S921005039	F	Strontium - ICP-Fusion	ug/g	104.2	< 1.00e-01	< 1.94e+03	< 2.00e3	N/A	N/A	N/A	194.0	N/A
S921005039	F	Titanium - ICP-Fusion	ug/g	101.4	< 1.00e-02	< 1.94e+02	< 2.00e2	N/A	N/A	N/A	3.89e+03	N/A
S921005039	F	Thallium - ICP-Fusion	ug/g	94.20	< 1.00e-02	< 3.89e+03	< 4.00e3	N/A	N/A	N/A	9.72e+03	N/A
S921005039	F	Uranium - ICP-Fusion	ug/g	95.40	< 2.00e-01	< 9.72e+03	< 1.00e4	N/A	N/A	N/A	972.0	N/A
S921005039	F	Vanadium - ICP-Fusion	ug/g	101.0	< 5.00e-02	< 9.72e+02	< 1.00e3	N/A	N/A	N/A	194.0	N/A
S921005039	F	Zinc - ICP-Fusion	ug/g	100.0	< 5.00e-02	< 9.72e+02	< 1.00e3	N/A	N/A	N/A	972.0	N/A
S921005039	F	Zirconium - ICP-Fusion	ug/g	99.20	< 1.00e-02	< 1.94e+02	< 2.00e2	N/A	N/A	N/A	194.0	N/A
S9210050644	A	Silver - ICP-Acid Digest	ug/g	84.00	2.50e-02	< 15.10	< 1.53e1	N/A	N/A	N/A	15.10	N/A
S9210050644	A	Aluminum - ICP-Acid Digest	ug/g	93.20	1.26e-01	2.09e+04	2.17e+04	2.13e+04	3.76	N/A	75.60	N/A
S9210050644	A	Arsenic - ICP-Acid Digest	ug/g	94.00	< 1.00e-01	< 1.51e+02	< 1.53e2	N/A	N/A	N/A	151.0	N/A

HNF-SD-WM-DP-226, REV. 0

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err#
S961005064	A	Boron - ICP-Acid Digest	ug/g	105.0	8.09e-01	1.47e02	133.0	140.0	10.0	n/a	75.60	n/a
S961005064	A	Boron - ICP-Acid Digest	ug/g	92.20	< 5.00e-02	< 75.60	< 76.61	n/a	n/a	n/a	75.60	n/a
S961005064	A	Beryllium - ICP-Acid Digest	ug/g	94.80	< 5.00e-03	< 7.560	< 7.67e1	n/a	n/a	n/a	7.560	n/a
S961005064	A	Beryllium - ICP-Acid Digest	ug/g	91.80	< 5.00e-01	< 1.51e02	< 1.53e2	n/a	n/a	n/a	151.0	n/a
S961005064	A	Calcium - ICP-Acid Digest	ug/g	92.40	< 5.00e-01	2.24e02	263.0	243.5	16.0	n/a	151.0	n/a
S961005064	A	Calcium - ICP-Acid Digest	ug/g	89.80	< 5.00e-03	9.640	9.640	9.620	0.42	n/a	7.560	n/a
S961005064	A	Cadmium - ICP-Acid Digest	ug/g	94.40	< 5.00e-01	< 1.51e02	< 1.53e2	n/a	n/a	n/a	151.0	n/a
S961005064	A	Cadmium - ICP-Acid Digest	ug/g	92.80	< 2.00e-02	49.30	< 3.07e1	n/a	n/a	n/a	30.30	n/a
S961005064	A	Cobalt - ICP-Acid Digest	ug/g	90.00	< 1.00e-02	2.03e03	2.09e03	2.06e03	2.91	n/a	15.10	n/a
S961005064	A	Copper - ICP-Acid Digest	ug/g	91.40	< 5.00e-02	< 15.10	< 1.53e1	106.8	n/a	n/a	15.10	n/a
S961005064	A	Iron - ICP-Acid Digest	ug/g	93.20	< 5.00e-02	80.60	133.0	133.0	106.8	n/a	75.60	n/a
S961005064	A	Potassium - ICP-Acid Digest	ug/g	93.20	< 5.00e-01	3.46e03	3.57e03	3.52e03	3.13	n/a	75.60	n/a
S961005064	A	Lanthanum - ICP-Acid Digest	ug/g	93.60	< 5.00e-02	< 75.60	< 76.61	n/a	n/a	n/a	75.60	n/a
S961005064	A	Lithium - ICP-Acid Digest	ug/g	88.80	< 1.00e-01	48.90	52.20	50.55	6.53	n/a	15.10	n/a
S961005064	A	Magnesium - ICP-Acid Digest	ug/g	90.60	< 1.00e-02	< 1.51e02	< 1.53e2	n/a	n/a	n/a	151.0	n/a
S961005064	A	Molybdenum - ICP-Acid Digest	ug/g	108.4	< 5.00e-02	27.30	28.10	27.70	2.89	n/a	15.10	n/a
S961005064	A	Nickel - ICP-Acid Digest	ug/g	93.40	< 1.110	1.96e05	2.08e05	2.02e05	5.94	n/a	151.0	n/a
S961005064	A	Sodium - ICP-Acid Digest	ug/g	92.00	< 2.00e-02	82.20	79.50	80.85	3.34	n/a	151.0	n/a
S961005064	A	Strontium - ICP-Acid Digest	ug/g	93.20	< 2.00e-01	1.86e03	1.44e03	1.65e03	25.5	n/a	303.0	n/a
S961005064	A	Phosphorus - ICP-Acid Digest	ug/g	87.60	< 1.00e-01	< 1.51e02	< 1.53e2	n/a	n/a	n/a	151.0	n/a
S961005064	A	Sulfur - ICP-Acid Digest	ug/g	93.80	< 1.00e-01	4.10e03	4.36e03	4.23e03	6.15	n/a	151.0	n/a
S961005064	A	Antimony - ICP-Acid Digest	ug/g	91.80	< 6.00e-02	< 90.80	< 9.21e1	n/a	n/a	n/a	90.80	n/a
S961005064	A	Selenium - ICP-Acid Digest	ug/g	81.80	< 1.00e-01	2.44e02	221.0	232.5	9.89	n/a	151.0	n/a
S961005064	A	Silicon - ICP-Acid Digest	ug/g	144.8	< 2.140	6.30e02	519.0	574.5	19.3	n/a	75.60	n/a
S961005064	A	Strontium - ICP-Acid Digest	ug/g	95.40	< 1.00e-02	< 1.51e02	< 1.53e2	n/a	n/a	n/a	151.0	n/a
S961005064	A	Strontium - ICP-Acid Digest	ug/g	91.40	< 1.00e-02	< 15.10	< 1.53e1	n/a	n/a	n/a	15.10	n/a
S961005064	A	Titanium - ICP-Acid Digest	ug/g	84.20	< 2.00e-02	< 15.10	< 1.53e1	n/a	n/a	n/a	303.0	n/a
S961005064	A	Thallium - ICP-Acid Digest	ug/g	95.20	< 2.00e-01	< 3.03e02	< 3.07e2	n/a	n/a	n/a	75.60	n/a
S961005064	A	Vanadium - ICP-Acid Digest	ug/g	92.80	< 5.00e-02	< 7.56e02	< 7.67e1	n/a	n/a	n/a	75.60	n/a
S961005064	A	Vanadium - ICP-Acid Digest	ug/g	89.00	< 1.80e-02	23.50	24.00	23.75	2.11	n/a	15.10	n/a
S961005064	A	Zinc - ICP-Acid Digest	ug/g	95.60	< 1.00e-02	19.70	23.30	21.50	16.7	n/a	15.10	n/a
S961005064	A	Zinc - ICP-Acid Digest	ug/g	104.8	< 2.00e-02	5.02e02	495.0	498.6	1.40	n/a	81.63	n/a
S961005074	A	Acetate by IC-Bioxex 4000/4500	ug/g	102.5	< 2.10e-02	7.61e02	716.0	732.4	4.64	100.0	85.72	n/a
S961005074	A	Formate by IC-Bioxex 4000/4500	ug/g	111.2	< 2.00e-02	6.81e02	701.0	690.9	2.89	122.2	95.61	n/a
S961005074	A	Fluoride-IC-Bioxex 4000/4500	ug/g	97.59	< 2.90e-02	4.48e03	4.48e03	4.48e03	0.00	98.61	135.5	n/a
S961005074	A	Chloride-IC-Bioxex 4000/4500	ug/g	96.20	< 1.08e-01	5.88e04	6.01e04	5.94e04	2.19	104.9	866.6	n/a
S961005074	A	Nitrite-IC - Dionex 4000/4500	ug/g	101.0	< 1.25e-01	1.16e03	1.16e03	1.16e03	0.00	94.91	996.3	n/a
S961005074	A	Bromide by Ion Chromatograph	ug/g	100.3	< 1.39e-01	1.11e05	1.12e05	1.12e05	0.90	106.7	1.11e03	n/a
S961005074	A	Nitrate by IC-Bioxex 4000/4500	ug/g	102.8	< 1.20e-01	4.41e03	4.41e03	4.30e03	5.12	101.3	956.1	n/a
S961005074	A	Phosphate-IC-Dionex 4000/4500	ug/g	104.3	< 1.38e-01	1.20e04	1.31e04	1.25e04	8.76	104.9	1.10e03	n/a
S961005074	A	Sulfate by IC-Bioxex 4000/4500	ug/g	106.5	< 1.05e-01	1.13e04	1.09e04	1.11e04	3.60	104.5	836.8	n/a
S961005074	A	Oxalate-IC-Bioxex 4000/4500	ug/g									

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%
S96T004974		Bulk Density of Sample	g/mL	n/a	n/a	1.580	n/a	n/a	n/a	5.00e-01	n/a
S96T004974		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
S96T004993		DSC Exotherm on Perkin Elmer	Joules/g	98.81	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a
S96T004993		% Water by TGA on Perkin Elmer	%	99.12	n/a	46.08	44.00	45.04	4.62	n/a	n/a
S96T005034	F	Potassium - ICP-Fusion	ug/g	96.60	<5.00e-01	5.32e+06	n/a	n/a	n/a	1.07e+04	n/a
S96T005034	F	Nickel - ICP-Fusion	ug/g	97.60	6.80e-02	44.27e+02	558.0	n/a	n/a	428.0	n/a
S96T005034	F	Silver - ICP-Fusion	ug/g	98.80	<1.00e-02	2.16e+04	<2.17e2	n/a	n/a	214.0	n/a
S96T005034	F	Aluminum - ICP-Fusion	ug/g	95.80	5.70e-02	2.16e+04	2.10e+04	2.13e+04	2.82	n/a	n/a
S96T005034	F	Arsenic - ICP-Fusion	ug/g	103.0	<1.00e-01	<2.16e+03	<2.17e3	n/a	n/a	1.07e+03	n/a
S96T005034	F	Boron - ICP-Fusion	ug/g	99.20	<5.00e-02	<1.07e+03	<1.09e3	n/a	n/a	1.07e+03	n/a
S96T005034	F	Barium - ICP-Fusion	ug/g	101.2	<5.00e-02	<1.07e+03	<1.09e3	n/a	n/a	1.07e+03	n/a
S96T005034	F	Beryllium - ICP-Fusion	ug/g	104.4	<1.00e-01	<2.16e+03	<2.17e3	n/a	n/a	107.0	n/a
S96T005034	F	Bismuth - ICP-Fusion	ug/g	96.40	<1.00e-01	<2.16e+03	<2.17e3	n/a	n/a	2.16e+03	n/a
S96T005034	F	Calcium - ICP-Fusion	ug/g	99.20	<5.00e-03	<1.07e+02	<1.09e2	n/a	n/a	107.0	n/a
S96T005034	F	Cadmium - ICP-Fusion	ug/g	97.60	<1.00e-01	<2.16e+03	<2.17e3	n/a	n/a	428.0	n/a
S96T005034	F	Cobalt - ICP-Fusion	ug/g	97.20	<2.00e-02	44.27e+02	44.35e2	1.87e+03	1.07	n/a	n/a
S96T005034	F	Chromium - ICP-Fusion	ug/g	96.60	<1.00e-02	1.86e+03	1.88e+03	1.87e+03	1.07	n/a	n/a
S96T005034	F	Copper - ICP-Fusion	ug/g	100.0	<1.00e-02	<2.16e+02	<2.17e2	n/a	n/a	214.0	n/a
S96T005034	F	Iron - ICP-Fusion	ug/g	99.40	<5.00e-02	<1.07e+03	<1.09e3	n/a	n/a	1.07e+03	n/a
S96T005034	F	Lanthanum - ICP-Fusion	ug/g	99.20	<5.00e-02	<1.07e+03	<1.09e3	n/a	n/a	1.07e+03	n/a
S96T005034	F	Lithium - ICP-Fusion	ug/g	96.00	<1.00e-02	<2.16e+02	<2.17e2	n/a	n/a	214.0	n/a
S96T005034	F	Magnesium - ICP-Fusion	ug/g	98.80	<1.00e-01	<2.16e+03	<2.17e3	n/a	n/a	2.16e+03	n/a
S96T005034	F	Manganese - ICP-Fusion	ug/g	97.60	<1.00e-02	<2.16e+03	<2.17e3	n/a	n/a	214.0	n/a
S96T005034	F	Molybdenum - ICP-Fusion	ug/g	97.60	<1.00e-02	<2.16e+03	<2.17e3	n/a	n/a	214.0	n/a
S96T005034	F	Sodium - ICP-Fusion	ug/g	94.80	<5.00e-02	<1.07e+03	<1.09e3	n/a	n/a	1.07e+03	n/a
S96T005034	F	Neodymium - ICP-Fusion	ug/g	100.0	<1.00e-01	<2.16e+03	<2.17e3	n/a	n/a	2.16e+03	n/a
S96T005034	F	Phosphorus - ICP-Fusion	ug/g	101.2	<2.00e-01	44.27e+03	44.35e3	n/a	n/a	4.28e+03	n/a
S96T005034	F	Lead - ICP-Fusion	ug/g	94.60	<1.00e-01	<2.16e+03	<2.17e3	n/a	n/a	2.16e+03	n/a
S96T005034	F	Sulfur - ICP-Fusion	ug/g	100.0	<1.00e-01	3.43e+03	3.63e+03	3.53e+03	5.67	n/a	n/a
S96T005034	F	Antimony - ICP-Fusion	ug/g	97.20	6.70e-02	<1.28e+03	<1.30e3	n/a	n/a	1.28e+03	n/a
S96T005034	F	Se Tellurium - ICP-Fusion	ug/g	101.4	<1.00e-02	<2.16e+03	<2.17e3	n/a	n/a	2.16e+03	n/a
S96T005034	F	Silicon - ICP-Fusion	ug/g	100.8	<5.00e-02	<1.07e+03	<1.09e3	n/a	n/a	1.07e+03	n/a
S96T005034	F	Samarium - ICP-Fusion	ug/g	104.2	<1.00e-01	<2.16e+03	<2.17e3	n/a	n/a	2.16e+03	n/a
S96T005034	F	Strontium - ICP-Fusion	ug/g	101.4	<1.00e-02	<2.16e+02	<2.17e2	n/a	n/a	214.0	n/a
S96T005034	F	Titanium - ICP-Fusion	ug/g	94.20	<1.00e-02	<2.16e+02	<2.17e2	n/a	n/a	214.0	n/a
S96T005034	F	Thallium - ICP-Fusion	ug/g	95.40	<2.00e-01	44.27e+03	44.35e3	n/a	n/a	4.28e+03	n/a
S96T005034	F	Uranium - ICP-Fusion	ug/g	101.0	<5.00e-01	<1.07e+04	<1.09e4	n/a	n/a	1.07e+04	n/a
S96T005034	F	Vanadium - ICP-Fusion	ug/g	100.0	<5.00e-02	<1.07e+03	<1.09e3	n/a	n/a	1.07e+03	n/a
S96T005034	F	Zinc - ICP-Fusion	ug/g	99.20	<1.00e-02	<2.16e+02	<2.17e2	n/a	n/a	214.0	n/a
S96T005034	F	Zirconium - ICP-Fusion	ug/g	100.8	<1.00e-02	<2.16e+02	<2.17e2	n/a	n/a	214.0	n/a
S96T005034	F	Alpha of Digested Solid	ug/g	99.13	<3.36e-02	4.10e+02	6.71e+02	5.41e+02	48.3	n/a	7.35e+01
S96T005045	A	Silver - ICP-Acid Digest	ug/g	84.00	2.50e-02	<14.50	<1.44e1	n/a	n/a	14.50	n/a
S96T005045	A	Aluminum - ICP-Acid Digest	ug/g	93.20	1.26e-01	2.28e+04	2.28e+04	2.28e+04	0.00	n/a	n/a
S96T005045	A	Arsenic - ICP-Acid Digest	ug/g	94.00	<1.00e-01	<1.45e+02	<1.44e2	n/a	n/a	145.0	n/a
S96T005045	A	Boron - ICP-Acid Digest	ug/g	105.0	8.09e-01	1.20e+02	131.0	125.5	8.76	n/a	n/a
S96T005045	A	Barium - ICP-Acid Digest	ug/g	92.20	<5.00e-02	<72.50	<27.0e1	n/a	n/a	72.50	n/a
S96T005045	A	Beryllium - ICP-Acid Digest	ug/g	94.80	<5.00e-03	<7.250	<27.0e0	n/a	n/a	7.250	n/a
S96T005045	A	Bismuth - ICP-Acid Digest	ug/g	91.00	<1.00e-01	<1.45e+02	<1.44e2	n/a	n/a	145.0	n/a

Sample#	RA#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T005045	A	Calcium - ICP-Acid Digest	ug/g	92.40	< 1.00e-01	1.78e+02	204.0	191.0	13.6	n/a	145.0	n/a
S96T005045	A	Calcium - ICP-Acid Digest	ug/g	89.80	< 5.00e-03	11.00	11.60	11.30	5.31	n/a	7.250	n/a
S96T005045	A	Cadmium - ICP-Acid Digest	ug/g	94.40	< 1.00e-01	< 1.45e-02	< 1.44e2	n/a	n/a	n/a	145.0	n/a
S96T005045	A	Cerium - ICP-Acid Digest	ug/g	92.80	< 2.00e-02	47.30	< 2.88e1	n/a	n/a	n/a	29.00	n/a
S96T005045	A	Cobalt - ICP-Acid Digest	ug/g	90.00	< 1.00e-02	1.86e+03	2.12e+03	1.99e+03	13.1	n/a	14.50	n/a
S96T005045	A	Chromium - ICP-Acid Digest	ug/g	90.00	< 1.00e-02	< 14.50	< 1.44e1	n/a	n/a	n/a	14.50	n/a
S96T005045	A	Copper - ICP-Acid Digest	ug/g	91.40	< 5.00e-02	< 72.50	< 7.20e1	n/a	n/a	n/a	72.50	n/a
S96T005045	A	Iron - ICP-Acid Digest	ug/g	92.40	< 5.00e-01	3.98e+03	3.81e+03	3.90e+03	4.36	n/a	725.0	n/a
S96T005045	A	Potassium - ICP-Acid Digest	ug/g	94.00	< 5.00e-02	< 72.50	< 7.20e1	n/a	n/a	n/a	72.50	n/a
S96T005045	A	Lanthanum - ICP-Acid Digest	ug/g	95.60	< 1.00e-02	< 14.50	< 1.44e1	n/a	n/a	n/a	14.50	n/a
S96T005045	A	Lithium - ICP-Acid Digest	ug/g	88.80	< 1.00e-01	< 1.45e-02	< 1.44e2	n/a	n/a	n/a	145.0	n/a
S96T005045	A	Magnesium - ICP-Acid Digest	ug/g	90.60	< 5.00e-02	21.00	23.90	22.45	12.9	n/a	14.50	n/a
S96T005045	A	Manganese - ICP-Acid Digest	ug/g	90.40	< 5.00e-02	< 72.50	< 7.20e1	n/a	n/a	n/a	72.50	n/a
S96T005045	A	Molybdenum - ICP-Acid Digest	ug/g	108.4	1.110	1.87e+05	1.96e+05	1.92e+05	4.70	n/a	145.0	n/a
S96T005045	A	Sodium - ICP-Acid Digest	ug/g	93.40	< 1.00e-01	< 1.45e-02	< 1.44e2	n/a	n/a	n/a	145.0	n/a
S96T005045	A	Neodymium - ICP-Acid Digest	ug/g	92.00	< 2.00e-02	66.30	75.80	71.05	13.4	n/a	290.0	n/a
S96T005045	A	Phosphorus - ICP-Acid Digest	ug/g	87.60	< 1.00e-01	8.63e+02	815.0	839.0	5.72	n/a	290.0	n/a
S96T005045	A	Lead - ICP-Acid Digest	ug/g	93.80	< 5.00e-02	< 1.45e-02	< 1.44e2	n/a	n/a	n/a	145.0	n/a
S96T005045	A	Antimony - ICP-Acid Digest	ug/g	91.80	< 1.00e-01	3.52e+03	4.02e+03	3.77e+03	13.3	n/a	145.0	n/a
S96T005045	A	Selenium - ICP-Acid Digest	ug/g	111.2	< 6.00e-02	< 87.00	< 8.64e1	n/a	n/a	n/a	87.00	n/a
S96T005045	A	Silicon - ICP-Acid Digest	ug/g	144.8	2.140	2.37e+02	216.0	226.5	9.27	n/a	72.50	n/a
S96T005045	A	Samarium - ICP-Acid Digest	ug/g	95.40	< 1.00e-01	< 1.45e-02	< 1.44e2	n/a	n/a	n/a	145.0	n/a
S96T005045	A	Strontium - ICP-Acid Digest	ug/g	91.40	< 1.00e-02	< 14.50	< 1.44e1	n/a	n/a	n/a	14.50	n/a
S96T005045	A	Titanium - ICP-Acid Digest	ug/g	84.20	< 1.00e-02	< 2.90e-02	< 2.88e2	n/a	n/a	n/a	290.0	n/a
S96T005045	A	Thallium - ICP-Acid Digest	ug/g	92.80	< 5.00e-01	< 7.25e+02	< 7.20e2	n/a	n/a	n/a	725.0	n/a
S96T005045	A	Uranium - ICP-Acid Digest	ug/g	91.20	< 5.00e-02	< 72.50	< 7.20e1	n/a	n/a	n/a	72.50	n/a
S96T005045	A	Vanadium - ICP-Acid Digest	ug/g	89.00	< 1.00e-02	21.00	22.40	20.50	4.88	n/a	14.50	n/a
S96T005045	A	Zinc - ICP-Acid Digest	ug/g	93.60	< 1.00e-02	16.50	22.00	19.45	30.3	n/a	14.50	n/a
S96T005070	W	Acetate by IC-DIONEX 4000/4500	ug/g	104.8	< 2.00e-02	6.19e+02	562.0	590.4	9.65	108.9	77.07	n/a
S96T005070	W	Formate by IC-DIONEX 4000/4500	ug/g	102.5	< 2.10e-02	7.82e+02	762.0	772.2	2.59	99.17	80.93	n/a
S96T005070	W	Fluoride-IC-DIONEX 4000/4500	ug/g	111.2	< 1.00e-02	6.51e+02	644.0	647.5	1.08	125.4	90.28	n/a
S96T005070	W	Chloride-IC-DIONEX 4000/4500	ug/g	97.59	2.90e-02	4.63e+03	4.58e+03	4.60e+03	1.09	98.48	127.9	n/a
S96T005070	W	Nitrite-IC - Dionex 4000/4500	ug/g	96.20	< 1.08e-01	6.20e+04	6.18e+04	6.19e+04	0.32	103.4	812.6	n/a
S96T005070	W	Bromide by Ion Chromatograph	ug/g	101.0	< 1.25e-01	9.56e+02	< 9.39e2	n/a	n/a	95.93	940.5	n/a
S96T005070	W	Nitrate by IC-DIONEX 4000/4500	ug/g	100.3	< 1.39e-01	1.04e+05	1.05e+05	1.04e+05	0.96	110.8	1.05e+03	n/a
S96T005070	W	Phosphate-IC-DIONEX 4000/4500	ug/g	102.8	< 1.20e-01	3.96e+03	4.30e+03	4.13e+03	8.23	100.6	902.8	n/a
S96T005070	W	Sulfate by IC-DIONEX 4000/4500	ug/g	104.3	< 1.38e-01	1.28e+04	1.28e+04	1.27e+04	1.57	101.9	1.04e+03	n/a
S96T005070	W	Oxalate-IC-DIONEX 4000/4500	ug/g	106.5	< 1.05e-01	9.84e+03	1.05e+04	1.02e+04	6.49	105.6	790.1	n/a

Table 1. Data Summary Report
AN-104CORE NUMBER: 164
SEGMENT #: 20

SEGMENT PORTION: U Upper Half of Segment

Sample#	Rt#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec.	Det Limit	Count Err%
S96T005222		Bulk Density of Sample	g/mL	n/a	n/a	1.600		n/a	n/a	n/a	5.00e-01	n/a
S96T005249		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
S96T005249		DSC Exotherm on Perkin Elmer	Joules/g	98.45	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S96T005249		% Water by TGA on Perkin Elmer	%	99.26	n/a	30.72	48.55	49.45	4.43	n/a	n/a	n/a
S96T005281	F	Nickel - ICP-Fusion	ug/g	97.60	2.90e-02	2.10e+03	1.28e+03	1.69e+03	48.5	n/a	344.0	n/a
S96T005281	F	Silver - ICP-Fusion	ug/g	98.40	<1.00e-02	<1.72e+02	<1.85e2	<1.85e2	n/a	n/a	172.0	n/a
S96T005281	F	Aluminum - ICP-Fusion	ug/g	97.60	<5.00e-02	1.74e+04	1.73e+04	1.74e+04	0.58	n/a	860.0	n/a
S96T005281	F	Arsenic - ICP-Fusion	ug/g	100.8	<1.00e-01	<1.72e+03	<1.85e3	<1.85e3	n/a	n/a	1.72e+03	n/a
S96T005281	F	Boron - ICP-Fusion	ug/g	100.0	<5.00e-02	<8.60e+02	<9.25e2	<9.25e2	n/a	n/a	860.0	n/a
S96T005281	F	Barium - ICP-Fusion	ug/g	98.80	<5.00e-02	<8.60e+02	<9.25e2	<9.25e2	n/a	n/a	860.0	n/a
S96T005281	F	Beryllium - ICP-Fusion	ug/g	101.0	<5.00e-03	<86.00	<9.25e1	<9.25e1	n/a	n/a	86.00	n/a
S96T005281	F	Bismuth - ICP-Fusion	ug/g	101.6	<1.00e-01	<1.72e+03	<1.85e3	<1.85e3	n/a	n/a	1.72e+03	n/a
S96T005281	F	Calcium - ICP-Fusion	ug/g	99.00	<1.00e-01	<1.72e+03	<1.85e3	<1.85e3	n/a	n/a	1.72e+03	n/a
S96T005281	F	Cadmium - ICP-Fusion	ug/g	98.40	<5.00e-03	<86.00	<9.25e1	<9.25e1	n/a	n/a	86.00	n/a
S96T005281	F	Cobalt - ICP-Fusion	ug/g	100.6	<1.00e-01	<1.72e+03	<1.85e3	<1.85e3	n/a	n/a	1.72e+03	n/a
S96T005281	F	Cerium - ICP-Fusion	ug/g	99.00	<1.00e-02	<3.44e+02	<3.70e2	<3.70e2	n/a	n/a	344.0	n/a
S96T005281	F	Chromium - ICP-Fusion	ug/g	98.00	<1.00e-02	<1.72e+02	<1.85e2	<1.85e2	n/a	n/a	172.0	n/a
S96T005281	F	Copper - ICP-Fusion	ug/g	100.4	<1.00e-02	<1.72e+02	<1.85e2	<1.85e2	n/a	n/a	172.0	n/a
S96T005281	F	Iron - ICP-Fusion	ug/g	97.80	<5.00e-02	<8.60e+02	<9.25e2	<9.25e2	n/a	n/a	860.0	n/a
S96T005281	F	Lanthanum - ICP-Fusion	ug/g	99.00	<5.00e-02	<8.60e+02	<9.25e2	<9.25e2	n/a	n/a	860.0	n/a
S96T005281	F	Lithium - ICP-Fusion	ug/g	99.20	<1.00e-02	<1.72e+02	<1.85e2	<1.85e2	n/a	n/a	172.0	n/a
S96T005281	F	Magnesium - ICP-Fusion	ug/g	94.80	<1.00e-01	<1.72e+03	<1.85e3	<1.85e3	n/a	n/a	1.72e+03	n/a
S96T005281	F	Manganese - ICP-Fusion	ug/g	98.00	<1.00e-02	<1.72e+02	<1.85e2	<1.85e2	n/a	n/a	172.0	n/a
S96T005281	F	Molybdenum - ICP-Fusion	ug/g	99.00	<5.00e-02	<8.60e+02	<9.25e2	<9.25e2	n/a	n/a	860.0	n/a
S96T005281	F	Sodium - ICP-Fusion	ug/g	99.00	1.800	2.46e+05	2.42e+05	2.44e+05	1.23	n/a	1.72e+03	n/a
S96T005281	F	Neodymium - ICP-Fusion	ug/g	101.8	<1.00e-01	<3.44e+03	<3.70e3	<3.70e3	n/a	n/a	3.44e+03	n/a
S96T005281	F	Phosphorus - ICP-Fusion	ug/g	96.80	<2.00e-01	<3.44e+03	<3.70e3	<3.70e3	n/a	n/a	3.44e+03	n/a
S96T005281	F	Lead - ICP-Fusion	ug/g	97.80	<1.00e-01	<1.72e+03	<1.85e3	<1.85e3	n/a	n/a	1.72e+03	n/a
S96T005281	F	Sulfur - ICP-Fusion	ug/g	97.00	<1.00e-01	<1.72e+03	<1.85e3	<1.85e3	n/a	n/a	1.72e+03	n/a
S96T005281	F	Antimony - ICP-Fusion	ug/g	97.00	<6.00e-02	<1.03e+03	<1.11e3	<1.11e3	n/a	n/a	1.03e+03	n/a
S96T005281	F	Selenium - ICP-Fusion	ug/g	85.80	<1.00e-01	<1.72e+03	<1.85e3	<1.85e3	n/a	n/a	1.72e+03	n/a
S96T005281	F	Silicon - ICP-Fusion	ug/g	97.40	<5.00e-02	<2.06e+03	<2.21e3	<2.21e3	n/a	n/a	860.0	n/a
S96T005281	F	Samarium - ICP-Fusion	ug/g	100.2	<1.00e-01	<1.72e+02	<1.85e2	<1.85e2	n/a	n/a	172.0	n/a
S96T005281	F	Strontium - ICP-Fusion	ug/g	97.20	<1.00e-02	<1.72e+02	<1.85e2	<1.85e2	n/a	n/a	172.0	n/a
S96T005281	F	Titanium - ICP-Fusion	ug/g	96.40	<1.00e-02	<1.72e+02	<1.85e2	<1.85e2	n/a	n/a	172.0	n/a
S96T005281	F	Thallium - ICP-Fusion	ug/g	104.0	<2.00e-01	<3.44e+03	<3.70e3	<3.70e3	n/a	n/a	3.44e+03	n/a
S96T005281	F	Uranium - ICP-Fusion	ug/g	95.80	<5.00e-01	<8.60e+03	<9.25e3	<9.25e3	n/a	n/a	8.60e+03	n/a
S96T005281	F	Vanadium - ICP-Fusion	ug/g	99.40	<5.00e-02	<8.60e+02	<9.25e2	<9.25e2	n/a	n/a	860.0	n/a
S96T005281	F	Zinc - ICP-Fusion	ug/g	99.40	<1.00e-02	<1.72e+02	<1.85e2	<1.85e2	n/a	n/a	172.0	n/a
S96T005281	F	Zirconium - ICP-Fusion	ug/g	97.00	<1.00e-02	<1.72e+02	<1.85e2	<1.85e2	n/a	n/a	172.0	n/a
S96T005282	A	Silver - ICP-Acid Digest	ug/g	97.00	<1.00e-02	<1.72e+02	<1.85e2	<1.85e2	n/a	n/a	172.0	n/a
S96T005282	A	Aluminum - ICP-Acid Digest	ug/g	96.20	<1.40e-01	<2.02e+04	<2.10e+04	<2.06e+04	3.88	n/a	3.940	n/a
S96T005282	A	Arsenic - ICP-Acid Digest	ug/g	98.20	<1.00e-01	<39.30	<3.61e1	<3.61e1	n/a	n/a	39.40	n/a
S96T005282	A	Boron - ICP-Acid Digest	ug/g	108.0	7.49e-01	1.70e+02	160.0	165.0	6.06	n/a	19.70	n/a

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S967005282	A	Barium - ICP-Acid Digest	ug/g	94.20	< 5.00e-02	< 19.70	< 1.80e1	n/a	n/a	n/a	19.70	n/a
S967005282	A	Beryllium - ICP-Acid Digest	ug/g	101.8	< 5.00e-02	< 1.970	< 1.80e1	n/a	n/a	n/a	1.970	n/a
S967005282	A	Bismuth - ICP-Acid Digest	ug/g	94.20	< 1.00e-01	< 39.50	< 3.61e1	n/a	n/a	n/a	39.40	n/a
S967005282	A	Calcium - ICP-Acid Digest	ug/g	98.00	< 4.00e-01	< 4.92e02	286.0	392.5	54.3	n/a	39.40	n/a
S967005282	A	Calcium - ICP-Acid Digest	ug/g	92.00	< 5.00e-03	15.60	12.40	14.00	22.9	n/a	1.970	n/a
S967005282	A	Cerium - ICP-Acid Digest	ug/g	97.20	< 1.00e-01	< 39.30	< 3.61e1	n/a	n/a	n/a	39.40	n/a
S967005282	A	Cobalt - ICP-Acid Digest	ug/g	93.60	< 2.00e-02	< 7.860	< 7.21e0	n/a	n/a	n/a	7.860	n/a
S967005282	A	Chromium - ICP-Acid Digest	ug/g	93.00	< 2.00e-02	< 2.38e+03	< 2.00e+03	2.19e+03	17.4	n/a	3.940	n/a
S967005282	A	Copper - ICP-Acid Digest	ug/g	94.00	< 1.00e-02	6.270	5.340	5.805	16.0	n/a	3.940	n/a
S967005282	A	Iron - ICP-Acid Digest	ug/g	94.00	< 1.26e-01	1.26e+02	104.0	115.0	19.1	n/a	19.70	n/a
S967005282	A	Potassium - ICP-Acid Digest	ug/g	95.80	< 5.00e-02	< 3.59e+03	< 3.78e+03	3.68e+03	5.16	n/a	19.70	n/a
S967005282	A	Lanthanum - ICP-Acid Digest	ug/g	97.00	< 5.00e-02	< 7.460	< 8.820	8.140	16.7	n/a	3.940	n/a
S967005282	A	Lithium - ICP-Acid Digest	ug/g	99.00	< 1.00e-02	< 39.30	< 3.61e1	n/a	n/a	n/a	39.40	n/a
S967005282	A	Magnesium - ICP-Acid Digest	ug/g	91.00	< 1.00e-02	17.80	14.70	16.25	19.1	n/a	3.940	n/a
S967005282	A	Manganese - ICP-Acid Digest	ug/g	91.60	< 5.00e-02	44.70	43.80	44.25	2.03	n/a	19.70	n/a
S967005282	A	Molybdenum - ICP-Acid Digest	ug/g	114.8	< 1.00e-02	< 1.90e+05	< 1.85e+05	1.88e+05	2.67	n/a	39.40	n/a
S967005282	A	Neodymium - ICP-Acid Digest	ug/g	95.80	< 1.00e-01	< 39.30	< 3.61e1	n/a	n/a	n/a	39.40	n/a
S967005282	A	Nickel - ICP-Acid Digest	ug/g	95.20	< 2.00e-02	95.70	73.00	83.35	24.8	n/a	7.860	n/a
S967005282	A	Phosphorus - ICP-Acid Digest	ug/g	95.40	< 2.00e-01	< 1.05e+03	951.0	1.00e+03	9.90	n/a	78.60	n/a
S967005282	A	Lead - ICP-Acid Digest	ug/g	89.60	< 1.00e-01	58.90	36.90	48.90	40.9	n/a	39.40	n/a
S967005282	A	Sulfur - ICP-Acid Digest	ug/g	92.00	< 1.00e-01	< 4.15e+03	< 3.73e+03	3.94e+03	10.7	n/a	39.40	n/a
S967005282	A	Antimony - ICP-Acid Digest	ug/g	90.60	< 6.00e-02	< 23.60	< 2.18e1	n/a	n/a	n/a	23.60	n/a
S967005282	A	Selenium - ICP-Acid Digest	ug/g	89.40	< 1.00e-01	< 39.30	< 3.61e1	n/a	n/a	n/a	39.40	n/a
S967005282	A	Silicon - ICP-Acid Digest	ug/g	170.4	< 2.30	< 3.55e+02	592.0	473.5	50.1	n/a	19.70	n/a
S967005282	A	Samarium - ICP-Acid Digest	ug/g	93.80	< 1.00e-01	< 39.30	< 3.61e1	n/a	n/a	n/a	39.40	n/a
S967005282	A	Strontium - ICP-Acid Digest	ug/g	94.20	< 1.00e-02	< 3.930	< 3.61e0	n/a	n/a	n/a	3.940	n/a
S967005282	A	Titanium - ICP-Acid Digest	ug/g	84.60	< 1.00e-02	< 3.930	< 3.61e0	n/a	n/a	n/a	3.940	n/a
S967005282	A	Thallium - ICP-Acid Digest	ug/g	88.80	< 2.00e-01	< 78.60	< 7.21e1	n/a	n/a	n/a	78.60	n/a
S967005282	A	Uranium - ICP-Acid Digest	ug/g	90.20	< 5.00e-01	< 1.97e+02	< 1.80e2	n/a	n/a	n/a	197.0	n/a
S967005282	A	Vanadium - ICP-Acid Digest	ug/g	91.60	< 5.00e-02	< 19.70	< 1.80e1	n/a	n/a	n/a	19.70	n/a
S967005282	A	Zinc - ICP-Acid Digest	ug/g	89.40	< 2.00e-02	18.80	15.80	17.30	17.3	n/a	3.940	n/a
S967005282	A	Zirconium - ICP-Acid Digest	ug/g	93.20	< 1.00e-02	17.30	15.60	16.45	10.3	n/a	3.940	n/a
S967005282	W	Acetate by IC-DIONEX 4000/4500	ug/g	99.30	< 2.00e02	6.13e+02	661.0	637.0	7.54	78.15	161.2	n/a
S967005283	W	Formate by IC-DIONEX 4000/4500	ug/g	96.67	< 2.120	7.77e+02	853.0	805.0	6.96	89.17	169.2	n/a
S967005283	W	Fluoride by IC-DIONEX 4000/4500	ug/g	104.2	< 1.20e-02	4.37e+02	4.49e+03	4.47e+03	0.89	138.0	49.52	n/a
S967005283	W	Chloride by IC-DIONEX 4000/4500	ug/g	96.20	< 1.08e-01	4.45e+03	6.93e+04	6.89e+04	1.02	117.3	445.8	n/a
S967005283	W	Nitrite by IC-DIONEX 4000/4500	ug/g	107.0	< 1.08e-01	4.68e+04	< 5.20e2	n/a	n/a	95.42	516.0	n/a
S967005283	W	Bromide by Ion Chromatograph	ug/g	97.45	< 1.25e-01	< 1.68e+02	1.04e+05	1.04e+05	0.96	100.7	573.7	n/a
S967005283	W	Nitrate by IC-DIONEX 4000/4500	ug/g	99.16	< 1.35e-01	1.05e+05	3.45e+03	3.54e+03	4.81	100.0	495.2	n/a
S967005283	W	Phosphate by IC-DIONEX 4000/4500	ug/g	100.6	< 1.20e-01	3.62e+03	1.35e+04	1.33e+04	2.25	103.3	569.5	n/a
S967005283	W	Sulfate by IC-DIONEX 4000/4500	ug/g	98.42	< 1.38e-01	1.32e+04	9.65e+03	9.74e+03	1.85	98.31	433.4	n/a
S967005283	W	Oxalate by IC-DIONEX 4000/4500	ug/g	100.6	< 1.05e-01	9.83e+03	9.65e+03	9.74e+03	1.85	98.31	433.4	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%
S96T005223		Bulk Density of Sample	g/mL	n/a	n/a	1.600	n/a	n/a	n/a	n/a	5.00e-01	n/a
S96T005250		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
S96T005250		DSC Exotherm on Perkin Elmer	Joules/g	98.45	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S96T005250		% Water by TGA on Perkin Elmer	%	99.26	n/a	50.51	50.05	50.28	0.91	n/a	n/a	n/a
S96T005278	F	Merckel - ICP-Fusion	ug/g	97.60	2.90e-02	1.92e+03	2.82e+03	2.37e+03	38.0	96.80	377.0	n/a
S96T005278	F	SiIver - ICP-Fusion	ug/g	98.40	<1.00e-02	<1.89e+02	<1.95e+02	n/a	n/a	67.80	189.0	n/a
S96T005278	F	Aluminum - ICP-Fusion	ug/g	97.60	<5.00e-02	1.98e+04	1.92e+04	1.95e+04	3.08	95.10	944.0	n/a
S96T005278	F	Arsenic - ICP-Fusion	ug/g	100.6	<1.00e-01	<1.89e+03	<1.95e+03	n/a	n/a	100.0	1.89e+03	n/a
S96T005278	F	Boron - ICP-Fusion	ug/g	98.00	<5.00e-02	<9.43e+02	<9.66e+02	n/a	n/a	97.20	944.0	n/a
S96T005278	F	Barium - ICP-Fusion	ug/g	100.0	<5.00e-02	<9.43e+02	<9.66e+02	n/a	n/a	98.10	944.0	n/a
S96T005278	F	Beryllium - ICP-Fusion	ug/g	101.0	<5.00e-03	<94.30	<9.66e+02	n/a	n/a	99.00	944.0	n/a
S96T005278	F	BiSmith - ICP-Fusion	ug/g	101.6	<1.00e-01	<1.89e+03	<1.95e+03	n/a	n/a	101.0	1.89e+03	n/a
S96T005278	F	Calcium - ICP-Fusion	ug/g	99.00	<1.00e-01	<1.89e+03	<1.95e+03	n/a	n/a	100.0	1.89e+03	n/a
S96T005278	F	Cadmium - ICP-Fusion	ug/g	100.6	<1.00e-01	<1.89e+03	<1.95e+03	n/a	n/a	97.20	944.0	n/a
S96T005278	F	Cerium - ICP-Fusion	ug/g	98.40	<5.00e-03	<1.95e+03	<1.95e+03	n/a	n/a	96.30	377.0	n/a
S96T005278	F	Cobalt - ICP-Fusion	ug/g	98.60	<2.00e-02	<3.77e+02	<3.87e+02	1.82e+03	2.74	97.10	189.0	n/a
S96T005278	F	Chromium - ICP-Fusion	ug/g	99.00	<1.00e-02	<1.89e+02	<1.95e+02	n/a	n/a	91.00	1.89e+03	n/a
S96T005278	F	Copper - ICP-Fusion	ug/g	100.4	<1.00e-02	<1.89e+02	<1.95e+02	n/a	n/a	96.30	377.0	n/a
S96T005278	F	Iron - ICP-Fusion	ug/g	97.80	<5.00e-02	<9.43e+02	<9.66e+02	n/a	n/a	98.90	944.0	n/a
S96T005278	F	Lanthanum - ICP-Fusion	ug/g	99.00	<5.00e-02	<9.43e+02	<9.66e+02	n/a	n/a	99.30	944.0	n/a
S96T005278	F	Lithium - ICP-Fusion	ug/g	99.20	<1.00e-02	<1.89e+02	<1.95e+02	n/a	n/a	94.90	189.0	n/a
S96T005278	F	Magnesium - ICP-Fusion	ug/g	94.80	<1.00e-01	<1.89e+03	<1.95e+03	n/a	n/a	91.80	1.89e+03	n/a
S96T005278	F	Manganese - ICP-Fusion	ug/g	98.00	<1.00e-02	<9.43e+02	<1.95e+02	n/a	n/a	97.50	189.0	n/a
S96T005278	F	Molybdenum - ICP-Fusion	ug/g	99.00	<5.00e-02	<9.43e+02	<9.66e+02	n/a	n/a	97.70	944.0	n/a
S96T005278	F	Sodium - ICP-Fusion	ug/g	99.00	1.800	2.49e+05	2.53e+05	2.51e+05	1.59	68.50	1.89e+03	n/a
S96T005278	F	Neodymium - ICP-Fusion	ug/g	101.8	<1.00e-01	<1.89e+03	<1.95e+03	n/a	n/a	99.40	1.89e+03	n/a
S96T005278	F	Phosphorus - ICP-Fusion	ug/g	96.80	<2.00e-01	<3.77e+03	<3.87e+03	n/a	n/a	101.0	3.77e+03	n/a
S96T005278	F	Lead - ICP-Fusion	ug/g	97.80	<1.00e-01	<1.89e+03	<1.95e+03	n/a	n/a	98.00	1.89e+03	n/a
S96T005278	F	Sulfur - ICP-Fusion	ug/g	97.00	<1.00e-01	5.70e+03	5.60e+03	5.65e+03	1.77	95.70	1.89e+03	n/a
S96T005278	F	Antimony - ICP-Fusion	ug/g	97.00	<6.00e-02	1.22e+03	1.59e+03	1.40e+03	26.3	90.50	1.13e+03	n/a
S96T005278	F	Selenium - ICP-Fusion	ug/g	85.80	<1.00e-01	<1.89e+03	<1.95e+03	n/a	n/a	82.40	1.89e+03	n/a
S96T005278	F	Samarium - ICP-Fusion	ug/g	97.40	<5.00e-02	<9.43e+02	<9.66e+02	n/a	n/a	101.0	944.0	n/a
S96T005278	F	Strontium - ICP-Fusion	ug/g	100.2	<1.00e-01	<1.89e+02	<1.95e+02	n/a	n/a	105.0	1.89e+03	n/a
S96T005278	F	Titanium - ICP-Fusion	ug/g	96.40	<1.00e-02	<1.89e+02	<1.95e+02	n/a	n/a	97.00	189.0	n/a
S96T005278	F	Thallium - ICP-Fusion	ug/g	104.0	<2.00e-01	<3.77e+03	<3.87e+03	n/a	n/a	95.60	189.0	n/a
S96T005278	F	Uranium - ICP-Fusion	ug/g	95.80	<5.00e-01	<9.43e+03	<9.66e+03	n/a	n/a	95.30	3.77e+03	n/a
S96T005278	F	Vanadium - ICP-Fusion	ug/g	99.40	<5.00e-02	<9.43e+02	<9.66e+02	n/a	n/a	101.0	9.44e+03	n/a
S96T005278	F	Zinc - ICP-Fusion	ug/g	99.40	<1.00e-02	1.96e+02	<1.95e+02	n/a	n/a	98.70	944.0	n/a
S96T005278	F	Zirconium - ICP-Fusion	ug/g	97.00	<1.00e-02	<1.89e+02	<1.95e+02	n/a	n/a	96.70	189.0	n/a
S96T005278	F	Alpha of Digested Solid	ug/g	85.23	2.30e-02	5.58e-02	5.58e-02	5.58e-02	0.00	76.88	2.90e-02	5.00e+01
S96T005279	A	Silver - ICP-Acid Digest	ug/g	96.20	<1.00e-02	15.90	14.00	14.95	12.7	97.40	4.540	n/a
S96T005279	A	Aluminum - ICP-Acid Digest	ug/g	98.20	1.46e-01	1.90e+04	2.14e+04	2.02e+04	11.9	-8.940e1	22.60	n/a
S96T005279	A	Arsenic - ICP-Acid Digest	ug/g	96.20	<1.00e-01	<45.40	<3.78e+02	185.0	4.99	99.80	45.40	n/a
S96T005279	A	Boron - ICP-Acid Digest	ug/g	108.0	7.43e-01	1.76e+02	<1.89e+02	n/a	n/a	95.80	22.60	n/a
S96T005279	A	Barium - ICP-Acid Digest	ug/g	94.20	<5.00e-02	<22.70	<1.89e+02	n/a	n/a	96.40	2.260	n/a
S96T005279	A	Beryllium - ICP-Acid Digest	ug/g	101.8	<5.00e-03	<45.40	<3.78e+02	n/a	n/a	99.00	45.40	n/a
S96T005279	A	BiSmith - ICP-Acid Digest	ug/g	94.20	<1.00e-01	<45.40	<3.78e+02	n/a	n/a	98.20	45.40	n/a
S96T005279	A	Calcium - ICP-Acid Digest	ug/g	98.00	4.00e-01	3.85e+02	329.0	357.0	15.7	98.20	45.40	n/a

HNF-SD-WM-DP-226, REV. 0

Sample #	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S961005279	A	Cadmium - ICP-Acid Digest	ug/g	92.20	< 1.00e-01	12.30	7.830	10.07	44.4	95.00	2.260	n/a
S961005279	A	Cerium - ICP-Acid Digest	ug/g	97.00	< 1.00e-01	< 45.40	< 3.78e1	n/a	n/a	97.00	45.40	n/a
S961005279	A	Cobalt - ICP-Acid Digest	ug/g	93.60	< 2.00e-02	< 9.070	< 7.55e0	n/a	n/a	95.80	9.080	n/a
S961005279	A	Chromium - ICP-Acid Digest	ug/g	93.00	< 2.00e-02	1.77e+03	1.77e+03	1.47e+03	40.3	107.0	4.540	n/a
S961005279	A	Copper - ICP-Acid Digest	ug/g	94.00	< 1.00e-02	6.100	5.290	5.695	14.2	92.20	4.540	n/a
S961005279	A	Iron - ICP-Acid Digest	ug/g	94.00	< 1.26e-01	1.25e+02	77.10	101.0	47.4	94.80	22.60	n/a
S961005279	A	Potassium - ICP-Acid Digest	ug/g	95.80	< 5.00e-01	3.35e+03	3.84e+03	3.58e+03	14.2	77.80	226.0	n/a
S961005279	A	Lead - ICP-Acid Digest	ug/g	97.00	< 5.00e-02	< 22.70	< 1.89e1	n/a	n/a	98.20	22.60	n/a
S961005279	A	Lithium - ICP-Acid Digest	ug/g	92.80	< 1.00e-01	9.850	8.560	9.205	14.0	98.80	4.540	n/a
S961005279	A	Magnesium - ICP-Acid Digest	ug/g	88.80	< 1.00e-01	< 45.40	< 3.78e1	n/a	n/a	87.80	45.40	n/a
S961005279	A	Manganese - ICP-Acid Digest	ug/g	91.00	< 1.00e-02	17.50	11.00	14.25	45.6	92.00	4.540	n/a
S961005279	A	Nickel - ICP-Acid Digest	ug/g	91.60	< 5.00e-02	40.50	43.30	41.90	6.68	93.00	22.60	n/a
S961005279	A	Niobium - ICP-Acid Digest	ug/g	114.8	1.040	2.13e+03	1.92e+05	2.02e+05	10.4	3.74e+03	45.40	n/a
S961005279	A	Sodium - ICP-Acid Digest	ug/g	95.80	< 1.00e-01	< 45.40	< 3.78e1	n/a	n/a	96.00	45.40	n/a
S961005279	A	Strontium - ICP-Acid Digest	ug/g	95.20	< 2.00e-02	73.30	44.30	58.80	49.3	97.40	9.080	n/a
S961005279	A	Phosphorus - ICP-Acid Digest	ug/g	95.40	< 2.00e-01	1.59e+03	946.0	1.28e+03	48.8	126.4	90.80	n/a
S961005279	A	Sulfur - ICP-Acid Digest	ug/g	89.60	< 1.00e-01	< 45.40	< 45.30	n/a	n/a	97.00	45.40	n/a
S961005279	A	Antimony - ICP-Acid Digest	ug/g	92.00	< 6.00e-02	< 27.20	< 2.27e1	n/a	n/a	94.60	27.20	n/a
S961005279	A	Selenium - ICP-Acid Digest	ug/g	89.40	< 1.00e-01	< 45.40	< 3.78e1	n/a	n/a	93.00	45.40	n/a
S961005279	A	Silicon - ICP-Acid Digest	ug/g	170.4	2.130	6.71e+02	685.0	678.0	2.06	112.4	22.60	n/a
S961005279	A	Samarium - ICP-Acid Digest	ug/g	93.80	< 1.00e-01	< 45.40	< 3.78e1	n/a	n/a	94.00	45.40	n/a
S961005279	A	Strontium - ICP-Acid Digest	ug/g	94.20	< 1.00e-02	< 4.540	< 3.78e0	n/a	n/a	93.80	4.540	n/a
S961005279	A	Titanium - ICP-Acid Digest	ug/g	84.60	< 1.00e-02	< 4.540	< 3.78e0	n/a	n/a	84.80	4.540	n/a
S961005279	A	Thallium - ICP-Acid Digest	ug/g	88.80	< 2.00e-01	< 90.70	< 7.55e1	n/a	n/a	90.20	90.80	n/a
S961005279	A	Uranium - ICP-Acid Digest	ug/g	90.20	< 5.00e-01	< 2.27e+02	< 1.89e2	n/a	n/a	102.0	226.0	n/a
S961005279	A	Vanadium - ICP-Acid Digest	ug/g	91.60	< 5.00e-02	< 22.70	< 1.89e1	n/a	n/a	92.80	22.60	n/a
S961005279	A	Zinc - ICP-Acid Digest	ug/g	89.40	< 2.00e-02	12.90	11.50	12.20	11.5	93.60	4.540	n/a
S961005279	A	Zirconium - ICP-Acid Digest	ug/g	93.20	< 1.00e-02	18.80	13.70	16.25	31.4	95.20	4.540	n/a
S961005280	W	Acetate by IC-Dionex 4000/4500	ug/g	98.39	< 2.020	6.61e+02	688.0	674.5	4.00	100.0	158.1	n/a
S961005280	W	Formate by IC-Dionex 4000/4500	ug/g	96.67	< 2.120	7.90e+02	875.0	832.7	10.2	97.17	166.0	n/a
S961005280	W	Fluoride-IC-Dionex 4000/4500	ug/g	104.2	< 1.20e-02	2.11e+03	2.05e+03	2.08e+03	2.88	87.12	48.59	n/a
S961005280	W	Chloride-IC-Dionex 4000/4500	ug/g	96.20	< 1.0e-02	4.34e+03	4.36e+03	4.35e+03	0.46	95.44	68.84	n/a
S961005280	W	Nitrite-IC - Dionex 4000/4500	ug/g	107.0	< 1.00e-01	6.42e+04	6.41e+04	6.41e+04	0.16	118.8	437.4	n/a
S961005280	W	Bromide by Ion Chromatograph	ug/g	97.45	< 1.25e-01	< 5.06e+02	< 5.10e2	n/a	n/a	97.11	506.1	n/a
S961005280	W	Nitrate by IC-Dionex 4000/4500	ug/g	99.16	< 1.39e-01	9.67e+04	9.67e+04	9.61e+04	1.14	104.9	562.8	n/a
S961005280	W	Phosphate-IC-Dionex 4000/4500	ug/g	100.6	< 1.20e-01	3.38e+03	3.20e+03	3.29e+03	5.47	100.2	485.9	n/a
S961005280	W	Sulfate by IC-Dionex 4000/4500	ug/g	98.42	< 1.38e-01	1.66e+04	1.71e+04	1.68e+04	2.97	104.4	558.8	n/a
S961005280	W	Oxalate-IC-Dionex 4000/4500	ug/g	100.6	< 1.05e-01	8.17e+03	8.22e+03	8.20e+03	0.61	100.2	425.2	n/a

Table 1. Data Summary Report
AN-104

CORE NUMBER: 164
SEGMENT #: FB
SEGMENT PORTION: Field Blank

Sample#	R.A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T005253	D	DSC Exotherm Dry	Joules/g Dry	n/a	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S96T005253	D	DSC Exotherm on Perkin Elmer	Joules/g	97.40	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S96T005253	D	Specific Gravity	Sp.G.	99.89	n/a	1.002	9.94e-01	9.98e-01	0.80	n/a	1.00e-02	n/a
S96T005253	D	% Water by TGA on Perkin Elmer	%	99.26	<1.00e-02	99.75	104.01	101.9	4.17	n/a	n/a	n/a
S96T005253	D	Silver-ICP-Acid Dil.	ug/mL	100.6	<1.00e-02	<1.00e-02	<1.00e-02	<1.00e-02	n/a	n/a	1.00e-02	n/a
S96T005253	D	Aluminum-ICP-Acid Dil.	ug/mL	99.00	<5.00e-02	<5.00e-02	<5.00e-02	n/a	n/a	n/a	5.00e-02	n/a
S96T005253	D	Arsenic-ICP-Acid Dil.	ug/mL	104.8	<1.00e-01	<1.00e-01	<1.00e-01	n/a	n/a	n/a	1.00e-01	n/a
S96T005253	D	Boron-ICP-Acid Dil.	ug/mL	101.2	<5.00e-02	1.620	1.620	1.620	0.00	n/a	5.00e-02	n/a
S96T005253	D	Barium-ICP-Acid Dil.	ug/mL	100.4	<5.00e-02	<5.00e-02	<5.00e-02	n/a	n/a	n/a	5.00e-02	n/a
S96T005253	D	Beryllium-ICP-Acid Dil.	ug/mL	103.8	<5.00e-03	<5.00e-03	<5.00e-03	n/a	n/a	n/a	5.00e-03	n/a
S96T005253	D	Bismuth-ICP-Acid Dil.	ug/mL	103.8	<1.00e-01	<1.00e-01	<1.00e-01	n/a	n/a	n/a	1.00e-01	n/a
S96T005253	D	Calcium-ICP-Acid Dil.	ug/mL	100.6	<1.00e-01	13.90	13.70	13.80	1.45	n/a	1.00e-01	n/a
S96T005253	D	Cadmium-ICP-Acid Dil.	ug/mL	101.6	<5.00e-03	<5.00e-03	<5.00e-03	n/a	n/a	n/a	5.00e-03	n/a
S96T005253	D	Cerium-ICP-Acid Dil.	ug/mL	101.2	<1.00e-01	<1.00e-01	<1.00e-01	n/a	n/a	n/a	1.00e-01	n/a
S96T005253	D	Cobalt-ICP-Acid Dil.	ug/mL	102.0	<1.00e-02	<1.00e-02	<1.00e-02	n/a	n/a	n/a	2.00e-02	n/a
S96T005253	D	Chromium-ICP-Acid Dil.	ug/mL	106.0	<1.00e-02	<1.00e-02	<1.00e-02	n/a	n/a	n/a	1.00e-02	n/a
S96T005253	D	Copper-ICP-Acid Dil.	ug/mL	102.8	<5.00e-02	<5.00e-02	<5.00e-02	n/a	n/a	n/a	5.00e-02	n/a
S96T005253	D	Iron-ICP-Acid Dil.	ug/mL	102.8	<5.00e-01	7.71e-01	7.85e-01	7.78e-01	1.80	n/a	5.00e-01	n/a
S96T005253	D	Potassium-ICP-Acid Dil.	ug/mL	104.0	<5.00e-02	<5.00e-02	<5.00e-02	n/a	n/a	n/a	5.00e-02	n/a
S96T005253	D	Lanthanum-ICP-Acid Dil.	ug/mL	104.0	<1.00e-02	<1.00e-02	<1.00e-02	n/a	n/a	n/a	1.00e-02	n/a
S96T005253	D	Lithium-ICP-Acid Dil.	ug/mL	97.60	<1.00e-01	2.900	2.900	2.900	0.00	n/a	1.00e-01	n/a
S96T005253	D	Magnesium-ICP-Acid Dil.	ug/mL	98.60	<1.00e-02	1.08e-01	1.08e-01	1.08e-01	0.00	n/a	1.00e-02	n/a
S96T005253	D	Manganese-ICP-Acid Dil.	ug/mL	101.8	<5.00e-02	<5.00e-02	<5.00e-02	n/a	n/a	n/a	5.00e-02	n/a
S96T005253	D	Molybdenum-ICP-Acid Dil.	ug/mL	100.0	<1.00e-01	5.430	5.400	5.415	0.55	n/a	1.00e-01	n/a
S96T005253	D	Sodium-ICP-Acid Dil.	ug/mL	104.0	<1.00e-01	<1.00e-01	<1.00e-01	n/a	n/a	n/a	1.00e-01	n/a
S96T005253	D	Nickel-ICP-Acid Dil.	ug/mL	101.2	<2.00e-02	<2.00e-02	<2.00e-02	n/a	n/a	n/a	2.00e-02	n/a
S96T005253	D	Nickel-ICP-Acid Dil.	ug/mL	101.2	<1.00e-01	4.31e-01	4.36e-01	4.33e-01	1.15	n/a	1.00e-01	n/a
S96T005253	D	Lead-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
S96T005253	D	Sulfur-ICP-Acid Dil.	ug/mL	99.00	<6.00e-02	6.970	7.080	7.025	1.57	n/a	6.00e-02	n/a
S96T005253	D	Antimony-ICP-Acid Dil.	ug/mL	98.60	<1.00e-01	<1.00e-01	<1.00e-01	n/a	n/a	n/a	1.00e-01	n/a
S96T005253	D	Selenium-ICP-Acid Dil.	ug/mL	98.40	<1.00e-02	<1.00e-02	<1.00e-02	n/a	n/a	n/a	1.00e-02	n/a
S96T005253	D	Silicon-ICP-Acid Dil.	ug/mL	97.80	<5.00e-02	6.110	6.090	6.100	0.33	n/a	5.00e-02	n/a
S96T005253	D	Samarium-ICP-Acid Dil.	ug/mL	99.40	<1.00e-01	<1.00e-01	<1.00e-01	n/a	n/a	n/a	1.00e-01	n/a
S96T005253	D	Strontium-ICP-Acid Dil.	ug/mL	100.6	<1.00e-02	5.93e-02	5.87e-02	5.90e-02	1.02	n/a	1.00e-02	n/a
S96T005253	D	Titanium-ICP-Acid Dil.	ug/mL	98.20	<1.00e-02	<1.00e-02	<1.00e-02	n/a	n/a	n/a	1.00e-02	n/a
S96T005253	D	Thallium-ICP-Acid Dil.	ug/mL	97.40	<2.00e-01	<2.00e-01	<2.00e-01	n/a	n/a	n/a	2.00e-01	n/a
S96T005253	D	Uranium-ICP-Acid Dil.	ug/mL	97.20	<5.00e-01	<5.00e-01	<5.00e-01	n/a	n/a	n/a	5.00e-01	n/a
S96T005253	D	Vanadium-ICP-Acid Dil.	ug/mL	101.4	<5.00e-02	<5.00e-02	<5.00e-02	n/a	n/a	n/a	5.00e-02	n/a
S96T005253	D	Zinc-ICP-Acid Dil.	ug/mL	102.2	<1.00e-02	7.84e-01	7.86e-01	7.35e-01	13.9	n/a	1.00e-02	n/a
S96T005253	D	Zirconium-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
S96T005253	D	Acetate by IC-Dionex 4000/4500	ug/mL	94.36	<2.00e-02	<2.00e-01	<2.00e-01	n/a	n/a	105.6	2.20e-01	n/a
S96T005253	D	Formate by Ion Chromatograph	ug/mL	95.83	<2.00e-02	<2.31e-01	<2.31e-01	n/a	n/a	104.2	2.31e-01	n/a
S96T005253	D	Fluoride-IC-Dionex 4000/4500	ug/mL	106.3	<1.20e-02	<2.52e-01	<2.52e-01	n/a	n/a	120.7	2.52e-01	n/a

Sample #	R. A. #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD, % Spk	Rec %	Det Limit	Count Err%
S961005253		Chloride-IC-Dionex 4000/4500	ug/mL	89.11	<1.70e-02	4.913	5.040	4.976	2.61	95.82	3.57e-01	n/a
S961005253		Nitrite-IC - Dionex 4000/4500	ug/mL	89.83	<1.08e-01	< 2.268	<2.27e0	n/a	n/a	92.98	2.268	n/a
S961005253		Bromide by Ion Chromatograph	ug/mL	91.00	<1.25e-01	< 2.625	<2.62e0	n/a	n/a	94.74	2.625	n/a
S961005253		Nitrate by IC-Dionex 4000/4500	ug/mL	91.92	<1.39e-01	8.668	9.440	9.054	8.50	98.32	2.919	n/a
S961005253		Phosphate-IC-Dionex 4000/4500	ug/mL	102.0	<1.20e-01	< 12.12	<1.21e1	n/a	n/a	100.2	12.12	n/a
S961005253		Sulfate by IC-Dionex 4000/4500	ug/mL	97.46	<1.38e-01	13.63	13.30	13.46	2.23	105.9	2.898	n/a
S961005253		Oxalate-IC-Dionex 4000/450	ug/mL	102.7	<1.05e-01	< 2.205	<2.21e0	n/a	n/a	105.9	2.205	n/a
S961005253		Alpha in Liquid Samples	uCi/mL	95.94	<1.78e-06	1.97e-06	<1.61E-6	n/a	n/a	n/a	2.28e-06	1.22E+02

Table 1. Data Summary Report
AN-104

CORE NUMBER: 164
SEGMENT #: Blank

SEGMENT PORTION: Hydrostatic Head Fluid

Sample#	Q #	Q #	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T004916	D	Allylve-ICP-Acid Dilt.	ug/mL	100.4	<1.00e-02	<1.10e-01	<1.10e-1	n/a	n/a	n/a	1.10e-01	n/a
S96T004916	D	Aluminum-ICP-Acid Dilt.	ug/mL	98.80	<5.00e-02	<5.50e-01	5.88e-01	n/a	n/a	n/a	5.50e-01	n/a
S96T004916	D	Arsenic-ICP-Acid Dilt.	ug/mL	103.2	<1.00e-01	<1.100	<1.10e0	n/a	n/a	n/a	1.100	n/a
S96T004916	D	Boron-ICP-Acid Dilt.	ug/mL	100.6	<5.00e-02	<5.50e-01	<5.50e-1	n/a	n/a	n/a	5.50e-01	n/a
S96T004916	D	Barium-ICP-Acid Dilt.	ug/mL	101.8	<5.00e-02	<5.50e-01	<5.50e-1	n/a	n/a	n/a	5.50e-01	n/a
S96T004916	D	Beryllium-ICP-Acid Dilt.	ug/mL	103.2	<5.00e-03	<5.50e-02	<5.50e-2	n/a	n/a	n/a	5.50e-02	n/a
S96T004916	D	Bismuth-ICP-Acid Dilt.	ug/mL	101.8	<1.00e-01	<1.100	<1.10e0	n/a	n/a	n/a	1.100	n/a
S96T004916	D	Calcium-ICP-Acid Dilt.	ug/mL	99.80	<1.00e-01	5.120	5.050	5.085	1.33	n/a	1.100	n/a
S96T004916	D	Cadmium-ICP-Acid Dilt.	ug/mL	101.4	<5.00e-03	<5.50e-02	<5.50e-2	n/a	n/a	n/a	5.50e-02	n/a
S96T004916	D	Cerium-ICP-Acid Dilt.	ug/mL	100.6	<1.00e-01	<1.100	<1.10e0	n/a	n/a	n/a	1.100	n/a
S96T004916	D	Cobalt-ICP-Acid Dilt.	ug/mL	101.8	<2.00e-02	<2.20e-01	<2.20e-1	n/a	n/a	n/a	2.20e-01	n/a
S96T004916	D	Chromium-ICP-Acid Dilt.	ug/mL	102.2	<1.00e-02	<1.10e-01	<1.10e-1	n/a	n/a	n/a	1.10e-01	n/a
S96T004916	D	Copper-ICP-Acid Dilt.	ug/mL	104.4	<1.00e-02	<1.10e-01	<1.10e-1	n/a	n/a	n/a	1.10e-01	n/a
S96T004916	D	Iron-ICP-Acid Dilt.	ug/mL	101.4	<5.00e-01	<5.50e-01	<5.50e-1	n/a	n/a	n/a	5.50e-01	n/a
S96T004916	D	Potassium-ICP-Acid Dilt.	ug/mL	99.80	<5.00e-01	<5.500	<5.50e0	n/a	n/a	n/a	5.500	n/a
S96T004916	D	Lanthanum-ICP-Acid Dilt.	ug/mL	102.0	<5.00e-02	<5.50e-01	<5.50e-1	n/a	n/a	n/a	5.50e-01	n/a
S96T004916	D	Lithium-ICP-Acid Dilt.	ug/mL	101.6	<1.00e-02	1.97e+03	1.96e+03	1.96e+03	0.51	n/a	1.10e-01	n/a
S96T004916	D	Magnesium-ICP-Acid Dilt.	ug/mL	97.00	<1.00e-01	<1.100	<1.10e0	n/a	n/a	n/a	1.100	n/a
S96T004916	D	Manganese-ICP-Acid Dilt.	ug/mL	99.00	<1.00e-02	<1.10e-01	<1.10e-1	n/a	n/a	n/a	1.10e-01	n/a
S96T004916	D	Molybdenum-ICP-Acid Dilt.	ug/mL	102.0	<5.00e-02	<5.50e-01	<5.50e-1	n/a	n/a	n/a	5.50e-01	n/a
S96T004916	D	Sodium-ICP-Acid Dilt.	ug/mL	98.60	<1.00e-01	13.90	13.90	13.90	0.00	n/a	1.100	n/a
S96T004916	D	Neodymium-ICP-Acid Dilt.	ug/mL	102.4	<1.00e-01	<1.100	<1.10e0	n/a	n/a	n/a	1.100	n/a
S96T004916	D	Nickel-ICP-Acid Dilt.	ug/mL	101.2	<2.00e-02	<2.20e-01	<2.20e-1	n/a	n/a	n/a	2.20e-01	n/a
S96T004916	D	Phosphorus-ICP-Acid Dilt.	ug/mL	101.2	<2.00e-01	<2.200	<2.20e0	n/a	n/a	n/a	2.200	n/a
S96T004916	D	Lead-ICP-Acid Dilt.	ug/mL	101.0	<2.00e-01	<1.100	<1.10e0	n/a	n/a	n/a	1.100	n/a
S96T004916	D	Sulfur-ICP-Acid Dilt.	ug/mL	100.2	<1.00e-01	1.700	1.730	1.715	1.75	n/a	1.100	n/a
S96T004916	D	Antimony-ICP-Acid Dilt.	ug/mL	97.00	<5.00e-02	<5.60e-01	<5.60e-1	n/a	n/a	n/a	6.60e-01	n/a
S96T004916	D	Selenium-ICP-Acid Dilt.	ug/mL	97.00	<1.00e-01	<1.100	<1.10e0	n/a	n/a	n/a	1.100	n/a
S96T004916	D	Silicon-ICP-Acid Dilt.	ug/mL	100.2	<5.00e-02	29.20	28.90	29.05	1.03	n/a	5.50e-01	n/a
S96T004916	D	Samarium-ICP-Acid Dilt.	ug/mL	98.80	<1.00e-01	<1.100	<1.10e0	n/a	n/a	n/a	1.100	n/a
S96T004916	D	Strontium-ICP-Acid Dilt.	ug/mL	99.80	<1.00e-02	<1.10e-01	<1.10e-1	n/a	n/a	n/a	1.10e-01	n/a
S96T004916	D	Titanium-ICP-Acid Dilt.	ug/mL	99.00	<1.00e-02	<1.10e-01	<1.10e-1	n/a	n/a	n/a	1.10e-01	n/a
S96T004916	D	Thallium-ICP-Acid Dilt.	ug/mL	97.20	<2.00e-01	<2.200	<2.20e0	n/a	n/a	n/a	2.200	n/a
S96T004916	D	Uranium-ICP-Acid Dilt.	ug/mL	96.80	<5.00e-01	<5.50e0	<5.50e0	n/a	n/a	n/a	5.500	n/a
S96T004916	D	Vanadium-ICP-Acid Dilt.	ug/mL	101.0	<5.00e-02	<5.50e-01	<5.50e-1	n/a	n/a	n/a	5.50e-01	n/a
S96T004916	D	Zinc-ICP-Acid Dilt.	ug/mL	99.80	<1.00e-02	<1.10e-01	<1.10e-1	n/a	n/a	n/a	1.10e-01	n/a
S96T004916	D	Zirconium-ICP-Acid Dilt.	ug/mL	99.80	<1.00e-02	<1.10e-01	<1.10e-1	n/a	n/a	n/a	1.10e-01	n/a
S96T004916	D	Fluoride-IC-Dionex 4000/4500	ug/mL	101.5	<1.20e-02	<87.57	<8.76e1	n/a	n/a	n/a	101.7	61.81
S96T004916	D	Chloride-IC-Dionex 4000/4500	ug/mL	96.71	<1.70e-02	<87.57	<8.76e1	n/a	n/a	n/a	98.48	87.57
S96T004916	D	Hydroxide-IC-Dionex 4000/4500	ug/mL	95.55	<1.25e-01	<5.56e+02	<5.56e2	n/a	n/a	n/a	556.3	n/a
S96T004916	D	Trifluoride-IC-Dionex 4000/4500	ug/mL	97.96	<1.25e-01	<2.20e+04	<2.20e+04	2.20e+04	0.00	n/a	97.96	643.9
S96T004916	D	Bromide by Ion Chromatograph	ug/mL	95.29	<1.39e-01	<7.16e+02	<7.16e2	n/a	n/a	n/a	95.97	716.0
S96T004916	D	Nitrate by IC-Dionex 4000/4500	ug/mL	98.71	<1.20e-01	<6.18e+02	<6.18e2	n/a	n/a	n/a	95.40	618.1
S96T004916	D	Phosphate by IC-Dionex 4000/4500	ug/mL	98.71	<1.20e-01	<6.18e+02	<6.18e2	n/a	n/a	n/a	95.40	618.1
S96T004916	D	Sulfate by IC-Dionex 4000/4500	ug/mL	100.2	<1.38e-01	<7.11e+02	<7.11e2	n/a	n/a	n/a	99.84	710.8

Sample#	RI A#	AnalYTE	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
SS61004916		Oxalate-IC-Dionex 4000/450	ug/mL	102.7	<1.05e-01	<5.41e-02	<5.41e2	n/a	n/a	103.0	540.9	n/a

Table 1. Data Summary Report
AM-104

CORE NUMBER: 164

SEGMENT #: Core Composite

SEGMENT PORTION: Core Composite

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec. %	Det Limit	Count Err%
S96T005970		Bulk Density of Sample	g/mL	n/a	n/a	1.570	n/a	n/a	n/a	n/a	5.00e-01	n/a
S96T005971		DSC Exotherm using Mattler	Joules/g	98.42	n/a	1.01e+02	105.0	103.0	3.88	n/a	n/a	n/a
S96T005972		DSC Exotherm Dry Calculated	Joules/g Dry	n/a	n/a	1.71e+02	178.0	174.5	4.01	n/a	n/a	n/a
S96T005973		% Water by IGA using Mattler	%	100.3	n/a	45.25	36.54	40.89	21.3	n/a	n/a	n/a
S96T005974		TIC by IGA/Coulometry	ug/g	99.50	3.100	1.50e+04	1.43e+04	1.46e+04	4.78	62.20	5,000	n/a
S96T005975		TOC by Persulfate/Coulometry	ug/g	92.00	2.000	4.65e+03	4.60e+03	4.62e+03	1.08	86.00	40.00	n/a
S96T005976		F Uranium by Phosphorescence	ug/g	98.17	2.030	1.74e+02	187.0	180.5	7.20	90.89	1.840	1.40E+00
S96T005977		F Technetium-99 Lig. Scint.	uCi/g	107.5	3.76e-03	1.41e-01	1.28e-01	1.35e-01	9.67	n/a	4.00e-03	2.66E+00
S96T005978		F Strontium-89/90 High Level	uCi/g	101.8	7.70e-02	33.80	34.70	34.25	2.63	n/a	2.10e-02	7.71E-01
S96T005979		F Pu-239/240 by TRU-SPEC Resin	uCi/g	98.72	41.40e-02	3.59e-03	3.71e-03	3.65e-03	3.29	n/a	2.00e-03	4.5E+00
S96T005975		F Pu-239/240 by GEA	uCi/g	98.62	44.31e-02	3.57e-02	3.41e-02	3.49e-02	4.58	n/a	2.60e-02	n/a
S96T005975		F Cesium-137 by GEA	uCi/g	n/a	46.59e-02	9.03e-02	1.00e-01	n/a	n/a	n/a	9.00e-02	n/a
S96T005975		F Europium-154 by GEA	uCi/g	n/a	5.79e-02	46.72e-01	46.55e-1	n/a	n/a	n/a	6.72e-01	n/a
S96T005975		F Americium-241 by GEA	uCi/g	n/a	1.07e-01	< 1.413	<1.35e0	n/a	n/a	n/a	1.413	n/a
S96T005975		F Am-241 by Extraction	uCi/g	94.96	32.68e-03	1.88e-02	1.96e-02	1.92e-02	4.17	n/a	4.00e-03	2.3E+00
S96T005975		F Cm-243/244 by Extraction	uCi/g	n/a	22.68e-03	33.99e-03	33.77e-3	n/a	n/a	n/a	4.00e-03	9.5E+00
S96T005975		F Alpha of Digested Solid	uCi/g	84.35	33.31e-02	33.93e-02	31.96E-2	n/a	n/a	71.87	4.00e-02	2.53E+02
S96T005975		F Beta of Solid Sample	uCi/g	100.3	39.47e-02	4.15e+02	385.0	400.0	7.50	94.04	1.27e-01	4.01E-01
S96T005976		A Silver - ICP-Acid Digest	ug/g	70.20	41.00e-02	14.20	13.50	13.85	5.05	n/a	3.980	n/a
S96T005976		A Aluminum - ICP-Acid Digest	ug/g	72.20	1.22e-01	2.06e+04	2.09e+04	2.08e+04	1.45	n/a	19.90	n/a
S96T005976		A Arsenic - ICP-Acid Digest	ug/g	72.40	41.00e-01	39.80	38.81	n/a	n/a	n/a	39.80	n/a
S96T005976		A Boron - ICP-Acid Digest	ug/g	95.80	6.51e-01	1.33e+02	158.0	145.5	17.2	n/a	19.90	n/a
S96T005976		A Barium - ICP-Acid Digest	ug/g	70.60	55.00e-02	< 19.90	<1.99e1	n/a	n/a	n/a	19.90	n/a
S96T005976		A Beryllium - ICP-Acid Digest	ug/g	73.40	55.00e-03	< 1.990	<3.981	n/a	n/a	n/a	1.990	n/a
S96T005976		A Bismuth - ICP-Acid Digest	ug/g	70.80	41.00e-01	39.80	38.81	n/a	n/a	n/a	39.80	n/a
S96T005976		A Calcium - ICP-Acid Digest	ug/g	79.00	6.21e-01	2.69e+02	218.0	243.5	20.9	n/a	39.80	n/a
S96T005976		A Cadmium - ICP-Acid Digest	ug/g	69.80	55.00e-03	13.20	12.60	12.90	4.65	n/a	1.990	n/a
S96T005976		A Cerium - ICP-Acid Digest	ug/g	74.80	41.00e-01	39.80	38.81	n/a	n/a	n/a	39.80	n/a
S96T005976		A Cobalt - ICP-Acid Digest	ug/g	73.60	42.00e-02	< 7.950	<7.96e0	n/a	n/a	n/a	7.960	n/a
S96T005976		A Chromium - ICP-Acid Digest	ug/g	71.00	41.00e-02	2.10e+03	1.89e+03	2.00e+03	10.5	n/a	3.980	n/a
S96T005976		A Copper - ICP-Acid Digest	ug/g	71.80	41.00e-02	5.320	5.020	5.170	5.80	n/a	3.980	n/a
S96T005976		A Iron - ICP-Acid Digest	ug/g	70.60	55.00e-02	1.04e+02	94.90	99.45	9.15	n/a	19.90	n/a
S96T005976		A Potassium - ICP-Acid Digest	ug/g	69.80	55.00e-01	3.63e+03	3.81e+03	3.72e+03	4.84	n/a	199.0	n/a
S96T005976		A Lanthanum - ICP-Acid Digest	ug/g	72.80	55.00e-02	< 19.90	<1.99e1	n/a	n/a	n/a	19.90	n/a
S96T005976		A Lithium - ICP-Acid Digest	ug/g	70.60	41.00e-01	16.40	13.60	15.00	18.7	n/a	3.980	n/a
S96T005976		A Magnesium - ICP-Acid Digest	ug/g	70.00	41.00e-01	39.80	38.81	n/a	n/a	n/a	39.80	n/a
S96T005976		A Manganese - ICP-Acid Digest	ug/g	68.60	41.00e-02	22.10	19.60	20.85	12.0	n/a	3.980	n/a
S96T005976		A Molybdenum - ICP-Acid Digest	ug/g	81.40	55.00e-02	43.30	43.50	43.40	0.46	n/a	19.90	n/a
S96T005976		A Sodium - ICP-Acid Digest	ug/g	88.60	9.19e-01	1.96e+05	1.88e+05	1.92e+05	3.66	n/a	39.80	n/a
S96T005976		A Neodymium - ICP-Acid Digest	ug/g	71.40	41.00e-01	39.80	38.81	n/a	n/a	n/a	39.80	n/a
S96T005976		A Nickel - ICP-Acid Digest	ug/g	72.20	42.00e-02	79.50	79.50	75.00	12.0	n/a	7.960	n/a
S96T005976		A Phosphorus - ICP-Acid Digest	ug/g	82.60	55.00e-01	1.00e+03	790.0	895.0	23.5	n/a	79.60	n/a
S96T005976		A Lead - ICP-Acid Digest	ug/g	68.20	41.00e-01	42.10	41.90	42.00	0.48	n/a	39.80	n/a

Sample#	R#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S961005976	A	Sulfur - ICP-Acid Digest	ug/g	80.40	<1.00e-01	4.22e+03	3.74e+03	3.98e+03	12.1	n/a	39.80	n/a
S961005976	A	Antimony - ICP-Acid Digest	ug/g	80.40	<6.00e-02	< 23.90	<2.39e-1	n/a	n/a	n/a	23.80	n/a
S961005976	A	Antimony - ICP-Acid Digest	ug/g	68.00	<1.00e-01	< 39.80	<3.98e-1	n/a	n/a	n/a	39.80	n/a
S961005976	A	Selenium - ICP-Acid Digest	ug/g	151.2	1.940	6.88e+02	835.0	761.5	19.3	n/a	19.90	n/a
S961005976	A	Silicon - ICP-Acid Digest	ug/g	70.20	<1.00e-01	< 39.80	<3.98e-1	n/a	n/a	n/a	39.80	n/a
S961005976	A	Samarium - ICP-Acid Digest	ug/g	70.40	<1.00e-02	< 3.980	<3.98e0	n/a	n/a	n/a	3.980	n/a
S961005976	A	Strontium - ICP-Acid Digest	ug/g	75.20	<1.00e-02	< 3.980	<3.98e0	n/a	n/a	n/a	3.980	n/a
S961005976	A	Titanium - ICP-Acid Digest	ug/g	67.60	<2.00e-01	< 179.50	<1.96e1	n/a	n/a	n/a	79.60	n/a
S961005976	A	Thallium - ICP-Acid Digest	ug/g	69.80	<5.00e-01	<1.99e+02	<1.99e2	n/a	n/a	n/a	199.0	n/a
S961005976	A	Uranium - ICP-Acid Digest	ug/g	71.60	<5.00e-02	< 19.90	<1.99e-1	n/a	n/a	n/a	19.90	n/a
S961005976	A	Vanadium - ICP-Acid Digest	ug/g	70.00	<2.80e-02	19.20	14.40	16.80	28.6	n/a	3.980	n/a
S961005976	A	Zinc - ICP-Acid Digest	ug/g	83.20	<1.00e-02	17.60	16.10	16.85	8.90	n/a	3.980	n/a
S961005976	A	Zirconium - ICP-Acid Digest	ug/g	104.8	<4.3.00	2.03e+02	197.0	200.0	3.00	108.0	2.45e+04	n/a
S961005977	W	Chromium (VI) by Spec.	ug/g	107.0	<24500.0	3.61e+04	3.82e+04	3.72e+04	7.38	69.19	160.6	n/a
S961005977	W	OH- By Pot. Titration	ug/g	83.87	5.40e-02	6.13e+02	660.0	636.4	7.38	95.83	168.7	n/a
S961005977	W	Formate by IC-DIONEX 4000/4500	ug/g	95.83	2.20e-01	5.32e+02	702.0	732.3	38.3	109.7	96.39	n/a
S961005977	W	Fluoride-IC-Dionex 4000/4500	ug/g	98.64	<1.20e-02	7.63e+02	784.0	658.2	38.3	102.5	136.5	n/a
S961005977	W	Chloride-IC-Dionex 4000/4500	ug/g	105.4	1.80e-02	4.02e+03	4.15e+03	4.08e+03	3.18	102.5	136.5	n/a
S961005977	W	Nitrite-IC - Dionex 4000/4500	ug/g	88.38	<1.08e-01	5.79e+04	5.82e+04	5.80e+04	0.52	106.6	867.6	n/a
S961005977	W	Bromide by Ion Chromatograph	ug/g	97.79	<1.25e-01	1.14e+03	<9.76e2	n/a	n/a	n/a	96.77	1.00e+03
S961005977	W	Nitrate by IC-Dionex 4000/4500	ug/g	99.16	4.13e-01	1.02e+05	1.00e+05	1.01e+05	1.98	120.0	1.12e+03	n/a
S961005977	W	Phosphate by IC-Dionex 4000/4500	ug/g	101.3	<1.20e-01	3.52e+03	3.13e+03	3.34e+03	12.9	100.0	963.9	n/a
S961005977	W	Sulfate by IC-Dionex 4000/4500	ug/g	100.8	<1.38e-01	1.17e+04	1.15e+04	1.16e+04	1.72	100.0	1.11e+03	n/a
S961005977	W	Oxalate-IC-Dionex 4000/4500	ug/g	101.5	<1.05e-01	9.78e+03	9.55e+03	9.67e+03	2.38	101.3	843.4	n/a
S961005977	W	Iodine-129 Waste Tank Samples	uci/g	80.42	<3.27e-03	<2.77e-3	<2.76E-3	n/a	n/a	n/a	3.00e-03	0.00E+00
S961005977	W	Tritium By Lachat	uci/g	97.28	3.00e-03	9.71e-03	1.05e-02	1.01e-02	7.82	n/a	1.00e-03	3.34E+00

Table 1. Data Summary Report
AN-104

CORE NUMBER: 164
SEGMENT #: Drainable Liquid Composite
SEGMENT PORTION: Core Composite

Sample#	R #	Analyte	Unit	Standard	%	Blank	Result	Duplicate	Average	RPD	Spk Rec	Det Limit	Count	Err%
S96T005971		Volume % Solids	%			n/a	0.0e+00	n/a	n/a	n/a	n/a	n/a	n/a	n/a
S96T005978		DSC Exotherm DRY	Joules/g	102.8	n/a	n/a	37.90	39.70	38.80	4.64	n/a	n/a	n/a	n/a
S96T005978		PSC Exotherm on Perkin Elmer	Joules/g	98.52	n/a	n/a	18.50	19.40	18.95	4.75	n/a	n/a	n/a	n/a
S96T005978		% Water by TGA on Perkin Elmer	%	99.67	n/a	n/a	50.86	51.37	51.11	1.00	n/a	n/a	n/a	n/a
S96T005978		TIC by GC/Coulometry	ug/mL	84.35	2.500	2.500	2.28e+03	2.16e+03	10.6	n/a	n/a	5,000	n/a	n/a
S96T005978		TIC by GC/Coulometry	ug/mL	94.67	4.400	4.400	4.0e+03	2.77e+03	3.40e+03	37.3	n/a	40.00	n/a	n/a
S96T005978		TOC by Persulfate/Coulometry	uCi/mL	84.35	2.30e-02	2.30e-02	2.76e-02	2.19e-02	2.48e-02	23.0	80.22	1.60e-02	7.61E+01	n/a
S96T005978		Alpha in Liquid Samples	ug/mL	97.40	< 1.00e-02	< 1.00e-02	< 12.00	< 1.20e1	4.09e+04	3.84	83.30	12.00	n/a	n/a
S96T005979		D Silver-ICP-Acid Dil.	ug/mL	96.40	< 5.00e-02	< 5.00e-02	4.25e+04	< 1.20e2	4.17e+04	3.84	55.20	60.10	n/a	n/a
S96T005979		D Aluminum-ICP-Acid Dil.	ug/mL	99.20	< 1.00e-01	< 1.00e-01	< 1.20e+02	< 1.20e2	n/a	n/a	98.40	120.0	n/a	n/a
S96T005979		D Arsenic-ICP-Acid Dil.	ug/mL	98.60	< 5.00e-02	< 5.00e-02	< 60.10	< 6.01e1	n/a	n/a	103.0	60.10	n/a	n/a
S96T005979		D Boron-ICP-Acid Dil.	ug/mL	98.40	< 5.00e-02	< 5.00e-02	< 60.10	< 6.01e1	n/a	n/a	100.0	60.10	n/a	n/a
S96T005979		D Barium-ICP-Acid Dil.	ug/mL	101.2	< 5.00e-03	< 5.00e-03	< 6.000	< 6.00e0	n/a	n/a	100.0	6,000	n/a	n/a
S96T005979		D Beryllium-ICP-Acid Dil.	ug/mL	104.0	< 5.00e-01	< 5.00e-01	< 1.20e+02	< 1.20e2	n/a	n/a	106.0	120.0	n/a	n/a
S96T005979		D Bismuth-ICP-Acid Dil.	ug/mL	94.00	< 1.00e-01	< 1.00e-01	< 1.20e+02	< 1.20e2	n/a	n/a	94.40	120.0	n/a	n/a
S96T005979		D Calcium-ICP-Acid Dil.	ug/mL	97.20	< 6.00e-03	< 6.00e-03	< 6.000	< 6.00e0	n/a	n/a	98.90	6,000	n/a	n/a
S96T005979		D Cadmium-ICP-Acid Dil.	ug/mL	99.80	< 1.00e-01	< 1.00e-01	< 1.20e+02	< 1.20e2	n/a	n/a	105.0	120.0	n/a	n/a
S96T005979		D Cerium-ICP-Acid Dil.	ug/mL	98.60	< 2.00e-02	< 2.00e-02	75.20	67.30	71.25	11.1	101.0	24.00	n/a	n/a
S96T005979		D Cobalt-ICP-Acid Dil.	ug/mL	96.40	< 1.00e-02	< 1.00e-02	3.65e+02	357.0	361.0	2.22	98.50	12.00	n/a	n/a
S96T005979		D Chromium-ICP-Acid Dil.	ug/mL	99.00	< 1.00e-02	< 1.00e-02	< 12.00	< 1.20e1	n/a	n/a	100.0	12.00	n/a	n/a
S96T005979		D Copper-ICP-Acid Dil.	ug/mL	99.40	< 5.00e-02	< 5.00e-02	< 60.10	< 6.01e1	n/a	n/a	93.80	60.10	n/a	n/a
S96T005979		D Iron-ICP-Acid Dil.	ug/mL	96.60	< 5.00e-01	< 5.00e-01	7.02e+03	6.77e+03	6.90e+03	3.63	88.00	600.0	n/a	n/a
S96T005979		D Potassium-ICP-Acid Dil.	ug/mL	97.00	< 5.00e-02	< 5.00e-02	< 60.10	< 6.01e1	n/a	n/a	98.00	60.10	n/a	n/a
S96T005979		D Lanthanum-ICP-Acid Dil.	ug/mL	95.20	< 1.00e-02	< 1.00e-02	< 12.00	< 1.20e1	n/a	n/a	91.90	12.00	n/a	n/a
S96T005979		D Lithium-ICP-Acid Dil.	ug/mL	97.00	< 1.00e-02	< 1.00e-02	< 1.20e+02	< 1.20e2	n/a	n/a	98.50	120.0	n/a	n/a
S96T005979		D Magnesium-ICP-Acid Dil.	ug/mL	97.40	< 1.00e-02	< 1.00e-02	< 12.00	< 1.20e1	n/a	n/a	99.40	12.00	n/a	n/a
S96T005979		D Manganese-ICP-Acid Dil.	ug/mL	98.80	< 5.00e-02	< 5.00e-02	88.90	85.00	86.95	4.49	101.0	60.10	n/a	n/a
S96T005979		D Molybdenum-ICP-Acid Dil.	ug/mL	95.60	< 1.00e-01	< 1.00e-01	2.67e+05	2.35e+05	2.61e+05	4.60	3.280e2	120.0	n/a	n/a
S96T005979		D Sodium-ICP-Acid Dil.	ug/mL	99.40	< 1.00e-02	< 1.00e-02	< 1.20e+02	< 1.20e2	n/a	n/a	98.90	120.0	n/a	n/a
S96T005979		D Neodymium-ICP-Acid Dil.	ug/mL	96.20	< 2.00e-02	< 2.00e-02	< 24.00	< 2.40e1	n/a	n/a	98.40	24.00	n/a	n/a
S96T005979		D Nickel-ICP-Acid Dil.	ug/mL	102.0	< 2.00e-01	< 2.00e-01	1.06e+03	995.0	1.03e+03	6.33	101.0	240.0	n/a	n/a
S96T005979		D Phosphorus-ICP-Acid Dil.	ug/mL	97.00	< 1.00e-01	< 1.00e-01	1.22e+03	1.18e+03	1.20e+03	3.33	101.0	120.0	n/a	n/a
S96T005979		D Lead-ICP-Acid Dil.	ug/mL	97.00	< 1.00e-02	< 1.00e-02	< 72.10	< 7.21e1	n/a	n/a	109.0	72.10	n/a	n/a
S96T005979		D Sulphur-ICP-Acid Dil.	ug/mL	105.2	< 6.00e-02	< 6.00e-02	< 1.20e+02	< 1.20e2	n/a	n/a	95.40	120.0	n/a	n/a
S96T005979		D Antimony-ICP-Acid Dil.	ug/mL	99.20	< 5.00e-02	< 5.00e-02	4.11e+02	3.67.0	379.0	16.9	108.0	60.10	n/a	n/a
S96T005979		D Selenium-ICP-Acid Dil.	ug/mL	100.2	< 1.00e-01	< 1.00e-01	< 1.20e+02	< 1.20e2	n/a	n/a	97.00	120.0	n/a	n/a
S96T005979		D Samarium-ICP-Acid Dil.	ug/mL	99.20	< 1.00e-02	< 1.00e-02	< 12.00	< 1.20e1	n/a	n/a	102.0	12.00	n/a	n/a
S96T005979		D Strontium-ICP-Acid Dil.	ug/mL	93.40	< 1.00e-02	< 1.00e-02	< 12.00	< 1.20e1	n/a	n/a	95.60	12.00	n/a	n/a
S96T005979		D Thallium-ICP-Acid Dil.	ug/mL	101.0	< 2.00e-01	< 2.00e-01	< 2.40e+02	< 2.40e2	n/a	n/a	98.60	240.0	n/a	n/a
S96T005979		D Thallium-ICP-Acid Dil.	ug/mL	101.0	< 2.00e-01	< 2.00e-01	< 2.40e+02	< 2.40e2	n/a	n/a	92.50	600.0	n/a	n/a
S96T005979		D Uranium-ICP-Acid Dil.	ug/mL	100.0	< 5.00e-02	< 5.00e-02	< 60.10	< 6.01e1	n/a	n/a	102.0	60.10	n/a	n/a
S96T005979		D Vanadium-ICP-Acid Dil.	ug/mL	100.0	< 1.00e-02	< 1.00e-02	< 12.00	< 1.20e1	n/a	n/a	102.0	12.00	n/a	n/a
S96T005979		D Zinc-ICP-Acid Dil.	ug/mL	100.8	< 1.00e-02	< 1.00e-02	< 12.00	< 1.20e1	n/a	n/a	103.0	12.00	n/a	n/a
S96T005979		D Zirconium-ICP-Acid Dil.	ug/mL											

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T005979		Acetate by IC-Dionex 4000/4500	ug/mL	96.77	<2.00e-02	1.77e+03	1.99e+03	1.88e+03	11.7	116.9	406.0	n/a
S96T005979		Formate by Ion Chromatograph	ug/mL	94.17	<2.10e-02	3.45e+03	3.43e+03	3.44e+03	0.58	100.0	426.3	n/a
S96T005979		Fluoride-IC-Dionex 4000/4500	ug/mL	111.5	<1.20e-02	<1.22e+02	<1.22e+02	n/a	n/a	86.27	122.4	n/a
S96T005979		Chloride-IC-Dionex 4000/4500	ug/mL	99.37	<1.70e-02	9.62e+03	9.30e+03	9.46e+03	3.38	93.42	173.4	n/a
S96T005979		Nitrite-IC - Dionex 4000/4500	ug/mL	94.47	<1.08e-01	1.32e+05	1.29e+05	1.31e+05	2.30	96.86	1.10e+03	n/a
S96T005979		Bromide by Ion Chromatograph	ug/mL	96.27	<1.25e-01	1.52e+05	1.58e+05	1.55e+05	3.87	94.57	1.28e+03	n/a
S96T005979		Nitrate by IC-Dionex 4000/4500	ug/mL	99.83	<1.39e-01	2.07e+05	2.06e+05	2.07e+05	0.48	102.0	1.42e+03	n/a
S96T005979		Phosphate-IC-Dionex 4000/4500	ug/mL	98.16	<1.20e-01	3.98e+03	3.61e+03	3.80e+03	9.75	95.22	1.22e+03	n/a
S96T005979		Sulfate by IC-Dionex 4000/4500	ug/mL	104.1	<1.38e-01	2.12e+03	2.50e+03	2.31e+03	16.5	102.1	1.41e+03	n/a
S96T005979		Oxalate-IC-Dionex 4000/4500	ug/mL	105.4	<1.05e-01	<1.07e+03	<1.07e+03	n/a	n/a	105.8	1.07e+03	n/a
S96T005979		Cobalt-60 by GEA	uCi/mL	99.05	<9.14e-03	<1.67e+02	<1.59e+02	n/a	n/a	n/a	1.70e+02	n/a
S96T005979		Cesium-137 by GEA	uCi/mL	97.39	<2.91e-02	5.72e+02	5.68.0	570.0	0.70	n/a	n/a	0.210
S96T005979		Europium-154 by GEA	uCi/mL	n/a	<3.44e-02	<1.28e+01	<1.23e+01	n/a	n/a	n/a	1.28e+01	n/a
S96T005979		Europium-155 by GEA	uCi/mL	n/a	<3.60e-02	<6.57e+01	<6.54e+01	n/a	n/a	n/a	6.57e+01	n/a
S96T005979		Americium-241 by GEA	uCi/mL	n/a	<6.90e-02	<1.364	<1.3560	n/a	n/a	n/a	1.364	n/a
S96T005979		Beta in Liquid Samples	uCi/mL	79.56	<2.57e-02	<2.57e+02	2.59e+02	211.0	495.5	80.22	3.00e+02	5.00e+02
S96T005980		Chromium (VI) by Spec.	ug/mL	100.6	<2.20e-01	2.14e+02	2.11.0	212.5	1.41	100.7	22.18	3.32e-01
S96T005980		Strontium-89/90 High Level	uCi/mL	103.6	<2.52e-01	3.34e+01	3.42e+01	3.38e+01	2.37	n/a	2.80e+02	1.26e+01
S96T005980		Pu-239/240 by TRU-SPEC Resin	uCi/mL	91.28	<1.82e-04	<3.51e+04	<3.43e+04	n/a	n/a	n/a	1.74e+04	1.00e+02
S96T005980		Am-241 by Extraction	uCi/mL	91.60	<2.93e-04	<3.51e+04	<3.43e+04	n/a	n/a	n/a	3.51e+04	1.00e+02
S96T005980		Cm-243/244 by Extraction	uCi/mL	101.0	<2.93e-04	<3.51e+04	<3.43e+04	n/a	n/a	n/a	3.51e+04	1.00e+02
S96T005981		OH- by Pot. Titration	ug/mL	101.0	<42.00	7.14e+04	7.04e+04	7.09e+04	1.41	n/a	5.00e+03	n/a
S96T005981		Specific Gravity	Sp.-G.	99.89	n/a	1.411	1.401	1.406	0.71	n/a	1.00e+03	n/a
S96T005981		Uranium by Phosphorescence	ug/mL	94.91	4.00e-03	3.300	4.060	3.680	20.7	78.14	4.10e+02	1.38e+00
S97T000022		Techium-99 Lig. Scint.	uCi/mL	89.33	<9.46e+06	2.22e+04	2.17e+04	2.19e+04	2.28	n/a	9.62e+06	3.32e+00
S97T000022		Iodine-129 Waste Tank Samples	uCi/mL	72.92	<1.17e-05	1.93e+04	2.22e+04	2.08e+04	14.0	n/a	1.07e+05	4.05e+00
S97T000389		Tritium By Lachet	uCi/mL	99.55	<4.02e-05	1.59e+03	1.43e+03	1.51e+03	10.6	95.81	4.05e+05	2.17e+00

HNF-SD-WM-DP-226, REV. 0

CORE COMPOSITE WORKSHEETS

HNF-SD-WM-DP-226, REV. 0

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Final Composite Calculation SheetDate: 12/6/96 Technician: DAVE R JacksonTotal number of jars used to build the composite: 12Composite Jar number: 11561 Jar size: 250

- 1) Sample from segment jar 11164 to composite jar = 20.7 grams
- 2) Sample from segment jar 11081 to composite jar = 21.0 grams
- 3) Sample from segment jar 11091 to composite jar = 15.0 grams
- 4) Sample from segment jar 11217 to composite jar = 16.9 grams
- 5) Sample from segment jar 10977 to composite jar = 17.3 grams
- 6) Sample from segment jar 10989 to composite jar = 8.1 grams
- 7) Sample from segment jar 11143 to composite jar = 18.3 grams
- 8) Sample from segment jar 11177 to composite jar = 20.0 grams
- 9) Sample from segment jar 11185 to composite jar = 21.4 grams
- 10) Sample from segment jar 10986 to composite jar = 23.8 grams
- 11) Sample from segment jar 10990 to composite jar = 22.8 grams
- 12) Sample from segment jar 11097 to composite jar = 21.7 grms
- 13) Sample from segment jar DE 3 to composite jar = grams
- 14) ~~Sample from segment jar 12-6-26 to composite jar = grms~~

Total grams collected in composite jar # 11561 = 227.0 grams

Composite & Calculation Sheet

Date: 12/6/66 Technician: DAVE R. JACKSON1) Segment jar # 11164:

$$\frac{20.7 \text{ grams from segment jar to composite jar}}{227.0 \text{ Total grams in composite jar}} \times 100 = \underline{9.1} \%$$

2) Segment jar # 11081:

$$\frac{21.0 \text{ grams from segment jar to composite jar}}{227.0 \text{ Total grams in composite jar}} \times 100 = \underline{9.3} \%$$

3) Segment jar # 11091:

$$\frac{15.0 \text{ grams from segment jar to composite jar}}{227.0 \text{ Total grams in composite jar}} \times 100 = \underline{6.6} \%$$

4) Segment jar # 11093-11717

$$\frac{16.9 \text{ grams from segment jar to composite jar}}{227.0 \text{ Total grams in composite jar}} \times 100 = \underline{7.4} \%$$

5) Segment jar # 10977:

$$\frac{17.3 \text{ grams from segment jar to composite jar}}{227.0 \text{ Total grams in composite jar}} \times 100 = \underline{7.6} \%$$

6) Segment jar # 10989:

$$\frac{8.1 \text{ grams from segment jar to composite jar}}{227.0 \text{ Total grams in composite jar}} \times 100 = \underline{3.6} \%$$

7) Segment jar # 11143:

$$\frac{18.3 \text{ grams from segment jar to composite jar}}{227.0 \text{ Total grams in composite jar}} \times 100 = \underline{8.1} \%$$

8) Segment jar # 11177:

$$\frac{20.0 \text{ grams from segment jar to composite jar}}{227.0 \text{ Total grams in composite jar}} \times 100 = \underline{8.8} \%$$

9) Segment jar # 11185:

$$\frac{21.4 \text{ grams from segment jar to composite jar}}{227.0 \text{ Total grams in composite jar}} \times 100 = \underline{9.4} \%$$

10) Segment jar # 10986:

$$\frac{23.8 \text{ grams from segment jar to composite jar}}{227.0 \text{ Total grams in composite jar}} \times 100 = \underline{10.5} \%$$

- 11) Segment jar # 10990:
 $\frac{22.8 \text{ grams from segment jar to composite jar}}{227.0 \text{ Total grams in composite jar}} \times 100 = \underline{10.0} \%$
- 12) Segment jar # 11097:
 $\frac{21.7 \text{ grams from segment jar to composite jar}}{227.0 \text{ Total grams in composite jar}} \times 100 = \underline{9.6} \%$
- 13) Segment jar # 012:
 $\frac{\text{grams from segment jar to composite jar}}{\text{Total grams in composite jar}} \times 100 = \underline{\quad} \%$
12-6-96

Chemist review: _____ Date: _____

Composite - Liquid Worksheet

ate: 12/04/96
 ank: AD104

P.C. Stan

Phone# 372-2495

Sample

ID: 5961004961
 (Seg 5)

Sample

ID: 5961004967
 (Seg 7)

Sample

ID: 5961004962
 (Seg 8)

Sample

ID: 5961004963
 (Seg 9)

Jar#: 10977 (parent)

Jar/Mial Size: 125 mL

Initial Weight: 146.9 g

Final Weight: 149.2 g

Net Weight: 17.7 g

Jar#: 10989 (parent)

Jar/Mial Size: 125 mL

Initial Weight: 143.5 g

Final Weight: 135.2 g

Net Weight: 8.3 g

Jar#: 11143 (parent)

Jar/Mial Size: 125 mL

Initial Weight: 159.0 g

Final Weight: 146.6 g

Net Weight: 18.4 g

Jar#: 11177 (parent)

Jar/Mial Size: 250 mL

Initial Weight: 562.3 g

Final Weight: 231.0 g

Net Weight: 333.3 g*

See Parent

Jar# 11561

on Page #1

Special Instructions:

* Spilled Jar - could not recover any sample!

Composite - Liquid Worksheet

Date: 12/04/96
 Tank: AW104

P.C. Sean
 Phone# 372-249

Sample
 15ml
 ID: 5961004964
 (Seg 10)

Sample
 15ml
 ID: 5961004768
 (Seg 11)

Sample
 15ml
 ID: 5961004769
 (Seg 12)

Sample
 15ml
 ID: 5961004770
 (Seg 13)

Jar#: 11185 (Parent)
 Jar/Vial Size: 250 ml
 Initial Weight: 512.5 g
 Final Weight: 482.5 g
 Net Weight: 30.0 g

Jar#: 10986 (Parent)
 Jar/Vial Size: 125 ml
 Initial Weight: 159.7 g
 Final Weight: 131.2 g
 Net Weight: 28.5 g

Jar#: 10990 (Parent)
 Jar/Vial Size: 125 ml
 Initial Weight: 176.4 g
 Final Weight: 152.2 g
 Net Weight: 24.2 g

Jar#: 11097
 Jar/Vial Size: 250 ml
 Initial Weight: 469.8 g
 Final Weight: 441.0 g
 Net Weight: 28.8 g

See Parent
 Jar# 11561
 on Page #1

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Special Instructions:

Final Composite Calculation Sheet

Date: 12/5/96 Technician: A. J. L. L. L.Total number of jars used to build the composite: 13Composite Jar number: 11566 Jar size: 250 ml

- 1) Sample from segment jar 11347 to composite jar = 20.7 grams
- 2) Sample from segment jar 11147 to composite jar = 19.1 grams
- 3) Sample from segment jar 11369 to composite jar = 20.3 grams
- 4) Sample from segment jar 11183 to composite jar = 24.7 grams
- 5) Sample from segment jar 11187 to composite jar = 19.6 grams
- 6) Sample from segment jar 11172 to composite jar = 19.7 grams
- 7) Sample from segment jar 11171 to composite jar = 25.8 grams
- 8) Sample from segment jar 11379 to composite jar = 18.7 grams
- 9) Sample from segment jar 11184 to composite jar = 19.7 grams
- 10) Sample from segment jar 11178 to composite jar = 18.3 grams
- 11) Sample from segment jar 11170 to composite jar = 19.4 grams
- 12) Sample from segment jar 11190 to composite jar = 21.0 grms
- 13) Sample from segment jar 11191 to composite jar = 24.3 grams
- 14) Sample from segment jar — to composite jar = — grms

Total grams collected in composite jar # 11566 = 271.3 grams

Composite % Calculation Sheet

Date: 12/8/96 Technician: Ad. P. L. T.

- 1) Segment jar # 11347:

$$\frac{20.7 \text{ grams from segment jar to composite jar}}{271.3 \text{ Total grams in composite jar}} \times 100 = \underline{7.6} \%$$
- 2) Segment jar # 11147:

$$\frac{19.1 \text{ grams from segment jar to composite jar}}{271.3 \text{ Total grams in composite jar}} \times 100 = \underline{7.0} \%$$
- 3) Segment jar # 11369:

$$\frac{20.3 \text{ grams from segment jar to composite jar}}{271.3 \text{ Total grams in composite jar}} \times 100 = \underline{7.5} \%$$
- 4) Segment jar # 11183:

$$\frac{24.7 \text{ grams from segment jar to composite jar}}{271.3 \text{ Total grams in composite jar}} \times 100 = \underline{9.1} \%$$
- 5) Segment jar # 11187:

$$\frac{19.6 \text{ grams from segment jar to composite jar}}{271.3 \text{ Total grams in composite jar}} \times 100 = \underline{7.2} \%$$
- 6) Segment jar # 11172:

$$\frac{19.7 \text{ grams from segment jar to composite jar}}{271.3 \text{ Total grams in composite jar}} \times 100 = \underline{7.3} \%$$
- 7) Segment jar # 11171:

$$\frac{25.8 \text{ grams from segment jar to composite jar}}{271.3 \text{ Total grams in composite jar}} \times 100 = \underline{9.5} \%$$
- 8) Segment jar # 11379:

$$\frac{18.7 \text{ grams from segment jar to composite jar}}{271.3 \text{ Total grams in composite jar}} \times 100 = \underline{6.9} \%$$
- 9) Segment jar # 11184:

$$\frac{19.7 \text{ grams from segment jar to composite jar}}{271.3 \text{ Total grams in composite jar}} \times 100 = \underline{7.3} \%$$
- 10) Segment jar # 11178:

$$\frac{18.3 \text{ grams from segment jar to composite jar}}{271.3 \text{ Total grams in composite jar}} \times 100 = \underline{6.7} \%$$

- 11) Segment jar # 11170 :
 $\frac{19.4 \text{ grams from segment jar to composite jar}}{271.3 \text{ Total grams in composite jar}} \times 100 = \underline{7.2} \%$
- 12) Segment jar # 11190 :
 $\frac{21.0 \text{ grams from segment jar to composite jar}}{271.3 \text{ Total grams in composite jar}} \times 100 = \underline{7.7} \%$
- 13) Segment jar # 11191 :
 $\frac{24.3 \text{ grams from segment jar to composite jar}}{271.3 \text{ Total grams in composite jar}} \times 100 = \underline{9.0} \%$

Chemist review: _____ Date: _____

Composite Worksheet

Date: 12/04/96

Tank: AN104

Sample (parent jar)
ID: 59167004777
Auger/
Core: 1164
Segment: 134H

Jar#: 11347 (Bin 80)
Jar/Vial Size: 60 mL
Initial Weight: 147.5 g
Final Weight: 123.4 g
Net Weight: 24.1 g

Sample (parent jar)
ID: 59167004965
Auger/
Core: 1164
Segment: 144H

Jar#: 11147 (Floor)
Jar/Vial Size: 125 mL
Initial Weight: 185.3 g
Final Weight: 165.7 g
Net Weight: 19.6 g

Sample (parent jar)
ID: 59167004966
Auger/
Core: 1164
Segment: 144H

Jar#: 11154 (Floor)
Jar/Vial Size: 125 mL
Initial Weight: 197.8 g
Final Weight: 161.3 g
Net Weight: 36.5 g

Sample (parent jar)
ID: 59167004968
Auger/
Core: 1164
Segment: 154H

Jar#: 11183 (Floor)
Jar/Vial Size: 250 mL
Initial Weight: 316.3 g
Final Weight: 289.6 g
Net Weight: 26.7 g

Start Time: _____
End Time: _____
Tests: Combsol
HOMGEN
BLDERO

Jar#: 11566
Jar/Vial Size: 250 mL
Final Weight: 491.7 g
Initial Weight: 225.4 g
Net Weight: 271.3 g

Homogenization
Time (Min.): _____

Special Instructions: Composites using weights listed above.

(after final
subsample added)

HNF-SD-WM-DP-226, REV. 0

Composite Worksheet

Date: 12/04/96

Bank: ANU04

Sample (parent jar):

ID: 5967004967

Auger:

Core: 1164

Segment: 1524

Jar/Vial Size: 250 mL

Initial Weight: 283.2 g

Final Weight: 262.3 g

Net Weight: 19.9 g

Sample (parent jar):

ID: 5967004970

Auger:

Core: 1164

Segment: 1164

Jar/Vial Size: 250 mL

Initial Weight: 304.2 g

Final Weight: 283.8 g

Net Weight: 20.4 g

Sample (parent jar):

ID: 5967004969

Auger:

Core: 1164

Segment: 1164

Jar/Vial Size: 250 mL

Initial Weight: 325.5 g

Final Weight: 295.2 g

Net Weight: 30.3 g

Sample (parent jar):

ID: 5967005000

Auger:

Core: 1164

Segment: 1764

Jar/Vial Size: 60 mL

Initial Weight: 177.6 g

Final Weight: 152.9 g

Net Weight: 20.7 g

P.C. Steen

Phone# 372-2495

Sample (parent jar):

ID: 5967005000

Auger:

Core: 1164

Segment: 1764

Jar/Vial Size: 60 mL

Initial Weight: 177.6 g

Final Weight: 152.9 g

Net Weight: 20.7 g

See Parent

Jar# 11566

on Page #1

Special Instructions:

Page 2 of 4

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HNF-SD-WM-DP-226, REV. 0

Dec. 8, 1996

7:45PM SHC 2225 LAB ROOM 2F BACKSIDE

No. 7716

P. 15/17

Composite Worksheet

Date: 12/04/96
 Rank: AN104

Sample (parent jar)
 ID: 5967004972
 Auger/
 Core: 164
 Segment: 174H

Jar/L: 11184 (4001)
 Jar/Vial Size: 250 mL
 Initial Weight: 321.7 g
 Final Weight: 300.9 g
 Net Weight: 20.8 g

Date: 12/16/96

Sample (parent jar)
 ID: 5967004973
 Auger/
 Core: 164
 Segment: 191H

Jar/L: 11178 (4001)
 Jar/Vial Size: 250 mL
 Initial Weight: 314.5 g
 Final Weight: 295.6 g
 Net Weight: 18.9 g

Date: 12/16/96

Sample (parent jar)
 ID: 5967004974
 Auger/
 Core: 164
 Segment: 191H

Jar/L: 11170 (4001)
 Jar/Vial Size: 250 mL
 Initial Weight: 311.2 g
 Final Weight: 291.0 g
 Net Weight: 20.2 g

P.C. Steen
 Phone# 372-2495

Sample (parent jar)
 ID: 5967005222
 Auger/
 Core: 164
 Segment: 201H

Jar/L: 11190 (4001)
 Jar/Vial Size: 250 mL
 Initial Weight: 333.8 g
 Final Weight: 311.9 g
 Net Weight: 21.9 g

HNF-SD-WM-DP-226, REV. 0

See Parent
 Jar# 11566
 on Page #1

Special Instructions:

Composite Worksheet

Date: 12/04/96

Tank: A2104

Sample (parent jar):

ID: 5967005223

Auger/

Core: 164

Segment: 201A

Jar#: 11191 (g/lot)

Jar/Vial Size: 250 mL

Initial Weight: 327.6 g

Final Weight: 302.4 g

Net Weight: 25.2 g

Sample

ID:

Auger/

Core:

Segment:

Jar#:

Jar/Vial Size:

Initial Weight:

Final Weight:

Net Weight:

Sample

ID:

Auger/

Core:

Segment:

Jar#:

Jar/Vial Size:

Initial Weight:

Final Weight:

Net Weight:

Sample

ID:

Auger/

Core:

Segment:

Jar#:

Jar/Vial Size:

Initial Weight:

Final Weight:

Net Weight:

P.C. Steel

Phone# 372-2495

HNf-SD-WM-DP-226, REV. 0

See Parent

Jar# 11546

on Page #1

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Special Instructions:

Page 4 of 4

HNF-SD-WM-DP-226, REV. 0

CHAIN OF CUSTODY FORMS

HNH-SD-WM-DP-226, REV. 0

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CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

(1) Shipment Number 200W-08-TF (2) Sample Number 96-397 (3) Supervisor R. French East
 Tank AW 104 (5) Riser 10A (6) Segment 1 (7) Core 163 (8) Cask Serial Number 166

Radiation Survey Data:

Over Top Dose Rate 10.5 mR/hr

Side Dose Rate 17 mC/hr

Bottom Dose Rate 20 mC/hr

Smearable Contamination 220

(Alpha)

2200

(Beta-Gamma)

2200

(Signature)

Robert Holland

(HPT)

RCT*

(HPT)

(Signature)

2200

(Alpha)

2200

(Beta-Gamma)

2200

(Signature)

2200

(Alpha)

2200

(Beta-Gamma)

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(Signature)

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(Alpha)

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(Beta-Gamma)

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(Signature)

2200

(Alpha)

2200

(Beta-Gamma)

2200

(Signature)

2200

(Alpha)

(33) LABORATORY

A. Work Package Number 20.5

B. Cask Seal Number 20

C. Sampler Serial Number 15

D. Date and Time Sampler Unseated 2200

E. Expected Liquid Content 2200

F. Expected Solid Content 2200

G. Dose Rate Through Drill String 2200

H. Expected Sample Length 2200

(Alpha)

2200

(Beta-Gamma)

2200

(Signature)

2200

(Alpha)

2200

(Beta-Gamma)

2200

(Signature)

2200

(Alpha)

2200

(Beta-Gamma)

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(Beta-Gamma)

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(Signature)

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(Alpha)

2200

(Beta-Gamma)

2200

(Signature)

2200

(Alpha)

2200

(10) Shipment Description

A. Work Package Number ES-96-00006

B. Cask Seal Number 10323

C. Sampler Serial Number 96-006

D. Date and Time Sampler Unseated 9-9-96/0635

E. Expected Liquid Content 30%

F. Expected Solid Content 70%

G. Dose Rate Through Drill String 40 mR

H. Expected Sample Length 19"

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

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HNF-SD-WM-PP-226, REV. 0

(34) Laboratory Comments

-3 samples
 800 mls Lithium Bromide added to drill
 string.
 samples clean

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

(20) Received By (Sign and PRINT) James Sicks

(24) Received By (Sign and PRINT) James Sicks

(28) Received By (Sign and PRINT) James Sicks

(32) Received By (Sign and PRINT) James Sicks

(36) Received By (Sign and PRINT) James Sicks

(40) Received By (Sign and PRINT) James Sicks

(44) Received By (Sign and PRINT) James Sicks

(48) Received By (Sign and PRINT) James Sicks

(52) Received By (Sign and PRINT) James Sicks

(56) Received By (Sign and PRINT) James Sicks

(60) Received By (Sign and PRINT) James Sicks

(64) Received By (Sign and PRINT) James Sicks

(68) Received By (Sign and PRINT) James Sicks

(72) Received By (Sign and PRINT) James Sicks

(76) Received By (Sign and PRINT) James Sicks

(16) Date/Time 9-17-96

(20) Date/Time 9-17-96

(24) Date/Time 9-17-96

(28) Date/Time 9-17-96

(32) Date/Time 9-17-96

(36) Date/Time 9-17-96

(40) Date/Time 9-17-96

(44) Date/Time 9-17-96

(48) Date/Time 9-17-96

(52) Date/Time 9-17-96

(56) Date/Time 9-17-96

(60) Date/Time 9-17-96

(64) Date/Time 9-17-96

(68) Date/Time 9-17-96

(72) Date/Time 9-17-96

(76) Date/Time 9-17-96

(32) Seal Data Consistent with this Record?

Shipment No. 2200

Cask Seal No. 2200

Yes ☒ No ☐

Sample No. 2200

Yes ☒ No ☐

(18) Seal Intact Upon Release?

Yes ☒ No ☐

(31) Seal Intact Upon Receipt?

Yes ☒ No ☐

(32) Seal Data Consistent with this Record?

Shipment No. 2200

Cask Seal No. 2200

Yes ☒ No ☐

(32) Seal Data Consistent with this Record?

Shipment No. 2200

Cask Seal No. 2200

Yes ☒ No ☐

Sample No. 2200

Yes ☒ No ☐

DISTRIBUTION: White - Office of Sample Management Yellow - Recipient of Sample Pink - Core Sampling, S6-95 Goldentrod - Tank Farm Operations, S4-43

BC-6000-309 (02/84)

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

Shipment Number 200W087F (2) Sample Number 96-398 (3) Supervisor M.C. Jones

Tank AN-104 (5) Riser 10A (6) Segment 2 (7) Core 163 (8) Cask Serial Number C-2001

Radiation Survey Data:

Over Top Dose Rate 20.5 mR/hr
Side Dose Rate 70 mR/hr
Bottom Dose Rate 22 mR/hr
Smearable Contamination 220 (Alpha)
4,000 (Beta-Gamma)
RPT: James Holland (Signature)
RCT: MCJ (Signature)

(33) LABORATORY

20.5 mR/hr
70 mR/hr
22 mR/hr
220 (Alpha)
4,000 (Beta-Gamma)
MCJ (Signature)

(10) Shipment Description

A. Work Package Number ES-96-00006
B. Cask Seal Number 11168
C. Sampler Serial Number 96-005
D. Date and Time Sampler Unseated 9-9-96/1030
E. Expected Liquid Content 30%
F. Expected Solid Content 70%
G. Dose Rate Through Drill String 2.5 R/hr
H. Expected Sample Length 19"

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

183

HNF-SD-WM-DP-226, REV. 0

2) Field Comments

C-RAY SHOWS SAMPLER WAS FULL

(34) Laboratory Comments

(13) Point of Origin AN-104

(14) Destination RR-S

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

(16) Date/Time 9-17-96

(17) Sender Comments

(18) Relinquished By (Sign and PRINT) James Sickels

(19) Date/Time 9-17-96

(20) Receiver Comments

(21) Relinquished By (Sign and PRINT) James Sickels

(22) Date/Time 9-17-96

(23) Receiver Comments

(24) Relinquished By (Sign and PRINT) James Sickels

(25) Date/Time 9-17-96

(26) Receiver Comments

(27) Relinquished By (Sign and PRINT)

(28) Date/Time

(29) Receiver Comments

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

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

(32) Seal Data Consistent with this Record?

Sample No. ☒ Yes ☐ No

Cask Seal No. ☒ Yes ☐ No

DISTRIBUTION: White - Office of Sample Management Yellow - Recipient of Sample Pink - Core Sampling, S&B Goldenrod - Tank Farm Operations, S&B

BC-6000-308 (02/84)

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

Shipment Number 2225 LAB ROOM 28 BACKSIDE (2) Sample Number 96-400 (3) Supervisor M. C. Jones

Tank AN-104 (15) Riser 10A (6) Segment 4 (7) Core 103 (8) Cask Serial Number C-1049

(9) FIELD		(33) LABORATORY	
Over Top Dose Rate	<u>10.5 mR/HR</u>	Work Package Number	<u>E5-96-00006</u>
Side Dose Rate	<u>10 mR/HR</u>	Cask Seal Number	<u>11120</u>
Bottom Dose Rate	<u>25 mR/HR</u>	Sampler Serial Number	<u>96-010</u>
Smearable Contamination	<u>120</u>	Date and Time Sampler Unseated	<u>9-8-96 1316</u>
	(Alpha)	Expected Liquid Content	<u>30 g/g</u>
	<u>2100</u>	Expected Solid Content	<u>70 g/g</u>
	(Beta-Gamma)	Expected Rate Through Drill String	<u>2.5 R/HR</u>
	(Signature)	Expected Sample Length	<u>19"</u>

RCPT: Rubeca Holland (HPT) RCPT: HL (Signature)

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

HNFS-D-WM-DP-226, REV. 0

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(34) Laboratory Comments		(32) Seal Data Consistent with this Record?	
(16) Date/Time	(17) Sender Comments	(18) Seal Intact Upon Receipt?	(19) Seal Intact Upon Release?
(21) Date/Time	(22) Receiver Comments	(20) Yes ☒ No ☐	(21) Yes ☒ No ☐
(25) Date/Time	(26) Receiver Comments	(22) Yes ☒ No ☐	(23) Yes ☒ No ☐
(29) Date/Time	(30) Receiver Comments	(24) Yes ☒ No ☐	(25) Yes ☒ No ☐

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

(16) Received By (Sign and PRINT) James Sicks

(24) Received By (Sign and PRINT) James Sicks

(25) Received By (Sign and PRINT) James Sicks

(29) Received By (Sign and PRINT) James Sicks

(31) Field Comments

(32) Seal Data Consistent with this Record?

(33) Laboratory Comments

(34) Laboratory Comments

(35) Shipment No. 96-400 (36) Yes ☒ No ☐

(37) Cask Seal No. 11120 (38) Yes ☒ No ☐

(39) Sample No. 96-400 (40) Yes ☒ No ☐

(41) DISTRIBUTION: White - Office of Sample Management Yellow - Recipient of Sample Pink - Core Sampling, S&B Goldrod - Tank Farm Operations, S&B

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

Shipment Number 200W-087F (2) Sample Number 96-401 (3) Supervisor David Doye
 Tank AK-104 (5) Riser 10A (6) Segment 5 (7) Core 163 (8) Cask Serial Number C-2009

Radiation Survey Data:		(9) FIELD		(33) LABORATORY		(10) Shipment Description	
Over Top Dose Rate	<u>1 mR/hr</u>			A. Work Package Number	<u>FS-96-00006</u>		
Side Dose Rate	<u>50 mR/hr</u>			B. Cask Seal Number	<u>11118</u>		
Bottom Dose Rate	<u>20 mR/hr</u>			C. Sampler Serial Number	<u>96-099</u>		
Smearable Contamination	<u>620 dpm</u>			D. Date and Time Sampler Unseated	<u>7/9/96, 1753 hrs</u>		
	<u>41K d/m</u>			E. Expected Liquid Content	<u>70%</u>		
	<u>41K d/m</u>			F. Expected Solid Content	<u>10%</u>		
	<u>41K d/m</u>			G. Dose Rate Through Drill String	<u>2.2 R</u>		
	<u>41K d/m</u>			H. Expected Sample Length	<u>19"</u>		

Signature: [Signature] (Signature)
 RCT: [Signature] (HPT)
 Signature: [Signature] (Signature)
 RCT: [Signature] (HPT)

1) INFORMATION (Include statement of laboratory tests to be performed.)
 HNF-SD-WM-DP-226, REV. 0

Field Comments		(34) Laboratory Comments	
<u>Went on the outside!!</u>			

Seal Intact Upon Release?		Seal Intact Upon Receipt?		Seal Data Consistent with this Record?	
☒ Yes	☐ No	☒ Yes	☐ No	☒ Yes	☐ No

Shipment No. 96-401 Cask Seal No. 11118 Sample No. 96-401
 Yellow - Recipient of Sample Pink - Core Sampling, S6-35 Goldenrod - Tank Farm Operations, S4-43
 BC-6000-309 (02/94)

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

1) Shipment Number 100W-08-TF (2) Sample Number 96-402 (3) Supervisor R. L. French (4) Core 163 (5) Cask Serial Number C-2000

1) Tank AW-104 (5) Riser 10A (6) Segment 6 (7) Core 163 (8) Cask Serial Number C-2000

Irradiation Survey Data:

(9) FIELD

(33) LABORATORY

Over Top Dose Rate

1.5 mR/hr

Side Dose Rate

50 mR/hr

Bottom Dose Rate

15 mR/hr

Smearable Contamination

< 20 dpm

(Alpha)

< 1K dpm

(Beta-Gamma)

(Signature)

RCR* (HPT)

(Signature)

(Date-Gamma)

(Signature)

(HPT)

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

(34) Laboratory Comments

HNF-SD-WM-OP-226, REV. 0

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2) Field Comments

1600 ml Lithium Bromide
- 3 samples
samples clear

3) Point of Origin	10A	(14) Destination	(15) Shipper Name (Sign and PRINT)	(16) Date/Time	(17) Sender Comments
AW-104	222S LAB		R. L. French for F. Frost	9/26/96 14:50	
4) Relinquished By (Sign and PRINT)	(18) Received By (Sign and PRINT)	(19) Date/Time	(20) Receiver Comments	(21) Date/Time	(22) Receiver Comments
R. L. French	R. L. French	9/26/96 15:00		9/26/96 15:00	
5) Relinquished By (Sign and PRINT)	(23) Received By (Sign and PRINT)	(24) Date/Time	(25) Receiver Comments	(26) Date/Time	(27) Receiver Comments
R. L. French	R. L. French	9/26/96 15:00		9/26/96 15:00	
6) Relinquished By (Sign and PRINT)	(28) Received By (Sign and PRINT)	(29) Date/Time	(30) Receiver Comments	(31) Date/Time	(32) Receiver Comments
R. L. French	R. L. French	9/26/96 15:00		9/26/96 15:00	

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

(19) Seal Intact Upon Receipt? ☒ Yes ☐ No (32) Seal Date Consistent with this Record? ☒ Yes ☐ No

Shipment No. ☒ Yes ☐ No

Sample No. ☒ Yes ☐ No

1) TRI/BUTION: White - Office of Sample Management Yellow - Recipient of Sample Pink - Core Sampling, S6-S5 Goldenrod - Tank Farm Operations, S4-43

BC-6000-305 (02/94)

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

Sep. 20, 1996 1:07PM WHC 222S LAB ROOM 2F BACKSIDE No. 5167 R. 2/6

(1) Shipment Number 200W-28-JE (2) Sample Number 96-403 (3) Supervisor M.C. Jones

(4) Tank AW-64 (5) Riser 10A (6) Segment 7 (7) Core 163 (8) Cask Serial Number C-1036

Radiation Survey Data:		(9) FIELD		(33) LABORATORY		(110) Shipment Description	
Over Top Dose Rate	<u>15</u>		<u>5</u>		A. Work Package Number	<u>ES-96-00006</u>	
Side Dose Rate	<u>100</u>		<u>70</u>		B. Cask Seal Number	<u>11171</u>	
Bottom Dose Rate	<u>10</u>		<u>20</u>		C. Sampler Serial Number	<u>96-146</u>	
Smearable Contamination	<u>130</u>		<u><180</u>	(Alpha)	D. Date and Time Sampler Unseated	<u>9-10-96/1244</u>	
	<u>1100</u>		<u><1K</u>	(Beta-Gamma)	E. Expected Liquid Content	<u>20%</u>	
RCT* (HPT)	<u>[Signature]</u>			(Signature)	F. Expected Solid Content	<u>20%</u>	
RCT* (HPT)	<u>[Signature]</u>			(Signature)	G. Dose Rate Through Drill String	<u>2.7 R/MR</u>	
					H. Expected Sample Length	<u>19"</u>	

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

188

HNF-SD-WM-DP-226, REV. 0

2) Field Comments

(34) Laboratory Comments

LIBE APPLIC TO DRILL STRING FOR HEAD ANAL.

(14) Destination	(15) Sender Name (Sign and PRINT)	(16) Date/Time	(17) Sender Comments
AW-104	Edward J. Parnell	9-20-96/1150	
Relinquished By (Sign and PRINT)	Edward J. Parnell	9-20-96/1150	
Relinquished By (Sign and PRINT)	Edward J. Parnell	9-20-96/1150	
Relinquished By (Sign and PRINT)	Edward J. Parnell	9-20-96/1150	
Relinquished By (Sign and PRINT)	Edward J. Parnell	9-20-96/1150	

(31) Seal Intact Upon Receipt?	(32) Seal Data Consistent with this Record?	Shipment No.	Cask Seal No.	Sample No.
☒ Yes ☐ No	☒ Yes ☐ No	☒ Yes ☐ No	☒ Yes ☐ No	☒ Yes ☐ No

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

1) Shipment Number 200W-08-TF (2) Sample Number 96-404 (3) Supervisor M.S. Jones

1) Tank AN-104 (5) Riser 10A (6) Segment 8 (7) Core 163 (8) Cask Serial Number C-2017

1) Radiation Survey Data:

(9) FIELD	(33) LABORATORY
Over Top Dose Rate <u>.5</u>	<u>4.05</u> <u>MAHR</u>
Side Dose Rate <u>50</u>	<u>70</u> <u>MAHR</u>
Bottom Dose Rate <u>25</u>	<u>38</u> <u>MAHR</u>
Smearable Contamination <u>120</u> (Alpha)	<u>4180</u>
	(Alpha)
	<u>41K</u>
	(Beta-Gamma)
RCT* (HPT) <u>[Signature]</u>	RCT* (HPT) <u>[Signature]</u>

(10) Shipment Description

A. Work Package Number <u>ES-96-0006</u>
B. Cask Seal Number <u>11172</u>
C. Sampler Serial Number <u>96-013</u>
D. Date and Time Sampler Unseated <u>9-10-96/1335</u>
E. Expected Liquid Content <u>20%</u>
F. Expected Solid Content <u>70%</u>
G. Dose Rate Through Drill String <u>2.3 R/MR</u>
H. Expected Sample Length <u>19"</u>

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

HNF-SD-WM-DP-226, REV. 0

189

2) Field Comments LAB AND TO DRILL STRING FOR HEAD FLUG.

(34) Laboratory Comments

(15) Sender Name (Sign and PRINT)	(16) Date/Time	(17) Sender Comments
<u>[Signature]</u> <u>ES-96-0006</u>	<u>9-10-96/1350</u>	
(20) Received By (Sign and PRINT)	(21) Date/Time	(22) Receiver Comments
<u>[Signature]</u> <u>ES-96-0006</u>	<u>9-10-96/1350</u>	
(24) Receiver Name (Sign and PRINT)	(25) Date/Time	(26) Receiver Comments
<u>[Signature]</u> <u>ES-96-0006</u>	<u>9-10-96/1350</u>	
(28) Received By (Sign and PRINT)	(29) Date/Time	(30) Receiver Comments
<u>[Signature]</u> <u>ES-96-0006</u>	<u>9-10-96/1350</u>	

(31) Seal Intact Upon Release? [X] Yes [] No

(32) Seal Data Consistent with this Record? [X] Yes [] No

(33) Seal Intact Upon Receipt? [X] Yes [] No

Shipment No. [X] Yes [] No

Cask Seal No. [X] Yes [] No

Sample No. [X] Yes [] No

DISTRIBUTION: White - Office of Sample Management Yellow - Recipient of Sample Pink - Core Sampling, 56-85 Goldenrod - Tank Farm Operations, S4-43 BC-9000-309 (02/94)

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

Shipment Number 200W-08-1F (2) Sample Number 96-405 (3) Supervisor Daniel Rogers
 Tank AN-104 (5) Riser 10A (6) Segment 9 (7) Core 163 (8) Cask Serial Number C-1035

Identification Survey Data:		(9) FIELD	(33) LABORATORY	(10) Shipment Description
Over Top Dose Rate		<u>5</u>	<u>5</u>	A. Work Package Number <u>ES-96-00006</u>
Side Dose Rate		<u>10</u>	<u>60</u>	B. Cask Seal Number <u>11119</u>
Bottom Dose Rate		<u>10</u>	<u>20</u>	C. Sampler Serial Number <u>96-007</u>
Smearable Contamination		<u>120</u>	<u><180</u>	D. Date and Time Sampler Unseated <u>9/10/96, 1648 hrs</u>
		<u>1000</u>	<u><1K</u>	E. Expected Liquid Content <u>1050</u>
			<u>(Alpha)</u>	F. Expected Solid Content <u>2.4 K</u>
			<u>(Beta-Gamma)</u>	G. Dose Rate Through Drill String <u>19'</u>
			<u>(Signature)</u>	H. Expected Sample Length
RCT* (HPT)	<u>[Signature]</u>			
RCT* (HPT)				

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

190

HNF-SD-WM-DP-226, REV. 0

2) Field Comments		(34) Laboratory Comments	
1) Point of Origin	(14) Destination	(15) Sender Name (Sign and PRINT)	(16) Date/Time
<u>200W-08-1F</u>	<u>200-5 Lake</u>	<u>[Signature]</u>	<u>9-10-96 / 1150</u>
2) Relinquished By (Sign and PRINT)	20) Received By (Sign and PRINT)	(17) Sender Comments	(21) Date/Time
<u>[Signature]</u>	<u>[Signature]</u>		<u>9-10-96 / 1155</u>
3) Relinquished By (Sign and PRINT)	(24) Received By (Sign and PRINT)	(22) Receiver Comments	(25) Date/Time
<u>[Signature]</u>	<u>[Signature]</u>		<u>9-10-96 / 1300</u>
4) Relinquished By (Sign and PRINT)	(28) Received By (Sign and PRINT)	(26) Receiver Comments	(29) Date/Time
<u>[Signature]</u>	<u>[Signature]</u>		
(18) Seal Intact Upon Release?	(31) Seal Intact Upon Receipt?	(32) Seal Data Consistent with this Record?	(30) Receiver Comments
<u>Yes</u> ☐ No	<u>Yes</u> ☐ No	<u>Yes</u> ☐ No	

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

1) Shipment Number 200W-08-17 (2) Sample Number 96-406 (3) Supervisor Daniel Ayala
 2) Tank AN-104 (5) Riser 10A (6) Segment #10 (7) Core 163 (8) Cask Serial Number 206

Irradiation Survey Data:		(9) FIELD		(33) LABORATORY		(10) Shipment Description	
Over Top Dose Rate	<u>1 mR/hr</u>		<u>1.5 mR/hr</u>	A. Work Package Number	<u>ES-96-00006</u>		
Side Dose Rate	<u>50 mR/hr</u>		<u>60 mR/hr</u>	B. Cask Seal Number	<u>11120</u>		
Bottom Dose Rate	<u>20 mR/hr</u>		<u>20 mR/hr</u>	C. Sampler Serial Number	<u>96-009</u>		
Smearable Contamination	<u>520 d/m</u>		<u>4180 d/m</u>	D. Date and Time Sampler Unseated	<u>8/10/96, 1743</u>		
	<u>21K/m</u>		<u>41K d/m</u>	E. Expected Liquid Content	<u>0%</u>		
				F. Expected Solid Content	<u>2.2 R.</u>		
				G. Dose Rate Through Drill String	<u>19"</u>		
				H. Expected Sample Length			

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

191

HNF-SD-WM-DP-226, REV. 0

2) Field Comments		(34) Laboratory Comments	

3) Point of Origin		(14) Destination		(15) Sender Name (Sign and PRINT)		(16) Date/Time		(17) Sender Comments	
<u>AN-104</u>	<u>222-5 Lb.</u>	<u>222-5 Lb.</u>	<u>222-5 Lb.</u>	<u>222-5 Lb.</u>	<u>222-5 Lb.</u>	<u>222-5 Lb.</u>	<u>222-5 Lb.</u>	<u>222-5 Lb.</u>	<u>222-5 Lb.</u>
4) Received By (Sign and PRINT)		(20) Received By (Sign and PRINT)		(21) Date/Time		(22) Receiver Comments			
<u>222-5 Lb.</u>		<u>222-5 Lb.</u>		<u>222-5 Lb.</u>		<u>222-5 Lb.</u>			
5) Received By (Sign and PRINT)		(24) Received By (Sign and PRINT)		(25) Date/Time		(26) Receiver Comments			
<u>222-5 Lb.</u>		<u>222-5 Lb.</u>		<u>222-5 Lb.</u>		<u>222-5 Lb.</u>			
6) Received By (Sign and PRINT)		(28) Received By (Sign and PRINT)		(29) Date/Time		(30) Receiver Comments			
<u>222-5 Lb.</u>		<u>222-5 Lb.</u>		<u>222-5 Lb.</u>		<u>222-5 Lb.</u>			

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

3) STRIPUTION: White - Office of Sample Management Yellow - Recipient of Sample Pink - Core Sampling, S8-85 Goldenrod - Tank Farm Operations, S4-43

Sample No. ☒ Yes ☐ No

BC-8000-308 (02/84)

RCS

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

Sep. 13, 1996

1) Shipment Number 200W-08-77 (2) Sample Number 96-409 (3) Supervisor R. Leach

4) Tank AW 104 (5) Riser 10A (6) Segment 13 (7) Core 1163 (8) Cask Serial Number 79

Radiation Survey Data:

(9) FIELD

Over Top Dose Rate

Side Dose Rate

Bottom Dose Rate

Smearable Contamination

1 mR/hr80 mR/hr13 mR/hr<2.0 dpm<1000 dpm1000 dpm1000 dpm

ACT* (HPT) Anthony C. Stewart (Signature)

RCT* (HPT)

(33) LABORATORY

1 mR/hr55 dpm15 mR/hr<180 dpm<1000 dpm<1000 dpm

(10) Shipment Description

A. Work Package Number

B. Cask Seal Number

C. Sampler Serial Number

D. Date and Time Sampler Unseated

E. Expected Liquid Content

F. Expected Solid Content

G. Dose Rate Through Drill String

H. Expected Sample Length

ES-96-0000610335RG-139-11-96/ 005830%70%1.9 R19"

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

194

HNF-SD-WM-DP-226, REV. 0

(2) Field Comments

RG-5 sampler
1500 mls Li.Br. added
sample clean

(34) Laboratory Comments

(3) Point of Origin 10A (14) Destination

Relinquished By (Sign and PRINT)

James SickselJames SickselJames SickselJames SickselJames SickselJames SickselJames SickselJames SickselJames SickselJames SickselJames SickselJames SickselJames SickselJames SickselJames Sicksel

(15) Sender Name (Sign and PRINT)

James SickselJames SickselJames SickselJames SickselJames SickselJames SickselJames SickselJames SickselJames SickselJames SickselJames SickselJames SickselJames SickselJames SickselJames SickselJames Sicksel

(16) Date/Time

9-12-969-12-969-12-969-12-969-12-969-12-969-12-969-12-969-12-969-12-969-12-969-12-969-12-969-12-969-12-969-12-96

(17) Sender Comments

James SickselJames SickselJames SickselJames SickselJames SickselJames SickselJames SickselJames SickselJames SickselJames SickselJames SickselJames SickselJames SickselJames SickselJames SickselJames Sicksel

(21) Date/Time

9-12-969-12-969-12-969-12-969-12-969-12-969-12-969-12-969-12-969-12-969-12-969-12-969-12-969-12-969-12-969-12-96

(22) Receiver Comments

James SickselJames SickselJames SickselJames SickselJames SickselJames SickselJames SickselJames SickselJames SickselJames SickselJames SickselJames SickselJames SickselJames SickselJames SickselJames Sicksel

(25) Date/Time

9-12-969-12-969-12-969-12-969-12-969-12-969-12-969-12-969-12-969-12-969-12-969-12-969-12-969-12-969-12-969-12-96

(26) Receiver Comments

James SickselJames SickselJames SickselJames SickselJames SickselJames SickselJames SickselJames SickselJames SickselJames SickselJames SickselJames SickselJames SickselJames SickselJames SickselJames Sicksel

(18) Seal Intact Upon Receipt?

Yes ☐ No ☒ Yes

(31) Seal Intact Upon Receipt?

Yes ☐ No ☒ Yes

(32) Seal Date Consistent with this Record?

Yes ☐ No ☒ YesYes ☐ No ☒ Yes

Shipment No.

Yes ☐ No ☒ Yes

Cask Seal No.

Yes ☐ No ☒ YesYes ☐ No ☒ Yes

(32) Seal Date Consistent with this Record?

Yes ☐ No ☒ YesYes ☐ No ☒ YesYes ☐ No ☒ YesYes ☐ No ☒ Yes

Sample No.

Yes ☐ No ☒ YesYes ☐ No ☒ YesYes ☐ No ☒ YesYes ☐ No ☒ Yes

P. 2/5

P. 2/5

P. 2/5

P. 2/5

P. 2/5

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

8:24AM 8:22AM 2222S LAB ROOM 2F BACKSIDE No. 5391 P. 16/21

1) Shipment Number 200W-08-9F (2) Sample Number 96-410 (3) Supervisor R. Frank East

2) Tank AN 104 (5) Riser 10A (6) Segment 14 (7) Core 163 (8) Cask Serial Number C-1038

Irradiation Survey Data:		(9) FIELD		(33) LABORATORY		(10) Shipment Description	
Over Top Dose Rate	<u>1 mR/hr</u>			A. Work Package Number	<u>ES-96-00006</u>		
Side Dose Rate	<u>45 mR/hr</u>			B. Cask Seal Number	<u>10331</u>		
Bottom Dose Rate	<u>220 mR/hr</u>			C. Sampler Serial Number	<u>96-072</u>		
Smearable Contamination	<u>≤ 20 dpm</u> (Alpha)			D. Date and Time Sampler Unsealed	<u>9-11-96 / 0235</u>		
	<u>≤ 1K dpm</u> (Beta-Gamma)			E. Expected Liquid Content	<u>30%</u>		
	<u>[Signature]</u> (Signature)			F. Expected Solid Content	<u>70%</u>		
	<u>[Signature]</u> (Signature)			G. Dose Rate Through Drill String	<u>2.5 R</u>		
	<u>[Signature]</u> (Signature)			H. Expected Sample Length	<u>19"</u>		

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

195

HNF-SD-WM-DP-226, REV. 0

2) Field Comments		(34) Laboratory Comments	
-3 samples 1500 mL LBS. added samples clean			

(31) Point of Origin	(14) Description	Sender Name (Sign and PRINT)	(16) Date/Time	(17) Sender Comments
AN 104	2225 Lab	[Signature] R. Frank East	9/10/96 0233	
	Relinquished By (Sign and PRINT)	(20) Received By (Sign and PRINT)	(21) Date/Time	(22) Receiver Comments
	[Signature] R. Frank East	[Signature] J. H. HARRIS	9/26/96 2045	
	Relinquished By (Sign and PRINT)	(24) Received By (Sign and PRINT)	(25) Date/Time	(26) Receiver Comments
	[Signature] J. H. HARRIS	[Signature] R. Frank East	9/26/96 2104	
	Relinquished By (Sign and PRINT)	(28) Received By (Sign and PRINT)	(29) Date/Time	(30) Receiver Comments

(18) Seal Intact Upon Release?	(31) Seal Intact Upon Receipt?	Shipment No.	Cask Seal No.	Sample No.
☒ Yes ☐ No	☒ Yes ☐ No	☒ Yes ☐ No	☒ Yes ☐ No	☒ Yes ☐ No

18) Seal Intact Upon Receipt?

19) Seal Intact Upon Release?

20) Seal Intact Upon Receipt?

21) Seal Intact Upon Release?

22) Seal Intact Upon Receipt?

23) Seal Intact Upon Release?

24) Seal Intact Upon Receipt?

25) Seal Intact Upon Release?

26) Seal Intact Upon Receipt?

27) Seal Intact Upon Release?

28) Seal Intact Upon Receipt?

29) Seal Intact Upon Release?

30) Seal Intact Upon Receipt?

31) Seal Intact Upon Release?

32) Seal Intact Upon Receipt?

33) Seal Intact Upon Release?

34) Seal Intact Upon Receipt?

35) Seal Intact Upon Release?

36) Seal Intact Upon Receipt?

37) Seal Intact Upon Release?

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43) Seal Intact Upon Release?

44) Seal Intact Upon Receipt?

45) Seal Intact Upon Release?

46) Seal Intact Upon Receipt?

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51) Seal Intact Upon Release?

52) Seal Intact Upon Receipt?

53) Seal Intact Upon Release?

54) Seal Intact Upon Receipt?

55) Seal Intact Upon Release?

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81) Seal Intact Upon Release?

82) Seal Intact Upon Receipt?

83) Seal Intact Upon Release?

84) Seal Intact Upon Receipt?

85) Seal Intact Upon Release?

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89) Seal Intact Upon Release?

90) Seal Intact Upon Receipt?

91) Seal Intact Upon Release?

92) Seal Intact Upon Receipt?

93) Seal Intact Upon Release?

94) Seal Intact Upon Receipt?

95) Seal Intact Upon Release?

96) Seal Intact Upon Receipt?

97) Seal Intact Upon Release?

98) Seal Intact Upon Receipt?

99) Seal Intact Upon Release?

100) Seal Intact Upon Receipt?

DISTRIBUTION: White - Office of Sample Management Yellow - Recipient of Sample Pink - Core Sampling, S6-85 Goldenrod - Tank Farm Operations, S4-43 BC-6000-303 (02/94)

RGS

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

1) Shipment Number 200W-08-TF (2) Sample Number 96-411 (3) Supervisor M. C. Jones
 1) Tank AN-104 (5) Riser 10A (6) Segment 15 (7) Core 103 (8) Cask Serial Number SN-14-G

Irradiation Survey Data:

Over Top Dose Rate 1 mR/hr
 Side Dose Rate 20 mR/hr
 Bottom Dose Rate 23 mR/hr
 Smearable Contamination 2.20 d/m
 (Alpha)
1100 d/m
 (Beta-Gamma)
 RCT* W. C. Hampton RCT* W. C. Hampton
 (HPT) (HPT) (Signature) (Signature)

(33) LABORATORY

1 mR/hr
20 mR/hr
23 mR/hr
2.20 d/m
 (Alpha)
1100 d/m
 (Beta-Gamma)
 RCT* W. C. Hampton
 (HPT) (Signature)

(10) Shipment Description

A. Work Package Number ES-96-00006
 B. Cask Seal Number 1173
 C. Sampler Serial Number 98-AGS-035
 D. Date and Time Sampler Unsoated 9-11-96/1005
 E. Expected Liquid Content 30%
 F. Expected Solid Content 20%
 G. Dose Rate Through Drill String 2.5 R/HR
 H. Expected Sample Length 19"

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

196

HNF-SD-WM-DP-226, REV. 0

2) Field Comments

LIBR MOVED TO DRILL STRING FOR HEAD FIELD.
 X-RAY SHOWED SAMPLER WAS FULL.

(34) Laboratory Comments

3) Point of Origin <u>AN-104</u>	(14) Destination <u>222-5</u>	(15) Sender Name (Sign and PRINT) <u>Danilo Sicks James Sickels</u>	(16) Date/Time <u>9-12-96</u>	(17) Sender Comments
5) Relinquished By (Sign and PRINT) <u>Danilo Sicks James Sickels</u>	(20) Received By (Sign and PRINT) <u>James Sickels</u>	(21) Date/Time <u>9-12-96</u>	(22) Receiver Comments	
3) Relinquished By (Sign and PRINT) <u>Danilo Sicks James Sickels</u>	(24) Received By (Sign and PRINT) <u>James Sickels</u>	(25) Date/Time <u>9-12-96</u>	(26) Receiver Comments	
7) Relinquished By (Sign and PRINT) <u>Danilo Sicks James Sickels</u>	(28) Received By (Sign and PRINT) <u>James Sickels</u>	(29) Date/Time <u>9-12-96</u>	(30) Receiver Comments	
(32) Seal Date Consistent with this Record				
(18) Seal Intact Upon Release? ☒ Yes ☐ No	(31) Seal Intact Upon Receipt? ☒ Yes ☐ No	Shipment No. ☒ Yes ☐ No		

Sample No.

Yes ☒ No ☐

SA 200W-08-TF

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

200W-08-TF 9-20-96

1) Shipment Number 444408-TF (2) Sample Number 96-412 (3) Supervisor M. C. Jones

1) Tank BW-104 (5) Riser 10A (6) Segment 16 (7) Core 163 (8) Cask Serial Number 1013-C

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

1) INFORMATION (Include statement of laboratory tests to be performed.)		(33) LABORATORY		(10) Shipment Description	
Over Top Dose Rate	(9) FIELD			A. Work Package Number	
Side Dose Rate	15			B. Cask Seal Number	
Bottom Dose Rate	18			C. Sampler Serial Number	
Smearable Contamination	120 (Alpha)			D. Date and Time Sampler Unseated	
	1000 (Alpha)			E. Expected Liquid Content	
	1000 (Beta-Gamma)			F. Expected Solid Content	
RCT* (HPT)	Signature	RCT* (HPT)		G. Dose Rate Through Drill String	
	Signature			H. Expected Sample Length	

197

HNF-SD-WM-DP-226, REV 0

2) Field Comments

LIBR Added To Drill String For Heat Pile
X-Ray showed sampler was full.

(34) Laboratory Comments

3) Point of Origin		(14) Destination		(16) Date/Time		(17) Sender Comments	
BW-104		222-S		9-20-96/145			
Relinquished By (Sign and PRINT)		Relinquished By (Sign and PRINT)		Date/Time		Date/Time	
Relinquished By (Sign and PRINT)		Relinquished By (Sign and PRINT)		9-20-96/145		9-20-96/145	
Relinquished By (Sign and PRINT)		Relinquished By (Sign and PRINT)		9-20-96/145		9-20-96/145	
Relinquished By (Sign and PRINT)		Relinquished By (Sign and PRINT)		9-20-96/145		9-20-96/145	

(18) Seal Intact Upon Release?

(32) Seal Data Consistent with this Record?

(18) Seal Intact Upon Release?		(32) Seal Data Consistent with this Record?		Shipment No.		Sample No.	
Yes ☒	No ☐	Yes ☒	No ☐	Yes ☒	No ☐	Yes ☒	No ☐

R65

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

Shipment Number **220W08-TE** (2) Sample Number **96-413** (3) Supervisor **Dennis Hays**
 (1) Tank **AN-104** (5) Riser **101** (6) Segment **#17** (7) Core **163** (8) Cask Serial Number **C-2011**

Radiation Survey Data:

Over Top Dose Rate **0.6 mR/hr**
 Side Dose Rate **4 mR/hr**
 Bottom Dose Rate **20 mR/hr**
 Smearable Contamination **220 d/m** (Alpha)
< 1000 d/m (Beta-Gamma)
 RCT* **[Signature]** RCT* **[Signature]**
 (HPT) (HPT)

(33) LABORATORY

0.5 mR/hr
45 mR/hr
20 mR/hr
< 150 d/m (Alpha)
< 1000 d/m (Beta-Gamma)
 RCT* **[Signature]** RCT* **[Signature]**
 (HPT) (HPT)

(110) Shipment Description

A. Work Package Number **ES-96-00006**
 B. Cask Seal Number **11123**
 C. Sampler Serial Number **R65-036**
 D. Date and Time Sampler Unseated **9/14/96, 1649 hrs**
 E. Expected Liquid Content **100%**
 F. Expected Solid Content **0%**
 G. Dose Rate Through Drill String **2 R**
 H. Expected Sample Length **17"**

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

198

HNF-SD-WM-DP-226, REV. 0

2) Field Comments

(34) Laboratory Comments

Li. Bromide Added as head fluid.
X-Ray Showed Full.

3) Point of Origin	(14) Destination	(15) Sender Name (Sign and PRINT)	(16) Date/Time	(17) Sender Comments
92404	222-S Lake	Dennis Hays James Sicksels	9-12-96	
5) Relinquished By (Sign and PRINT)		(20) Received By (Sign and PRINT)	(21) Date/Time	(22) Receiver Comments
Dennis Hays James Sicksels		[Signature]	9-12-96	
3) Relinquished By (Sign and PRINT)		(24) Receiver By (Sign and PRINT)	(25) Date/Time	(26) Receiver Comments
[Signature]		[Signature]	9/12/96-1315Z	
7) Relinquished By (Sign and PRINT)		(28) Received By (Sign and PRINT)	(29) Date/Time	(30) Receiver Comments

(18) Seal Intact Upon Release?

(31) Seal Intact Upon Receipt?

(32) Seal Data Consistent with this Record?

☒ Yes ☐ No ☒ Yes ☐ No ☒ Yes ☐ No
 Sample No. **BC-6000-303 (02/94)**

DISTRIBUTION: White - Office of Sample Management Yellow - Recipient of Sample Pink - Core Sampling, S6-85 Goldenrod - Tank Farm Operations, S4-43

RGS

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

1) Shipment Number 200W-08-TF (2) Sample Number 96-415 (3) Supervisor Dennis Dwyer
 2) Tank AN-104 (5) Riser 10A (6) Segment #19 (7) Core 163 (8) Cask Serial Number C-2015

1) Field		(9) FIELD		(33) LABORATORY		(10) Shipment Description	
Over Top Dose Rate		<u>1 m/s/hr</u>				A. Work Package Number <u>ES-96-00006</u>	
Side Dose Rate		<u>40 m/s/hr</u>				B. Cask Seal Number <u>11189</u>	
Bottom Dose Rate		<u>16 m/s/hr</u>				C. Sampler Serial Number <u>RGS-041</u>	
Smearable Contamination		<u>< 20 d/m</u>		(Alpha)		D. Date and Time Sampler Unseated <u>9/14/96, 2144 hrs.</u>	
		<u>< 1000 d/m</u>		(Beta-Gamma)		E. Expected Liquid Content <u>100%</u>	
RCT** (HPT)		<u>[Signature]</u>		RCT* (HPT)		F. Expected Solid Content <u>8-9%</u>	
		<u>[Signature]</u>				G. Dose Rate Through Drill String <u>1.8 R</u>	
						H. Expected Sample Length <u>19"</u>	

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

200

HNF-SD-WM-DP-226, REV 0

2) Field Comments		(34) Laboratory Comments	
<u>Li. Bromide added as head fluid</u>			
<u>X-Ray showed full</u>			

3) Point of Origin	(14) Destination	(15) Sender Name (Sign and PRINT)	(16) Date/Time	(17) Sender Comments
<u>AN-104</u>	<u>222-S Lab</u>	<u>Dennis Dwyer James Sicket</u>	<u>9-12-96</u>	
4) Relinquished By (Sign and PRINT)	(20) Relinquished By (Sign and PRINT)	(21) Date/Time	(22) Receiver Comments	
<u>Dennis Dwyer James Sicket</u>	<u>W. Wallace</u>	<u>9-12-96</u>		
5) Relinquished By (Sign and PRINT)	(23) Receiver By (Sign and PRINT)	(24) Date/Time	(25) Receiver Comments	
<u>W. Wallace</u>	<u>[Signature] Jim Knight</u>	<u>9/12/96 12:50</u>		
6) Relinquished By (Sign and PRINT)	(26) Receiver By (Sign and PRINT)	(27) Date/Time	(28) Receiver Comments	

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

Shipment No. ☒ Yes ☐ No Cask Seal No. ☒ Yes ☐ No Sample No. ☒ Yes ☐ No

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

Sep. 27, 1996 12:59PM WHC 222S LAB ROOM 2F BACKSIDE P. 3/9

Shipment Number 220W-08-TF (2) Sample Number # 96-416 (3) Supervisor Daniel Dye
 Tank AK-104 (5) Riser 10A (6) Segment #20 (7) Core 163 (8) Cask Serial Number C-2002

Radiation Survey Data:		(9) FIELD		(33) LABORATORY		(10) Shipment Description	
Over Top Dose Rate	<u>< 1.5 mR/hr</u>		<u>< 1.5</u>	A. Work Package Number			<u>ES-96-00006</u>
Side Dose Rate	<u>45 mR/hr</u>		<u>45</u>	B. Cask Seal Number			<u>11190</u>
Bottom Dose Rate	<u>26 mR/hr</u>		<u>26</u>	C. Sampler Serial Number			<u>96-110</u>
Smearable Contamination	<u>< 20 dpm</u>		<u>< 200</u>	D. Date and Time Sampler Unseated			<u>9/11/96, 22:43 hrs</u>
	<u>< 1000 dpm</u>		<u>< 1K</u>	E. Expected Liquid Content			<u>100%</u>
				F. Expected Solid Content			<u>8.5%</u>
				G. Dose Rate Through Drill String			<u>N/A</u>
				H. Expected Sample Length			<u>1.91</u>

RCT* Daniel Dye (HPT) RCT* Chollesio (HPT)
 (Signature) (Signature)

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

201

HNF-SD-WM-DP-226, REV. 0

(2) Field Comments		(34) Laboratory Comments	
<u>Li. Bromide added as head fluid</u> <u>X-Ray Showed Full.</u>			

(3) Point of Origin	(14) Destination	(15) Sender Name (Sign and PRINT)	(16) Date/Time	(17) Sender Comments
<u>222-5 Labs</u>	<u>222-5 Labs</u>	<u>W. R. Pearson for D. George</u>	<u>9/11/96</u>	
(4) Receiver Name (Sign and PRINT)	(20) Receiver By (Sign and PRINT)	(21) Date/Time	(22) Receiver Comments	
<u>W. R. Pearson</u>	<u>W. R. Pearson</u>	<u>9/11/96</u>		
(5) Relinquishing Signature (Sign and PRINT)	(24) Received By (Sign and PRINT)	(25) Date/Time	(26) Receiver Comments	
<u>W. R. Pearson</u>	<u>W. R. Pearson</u>	<u>9/11/96</u>		
(6) Relinquishing Signature (Sign and PRINT)	(28) Received By (Sign and PRINT)	(29) Date/Time	(30) Receiver Comments	
<u>W. R. Pearson</u>	<u>W. R. Pearson</u>	<u>9/11/96</u>		

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

Shipment No. ES-96-00006 Cask Seal No. 11190 Sample No. 96-416
 Yes ☒ No ☐ Yes ☒ No ☐ Yes ☒ No ☐

W 20 9-16-96
 2008-08-17
 104

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

COPY

(1) Shipment Number 2008-08-17
 (2) Sample Number 96-417
 (3) Supervisor David Daga
 (4) Tank AV-104
 (5) Riser 10A
 (6) Segment 21
 (7) Core 163
 (8) Cask Serial Number 10045

Radiation Survey Data:

Over Top Dose Rate 15 mR/hr
 Side Dose Rate 45 mR/hr
 Bottom Dose Rate 17 mR/hr
 Smearable Contamination 220
 (Alpha)
11000
 (Beta/Gamma)
 RCT* [Signature]
 (HPT) (Signature)

(13) LABORATORY

41 mR/hr
46 mR/hr
12 mR/hr
500
 (Alpha)
41000
 (Beta/Gamma)
200000
 (Signature)

(10) Shipment Description

A. Work Package Number E5-96-00006
 B. Cask Seal Number 11192
 C. Sampler Serial Number RGS-Q37
 D. Date and Time Sampler Unsealed 9/12/96, 1700 hr
 E. Expected Liquid Content 100%
 F. Expected Solid Content 0%
 G. Oese Rate Through Drill String 2 R/hr
 H. Expected Sample Length 19"

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

202

HNF-SD-WM-DP-226, REV. 0

2) Field Comments

Only pushed a 16" Straker, sent HBD
 went off
 w. Burnide added as a third fluid.
 X-Ray showed about 16"

(13) Laboratory Comments

NOTE:

RGS
 SAMPLE

Point of Origin	(14) Destination	(15) Sender Name (Sign and PRINT)	(16) Date/Time	(17) Sender Comments
104	222-5 166r.	Rafael R. Hernandez	9-16-96 0915	
Relinquished By (Sign and PRINT)		(20) Received By (Sign and PRINT)	(21) Date/Time	(22) Receiver Comments
Rafael R. Hernandez		[Signature]	9-16-96	
Relinquished By (Sign and PRINT)		(24) Received By (Sign and PRINT)	(25) Date/Time	(26) Receiver Comments
[Signature]		[Signature]	9-16-96	
Relinquished By (Sign and PRINT)		(28) Received By (Sign and PRINT)	(29) Date/Time	(30) Receiver Comments
[Signature]		[Signature]	9-16-96	

3) Seal Intact Upon Release?

☒ Yes ☐ No

(31) Seal Intact Upon Receipt?

☒ Yes ☐ No

Shipment No.

☒ Yes ☐ No

(32) Seal Data Consistent with this Record?

☒ Yes ☐ No

Sample No.

☒ Yes ☐ No

IBUTION: White - Office of Sample Management Yellow - Recipient of Sample

Pink - Core Sampling, S6-85

Goldenrod - Tank Farm Operations, S4-43

SC-6000-309 (07/94)

57

6 "11" INFORMATION (Include statement of laboratory tests to be performed.)

203

HNF-SD-WM-DP-226, REV. C

(12) Field Components		(34) Laboratory Comments	
(13.5' Air/Empty) per TSAP (5.5' crust/supernate) POSC Rate Stayed High Through whole length of samples probably full.			
(13) Point of Origin	(14) Destination	(15) Sender Name (Sign and PRINT)	(16) Date/Time
AM-104	222-5 146	Henry R.J. Pearsik for Danga	8-23-96/1300
(19) Requisitioned By (Sign and PRINT)	(20) Received By (Sign and PRINT)	(21) Date/Time	(22) Receiver Comments
Henry R.J. Pearsik	Henry R.J. Pearsik	8-23-96/1310	
(23) Requisitioned By (Sign and PRINT)	(24) Received By (Sign and PRINT)	(25) Date/Time	(26) Receiver Comments
Henry R.J. Pearsik	Henry R.J. Pearsik	8-24-96/1400	
(27) Requisitioned By (Sign and PRINT)	(28) Received By (Sign and PRINT)	(29) Date/Time	(30) Receiver Comments
(31) Seal Intact Upon Receipt?		(32) Seal Date Consistent with this Record?	
☒ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	
(18) Seal Intact Upon Release?		Shipping No.	
☒ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	
		Sample No.	
		☐ Yes ☐ No	

DISTRIBUTION: White - Office of Sample Management
Yellow - Recipient of Sample
Pink - Core Sampling, S6-S5
Goldenrod - Tank Farm Operations, S4-43
BC-6000-309 (02/94)

COPY

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

(1) Shipment Number 200W-08-17F (2) Sample Number 96-419 (3) Supervisor Daniel Gervin
(4) Tank A-1-105-104 (5) Riser 12A (6) Segment #2 (7) Core 164 (8) Cask Serial Number C-2005

Radiation Survey Data:		(9) FIELD	(10) SHIPMENT DESCRIPTION
Over Top Dose Rate	<u>.5 mR/hr</u>	(13) LABORATORY	A. Work Package Number <u>ES-96-00122/0</u>
Side Dose Rate	<u>55 mR/hr</u>	<u>60 mR/hr uncorrected</u>	B. Cask Seal Number <u>0208894 10209</u>
Bottom Dose Rate	<u>90 mR/hr</u>	<u>20 mR/hr uncorrected</u>	C. Sampler Serial Number <u>96-122</u>
Sweatable Contamination	<u>220 dpm/100 cm²</u>	<u>220 dpm</u>	D. Date and Time Sampler Unsealed <u>8/8/96, 0208 hr</u>
	<u>41K dpm/cm²</u>	<u>41K dpm</u>	E. Expected Liquid Content <u>8.5" Superficial</u>
	<u>1K dpm/cm²</u>	<u>1K dpm</u>	F. Expected Solid Content <u>10.5" East Superficial</u>
	<u>1K dpm/cm²</u>	<u>1K dpm</u>	G. Dose Rate Through Drill String <u>2.3 R</u>
	<u>1K dpm/cm²</u>	<u>1K dpm</u>	H. Expected Sample Length <u>17.5</u>

RCT* (HPT)

Signature

Signature

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

204

HNF-SD-WM-DP-226, REV. 0

(12) Field Comments		(34) Laboratory Comments	
(13) Point of Origin <u>A-1-105</u>	(14) Destination <u>222-S 1-45</u>	(15) Sender Name (Sign and PRINT) <u>Robert R. J. Garza</u>	(16) Date/Time <u>8/29/96</u>
(19) Relinquished By (Sign and PRINT) <u>Robert R. J. Garza</u>	(20) Received By (Sign and PRINT) <u>MDM</u>	(21) Date/Time <u>08/29/96</u>	(22) Receiver Comments
(23) Relinquished By (Sign and PRINT) <u>MDM</u>	(24) Received By (Sign and PRINT) <u>MDM</u>	(25) Date/Time <u>8-29-96</u>	(26) Receiver Comments
(27) Relinquished By (Sign and PRINT) <u>MDM</u>	(28) Received By (Sign and PRINT) <u>MDM</u>	(29) Date/Time <u>8-29-96</u>	(30) Receiver Comments

(32) Seal Data Consistent with this Report?

(31) Seal Intact Upon Receipt?

(18) Seal Intact Upon Release?

Sample No. Yes ☒ No ☐

Cask Seal No. Yes ☒ No ☐

Shipment No. Yes ☒ No ☐

Yes ☒ No ☐

Yes ☒ No ☐

COPY

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

Print Number 200-08-TF (2) Sample Number 96-421 (3) Supervisor David Dyer
 ID AN-108-104 (5) Reser 12A (6) Segment #4 (7) Core 164 (8) Cask Serial Number C-2016

(9) FIELD		(10) SHIPMENT DESCRIPTION	
Survey Date:	(13) LABORATORY	A. Work Package Number	<u>ES-96-001226</u>
Top Dose Rate	<u>20.5 m/hr</u>	B. Cask Seal Number	<u>10210</u>
Dose Rate	<u>60 m/hr</u>	C. Sampler Serial Number	<u>96-112</u>
Dose Rate	<u>20 m/hr</u>	D. Date and Time Sampler Unseated	<u>8/16/26, 0535 hrs</u>
Variable Contamination	<u>2.20 dpm/100cm²</u>	E. Expected Liquid Content	<u>90%</u>
	(Alpha)	F. Expected Solid Content	<u>10%</u>
	<u>2.1K dpm/100cm²</u>	G. Dose Rate Through Drill String	<u>2.2 A</u>
	(Beta-Gamma)	H. Expected Sample Length	<u>19"</u>
RCT* (HPT)	(Signature)		
	<u>[Signature]</u>		
	(Signature)		

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

HNF-SD-WM-DP-226, REV. 0

206

Field Comments

(34) Laboratory Comments

(14) Destination		(15) Sender Name (Sign and PRINT)		(16) Date/Time		(17) Sender Comments	
Point of Origin	<u>222-S Lab</u>	<u>James Sickels</u>	<u>8-26-96</u>				
Relinquished By (Sign and PRINT)	<u>James Sickels</u>	<u>James Sickels</u>	<u>8-26-96</u>				
Relinquished By (Sign and PRINT)	<u>James Sickels</u>	<u>James Sickels</u>	<u>8-26-96</u>				
Relinquished By (Sign and PRINT)	<u>James Sickels</u>	<u>James Sickels</u>	<u>8-26-96</u>				
Relinquished By (Sign and PRINT)	<u>James Sickels</u>	<u>James Sickels</u>	<u>8-26-96</u>				
Relinquished By (Sign and PRINT)	<u>James Sickels</u>	<u>James Sickels</u>	<u>8-26-96</u>				
Relinquished By (Sign and PRINT)	<u>James Sickels</u>	<u>James Sickels</u>	<u>8-26-96</u>				

(32) Seal Data Consistent with this Record?

Yes ☒ No ☐Cask Seal No. Yes ☒ No ☐Sample No. Yes ☒ No ☐

(31) Seal Intact Upon Receipt?

Yes ☒ No ☐

(31) Seal Intact Upon Release?

Yes ☒ No ☐Shipment No. Yes ☒ No ☐

Goldenrod - Tank Farm Operations, S4-43

BC-6000-309 (02/84)

COPY

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

(1) Shipment Number 200W-08-TT
 (4) Tank AN-104 (5) Riser 12A (6) Segment #5

(3) Supervisor David Doyle
 (7) Core 164 (8) Cask Serial Number 70

Radiation Survey Data:

(9) FIELD

Over Top Dose Rate

.5 mR/hr

Side Dose Rate

70 mR/hr

Bottom Dose Rate

15 mR/hr

Smearable Contamination

<20

(Alpha)

<1K

(Beta-Gamma)

RCT*
(HPT)[Signature]RCT*
(HPT)[Signature]

(Beta-Gamma)

(Signature)

(10) Shipment Description

A. Work Package Number

E5-96-00122-0

B. Cask Seal Number

10211

C. Sampler Serial Number

76-111

D. Date and Time Sampler Unsealed

8/8/96, 0630 hrs

E. Expected Liquid Content

90%

F. Expected Solid Content

10%

G. Dose Rate Through Drill String

2.2 R

H. Expected Sample Length

19'

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

HNF-SD-WM-DP-226, REV. 0

12) Field Comments

(34) Laboratory Comments

13) Point of Origin

AN-104

(14) Destination

222-5 1-6s

(15) Sender Name (Sign and PRINT)

[Signature] James Pickels

(16) Relinquished By (Sign and PRINT)

[Signature] James Pickels

(20) Received By (Sign and PRINT)

[Signature] [unclear]

(23) Relinquished By (Sign and PRINT)

[Signature] [unclear]

(24) Received By (Sign and PRINT)

[Signature] [unclear]

(28) Relinquished By (Sign and PRINT)

[Signature] [unclear]

(29) Received By (Sign and PRINT)

[Signature] [unclear]

(18) Seal Intact Upon Release?

(31) Seal Intact Upon Receipt?

(32) Seal Date Consistent with this Record?

☒ Yes ☐ No☐ Yes ☐ No☒ Yes ☐ NoShipment No. ☒ Yes ☐ NoCask Seal No. ☒ Yes ☐ NoSample No. ☒ Yes ☐ No

DISTRIBUTION: White - Office of Sample Management Yellow - Recipient of Sample Pink - Core Sampling, S6-95

Goldenrod - Tank Farm Operations, S4-43

BC-6000-309 (02/84)

207

509 373 1432

14:26

09/03/96

002

COPY

08/26/96 13:03 509 373 1432

08/26/96

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

Shipment Number 200W-08-TF (2) Sample Number 96-424 (3) Supervisor Daniel Rogers (8) Cask Serial Number 1004-C
 k AN-104 (5) Riser 12 A (6) Segment 77 (7) Core 164

(33) LABORATORY		(110) Shipment Description	
(9) FIELD	(10) WORK PACKAGE NUMBER	A. Work Package Number	<u>ES-96-00122-0</u>
<u>1 m/h</u>	<u>20.5 m/h</u>	B. Cask Seal Number	<u>10212</u>
<u>100 m/h</u>	<u>50 m/h</u>	C. Sampler Serial Number	<u>96-117</u>
<u>25 m/h</u>	<u>20 m/h</u>	D. Date and Time Sampler Unseated	<u>8/24/96, 2057 hrs</u>
<u>520 m/h</u>	<u>270 m/h</u>	E. Expected Liquid Content	<u>90%</u>
(Alpha)	(Alpha)	F. Expected Solid Content	<u>10%</u>
<u>21K m/h</u>	<u>21K m/h</u>	G. Dose Rate Through Drill String	<u>2.5 R</u>
(Beta-Gamma)	(Beta-Gamma)	H. Expected Sample Length	<u>19"</u>
RCT* (HPT)	RCT* (HPT)		
<u>[Signature]</u>	<u>[Signature]</u>		

HNF-SD-WM-DP-226, REV. 0

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

209

(34) Laboratory Comments

Field Comments
 Small amounts of crude/flecks/specs
 up the whole side of sampler.

BE Careful

(35) Sender Name (Sign and PRINT)		(115) Date/Time		(17) Sender Comments	
<u>James S. Sicks</u>	<u>James Sicks</u>	<u>8-26-96</u>		(21) Date/Time	(22) Receiver Comments
<u>James S. Sicks</u>	<u>James Sicks</u>	<u>8-26-96</u>		(25) Date/Time	(26) Receiver Comments
<u>James S. Sicks</u>	<u>James Sicks</u>	<u>8-26-96</u>		(29) Date/Time	(30) Receiver Comments
(31) Seal Intact Upon Receipt?		(32) Seal Date Consistent with this Record?		Sample No.	
☒ Yes ☐ No	☒ Yes ☐ No	☒ Yes ☐ No	☒ Yes ☐ No	☒ Yes ☐ No	

BC-6000-303 (02/94)

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

COPY

(1) Shipment Number 200W-08-7F
 (2) Sample Number 96-425
 (3) Supervisor Daniel Dwyer
 (4) Tank AB-05 42-104 (5) Riser 12A (6) Segment #8 (7) Core 164 (8) Cask Serial Number C-1016

Radiation Survey Data:

(9) FIELD
 Over Top Dose Rate .5 mR/hr
 Side Dose Rate 70 mR/hr
 Bottom Dose Rate 10 mR/hr
 Smearable Contamination 220 (Alpha)
21K (Beta-Gamma)
 RCT* [Signature] (HPT) ACT* [Signature] (HPT)

(13) LABORATORY

.5 mR/hr
70 mR/hr
28 mR/hr
180 / CAS (Alpha)
11K / CAS (Beta-Gamma)
 RCT* [Signature] (HPT) ACT* [Signature] (HPT)

(11) Shipment Description

A. Work Package Number ES-96-00122-0
 B. Cask Seal Number 10213
 C. Sampler Serial Number 96-118
 D. Date and Time Sampler Unseated 8/9/96 101204
 E. Expected Liquid Content 90%
 F. Expected Solid Content 10%
 G. Dose Rate Through Drill String 2.7 R
 H. Expected Sample Length 19"

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

210

HNF-SD-WM-DP-226, REV. 0

(12) Field Comments

Operator Reporting waste inside of the Quadralatch/about 5'6" Looking at the X-Ray, Rest of the Sampler was Clean.

(13) Laboratory Comments

(13) Point of Origin <u>AP-104</u>	(14) Destination <u>222-5 1AB5</u>	(15) Sender Name (Sign and PRINT) <u>James Suckles</u>	(16) Date <u>9-3-96</u>	(17) Sender Comments
(16) Relinquished By (Sign and PRINT) <u>James Suckles James Suckles</u>	(17) Received By (Sign and PRINT) <u>[Signature]</u>	(18) Date/Time <u>9-3-96</u>	(19) Receiver Comments	(20) Receiver Comments
(21) Relinquished By (Sign and PRINT) <u>[Signature]</u>	(22) Received By (Sign and PRINT) <u>[Signature]</u>	(23) Date/Time <u>9-3-96 1400</u>	(24) Receiver Comments	(25) Receiver Comments
(26) Relinquished By (Sign and PRINT) <u>[Signature]</u>	(27) Received By (Sign and PRINT) <u>[Signature]</u>	(28) Date/Time <u>9-3-96 1400</u>	(29) Receiver Comments	(30) Receiver Comments

(18) Seal Intact Upon Release?

Yes ☒ No ☐

(31) Seal Intact Upon Receipt?

Yes ☒ No ☐

(32) Seal Data Consistent with this Record?

Yes ☒ No ☐

Cask Seal No. 10213

Sample No. 10213

DISTRIBUTION: White - Office of Sample Management Yellow - Recipient of Sample Pink - Core Sampling, 56-85 Goldenrod - Tank Farm Operations, 54-43

BC-6000-309 (02/94)

COPY

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

(1) Shipment Number 202 Row-08-TF (2) Sample Number 96-426 (3) Supervisor Daniel Dye
 (4) Tank AN-105 104 (5) Riser 12 A (6) Segment #9 (7) Core 164 (8) Cask Serial Number 76

Radiation Survey Data:

(9) FIELD (33) LABORATORY
 Over Top Dose Rate 40.5 mR/hr 0.5
 Side Dose Rate 50 mR/hr 60 mR/hr
 Bottom Dose Rate 6 mR/hr 16 mR/hr
 Smearable Contamination 270 L180/LAS
 (Alpha) (Beta-Gamma)
L1K L1K/LAS
 (Signature) (Signature)
 RCT* [Signature] RCT* Checked
 (HPT) (HPT)

(10) Shipment Description

A. Work Package Number ES-96-00122-0
 B. Cask Seal Number 10214
 C. Sampler Serial Number 96-120
 D. Date and Time Sampler Unsealed 8/9/96, 0235
 E. Expected Liquid Content 90%
 F. Expected Solid Content 10%
 G. Dose Rate Through Drill String 2.7 R
 H. Expected Sample Length 19"

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

211

HNF-SD-WM-DP-226, REV. 0

(12) Field Comments

Sampler is clean, only thing operator commented is just a little wet, but no waste seen

(34) Laboratory Comments

(13) Point of Origin

AA-104

222-5

1665

(14) Destination

222-5

1665

(15) Relinquished By (Sign and PRINT)

James Sicks

(16) Relinquished By (Sign and PRINT)

James Sicks

(17) Relinquished By (Sign and PRINT)

James Sicks

(18) Relinquished By (Sign and PRINT)

James Sicks

(15) Sender Name (Sign and PRINT)

James Sicks

(20) Received By (Sign and PRINT)

James Sicks

(24) Received By (Sign and PRINT)

James Sicks

(28) Received By (Sign and PRINT)

James Sicks

(16) Date/Time

9-3-96

(21) Date/Time

9-3-96

(25) Date/Time

9-3-96

(29) Date/Time

9-3-96

(17) Sender Comments

(22) Receiver Comments

(26) Receiver Comments

(30) Receiver Comments

(18) Seal Intact Upon Release?

Yes ☒ No ☐

(31) Seal Intact Upon Receipt?

Yes ☒ No ☐

Shipment No.

Yes ☒ No ☐

Cask Seal No.

Yes ☒ No ☐

Sample No.

Yes ☒ No ☐

(32) Seal Data Consistent with this Record?

DISTRIBUTION: White - Office of Sample Management

Yellow - Recipient of Sample

Pink - Core Sampling, S6-85

Goldentred - Tank Farm Operations, S4-43

BC-6000-309 102/84

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

COPY

Shipment Number 2004-08-TF (2) Sample Number 96-427 (3) Supervisor Daniel Dwyer (8) Cask Serial Number C-1040

Tank AA-104 (5) Riser 12 A (6) Segment #10 (7) Core 16.4

Identification Survey Data:

Over Top Dose Rate	<u>0.5 mS/h</u>	(110) Shipment Description	<u>ES-96-00122-0</u>
Side Dose Rate	<u>50 mS/h</u>	A. Work Package Number	<u>10215</u>
Bottom Dose Rate	<u>15 mS/h</u>	B. Cask Seal Number	<u>96-116</u>
Smearable Contamination	<u>20</u>	C. Sampler Serial Number	<u>8/9/96, 0515 hrs</u>
	<u>21K</u> (Alpha)	D. Date and Time Sampler Unseared	<u>9080</u>
	<u>21K</u> (Beta-Gamma)	E. Expected Liquid Content	<u>10%</u>
	<u>21K</u> (Gamma)	F. Expected Solid Content	<u>2.7 R</u>
RCT* (HPT)	<u>Dwyer</u> (Signature)	G. Dose Rate Through Drill String	<u>19"</u>
	<u>Dwyer</u> (Signature)	H. Expected Sample Length	

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

212

HNF-SD-WM-DP-226, REV 0

J Field Comments
X-Ray Performed Showed about 99.9% full
Total Verified Sampler clean just a little wet.

(34) Laboratory Comments

(1) Point of Origin <u>AA-104</u>	(14) Destination <u>222-5 Labs</u>	(25) Sender Name (Sign and PRINT) <u>Daniel Dwyer</u>	(16) Date/Time <u>9-6-96</u>	(17) Sender Comments
(2) Relinquished By (Sign and PRINT) <u>Daniel Dwyer</u>	(20) Received By (Sign and PRINT) <u>Daniel Dwyer</u>	(26) Receiver Name (Sign and PRINT) <u>Daniel Dwyer</u>	(21) Date/Time <u>9-6-96</u>	(22) Receiver Comments
(3) Relinquished By (Sign and PRINT) <u>Daniel Dwyer</u>	(24) Received By (Sign and PRINT) <u>Daniel Dwyer</u>	(27) Receiver Name (Sign and PRINT) <u>Daniel Dwyer</u>	(23) Date/Time <u>9-6-96</u>	(28) Receiver Comments
(4) Relinquished By (Sign and PRINT) <u>Daniel Dwyer</u>	(28) Received By (Sign and PRINT) <u>Daniel Dwyer</u>	(29) Receiver Name (Sign and PRINT) <u>Daniel Dwyer</u>	(25) Date/Time <u>9-6-96</u>	(30) Receiver Comments

(32) Seal Data Consistent with this Record?

(18) Seal Intact Upon Release? ☒ Yes ☐ No	(31) Seal Intact Upon Receipt? ☒ Yes ☐ No	Shipment No. ☒ Yes ☐ No	Cask Seal No. ☒ Yes ☐ No	Sample No. ☒ Yes ☐ No
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TRIBUTION: White - Office of Sample Management Yellow - Recipient of Sample Pink - Core Sampling, S6-85 Goldemrod - Tank Farm Operations, S4-43

BC-6000-309 (02/84)

1907

AC-6000-309 (02/94)

Goldenrod • Turk Farm Operations, S4-43

DISSEMINATION - Office of Security Management

COPY

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

(1) Shipment Number 200108-1F (2) Sample Number 96-429 (3) Supervisor M. C. Jones (4) Tank A21-104 (5) Risk 12A (6) Segment 12 (7) Core 162 (8) Cask Serial Number C-10412

Radiation Survey Data:		(10) Shipment Description	
(9) FIELD	(9) Core	A. Vial Package Number	ES-96-00122
Over Top Dose Rate	50 μ R/hr	B. Cask Seal Number	10245
Side Dose Rate	50 μ R/hr	C. Sampler Serial Number	96-126
Bottom Dose Rate	30 μ R/hr	D. Date and Time Sampler Unsealed	8-13-96/10050
Smear/MC Contamination	Smear/MC 100000	E. Expected Liquid Content	30%
	4.5 kg per liter	F. Expected Solid Content	70%
RET* (PPT)	12000	G. Date Rate Through Cask Seals	29/1/88
	Signature	H. Expected Sample Length	17"

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

214

(12) Field Comments

(13) Laboratory Comments

Liber Added To DRUM STRING For Head PWR.

(13) Point of Origin	(14) Destination	(15) Sender Name (Sign and PRINT)	(16) Date/Time	(17) Sender Comments
A21-104	222-S	Robert R. Reynolds for M.C. Jones	8/23/96 0910	
(18) Inquiries By (Sign and PRINT)	(19) Inquiries By (Sign and PRINT)	(20) Date/Time	(21) Date/Time	(22) Receiver Comments
Robert R. Reynolds	Robert R. Reynolds	8/23/96 1100	8/23/96 1100	
(23) Inquiries By (Sign and PRINT)	(24) Inquiries By (Sign and PRINT)	(25) Date/Time	(26) Date/Time	(27) Receiver Comments
Robert R. Reynolds	Robert R. Reynolds	8/23/96 1100	8/23/96 1100	
(28) Inquiries By (Sign and PRINT)	(29) Inquiries By (Sign and PRINT)	(30) Date/Time	(31) Date/Time	(32) Receiver Comments
Robert R. Reynolds	Robert R. Reynolds	8/23/96 1100	8/23/96 1100	
(33) Seal Intact Upon Receipt?	(34) Seal Intact Upon Receipt?	(35) Seal Date Consistent with this Record?	(36) Seal Date	(37) Seal Date
Yes ☒ No ☐	Yes ☒ No ☐	Yes ☒ No ☐	Yes ☒ No ☐	Yes ☒ No ☐

Sample No.

Yes ☒ No ☐

DISTRIBUTION: White - Office of Sample Management Yellow - Recipient of Sample Pink - Core Sampling, S&ES Goldened - Tank Farm Operations, S&E-43

BC-6000-309 (02/94)

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

COPY

1) Shipment Number 200W-08-TP (2) Sample Number 96-431 (3) Supervisor M.C. Jones
 4) Tank A2L-104 (5) Riser 12-A (6) Segment 14 (7) Core 104 (8) Cask Serial Number C-1029

Initiation Survey Data:

(9) FIELD (10) LABORATORY

Over Top Dose Rate 40.5 mcr/hr (11) Shipment Description FS-86-00122
 Side Dose Rate 60 mcr/hr (12) Work Package Number 10247
 Bottom Dose Rate 15 mcr/hr (13) Cask Seal Number 96-127
 Smearable Contamination <20 (14) Sampler Serial Number 8-13-86-10500
 (Alpha) <1K (15) Date and Time Sampler Unseated 30%
 (Beta-Gamma) <1K (16) Expected Liquid Content 70%
 (Signature) [Signature] (17) Expected Solid Content 2.5 RHR
 RCT* (HPT) [Signature] (18) G. Dose Rate Through Drill String 19
 RCT* (HPT) [Signature] (19) H. Expected Sample Length

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

216

HNF-SD-WM-DP-226, REV. 0

2) Field Comments

L105 Applied to Drill String for hole finish
 X-Ray showed sampler with PUL

(34) Laboratory Comments

Part of Origin <u>RAY-104</u>	(14) Destination <u>2225</u>	(15) Sender Name (Sign and Print) <u>James Sickle James Sickle</u>	(16) Date/Time <u>9-6-96</u>	(17) Sender Comments
Relinquished By (Sign and Print) <u>James Sickle James Sickle</u>	(21) Received By (Sign and Print) <u>Dan J. Keane</u>	(21) Date/Time <u>9-6-96</u>	(22) Receiver Comments	
Relinquished By (Sign and Print) <u>James Sickle James Sickle</u>	(24) Received By (Sign and Print) <u>Richard L. Chambers</u>	(25) Date/Time <u>9-6-96</u>	(26) Receiver Comments	
Relinquished By (Sign and Print) <u>James Sickle James Sickle</u>	(28) Received By (Sign and Print) <u>Richard L. Chambers</u>	(29) Date/Time <u>9-6-96</u>	(30) Receiver Comments	
(31) Seal Intact Upon Receipt? ☒ Yes ☐ No		(32) Seal Data Consistent with this Record? ☒ Yes ☐ No		
(33) Seal Intact Upon Release? ☒ Yes ☐ No		Cask Seal No. ☒ Yes ☐ No		

COPY

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

(11) Shipment Number <u>Flow-08-TF</u>	(12) Sample Number <u>96-3434</u>	(13) Supervisor <u>M.C. Jones</u>	(8) Cask Serial Number <u>C-1021</u>
(14) Tank <u>AW-104</u>	(15) Riser <u>12 A</u>	(16) Segment <u>17</u>	(7) Core <u>164</u>
Radiation Survey Data:			
(19) FIELD	(20) LABORATORY		
Over Top Dose Rate <u>20.5 mR/hr</u>	<u>20.5 mR/hr</u>		
Side Dose Rate <u>40 mR/hr</u>	<u>45 mR/hr</u>		
Bottom Dose Rate <u>30 mR/hr</u>	<u>30-45 mR/hr</u>		
Smearable Contamination <u>220</u>	<u>210</u>		
Alpha <u>21K</u>	<u>Alpha</u>		
Beta-Gamma <u>21K</u>	<u>21K</u>		
Gamma <u>21K</u>	<u>21K</u>		
RCF* (BPT)	RCF* (BPT)		
(Signature) <u>[Signature]</u>	(Signature) <u>[Signature]</u>		
(10) Shipment Description A. Work Package Number <u>ES-96-C0122</u> B. Cask Seal Number <u>10249</u> C. Sample Serial Number <u>96-123</u> D. Date and Time Sampler Unseated <u>8-14-96/0110</u> E. Expended Liquid Content <u>30%</u> F. Expended Solid Content <u>70%</u> G. Dose Rate Through Drill String <u>1.5 R/hr</u> H. Expected Sample Length <u>19"</u>			

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

219

(12) Field Comments <u>LAB ADDED TO DRILL STRING</u>		(34) Laboratory Comments	
(13) Point of Origin <u>AW-104</u>	(14) Destination <u>222-S</u>	(15) Source Name (Sign and PRINT) <u>James Sackett</u>	(16) Date/Time <u>9-2-96</u>
(19) Authorized By (Sign and PRINT) <u>James Sackett</u>	(20) Received By (Sign and PRINT) <u>James Sackett</u>	(21) Date/Time <u>9-2-96</u>	(17) Sender Comments
(22) Authorized By (Sign and PRINT) <u>James Sackett</u>	(23) Received By (Sign and PRINT) <u>James Sackett</u>	(24) Date/Time <u>9-2-96</u>	(22) Receiver Comments
(25) Authorized By (Sign and PRINT) <u>James Sackett</u>	(26) Received By (Sign and PRINT) <u>James Sackett</u>	(27) Date/Time <u>9-2-96</u>	(23) Receiver Comments
(27) Relinquished By (Sign and PRINT)	(28) Received By (Sign and PRINT)	(29) Date/Time	(24) Receiver Comments
(31) Seal Intact Upon Receipt? <u>Yes</u> ☒ Yes ☐ No		(32) Seal Intact Upon Receipt? <u>Yes</u> ☒ Yes ☐ No	
(33) Seal Data Consistent with this Record? <u>Yes</u> ☒ Yes ☐ No		(34) Seal Data Consistent with this Record? <u>Yes</u> ☒ Yes ☐ No	
Shipment No. <u>AW-104</u>		Cask Seal No. <u>10249</u>	
Sample No. <u>96-3434</u>		Sample No. <u>96-3434</u>	

DISTRIBUTION: White - Office of Sample Management Yellow - Recipient of Sample Pink - Case Sampling, S6-85 Goldenrod - Tank Farm Operations, S4-43 BC-6000-203 02/28/41

RGS

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

Shipment Number Low-08-JF (2) Sample Number 96-435 (3) Supervisor M.C. Jones
 Tank AW-104 (5) Riser 12A (6) Segment 18 (7) Core 164 (8) Cask Serial Number C-1049

Radiation Survey Data:

Over Top Dose Rate 2.5
 Side Dose Rate 22
 Bottom Dose Rate 15
 Smearable Contamination 20
 (Alpha) 21K
 (Beta-Gamma) 21K
 RCT* (HPT) Makery (Signature)
 RCT* (HPT) (JST) (Signature)

(33) LABORATORY

2.5
45
25
20
 (Alpha) 21K
 (Beta-Gamma) 21K
 (Signature) (JST)

(10) Shipment Description

A. Work Package Number ES-96-00122
 B. Cask Seal Number 10250
 C. Sampler Serial Number RGS-029
 D. Date and Time Sampler Unseated 8-14-96/0245
 E. Expected Liquid Content 30%
 F. Expected Solid Content 20%
 G. Dose Rate Through Drill String 2 R/hr
 H. Expected Sample Length 19"

220
 INFORMATION (Include statement of laboratory tests to be performed.)

HNF-SD-WM-DP-226, REV. 0

Field Comments

(34) Laboratory Comments

LIBF ADDED TO DRILL STRING.
 THIS IS A RGS SAMPLER. X-RAY SHOWS 1/2 TO 3/4 IN PACKET BETWEEN PISTON AND SAMPLER DRILL BUBBLES.

(13) Point of Origin <u>AW-104</u>	(14) Destination <u>222-S</u>	(15) Sender Name (Sign and PRINT) <u>James Sickett</u>	(16) Date/Time <u>8-16-96</u>	(17) Sender Comments
(20) Relinquished By (Sign and PRINT) <u>James Sickett</u>	(21) Received By (Sign and PRINT) <u>Monte L. Dunnington</u>	(20) Relinquished By (Sign and PRINT) <u>James Sickett</u>	(21) Received By (Sign and PRINT) <u>Monte L. Dunnington</u>	(22) Receiver Comments
(23) Relinquished By (Sign and PRINT) <u>James Sickett</u>	(24) Received By (Sign and PRINT) <u>Monte L. Dunnington</u>	(23) Relinquished By (Sign and PRINT) <u>James Sickett</u>	(24) Received By (Sign and PRINT) <u>Monte L. Dunnington</u>	(25) Receiver Comments
(26) Relinquished By (Sign and PRINT) <u>James Sickett</u>	(27) Received By (Sign and PRINT) <u>Monte L. Dunnington</u>	(26) Relinquished By (Sign and PRINT) <u>James Sickett</u>	(27) Received By (Sign and PRINT) <u>Monte L. Dunnington</u>	(28) Receiver Comments
(29) Relinquished By (Sign and PRINT) <u>James Sickett</u>	(30) Received By (Sign and PRINT) <u>Monte L. Dunnington</u>	(29) Relinquished By (Sign and PRINT) <u>James Sickett</u>	(30) Received By (Sign and PRINT) <u>Monte L. Dunnington</u>	(31) Receiver Comments

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

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

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

Shipment No. ☒ Yes ☐ No

Cask Seal No. ☒ Yes ☐ No

Sample No. ☒ Yes ☐ No

DISTRIBUTION: White - Office of Sample Management

Yellow - Recipient of Sample

Pink - Core Sampling, S6-S5

Goldmod - Tank Farm Operations, S4-S3

BC-6000-309 (02/94)

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

Shipment Number 200W-08-TF (2) Sample Number 96-437 (3) Supervisor M.C. Jones

Tank AN-104 (5) Riser 12A (6) Segment 20 (7) Core 164 (8) Cask Serial Number C-1034

Radiation Survey Data:

(9) FIELD (33) LABORATORY

Over Top Dose Rate 1.5 mR/hr 1.5
 Side Dose Rate 50 mR/hr 45
 Bottom Dose Rate 34 mR/hr 30
 Smearable Contamination 220 200 (Alpha)
21000 41K (Beta-Gamma)
 RCT* James Holland RCT* James Holland (Signature)
 (HPT) (HPT)

(10) Shipment Description
 A. Work Package Number FS-96-00122
 B. Cask Seal Number 10219
 C. Sampler Serial Number 96-128
 D. Date and Time Sampler Unsealed 8-14-96/04:20
 E. Expected Liquid Content 30%
 F. Expected Solid Content 70%
 G. Dose Rate Through Drill String 2.3 R/hr
 H. Expected Sample Length 19"

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

222

HNF-SD-WM-DP-226, REV. 0

Field Comments

LIBC ADDED TO DRILL STRING.

Laboratory Comments

(13) Point of Origin AN-104 (14) Destination 222-S
 (15) Sender Name (Sign and PRINT) James Sickett
 (16) Date/Time 8-17-96
 (17) Sender Comments
 (18) Relinquished By (Sign and PRINT) James Sickett
 (19) Received By (Sign and PRINT) Jim Knight
 (20) Date/Time 8-17-96
 (21) Relinquished By (Sign and PRINT) James Sickett
 (22) Received By (Sign and PRINT) Jim Knight
 (23) Date/Time 8-17-96
 (24) Relinquished By (Sign and PRINT) James Sickett
 (25) Received By (Sign and PRINT) Jim Knight
 (26) Date/Time 8-17-96
 (27) Relinquished By (Sign and PRINT) James Sickett
 (28) Received By (Sign and PRINT) Jim Knight
 (29) Date/Time 8-17-96
 (30) Relinquished By (Sign and PRINT) James Sickett
 (31) Received By (Sign and PRINT) Jim Knight
 (32) Date/Time 8-17-96
 (33) Relinquished By (Sign and PRINT) James Sickett
 (34) Received By (Sign and PRINT) Jim Knight
 (35) Date/Time 8-17-96

(18) Seal Intact Upon Release? ☒ Yes ☐ No (31) Seal Intact Upon Receipt? ☒ Yes ☐ No
 (19) Seal Data Consistent with this Record? ☒ Yes ☐ No
 Cask Seal No. ☒ Yes ☐ No
 Sample No. ☒ Yes ☐ No

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

(1) Shipment Number 200W-08-IF (2) Sample Number Black #20 (3) Supervisor M.C. Jones
 Tank AX-104 (5) Riser 12-A (6) Segment Blank (7) Core 104 (8) Cask Serial Number 26-6

(9) FIELD
 Over Top Dose Rate LO.5 ME/HR
 Side Dose Rate LO.5 ME/HR
 Bottom Dose Rate LO.5 ME/HR
 Smearable Contamination 220
 CPM 631

(10) Shipment Description
 A. Work Package Number ES-96-00122
 B. Cask Seal Number 9178
 C. Sampler Serial Number 9178
 D. Date and Time Sampler Unseated 9-17-96 11184
 E. Expected Liquid Content 96-038
 F. Expected Solid Content 96-038
 G. Dose Rate Through Drill String 4-16-96 0150
 H. Expected Sample Length 100%
0%
<1.5 M R
19"

(11) INFORMATION (Include statement of laboratory tests to be performed.)
 RCT* James S. Sackels (HPT)
 RCT* James S. Sackels (HPT)
 RCT* James S. Sackels (HPT)

HNF-SD-WM-DP-226, REV. 0

223

(12) Laboratory Comments
 t20 Black Sample

(13) Point of Origin	(14) Destination	(15) Sender Name (Sign and PRINT)	(16) Date/Time	(17) Sender Comments
AX-104	222-S	James S. Sackels	9-17-96	
Relinquished By (Sign and PRINT)	Relinquished By (Sign and PRINT)	Relinquished By (Sign and PRINT)	Relinquished By (Sign and PRINT)	Relinquished By (Sign and PRINT)
James S. Sackels	James S. Sackels	James S. Sackels	James S. Sackels	James S. Sackels
Relinquished By (Sign and PRINT)	Relinquished By (Sign and PRINT)	Relinquished By (Sign and PRINT)	Relinquished By (Sign and PRINT)	Relinquished By (Sign and PRINT)
James S. Sackels	James S. Sackels	James S. Sackels	James S. Sackels	James S. Sackels
Relinquished By (Sign and PRINT)	Relinquished By (Sign and PRINT)	Relinquished By (Sign and PRINT)	Relinquished By (Sign and PRINT)	Relinquished By (Sign and PRINT)
James S. Sackels	James S. Sackels	James S. Sackels	James S. Sackels	James S. Sackels

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

Shipment No. ☒ Yes ☐ No
 Cask Seal No. ☒ Yes ☐ No
 Sample No. ☒ Yes ☐ No

DISTRIBUTION: White - Office of Sample Management Yellow - Recipient of Sample Pink - Core Sampling, S6-85 Goldenrod - Tank Farm Operations, S4-43 BC-6000-303 (02/94)

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

Shipment Number

(2) Sample Number

(3) Supervisor

(8) Cask Serial Number

Tank AW-104

(5) Riser RA

(6) Segment N/A

(7) Core

(8) Cask Serial Number

Radiation Survey Date:

(9) FIELD

(33) LABORATORY

(10) Shipment Description

Over Top Dose Rate

(11) Package Number

(12) Cask Seal Number

(13) Sampler Serial Number

(14) Date and Time Sampler Unseated

(15) Expected Liquid Content

(16) Expected Solid Content

(17) Dose Rate Through Drill String

(18) Expected Sample Length

Side Dose Rate

(19) Package Number

(20) Cask Seal Number

(21) Sampler Serial Number

(22) Date and Time Sampler Unseated

(23) Expected Liquid Content

(24) Expected Solid Content

(25) Dose Rate Through Drill String

(26) Expected Sample Length

Bottom Dose Rate

(27) Package Number

(28) Cask Seal Number

(29) Sampler Serial Number

(30) Date and Time Sampler Unseated

(31) Expected Liquid Content

(32) Expected Solid Content

(33) Dose Rate Through Drill String

(34) Expected Sample Length

Smearable Contamination

(35) Package Number

(36) Cask Seal Number

(37) Sampler Serial Number

(38) Date and Time Sampler Unseated

(39) Expected Liquid Content

(40) Expected Solid Content

(41) Dose Rate Through Drill String

(42) Expected Sample Length

Smearable Contamination

(43) Package Number

(44) Cask Seal Number

(45) Sampler Serial Number

(46) Date and Time Sampler Unseated

(47) Expected Liquid Content

(48) Expected Solid Content

(49) Dose Rate Through Drill String

(50) Expected Sample Length

Smearable Contamination

(51) Package Number

(52) Cask Seal Number

(53) Sampler Serial Number

(54) Date and Time Sampler Unseated

(55) Expected Liquid Content

(56) Expected Solid Content

(57) Dose Rate Through Drill String

(58) Expected Sample Length

Smearable Contamination

(59) Package Number

(60) Cask Seal Number

(61) Sampler Serial Number

(62) Date and Time Sampler Unseated

(63) Expected Liquid Content

(64) Expected Solid Content

(65) Dose Rate Through Drill String

(66) Expected Sample Length

Smearable Contamination

(67) Package Number

(68) Cask Seal Number

(69) Sampler Serial Number

(70) Date and Time Sampler Unseated

(71) Expected Liquid Content

(72) Expected Solid Content

(73) Dose Rate Through Drill String

(74) Expected Sample Length

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

224

HNF-SD-WM-DP-226, REV. 0

Field Comments

Laboratory Comments

LIBC Blank

(1) Point of Origin

(14) Destination

(15) Sender Name (Sign and Print)

(16) Receiver By (Sign and Print)

(17) Sender Comments

(18) Date/Time

(19) Receiver By (Sign and Print)

(20) Receiver Comments

(21) Point of Origin

(24) Destination

(25) Sender Name (Sign and Print)

(26) Receiver By (Sign and Print)

(27) Sender Comments

(28) Date/Time

(29) Receiver By (Sign and Print)

(30) Receiver Comments

(31) Point of Origin

(34) Destination

(35) Sender Name (Sign and Print)

(36) Receiver By (Sign and Print)

(37) Sender Comments

(38) Date/Time

(39) Receiver By (Sign and Print)

(40) Receiver Comments

(41) Point of Origin

(44) Destination

(45) Sender Name (Sign and Print)

(46) Receiver By (Sign and Print)

(47) Sender Comments

(48) Date/Time

(49) Receiver By (Sign and Print)

(50) Receiver Comments

(51) Point of Origin

(54) Destination

(55) Sender Name (Sign and Print)

(56) Receiver By (Sign and Print)

(57) Sender Comments

(58) Date/Time

(59) Receiver By (Sign and Print)

(60) Receiver Comments

(61) Point of Origin

(64) Destination

(65) Sender Name (Sign and Print)

(66) Receiver By (Sign and Print)

(67) Sender Comments

(68) Date/Time

(69) Receiver By (Sign and Print)

(70) Receiver Comments

(71) Point of Origin

(74) Destination

(75) Sender Name (Sign and Print)

(76) Receiver By (Sign and Print)

(77) Sender Comments

(78) Date/Time

(79) Receiver By (Sign and Print)

(80) Receiver Comments

(81) Point of Origin

(84) Destination

(85) Sender Name (Sign and Print)

(86) Receiver By (Sign and Print)

(87) Sender Comments

(88) Date/Time

(89) Receiver By (Sign and Print)

(90) Receiver Comments

(91) Point of Origin

(94) Destination

(95) Sender Name (Sign and Print)

(96) Receiver By (Sign and Print)

(97) Sender Comments

(98) Date/Time

(99) Receiver By (Sign and Print)

(100) Receiver Comments

(101) Point of Origin

(104) Destination

(105) Sender Name (Sign and Print)

(106) Receiver By (Sign and Print)

(107) Sender Comments

(108) Date/Time

(109) Receiver By (Sign and Print)

(110) Receiver Comments

(111) Point of Origin

(114) Destination

(115) Sender Name (Sign and Print)

(116) Receiver By (Sign and Print)

(117) Sender Comments

(118) Date/Time

(119) Receiver By (Sign and Print)

(120) Receiver Comments

HNF-SD-WM-DP-226, REV. 0

PHOTOGRAPHS

HNF-SD-WM-DP-226, REV. 0

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AN-104 Core 163 Segment #1

9-25-96

9-25-96

AN-104 Core 163 Segment #2

AN-104 Core 163 Segment #4

9-25-96

AN-104 Core 163 Segment #5

10-21-96

AN-104 Cve 163 Segment #6

10-10-96

9-26-86

AN-104 Core 163 Segment # 7

AW-104 Core 163 Segment #8

9-26-96

9-26-96

Segment #9

AN-104 Core 163

AN-104 Core 163 Segment #11

10-25-96

AN-104 Core 163 Segment # 12

10-30-96

10-25-96

Segment #14

Cue 163

AN-104

AN-1041 Core 163 Segment #16

9-26-96

AN-104 Core 163 Segment #18 11/11/96

10-30-96

AN-104 Core 163 Segment #20 10-2-96

AN-104 Core 164 Segment II 1 8-28-96

8-28-96

Segment #3

AN-104 Core 164

5/28/96

Segment #4

AN-104 Core 164

AW-104 Core 164 Seg # 5

9-9-96
9-9-2006

8-29-98

Segment #6

Core 164

AW-104

8-29-96

Segment #7

Coe 164

AW-104

AN-004 Core 164 Seg 08 9-9-91 9-22-94

AN-104 Core 164 Seg #9 9-18-96

AN-104

Core 164

Seg # 10 9-18-96

8-29-96

Segment #11

AN-104 Cae 164

AN-104 Core 164 Sig # 12

8-29-96

AN-104 Core 164 Sig #13 8-29-96

AN-104

Cote 164

Seg # 14

9-18-96

AN-104

Core 164

9-12-96

AN-104 Core 164

Seg # 19

9-12-96

AN-104 Core 1641 Segment #20

9-25-96

9-24-96

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HNF-SD-WM-DP-226, REV. 0

SAMPLE HANDLING

LABCORE Data Entry Template for Worklist# 12298

Analyst:

CE

Instrument: BA000

Book #

NA

Method: LO-160-103 Rev/Mod

BO

Worklist Comment: AN-104 C164 SEG # 1 RISER 12A EXTRUSION

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	INSTCHK01				EXTRUD01	SOLID	<u>20</u>	<u>20.01</u>	<u>N/A</u>	
		2	INSTCHK02				EXTRUD01	SOLID	<u>500</u>	<u>500.07</u>	<u>N/A</u>	
96001174	AN-104	3	SAMPLE	S96T004553	0		DLIQVOL1	SOLID	<u>N/A</u>	<u>230</u>		ml
96001174	AN-104	4	SAMPLE	S96T004553	0		DLIQWT01	SOLID	<u>N/A</u>	<u>282.6</u>		g
96001174	AN-104	5	SAMPLE	S96T004553	0		EST.G/ML	SOLID	<u>N/A</u>	<u>1.22</u>		g/mL
96001174	AN-104	6	SAMPLE	S96T004553	0		EXTRUD01	SOLID	<u>N/A</u>	<u>complete</u>		
96001174	AN-104	7	SAMPLE	S96T004553	0		LLIQWT01	SOLID	<u>N/A</u>	<u>55</u>		g
96001174	AN-104	8	SAMPLE	S96T004553	0		NOTEBOOK	SOLID	<u>N/A</u>	<u>11-1343</u>		
96001174	AN-104	9	SAMPLE	S96T004553	0		SLDVOL01	SOLID	<u>N/A</u>	<u>NA</u>		ml
96001174	AN-104	10	SAMPLE	S96T004553	0		SLDWT-01	SOLID	<u>N/A</u>	<u>35.4</u>		g
96001174	AN-104	11	SAMPLE	S96T004553	0		APPEAR01	SOLID	<u>N/A</u>	<u>complete</u>		
96001174	AN-104	12	SAMPLE	S96T004553	0		ORGVOL01	SOLID	<u>N/A</u>	<u>0</u>		ml

Final page for worklist # 12298

Analyst Signature

Date

CSL 8-28-96
Berhard Buffin II
8-30-96

Analyst Signature

Date

CSL 8-28-96
CSL

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# 12299

Analyst: EL Instrument: BA000 Book # NA

Method: LO-160-103 Rev/Mod B0

Worklist Comment: AN-104 C164 SEG # 2 RISER 12A EXTRUSION

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	INSTCHK01				EXTRUD01	SOLID	<u>20</u>	<u>20.01</u>	<u>N/A</u>	
		2	INSTCHK02				EXTRUD01	SOLID	<u>500</u>	<u>500.07</u>	<u>N/A</u>	
96001174	AN-104	3	SAMPLE	S96T004554	0		DLIQVOL1	SOLID	<u>N/A</u>	<u>250</u>		ml
96001174	AN-104	4	SAMPLE	S96T004554	0		DLIQWT01	SOLID	<u>N/A</u>	<u>369.7</u>		g
96001174	AN-104	5	SAMPLE	S96T004554	0		EST.G/ML	SOLID	<u>N/A</u>	<u>1.48</u>		g/ml
96001174	AN-104	6	SAMPLE	S96T004554	0		EXTRUD01	SOLID	<u>N/A</u>	<u>complete</u>		
96001174	AN-104	7	SAMPLE	S96T004554	0		LLIQWT01	SOLID	<u>N/A</u>	<u>55</u>		g
96001174	AN-104	8	SAMPLE	S96T004554	0		NOTEBOOK	SOLID	<u>N/A</u>	<u>NA/1343</u>		
96001174	AN-104	9	SAMPLE	S96T004554	0		SLDVOL01	SOLID	<u>N/A</u>	<u>NA</u>		ml
96001174	AN-104	10	SAMPLE	S96T004554	0		SLDWT-01	SOLID	<u>N/A</u>	<u>0</u>		g
96001174	AN-104	11	SAMPLE	S96T004554	0		APPEAR01	SOLID	<u>N/A</u>	<u>complete</u>		
96001174	AN-104	12	SAMPLE	S96T004554	0		ORGVOL01	SOLID	<u>N/A</u>	<u>0</u>		ml

Final page for worklist # 12299

CEL 8-28-96
Analyst Signature Date
Berkman Buffen IT
8-30-96

CEL 8-28-96
Analyst Signature Date

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 12300

Analyst: CE Instrument: BA000 Book # 128

Method: LO-160-103 Rev/Mod DO

Worklist Comment: AN-104 C164 SEG # 3 RISER 12A EXTRUSION

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 INSTCHK01			EXTRUD01	SOLID	<u>20</u>	<u>20.01</u>	<u>N/A</u>	
		2 INSTCHK02			EXTRUD01	SOLID	<u>500</u>	<u>500.07</u>	<u>N/A</u>	
96001174	AN-104	3. SAMPLE	S96T004555	0	DLIQVOL1	SOLID	<u>N/A</u>	<u>255</u>		mL
96001174	AN-104	4 SAMPLE	S96T004555	0	DLIQWT01	SOLID	<u>N/A</u>	<u>385.9</u>		g
96001174	AN-104	5 SAMPLE	S96T004555	0	EST.G/ML	SOLID	<u>N/A</u>	<u>1.51</u>		g/mL
96001174	AN-104	6 SAMPLE	S96T004555	0	EXTRUD01	SOLID	<u>N/A</u>	<u>complete</u>		
96001174	AN-104	7 SAMPLE	S96T004555	0	LLIQWT01	SOLID	<u>N/A</u>	<u><5</u>		g
96001174	AN-104	8 SAMPLE	S96T004555	0	NOTEBOOK	SOLID	<u>N/A</u>	<u>N-1343</u>		
96001174	AN-104	9 SAMPLE	S96T004555	0	SLDVOL01	SOLID	<u>N/A</u>	<u>NA</u>		mL
96001174	AN-104	10 SAMPLE	S96T004555	0	SLDWT-01	SOLID	<u>N/A</u>	<u>0</u>		g
96001174	AN-104	11 SAMPLE	S96T004555	0	APPEAR01	SOLID	<u>N/A</u>	<u>complete</u>		
96001174	AN-104	12 SAMPLE	S96T004555	0	ORGVOL01	SOLID	<u>N/A</u>	<u>0</u>		mL

Final page for worklist # 12300

CE 8-28-96
Analyst Signature Date
Bethann D. Blythe II
8-30-96

CE 8-28-96
Analyst Signature Date

Data Entry Comments:

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

08/26/96 13:08

LABCORE Data Entry Template for Worklist# 12301

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

Worklist Comment: AN-104 C164 SEG # 11 RISER 12A EXTRUSION

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	INSTCHK01				EXTRUD01	SOLID	<u>20</u>	<u>20.00</u>	<u>N/A</u>	
		2	INSTCHK02				EXTRUD01	SOLID	<u>500</u>	<u>500.07</u>	<u>N/A</u>	
96001174	AN-104	3	SAMPLE	S96T004556	0		DLIQVOL1	SOLID	<u>N/A</u>	<u>315</u>		ml
96001174	AN-104	4	SAMPLE	S96T004556	0		DLIQWT01	SOLID	<u>N/A</u>	<u>422.1</u>		g
96001174	AN-104	5	SAMPLE	S96T004556	0		EST.G/ML	SOLID	<u>N/A</u>	<u>1.34</u>		g/ml
96001174	AN-104	6	SAMPLE	S96T004556	0		EXTRUD01	SOLID	<u>N/A</u>	<u>complete</u>		
96001174	AN-104	7	SAMPLE	S96T004556	0		LLIQWT01	SOLID	<u>N/A</u>	<u>25</u>		g
96001174	AN-104	8	SAMPLE	S96T004556	0		NOTEBOOK	SOLID	<u>N/A</u>	<u>N-1343</u>		
96001174	AN-104	9	SAMPLE	S96T004556	0		SLDVOL01	SOLID	<u>N/A</u>	<u>NA</u>		ml
96001174	AN-104	10	SAMPLE	S96T004556	0		SLDWT-01	SOLID	<u>N/A</u>	<u>0</u>		g
96001174	AN-104	11	SAMPLE	S96T004556	0		APPEAR01	SOLID	<u>N/A</u>	<u>complete</u>		
96001174	AN-104	12	SAMPLE	S96T004556	0		ORGVOL01	SOLID	<u>N/A</u>	<u>0</u>		ml

Final page for worklist # 12301

CL 8-30-96
 Analyst Signature Date
Bertrand Duffin II
8-30-96

CL 8-30-96
 Analyst Signature Date

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 12302

Analyst: CE Instrument: BA000 Book # NA

Method: LO-160-103 Rev/Mod B0

Worklist Comment: AN-104 C164 SEG # 12 RISER 12A EXTRUSION

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	INSTCHK01				EXTRUD01	SOLID	<u>20</u>	<u>20.00</u>	<u>N/A</u>	
		2	INSTCHK02				EXTRUD01	SOLID	<u>500</u>	<u>500.07</u>	<u>N/A</u>	
96001174	AN-104	3	SAMPLE	S96T004557	0		DLIQVOL1	SOLID	<u>N/A</u>	<u>305</u>		ml
96001174	AN-104	4	SAMPLE	S96T004557	0		DLIQWT01	SOLID	<u>N/A</u>	<u>413.8</u>		g
96001174	AN-104	5	SAMPLE	S96T004557	0		EST.G/ML	SOLID	<u>N/A</u>	<u>1.36</u>		g/ml
96001174	AN-104	6	SAMPLE	S96T004557	0		EXTRUD01	SOLID	<u>N/A</u>	<u>complete</u>		
96001174	AN-104	7	SAMPLE	S96T004557	0		LLIQWT01	SOLID	<u>N/A</u>	<u><5</u>		g
96001174	AN-104	8	SAMPLE	S96T004557	0		NOTEBOOK	SOLID	<u>N/A</u>	<u>N-1343</u>		
96001174	AN-104	9	SAMPLE	S96T004557	0		SLDVOL01	SOLID	<u>N/A</u>	<u>NA</u>		ml
96001174	AN-104	10	SAMPLE	S96T004557	0		SLDWT-01	SOLID	<u>N/A</u>	<u>0</u>		g
96001174	AN-104	11	SAMPLE	S96T004557	0		APPEAR01	SOLID	<u>N/A</u>	<u>complete</u>		
96001174	AN-104	12	SAMPLE	S96T004557	0		ORGVOL01	SOLID	<u>N/A</u>	<u>0</u>		ml

Final page for worklist # 12302

CE 8-30-96
Analyst Signature Date
Bertrand Duffin II
8-30-96

CE 8-30-96
Analyst Signature Date

Data Entry Comments:

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

08/26/96 13:09

LABCORE Data Entry Template for Worklist# 12303

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

Worklist Comment: AN-104 C164 SEG # 13 RISER 12A EXTRUSION

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	INSTCHK01				EXTRUD01	SOLID	<u>20</u>	<u>20.00</u>	<u>N/A</u>	
		2	INSTCHK02				EXTRUD01	SOLID	<u>500</u>	<u>500.07</u>	<u>N/A</u>	
96001174	AN-104	3	SAMPLE	S96T004558	0		DLIQVOL1	SOLID	<u>N/A</u>	<u>230</u>		mL
96001174	AN-104	4	SAMPLE	S96T004558	0		DLIQWT01	SOLID	<u>N/A</u>	<u>311.4</u>		g
96001174	AN-104	5	SAMPLE	S96T004558	0		EST.G/ML	SOLID	<u>N/A</u>	<u>1.35</u>		g/mL
96001174	AN-104	6	SAMPLE	S96T004558	0		EXTRUD01	SOLID	<u>N/A</u>	<u>complete</u>		
96001174	AN-104	7	SAMPLE	S96T004558	0		LLIQWT01	SOLID	<u>N/A</u>	<u><5</u>		g
96001174	AN-104	8	SAMPLE	S96T004558	0		NOTEBOOK	SOLID	<u>N/A</u>	<u>N-1343</u>		
96001174	AN-104	9	SAMPLE	S96T004558	0		SLDVOL01	SOLID	<u>N/A</u>	<u>NA</u>		mL
96001174	AN-104	10	SAMPLE	S96T004558	0		SLDWT-01	SOLID	<u>N/A</u>	<u>92.4</u>		g
96001174	AN-104	11	SAMPLE	S96T004558	0		APPEAR01	SOLID	<u>N/A</u>	<u>complete</u>		
96001174	AN-104	12	SAMPLE	S96T004558	0		ORGVOL01	SOLID	<u>N/A</u>	<u>0</u>		mL

Final page for worklist # 12303

EE 8-30-96
 Analyst Signature Date
Bertie and Duffin II
 8-30-96

EE 8-30-96
 Analyst Signature Date

Data Entry Comments:

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

08/28/96 14:04

LABCORE Data Entry Template for Worklist# 12460

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

Worklist Comment: AN-104 C164 SEG # 4 RISER 12A EXTRUSION

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 INSTCHK01			EXTRUD01	SOLID	<u>20</u>	<u>20.01</u>	<u>N/A</u>	
		2 INSTCHK02			EXTRUD01	SOLID	<u>500</u>	<u>500.07</u>	<u>N/A</u>	
96001174	AN-104	3 SAMPLE	S96T004559	0	DLIQVOL1	SOLID	<u>N/A</u>	<u>310</u>		ml
96001174	AN-104	4 SAMPLE	S96T004559	0	DLIQWT01	SOLID	<u>N/A</u>	<u>409.6</u>		g
96001174	AN-104	5 SAMPLE	S96T004559	0	EST.G/ML	SOLID	<u>N/A</u>	<u>1.32</u>		g/ml
96001174	AN-104	6 SAMPLE	S96T004559	0	EXTRUD01	SOLID	<u>N/A</u>	<u>complete</u>		
96001174	AN-104	7 SAMPLE	S96T004559	0	LLIQWT01	SOLID	<u>N/A</u>	<u>25</u>		g
96001174	AN-104	8 SAMPLE	S96T004559	0	NOTEBOOK	SOLID	<u>N/A</u>	<u>11-1343</u>		
96001174	AN-104	9 SAMPLE	S96T004559	0	SLDVOL01	SOLID	<u>N/A</u>	<u>NA</u>		ml
96001174	AN-104	10 SAMPLE	S96T004559	0	SLDWT-01	SOLID	<u>N/A</u>	<u>0</u>		g
96001174	AN-104	11 SAMPLE	S96T004559	0	APPEAR01	SOLID	<u>N/A</u>	<u>complete</u>		
96001174	AN-104	12 SAMPLE	S96T004559	0	ORGVOL01	SOLID	<u>N/A</u>	<u>0</u>		ml

Final page for worklist # 12460

EC 8-30-96
 Analyst Signature Date

Bertram Buffin II
 8-30-96

EC 8-30-96
 Analyst Signature Date

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 12462

Analyst: EC Instrument: BA000 Book # NA

Method: LO-160-103 Rev/Mod BO

Worklist Comment: AN-104 C164 SEG # 6 RISER 12A EXTRUSION

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 INSTCHK01			EXTRUD01	SOLID	<u>20</u>	<u>20.00</u>	<u>N/A</u>	
		2 INSTCHK02			EXTRUD01	SOLID	<u>500</u>	<u>500.07</u>	<u>N/A</u>	
96001174	AN-104	3 SAMPLE	S96T004560	0	DLIQVOL1	SOLID	<u>N/A</u>	<u>0</u>		ml
96001174	AN-104	4 SAMPLE	S96T004560	0	DLIQWT01	SOLID	<u>N/A</u>	<u>0</u>		g
96001174	AN-104	5 SAMPLE	S96T004560	0	EST.G/ML	SOLID	<u>N/A</u>	<u>0</u>		g/mL
96001174	AN-104	6 SAMPLE	S96T004560	0	EXTRUD01	SOLID	<u>N/A</u>	<u>complete</u>		
96001174	AN-104	7 SAMPLE	S96T004560	0	LLIQWT01	SOLID	<u>N/A</u>	<u><5</u>		g
96001174	AN-104	8 SAMPLE	S96T004560	0	NOTEBOOK	SOLID	<u>N/A</u>	<u>N-1343</u>		
96001174	AN-104	9 SAMPLE	S96T004560	0	SLDVOL01	SOLID	<u>N/A</u>	<u>NA</u>		ml
96001174	AN-104	10 SAMPLE	S96T004560	0	SLDWT-01	SOLID	<u>N/A</u>	<u>0</u>		g
96001174	AN-104	11 SAMPLE	S96T004560	0	APPEAR01	SOLID	<u>N/A</u>	<u>complete</u>		
96001174	AN-104	12 SAMPLE	S96T004560	0	ORGVOL01	SOLID	<u>N/A</u>	<u>0</u>		ml

Final page for worklist # 12462

EC 8-30-96
Analyst Signature Date
Bertrand Griffin II
8-30-96

EC 8-30-96
Analyst Signature Date

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 12464

Analyst: DL Instrument: BA000 Book # N/A

Method: LO-160-103 Rev/Mod 00

Worklist Comment: AN-104 C164 SEG # 7 RISER 12A EXTRUSION

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 INSTCHK01			EXTRUD01	SOLID	<u>20</u>	<u>20.00</u>	<u>N/A</u>	
		2 INSTCHK02			EXTRUD01	SOLID	<u>500</u>	<u>500.87</u>	<u>N/A</u>	
96001174	AN-104	3 SAMPLE	S96T004561	0	DLIQVOL1	SOLID	<u>N/A</u>	<u>310</u>		ml
96001174	AN-104	4 SAMPLE	S96T004561	0	DLIQWT01	SOLID	<u>N/A</u>	<u>420.6</u>		g
96001174	AN-104	5 SAMPLE	S96T004561	0	EST.G/ML	SOLID	<u>N/A</u>	<u>1.36</u>		g/ml
96001174	AN-104	6 SAMPLE	S96T004561	0	EXTRUD01	SOLID	<u>N/A</u>	<u>complete</u>		
96001174	AN-104	7 SAMPLE	S96T004561	0	LLIQWT01	SOLID	<u>N/A</u>	<u>25</u>		g
96001174	AN-104	8 SAMPLE	S96T004561	0	NOTEBOOK	SOLID	<u>N/A</u>	<u>N-1343</u>		
96001174	AN-104	9 SAMPLE	S96T004561	0	SLDVOL01	SOLID	<u>N/A</u>	<u>NA</u>		ml
96001174	AN-104	10 SAMPLE	S96T004561	0	SLDWT-01	SOLID	<u>N/A</u>	<u>0</u>		g
96001174	AN-104	11 SAMPLE	S96T004561	0	APPEAR01	SOLID	<u>N/A</u>	<u>complete</u>		
96001174	AN-104	12 SAMPLE	S96T004561	0	ORGVOL01	SOLID	<u>N/A</u>	<u>0</u>		ml

Final page for worklist # 12464

CSL 8-30-96
Analyst Signature Date

CSL 8-30-96
Analyst Signature Date

Bertrand Duffin II
8-30-96

Data Entry Comments:

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

09/04/96 09:35

LABCORE Data Entry Template for Worklist# 12622

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

Worklist Comment: AN-104 C164 SEG # 5 RISER 12A EXTRUSION

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 INSTCHK01			EXTRUD01	SOLID	<u>20</u>	<u>20.00</u>	<u>N/A</u>	
		2 INSTCHK02			EXTRUD01	SOLID	<u>500</u>	<u>500.06</u>	<u>N/A</u>	
96001174	AN-104	3 SAMPLE	S96T004792	0	DLIQVOL1	SOLID	<u>N/A</u>	<u>315</u>		mL
96001174	AN-104	4 SAMPLE	S96T004792	0	DLIQWT01	SOLID	<u>N/A</u>	<u>436.5</u>		g
96001174	AN-104	5 SAMPLE	S96T004792	0	EST.G/ML	SOLID	<u>N/A</u>	<u>1.38</u>		g/mL
96001174	AN-104	6 SAMPLE	S96T004792	0	EXTRUD01	SOLID	<u>N/A</u>	<u>complete</u>		
96001174	AN-104	7 SAMPLE	S96T004792	0	LLIQWT01	SOLID	<u>N/A</u>	<u><5</u>		g
96001174	AN-104	8 SAMPLE	S96T004792	0	NOTEBOOK	SOLID	<u>N/A</u>	<u>N-1343</u>		
96001174	AN-104	9 SAMPLE	S96T004792	0	SLOVOL01	SOLID	<u>N/A</u>	<u>NA</u>		mL
96001174	AN-104	10 SAMPLE	S96T004792	0	SLDWT-01	SOLID	<u>N/A</u>	<u>0</u>		g
96001174	AN-104	11 SAMPLE	S96T004792	0	APPEAR01	SOLID	<u>N/A</u>	<u>complete</u>		
96001174	AN-104	12 SAMPLE	S96T004792	0	ORGVOL01	SOLID	<u>N/A</u>	<u>0</u>		mL

Final page for worklist # 12622

EC 9-10-96
Analyst Signature Date

EC 9-10-96
Analyst Signature Date

Bertrand Buffin II
9-11-96

Data Entry Comments:

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

09/04/96 09:36

LABCORE Data Entry Template for Worklist# 12623

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

Worklist Comment: AN-104 C164 SEG # 8 RISER 12A EXTRUSION

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	INSTCHK01				EXTRUD01	SOLID	<u>20</u>	<u>20.00</u>	<u>N/A</u>	
		2	INSTCHK02				EXTRUD01	SOLID	<u>500</u>	<u>500.06</u>	<u>N/A</u>	
96001174	AN-104	3	SAMPLE	S96T004793	0		DLIQVOL1	SOLID	<u>N/A</u>	<u>285</u>		ml
96001174	AN-104	4	SAMPLE	S96T004793	0		DLIQWT01	SOLID	<u>N/A</u>	<u>418.0</u>		g
96001174	AN-104	5	SAMPLE	S96T004793	0		EST.G/ML	SOLID	<u>N/A</u>	<u>1.46</u>		g/ml
96001174	AN-104	6	SAMPLE	S96T004793	0		EXTRUD01	SOLID	<u>N/A</u>	<u>complete</u>		
96001174	AN-104	7	SAMPLE	S96T004793	0		LLIQWT01	SOLID	<u>N/A</u>	<u><5</u>		g
96001174	AN-104	8	SAMPLE	S96T004793	0		NOTEBOOK	SOLID	<u>N/A</u>	<u>N-1343</u>		
96001174	AN-104	9	SAMPLE	S96T004793	0		SLDVOL01	SOLID	<u>N/A</u>	<u>NA</u>		ml
96001174	AN-104	10	SAMPLE	S96T004793	0		SLDWT-01	SOLID	<u>N/A</u>	<u>0</u>		g
96001174	AN-104	11	SAMPLE	S96T004793	0		APPEAR01	SOLID	<u>N/A</u>	<u>complete</u>		
96001174	AN-104	12	SAMPLE	S96T004793	0		ORGVOL01	SOLID	<u>N/A</u>	<u>0</u>		ml

Final page for worklist # 12623

CSL 9-10-96
 Analyst Signature Date
Bertrand Guffey II
 9-11-96

CSL 9-10-96
 Analyst Signature Date

Data Entry Comments:

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

09/04/96 09:37

LABCORE Data Entry Template for Worklist# 12624

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

Worklist Comment: AN-104 C164 SEG # 9 RISER 12A EXTRUSION

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 INSTCHK01			EXTRUD01	SOLID	<u>20</u>	<u>20.00</u>	<u>N/A</u>	
		2 INSTCHK02			EXTRUD01	SOLID	<u>500</u>	<u>500.06</u>	<u>N/A</u>	
96001174	AN-104	3 SAMPLE	S96T004794	0	DLIQVOL1	SOLID	<u>N/A</u>	<u>300</u>		ml
96001174	AN-104	4 SAMPLE	S96T004794	0	DLIQWT01	SOLID	<u>N/A</u>	<u>413.1</u>		g
96001174	AN-104	5 SAMPLE	S96T004794	0	EST.G/ML	SOLID	<u>N/A</u>	<u>1.37</u>		g/ml
96001174	AN-104	6 SAMPLE	S96T004794	0	EXTRUD01	SOLID	<u>N/A</u>	<u>complete</u>		
96001174	AN-104	7 SAMPLE	S96T004794	0	LLIQWT01	SOLID	<u>N/A</u>	<u><5</u>		g
96001174	AN-104	8 SAMPLE	S96T004794	0	NOTEBOOK	SOLID	<u>N/A</u>	<u>N-1343</u>		
96001174	AN-104	9 SAMPLE	S96T004794	0	SLDVOL01	SOLID	<u>N/A</u>	<u>NA</u>		ml
96001174	AN-104	10 SAMPLE	S96T004794	0	SLDWT-01	SOLID	<u>N/A</u>	<u>0</u>		g
96001174	AN-104	11 SAMPLE	S96T004794	0	APPEAR01	SOLID	<u>N/A</u>	<u>complete</u>		
96001174	AN-104	12 SAMPLE	S96T004794	0	ORGVOL01	SOLID	<u>N/A</u>	<u>0</u>		ml

Final page for worklist # 12624

Analyst Signature

Date

EE 9-10-96
Bohannon Giff II
9-11-96

Analyst Signature

Date

EE 9-10-96

Data Entry Comments:

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

09/09/96 09:47

LABCORE Data Entry Template for Worklist# 12748

Analyst: EC Instrument: BA000 Book # NAMethod: LO-160-103 Rev/Mod B30

Worklist Comment: AN-104 C164 SEG # 10 RISER 12A EXTRUSION

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	INSTCHK01				EXTRUD01	SOLID	<u>20</u>	<u>20.00</u>	<u>N/A</u>	
		2	INSTCHK02				EXTRUD01	SOLID	<u>500</u>	<u>500.05</u>	<u>N/A</u>	
96001174	AN-104	3	SAMPLE	S96T004910	0		DLIQVOL1	SOLID	<u>N/A</u>	<u>245</u>		mL
96001174	AN-104	4	SAMPLE	S96T004910	0		DLIQWT01	SOLID	<u>N/A</u>	<u>367.2</u>		g
96001174	AN-104	5	SAMPLE	S96T004910	0		EST.G/ML	SOLID	<u>N/A</u>	<u>1.49</u>		g/mL
96001174	AN-104	6	SAMPLE	S96T004910	0		EXTRUD01	SOLID	<u>N/A</u>	<u>complete</u>		
96001174	AN-104	7	SAMPLE	S96T004910	0		LLIQWT01	SOLID	<u>N/A</u>	<u><5</u>		g
96001174	AN-104	8	SAMPLE	S96T004910	0		NOTEBOOK	SOLID	<u>N/A</u>	<u>N-1343</u>		
96001174	AN-104	9	SAMPLE	S96T004910	0		SLDVOL01	SOLID	<u>N/A</u>	<u>NA</u>		mL
96001174	AN-104	10	SAMPLE	S96T004910	0		SLDWT-01	SOLID	<u>N/A</u>	<u>0</u>		g
96001174	AN-104	11	SAMPLE	S96T004910	0		APPEAR01	SOLID	<u>N/A</u>	<u>complete</u>		
96001174	AN-104	12	SAMPLE	S96T004910	0		ORGVOL01	SOLID	<u>N/A</u>	<u>0</u>		mL

Final page for worklist # 12748

Analyst Signature

Date

9-13-96

Bernard Duffin II

9-13-96

Analyst Signature

Date

9-13-96

9-13-96

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 12749

Analyst: EL Instrument: BA000 Book # NA

Method: LO-160-103 Rev/Mod 00

Worklist Comment: AN-104 C164 SEG # 14 RISER 12A EXTRUSION

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	INSTCHK01				EXTRUD01	SOLID	<u>20</u>	<u>20.00</u>	<u>N/A</u>	
		2	INSTCHK02				EXTRUD01	SOLID	<u>500</u>	<u>500.05</u>	<u>N/A</u>	
96001174	AN-104	3	SAMPLE	S96T004911	0		DLIQVOL1	SOLID	<u>N/A</u>	<u>0</u>		ml
96001174	AN-104	4	SAMPLE	S96T004911	0		DLIQWT01	SOLID	<u>N/A</u>	<u>0</u>		g
96001174	AN-104	5	SAMPLE	S96T004911	0		EST.G/ML	SOLID	<u>N/A</u>	<u>0</u>		g/mL
96001174	AN-104	6	SAMPLE	S96T004911	0		EXTRUD01	SOLID	<u>N/A</u>	<u>complete</u>		
96001174	AN-104	7	SAMPLE	S96T004911	0		LLIQWT01	SOLID	<u>N/A</u>	<u>5</u>		g
96001174	AN-104	8	SAMPLE	S96T004911	0		NOTEBOOK	SOLID	<u>N/A</u>	<u>N-1343</u>	<u>N-1343</u>	
96001174	AN-104	9	SAMPLE	S96T004911	0		SLDVOL01	SOLID	<u>N/A</u>	<u>NA</u>		ml
96001174	AN-104	10	SAMPLE	S96T004911	0		SLDWT-01	SOLID	<u>N/A</u>	<u>361.6</u>		g
96001174	AN-104	11	SAMPLE	S96T004911	0		APPEAR01	SOLID	<u>N/A</u>	<u>complete</u>		
96001174	AN-104	12	SAMPLE	S96T004911	0		ORGVOL01	SOLID	<u>N/A</u>	<u>0</u>		ml

Final page for worklist # 12749

EL 9-13-96
Analyst Signature Date
Berkman
9-13-96

EL 9-13-96
Analyst Signature Date

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 12750

Analyst: EC Instrument: BA000 Book # NA

Method: LO-160-103 Rev/Mod _____

Worklist Comment: AN-104 C164 SEG # 15 RISER 12A EXTRUSION

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	INSTCHK01				EXTRUD01	SOLID	<u>20</u>	<u>20.00</u>	<u>N/A</u>	
		2	INSTCHK02				EXTRUD01	SOLID	<u>500</u>	<u>500.05</u>	<u>N/A</u>	
96001174	AN-104	3	SAMPLE	S96T004912	0		DLIQVOL1	SOLID	<u>N/A</u>	<u>0</u>		mL
96001174	AN-104	4	SAMPLE	S96T004912	0		DLIQWT01	SOLID	<u>N/A</u>	<u>0</u>		g
96001174	AN-104	5	SAMPLE	S96T004912	0		EST.G/ML	SOLID	<u>N/A</u>	<u>0</u>		g/mL
96001174	AN-104	6	SAMPLE	S96T004912	0		EXTRUD01	SOLID	<u>N/A</u>	<u>complete</u>		
96001174	AN-104	7	SAMPLE	S96T004912	0		LLIQWT01	SOLID	<u>N/A</u>	<u>ES</u>		g
96001174	AN-104	8	SAMPLE	S96T004912	0		NOTEBOOK	SOLID	<u>N/A</u>	<u>N1343</u>		
96001174	AN-104	9	SAMPLE	S96T004912	0		SLDVOL01	SOLID	<u>N/A</u>	<u>NA</u>		mL
96001174	AN-104	10	SAMPLE	S96T004912	0		SLDWT-01	SOLID	<u>N/A</u>	<u>369.5</u>		g
96001174	AN-104	11	SAMPLE	S96T004912	0		APPEAR01	SOLID	<u>N/A</u>	<u>complete</u>		
96001174	AN-104	12	SAMPLE	S96T004912	0		ORGVOL01	SOLID	<u>N/A</u>	<u>0</u>		mL

Final page for worklist # 12750

EC 9-13-96
Analyst Signature Date
Bernard Giffen II
9-13-96

EC 9-13-96
Analyst Signature Date

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 12751

Analyst: cc Instrument: BA000 Book # NA

Method: LO-160-103 Rev/Mod DD

Worklist Comment: AN-104 C164 SEG # 16 RISER 12A EXTRUSION

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	INSTCHK01				EXTRUD01	SOLID	<u>20</u>	<u>20.00</u>	<u>N/A</u>	
		2	INSTCHK02				EXTRUD01	SOLID	<u>500</u>	<u>500.06</u>	<u>N/A</u>	
96001174	AN-104	3	SAMPLE	S96T004913	0		DLIQVOL1	SOLID	<u>N/A</u>	<u>0</u>		ml
96001174	AN-104	4	SAMPLE	S96T004913	0		DLIQWT01	SOLID	<u>N/A</u>	<u>0</u>		g
96001174	AN-104	5	SAMPLE	S96T004913	0		EST.G/ML	SOLID	<u>N/A</u>	<u>0</u>		g/ml
96001174	AN-104	6	SAMPLE	S96T004913	0		EXTRUD01	SOLID	<u>N/A</u>	<u>complete</u>		
96001174	AN-104	7	SAMPLE	S96T004913	0		LLIQWT01	SOLID	<u>N/A</u>	<u>276.10</u>		g
96001174	AN-104	8	SAMPLE	S96T004913	0		NOTEBOOK	SOLID	<u>N/A</u>	<u>N-1343</u>		
96001174	AN-104	9	SAMPLE	S96T004913	0		SLDVOL01	SOLID	<u>N/A</u>	<u>NA</u>		ml
96001174	AN-104	10	SAMPLE	S96T004913	0		SLDWT-01	SOLID	<u>N/A</u>	<u>391.8</u>		g
96001174	AN-104	11	SAMPLE	S96T004913	0		APPEAR01	SOLID	<u>N/A</u>	<u>complete</u>		
96001174	AN-104	12	SAMPLE	S96T004913	0		ORGVOL01	SOLID	<u>N/A</u>	<u>0</u>		ml

Final page for worklist # 12751

Analyst Signature

Date

9-13-96

Analyst Signature

Date

9-13-96

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 12753

Analyst: CC Instrument: BA000 Book # NA

Method: LO-160-103 Rev/Mod B0

Worklist Comment: AN-104 C164 SEG # 17 RISER 12A EXTRUSION

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	INSTCHK01				EXTRUD01	SOLID	<u>20</u>	<u>20.00</u>	<u>N/A</u>	
		2	INSTCHK02				EXTRUD01	SOLID	<u>500</u>	<u>500.06</u>	<u>N/A</u>	
96001174	AN-104	3	SAMPLE	S96T004914	0		DLIQVOL1	SOLID	<u>N/A</u>	<u>0</u>		mL
96001174	AN-104	4	SAMPLE	S96T004914	0		DLIQWT01	SOLID	<u>N/A</u>	<u>0</u>		g
96001174	AN-104	5	SAMPLE	S96T004914	0		EST.G/ML	SOLID	<u>N/A</u>	<u>0</u>		g/mL
96001174	AN-104	6	SAMPLE	S96T004914	0		EXTRUD01	SOLID	<u>N/A</u>	<u>complete</u>		
96001174	AN-104	7	SAMPLE	S96T004914	0		LLIQWT01	SOLID	<u>N/A</u>	<u><10</u>		g
96001174	AN-104	8	SAMPLE	S96T004914	0		NOTEBOOK	SOLID	<u>N/A</u>	<u>N-1343</u>		
96001174	AN-104	9	SAMPLE	S96T004914	0		SLDVOL01	SOLID	<u>N/A</u>	<u>NA</u>		mL
96001174	AN-104	10	SAMPLE	S96T004914	0		SLDWT-01	SOLID	<u>N/A</u>	<u>392.3</u>		g
96001174	AN-104	11	SAMPLE	S96T004914	0		APPEAR01	SOLID	<u>N/A</u>	<u>complete</u>		
96001174	AN-104	12	SAMPLE	S96T004914	0		ORGVOL01	SOLID	<u>N/A</u>	<u>0</u>		mL

Final page for worklist # 12753

CC 9-13-96
Analyst Signature Date
Burkhard B. H. II
9-13-96

CC 9-13-96
Analyst Signature Date

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 12754

Analyst: EL Instrument: BA000 Book # NA

Method: LO-160-103 Rev/Mod 80

Worklist Comment: AN-104 C164 SEG # 19 RISER 12A EXTRUSION

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 INSTCHK01			EXTRUD01	SOLID	<u>20</u>	<u>20.00</u>	<u>N/A</u>	
		2 INSTCHK02			EXTRUD01	SOLID	<u>500</u>	<u>500.06</u>	<u>N/A</u>	
96001174	AN-104	3 SAMPLE	S96T004915	0	DLIQVOL1	SOLID	<u>N/A</u>	<u>0</u>		ml
96001174	AN-104	4 SAMPLE	S96T004915	0	DLIQWT01	SOLID	<u>N/A</u>	<u>0</u>		g
96001174	AN-104	5 SAMPLE	S96T004915	0	EST.G/ML	SOLID	<u>N/A</u>	<u>0</u>		g/ml
96001174	AN-104	6 SAMPLE	S96T004915	0	EXTRUD01	SOLID	<u>N/A</u>	<u>complete</u>		
96001174	AN-104	7 SAMPLE	S96T004915	0	LLIQWT01	SOLID	<u>N/A</u>	<u><10</u>		g
96001174	AN-104	8 SAMPLE	S96T004915	0	NOTEBOOK	SOLID	<u>N/A</u>	<u>N-1343</u>		
96001174	AN-104	9 SAMPLE	S96T004915	0	SLDVOL01	SOLID	<u>N/A</u>	<u>NA</u>		ml
96001174	AN-104	10 SAMPLE	S96T004915	0	SLDWT-01	SOLID	<u>N/A</u>	<u>399.5</u>		g
96001174	AN-104	11 SAMPLE	S96T004915	0	APPEAR01	SOLID	<u>N/A</u>	<u>complete</u>		
96001174	AN-104	12 SAMPLE	S96T004915	0	ORGVOL01	SOLID	<u>N/A</u>	<u>0</u>		ml

Final page for worklist # 12754

CSE 9-13-96
Analyst Signature Date
Brian Duff
9-13-96

CSE 9-13-96
Analyst Signature Date

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 13287

Analyst: EC Instrument: BA000 Book # NA

Method: LO-160-103 Rev/Mod BD

Worklist Comment: AN-104 C164 FIELD BLANK RISER 12A EXTRUSION

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 INSTCHK01			EXTRUD01	SOLID	<u>20</u>	<u>20.01</u>	<u>20.00</u>	N/A
		2 INSTCHK02			EXTRUD01	SOLID	<u>500</u>	<u>500.08</u>	<u>500.08</u>	N/A
96001174	AN-104	3 SAMPLE	S96T005022	0	DLIQVOL1	SOLID	N/A	<u>250</u>		mL
96001174	AN-104	4 SAMPLE	S96T005022	0	DLIQWT01	SOLID	N/A	<u>268.2</u>		g
96001174	AN-104	5 SAMPLE	S96T005022	0	EST. G/ML	SOLID	N/A	<u>1.07</u>		g/mL
96001174	AN-104	6 SAMPLE	S96T005022	0	EXTRUD01	SOLID	N/A	<u>complete</u>		
96001174	AN-104	7 SAMPLE	S96T005022	0	LLIQWT01	SOLID	N/A	<u>LS</u>		g
96001174	AN-104	8 SAMPLE	S96T005022	0	NOTEBOOK	SOLID	N/A	<u>N-1343</u>		
96001174	AN-104	9 SAMPLE	S96T005022	0	SLDVOL01	SOLID	N/A	<u>NA</u>		mL
96001174	AN-104	10 SAMPLE	S96T005022	0	SLDWT-01	SOLID	N/A	<u>0</u>		g
96001174	AN-104	11 SAMPLE	S96T005022	0	APPEAR01	SOLID	N/A	<u>complete</u>		
96001174	AN-104	12 SAMPLE	S96T005022	0	ORGVOL01	SOLID	N/A	<u>0</u>		mL

Final page for worklist # 13287

EC 9-25-96
Analyst Signature Date

EC 9-25-96
Analyst Signature Date

Bertrand Buffin II
10-1-96

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 13288

Analyst: CC Instrument: BA000 Book # NA

Method: LO-160-103 Rev/Mod B0

Worklist Comment: AN-104 C164 SEG # 20 RISER 12A EXTRUSION

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 INSTCHK01			EXTRUD01	SOLID	<u>20</u>	<u>20.01</u>	<u>N/A</u>	
		2 INSTCHK02			EXTRUD01	SOLID	<u>500</u>	<u>500.09</u>	<u>N/A</u>	
96001174	AN-104	3 SAMPLE	S96T005027	0	DLIQVOL1	SOLID	<u>N/A</u>	<u>0</u>		mL
96001174	AN-104	4 SAMPLE	S96T005027	0	DLIQWT01	SOLID	<u>N/A</u>	<u>0</u>		g
96001174	AN-104	5 SAMPLE	S96T005027	0	EST.,G/ML	SOLID	<u>N/A</u>	<u>0</u>		g/mL
96001174	AN-104	6 SAMPLE	S96T005027	0	EXTRUD01	SOLID	<u>N/A</u>	<u>complete</u>		
96001174	AN-104	7 SAMPLE	S96T005027	0	LLIQWT01	SOLID	<u>N/A</u>	<u>55</u>		g
96001174	AN-104	8 SAMPLE	S96T005027	0	NOTEBOOK	SOLID	<u>N/A</u>	<u>N-1343</u>		
96001174	AN-104	9 SAMPLE	S96T005027	0	SLDVOL01	SOLID	<u>N/A</u>	<u>NA</u>		mL
96001174	AN-104	10 SAMPLE	S96T005027	0	SLDWT-01	SOLID	<u>N/A</u>	<u>408.0</u>		g
96001174	AN-104	11 SAMPLE	S96T005027	0	APPEAR01	SOLID	<u>N/A</u>	<u>complete</u>		
96001174	AN-104	12 SAMPLE	S96T005027	0	ORGVOL01	SOLID	<u>N/A</u>	<u>0</u>		mL

Final page for worklist # 13288

CC 9-25-96
Analyst Signature Date
Bernard Duffin II
10-1-96

CC 9-25-96
Analyst Signature Date

Data Entry Comments:

LABCORE Data Entry Template for Worklist# 13289

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

Worklist Comment: AN-104 C163 SEG # 1 RISER 10A EXTRUSION

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 INSTCHK01			EXTRUD01	SOLID	<u>20</u>	<u>20.01</u>	<u>N/A</u>	
		2 INSTCHK02			EXTRUD01	SOLID	<u>500</u>	<u>500.09</u>	<u>N/A</u>	
96001283	AN-104	3 SAMPLE	S96T005023	0	DLIQVOL1	SOLID	<u>N/A</u>	<u><5</u>		mL
96001283	AN-104	4 SAMPLE	S96T005023	0	DLIQWT01	SOLID	<u>N/A</u>	<u>0</u>		g
96001283	AN-104	5 SAMPLE	S96T005023	0	EST.G/ML	SOLID	<u>N/A</u>	<u>0</u>		g/mL
96001283	AN-104	6 SAMPLE	S96T005023	0	EXTRUD01	SOLID	<u>N/A</u>	<u>complete</u>		
96001283	AN-104	7 SAMPLE	S96T005023	0	LLIQWT01	SOLID	<u>N/A</u>	<u><5</u>		g
96001283	AN-104	8 SAMPLE	S96T005023	0	NOTEBOOK	SOLID	<u>N/A</u>	<u>N-1343</u>		
96001283	AN-104	9 SAMPLE	S96T005023	0	SLOVOL01	SOLID	<u>N/A</u>	<u>NA</u>		mL
96001283	AN-104	10 SAMPLE	S96T005023	0	SLDWT-01	SOLID	<u>N/A</u>	<u>22.3</u>		g
96001283	AN-104	11 SAMPLE	S96T005023	0	APPEAR01	SOLID	<u>N/A</u>	<u>complete</u>		
96001283	AN-104	12 SAMPLE	S96T005023	0	ORGVOL01	SOLID	<u>N/A</u>	<u>0</u>		mL

Final page for worklist # 13289

CE 9-25-96
 Analyst Signature Date
Bernard Griffin II
10-1-96

CE 9-25-96
 Analyst Signature Date

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 13290

Analyst: SC Instrument: BA000 Book # NA

Method: LO-160-103 Rev/Mod D0

Worklist Comment: AN-104 C163 SEG # 2 RISER 10A EXTRUSION

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	INSTCHK01				EXTRUD01	SOLID	<u>20</u>	<u>20.01</u>	<u>N/A</u>	
		2	INSTCHK02				EXTRUD01	SOLID	<u>500</u>	<u>500.09</u>	<u>N/A</u>	
96001283	AN-104	3	SAMPLE	S96T005024	0		DLIQVOL1	SOLID	<u>N/A</u>	<u>250</u>		ml
96001283	AN-104	4	SAMPLE	S96T005024	0		DLIQWT01	SOLID	<u>N/A</u>	<u>361.7</u>		g
96001283	AN-104	5	SAMPLE	S96T005024	0		EST.G/ML	SOLID	<u>N/A</u>	<u>1.44</u>		g/ml
96001283	AN-104	6	SAMPLE	S96T005024	0		EXTRUD01	SOLID	<u>N/A</u>	<u>complete</u>		
96001283	AN-104	7	SAMPLE	S96T005024	0		LLIQWT01	SOLID	<u>N/A</u>	<u>LS</u>		g
96001283	AN-104	8	SAMPLE	S96T005024	0		NOTEBOOK	SOLID	<u>N/A</u>	<u>N-1343</u>		
96001283	AN-104	9	SAMPLE	S96T005024	0		SLDVOL01	SOLID	<u>N/A</u>	<u>NA</u>		ml
96001283	AN-104	10	SAMPLE	S96T005024	0		SLDWT-01	SOLID	<u>N/A</u>	<u>28.8</u>		g
96001283	AN-104	11	SAMPLE	S96T005024	0		APPEAR01	SOLID	<u>N/A</u>	<u>complete</u>		
96001283	AN-104	12	SAMPLE	S96T005024	0		ORGVOL01	SOLID	<u>N/A</u>	<u>0</u>		ml

Final page for worklist # 13290

SC 9-25-96
Analyst Signature Date
Bertrand Jeff II
10-1-96

SC 9-25-96
Analyst Signature Date

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 13291

Analyst: EE Instrument: BA000 Book # NA

Method: LO-160-103 Rev/Mod BO

Worklist Comment: AN-104 C163 SEG # 4 RISER 10A EXTRUSION

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	INSTCHK01				EXTRUD01	SOLID	<u>20</u>	<u>20.01</u>	<u>N/A</u>	
		2	INSTCHK02				EXTRUD01	SOLID	<u>500</u>	<u>500.09</u>	<u>N/A</u>	
96001283	AN-104	3	SAMPLE	S96T005025	0		DLIQVOL1	SOLID	<u>N/A</u>	<u>260</u>		ml
96001283	AN-104	4	SAMPLE	S96T005025	0		DLIQWT01	SOLID	<u>N/A</u>	<u>385.0</u>		g
96001283	AN-104	5	SAMPLE	S96T005025	0		EST. G/ML	SOLID	<u>N/A</u>	<u>1.48</u>		g/ml
96001283	AN-104	6	SAMPLE	S96T005025	0		EXTRUD01	SOLID	<u>N/A</u>	<u>complete</u>		
96001283	AN-104	7	SAMPLE	S96T005025	0		LLIQWT01	SOLID	<u>N/A</u>	<u><5</u>		g
96001283	AN-104	8	SAMPLE	S96T005025	0		NOTEBOOK	SOLID	<u>N/A</u>	<u>N/1343</u>		
96001283	AN-104	9	SAMPLE	S96T005025	0		SLDVOL01	SOLID	<u>N/A</u>	<u>NA</u>		ml
96001283	AN-104	10	SAMPLE	S96T005025	0		SLDWT-01	SOLID	<u>N/A</u>	<u>0</u>		g
96001283	AN-104	11	SAMPLE	S96T005025	0		APPEAR01	SOLID	<u>N/A</u>	<u>complete</u>		
96001283	AN-104	12	SAMPLE	S96T005025	0		ORGVOL01	SOLID	<u>N/A</u>	<u>0</u>		ml

Final page for worklist # 13291

Analyst Signature [Signature] Date 9-25-96
Berhard Griffin II
10-1-96

Analyst Signature [Signature] Date 9-25-96

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 13297

Analyst: CC Instrument: BA000 Book # NAMethod: LO-160-103 Rev/Mod BO

Worklist Comment: AN-104 C163 SEG # 7 RISER 10A EXTRUSION

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 INSTCHK01			EXTRUD01	SOLID	<u>20</u>	<u>20.00</u>	<u>N/A</u>	
		2 INSTCHK02			EXTRUD01	SOLID	<u>500</u>	<u>500.08</u>	<u>N/A</u>	
96001283	AN-104	3 SAMPLE	S96T005090	0	DLIQVOL1	SOLID	<u>N/A</u>	<u>260</u>		mL
96001283	AN-104	4 SAMPLE	S96T005090	0	DLIQWT01	SOLID	<u>N/A</u>	<u>388.6</u>		g
96001283	AN-104	5 SAMPLE	S96T005090	0	EST. G/ML	SOLID	<u>10-12 24 26</u> <u>N/A</u>	<u>1.55</u>	<u>1.49</u>	g/mL
96001283	AN-104	6 SAMPLE	S96T005090	0	EXTRUD01	SOLID	<u>N/A</u>	<u>complete</u>		
96001283	AN-104	7 SAMPLE	S96T005090	0	LLIQWT01	SOLID	<u>N/A</u>	<u><5</u>		g
96001283	AN-104	8 SAMPLE	S96T005090	0	NOTEBOOK	SOLID	<u>N/A</u>	<u>N-1343</u>		
96001283	AN-104	9 SAMPLE	S96T005090	0	SLDVOL01	SOLID	<u>N/A</u>	<u>NA</u>		mL
96001283	AN-104	10 SAMPLE	S96T005090	0	SLDWT-01	SOLID	<u>10-12 24 26</u> <u>N/A</u>	<u>388.60</u>		g
96001283	AN-104	11 SAMPLE	S96T005090	0	APPEAR01	SOLID	<u>N/A</u>	<u>complete</u>		
96001283	AN-104	12 SAMPLE	S96T005090	0	ORGVOL01	SOLID	<u>N/A</u>	<u>0</u>		mL

Final page for worklist # 13297

CC 9-30-96
 Analyst Signature Date
Bertrand Griffin II
10-1-96

CC 9-30-96
 Analyst Signature Date

Data Entry Comments:

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

09/24/96 09:19

LABCORE Data Entry Template for Worklist# 13298

Analyst: CE Instrument: BA000 Book # NAMethod: LO-160-103 Rev/Mod 00

Worklist Comment: AN-104 C163 SEG # 8 RISER 10A EXTRUSION

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	INSTCHK01		EXTRUD01	SOLID	<u>20</u>	<u>20.00</u>	<u>N/A</u>	
		2	INSTCHK02		EXTRUD01	SOLID	<u>500</u>	<u>510.08</u>	<u>N/A</u>	
96001283	AN-104	3	SAMPLE	S96T005091	0	DLIQVOL1	SOLID	<u>N/A</u>	<u>260</u>	<u>ml</u>
96001283	AN-104	4	SAMPLE	S96T005091	0	DLIQWT01	SOLID	<u>N/A</u>	<u>390.6</u>	<u>g</u>
96001283	AN-104	5	SAMPLE	S96T005091	0	EST.G/ML	SOLID	<u>N/A</u>	<u>1.50</u>	<u>g/ml</u>
96001283	AN-104	6	SAMPLE	S96T005091	0	EXTRUD01	SOLID	<u>N/A</u>	<u>complete</u>	
96001283	AN-104	7	SAMPLE	S96T005091	0	LLIQWT01	SOLID	<u>N/A</u>	<u><5</u>	<u>g</u>
96001283	AN-104	8	SAMPLE	S96T005091	0	NOTEBOOK	SOLID	<u>N/A</u>	<u>N-1343</u>	
96001283	AN-104	9	SAMPLE	S96T005091	0	SLDVOL01	SOLID	<u>N/A</u>	<u>NA</u>	<u>ml</u>
96001283	AN-104	10	SAMPLE	S96T005091	0	SLDWT-01	SOLID	<u>N/A</u>	<u>0</u>	<u>g</u>
96001283	AN-104	11	SAMPLE	S96T005091	0	APPEAR01	SOLID	<u>N/A</u>	<u>complete</u>	
96001283	AN-104	12	SAMPLE	S96T005091	0	ORGVOL01	SOLID	<u>N/A</u>	<u>0</u>	<u>ml</u>

Final page for worklist # 13298

CE 9-30-96
 Analyst Signature Date
Bertrand J. Huff II
10-1-96

CE 9-30-96
 Analyst Signature Date

Data Entry Comments:

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

09/24/96 10:51

LABCORE Data Entry Template for Worklist# 13302

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

Worklist Comment: AN-104 C163 SEG # 9 RISER 10A EXTRUSION

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 INSTCHK01			EXTRUD01	SOLID	<u>20</u>	<u>20.00</u>	<u>N/A</u>	
		2 INSTCHK02			EXTRUD01	SOLID	<u>500</u>	<u>500.08</u>	<u>N/A</u>	
96001283	AN-104	3 SAMPLE	S96T005092	0	DLIQVOL1	SOLID	<u>N/A</u>	<u>260</u>		ml
96001283	AN-104	4 SAMPLE	S96T005092	0	DLIQWT01	SOLID	<u>N/A</u>	<u>384.1</u>		g
96001283	AN-104	5 SAMPLE	S96T005092	0	EST.G/ML	SOLID	<u>N/A</u>	<u>1.47</u>		g/mL
96001283	AN-104	6 SAMPLE	S96T005092	0	EXTRUD01	SOLID	<u>N/A</u>	<u>complete</u>		
96001283	AN-104	7 SAMPLE	S96T005092	0	LLIQWT01	SOLID	<u>N/A</u>	<u><5</u>		g
96001283	AN-104	8 SAMPLE	S96T005092	0	NOTEBOOK	SOLID	<u>N/A</u>	<u>N-1343</u>		
96001283	AN-104	9 SAMPLE	S96T005092	0	SLDVOL01	SOLID	<u>N/A</u>	<u>NA</u>		ml
96001283	AN-104	10 SAMPLE	S96T005092	0	SLDWT-01	SOLID	<u>N/A</u>	<u>0</u>		g
96001283	AN-104	11 SAMPLE	S96T005092	0	APPEAR01	SOLID	<u>N/A</u>	<u>complete</u>		
96001283	AN-104	12 SAMPLE	S96T005092	0	ORGVOL01	SOLID	<u>N/A</u>	<u>0</u>		ml

Final page for worklist # 13302

EC 9-30-96
 Analyst Signature Date

Bertrand Duff
 10-1-96

EC 9-30-96
 Analyst Signature Date

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 13303

Analyst: SE Instrument: BA000 Book # NA

Method: LO-160-103 Rev/Mod B0

Worklist Comment: AN-104 C163 SEG # 16 RISER 10A EXTRUSION

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 INSTCHK01			EXTRUD01	SOLID	<u>20</u>	<u>20.00</u>	<u>N/A</u>	
		2 INSTCHK02			EXTRUD01	SOLID	<u>500</u>	<u>500.08</u>	<u>N/A</u>	
96001283	AN-104	3 SAMPLE	S96T005093	0	DLIQVOL1	SOLID	<u>N/A</u>	<u>0</u>		mL
96001283	AN-104	4 SAMPLE	S96T005093	0	DLIQWT01	SOLID	<u>N/A</u>	<u>0</u>		g
96001283	AN-104	5 SAMPLE	S96T005093	0	EST.G/ML	SOLID	<u>N/A</u>	<u>0</u>		g/mL
96001283	AN-104	6 SAMPLE	S96T005093	0	EXTRUD01	SOLID	<u>N/A</u>	<u>complete</u>		
96001283	AN-104	7 SAMPLE	S96T005093	0	LLIQWT01	SOLID	<u>N/A</u>	<u>5</u>		g
96001283	AN-104	8 SAMPLE	S96T005093	0	NOTEBOOK	SOLID	<u>N/A</u>	<u>N-1343</u>		
96001283	AN-104	9 SAMPLE	S96T005093	0	SLDVOL01	SOLID	<u>N/A</u>	<u>NA</u>		mL
96001283	AN-104	10 SAMPLE	S96T005093	0	SLDWT-01	SOLID	<u>N/A</u>	<u>398.4</u>		g
96001283	AN-104	11 SAMPLE	S96T005093	0	APPEAR01	SOLID	<u>N/A</u>	<u>complete</u>		
96001283	AN-104	12 SAMPLE	S96T005093	0	ORGVOL01	SOLID	<u>N/A</u>	<u>0</u>		mL

Final page for worklist # 13303

SE 9-30-96
Analyst Signature Date
Bertrand B. Jeff
10-1-96

SE 9-30-96
Analyst Signature Date

Data Entry Comments:

LABCORE Data Entry Template for Worklist# 13535

Analyst: EE Instrument: BA000 Book # NA

Method: LO-160-103 Rev/Mod B0

Worklist Comment: AN-104 C163 SEG # 20 RISER 10A EXTRUSION

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	INSTCHK01				EXTRUD01	SOLID	<u>20</u>	<u>20.01</u>	<u>N/A</u>	
		2	INSTCHK02				EXTRUD01	SOLID	<u>500</u>	<u>500.08</u>	<u>N/A</u>	
96001283	AN-104	3	SAMPLE	S96T005220	0		DLIQVOL1	SOLID	<u>N/A</u>	<u>0</u>		mL
96001283	AN-104	4	SAMPLE	S96T005220	0		DLIQWT01	SOLID	<u>N/A</u>	<u>0</u>		g
96001283	AN-104	5	SAMPLE	S96T005220	0		EST. G/ML	SOLID	<u>N/A</u>	<u>0</u>		g/mL
96001283	AN-104	6	SAMPLE	S96T005220	0		EXTRUD01	SOLID	<u>N/A</u>	<u>complete</u>		
96001283	AN-104	7	SAMPLE	S96T005220	0		LLIQWT01	SOLID	<u>N/A</u>	<u>LS</u>		g
96001283	AN-104	8	SAMPLE	S96T005220	0		NOTEBOOK	SOLID	<u>N/A</u>	<u>N-1343</u>		
96001283	AN-104	9	SAMPLE	S96T005220	0		SLDVOL01	SOLID	<u>N/A</u>	<u>NA</u>		mL
96001283	AN-104	10	SAMPLE	S96T005220	0		SLDWT-01	SOLID	<u>N/A</u>	<u>388.1</u>		g
96001283	AN-104	11	SAMPLE	S96T005220	0		APPEAR01	SOLID	<u>N/A</u>	<u>complete</u>		
96001283	AN-104	12	SAMPLE	S96T005220	0		ORGVOL01	SOLID	<u>N/A</u>	<u>0</u>		mL

Final page for worklist # 13535

EE 10-2-96
Analyst Signature Date

Bertrand Buffin II
10-14-96

EE 10-2-96
Analyst Signature Date

Data Entry Comments:

LABCORE Data Entry Template for Worklist# 13536

Analyst: CC Instrument: BA000 Book # NA

Method: LO-160-103 Rev/Mod B0

Worklist Comment: AN-104 C163 SEG # 5 RISER 10A EXTRUSION

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	INSTCHK01				EXTRUD01	SOLID	<u>20</u>	<u>20.01</u>	<u>N/A</u>	
		2	INSTCHK02				EXTRUD01	SOLID	<u>500</u>	<u>500.09</u>	<u>N/A</u>	
96001283	AN-104	3	SAMPLE	S96T005189	0		DLIQVOL1	SOLID	<u>N/A</u>	<u>260</u>		mL
96001283	AN-104	4	SAMPLE	S96T005189	0		DLIQWT01	SOLID	<u>N/A</u>	<u>399.4</u>		g
96001283	AN-104	5	SAMPLE	S96T005189	0		EST.G/ML	SOLID	<u>N/A</u>	<u>1.54</u>		g/mL
96001283	AN-104	6	SAMPLE	S96T005189	0		EXTRUD01	SOLID	<u>N/A</u>	<u>complete</u>		
96001283	AN-104	7	SAMPLE	S96T005189	0		LLIQWT01	SOLID	<u>N/A</u>	<u><5</u>		g
96001283	AN-104	8	SAMPLE	S96T005189	0		NOTEBOOK	SOLID	<u>N/A</u>	<u>N-1343</u>		
96001283	AN-104	9	SAMPLE	S96T005189	0		SLDVOL01	SOLID	<u>N/A</u>	<u>NA</u>		mL
96001283	AN-104	10	SAMPLE	S96T005189	0		SLDWT-01	SOLID	<u>N/A</u>	<u>0</u>		g
96001283	AN-104	11	SAMPLE	S96T005189	0		APPEAR01	SOLID	<u>N/A</u>	<u>complete</u>		
96001283	AN-104	12	SAMPLE	S96T005189	0		ORGVOL01	SOLID	<u>N/A</u>	<u>0</u>		mL

Final page for worklist # 13536

CC 10-22-96
Analyst Signature Date
B. Hoff II
10-23-96

CC 10-22-96
Analyst Signature Date

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 13537

Analyst: CL Instrument: BA000 Book # NA

Method: LO-160-103 Rev/Mod B0

Worklist Comment: AN-104 C163 SEG # 6 RISER 10A EXTRUSION

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 INSTCHK01			EXTRUD01	SOLID	<u>20</u>	<u>20.01</u>	<u>N/A</u>	
		2 INSTCHK02			EXTRUD01	SOLID	<u>500</u>	<u>500.07</u>	<u>N/A</u>	
96001283	AN-104	3 SAMPLE	S96T005190	0	DLIQVOL1	SOLID	<u>N/A</u>	<u>260</u>		ml
96001283	AN-104	4 SAMPLE	S96T005190	0	DLIQWT01	SOLID	<u>N/A</u>	<u>373.8</u>		g
96001283	AN-104	5 SAMPLE	S96T005190	0	EST.G/ML	SOLID	<u>N/A</u>	<u>1.44</u>		g/mL
96001283	AN-104	6 SAMPLE	S96T005190	0	EXTRUD01	SOLID	<u>N/A</u>	<u>complete</u>		
96001283	AN-104	7 SAMPLE	S96T005190	0	LLIQWT01	SOLID	<u>N/A</u>	<u>55</u>		g
96001283	AN-104	8 SAMPLE	S96T005190	0	NOTEBOOK	SOLID	<u>N/A</u>	<u>N-1343</u>		
96001283	AN-104	9 SAMPLE	S96T005190	0	SLDVOL01	SOLID	<u>N/A</u>	<u>NA</u>		ml
96001283	AN-104	10 SAMPLE	S96T005190	0	SLDWT-01	SOLID	<u>N/A</u>	<u>0</u>		g
96001283	AN-104	11 SAMPLE	S96T005190	0	APPEAR01	SOLID	<u>N/A</u>	<u>complete</u>		
96001283	AN-104	12 SAMPLE	S96T005190	0	ORGVOL01	SOLID	<u>N/A</u>	<u>0</u>		ml

Final page for worklist # 13537

CL Analyst Signature Date 10-11-96

CL Analyst Signature Date 10-11-96

Bertrand Buffin II
10-14-96

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 13538

Analyst: EE Instrument: BA000 Book # NA

Method: LO-160-103 Rev/Mod B0

Worklist Comment: AN-104 C163 SEG # 10 RISER 10A EXTRUSION

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	INSTCHK01				EXTRUD01	SOLID	<u>20</u>	<u>20.01</u>	<u>N/A</u>	
		2	INSTCHK02				EXTRUD01	SOLID	<u>500</u>	<u>500.09</u>	<u>N/A</u>	
96001283	AN-104	3	SAMPLE	S96T005191	0		DLIQVOL1	SOLID	<u>N/A</u>	<u>260</u>		ml
96001283	AN-104	4	SAMPLE	S96T005191	0		DLIQWT01	SOLID	<u>N/A</u>	<u>390.0</u>		g
96001283	AN-104	5	SAMPLE	S96T005191	0		EST.G/ML	SOLID	<u>N/A</u>	<u>1.5</u>		g/ml
96001283	AN-104	6	SAMPLE	S96T005191	0		EXTRUD01	SOLID	<u>N/A</u>	<u>complete</u>		
96001283	AN-104	7	SAMPLE	S96T005191	0		LLIQWT01	SOLID	<u>N/A</u>	<u><5</u>		g
96001283	AN-104	8	SAMPLE	S96T005191	0		NOTEBOOK	SOLID	<u>N/A</u>	<u>12-1343</u>		
96001283	AN-104	9	SAMPLE	S96T005191	0		SLDVOL01	SOLID	<u>N/A</u>	<u>NA</u>		ml
96001283	AN-104	10	SAMPLE	S96T005191	0		SLDWT-01	SOLID	<u>N/A</u>	<u>0</u>		g
96001283	AN-104	11	SAMPLE	S96T005191	0		APPEAR01	SOLID	<u>N/A</u>	<u>complete</u>		
96001283	AN-104	12	SAMPLE	S96T005191	0		ORGVOL01	SOLID	<u>N/A</u>	<u>0</u>		ml

Final page for worklist # 13538

EE 10-22-96
Analyst Signature Date

EE 10-22-96
Analyst Signature Date

B. Hoff II
10-23-96

Data Entry Comments:

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

10/01/96 13:15

LABCORE Data Entry Template for Worklist# 13539

Analyst:

CE

Instrument: BA000

Book #

NA

Method: LO-160-103 Rev/Mod

D0

Worklist Comment: AN-104 C163 SEG # 11 RISER 10A EXTRUSION

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 INSTCHK01			EXTRUD01	SOLID	20	20.01	N/A	
		2 INSTCHK02			EXTRUD01	SOLID	500	500.09	N/A	
96001283	AN-104	3 SAMPLE	S96T005192	0	DLIQVOL1	SOLID	N/A	260		ml
96001283	AN-104	4 SAMPLE	S96T005192	0	DLIQWT01	SOLID	N/A	363.1		g
96001283	AN-104	5 SAMPLE	S96T005192	0	EST.G/ML	SOLID	N/A	1.39		g/ml
96001283	AN-104	6 SAMPLE	S96T005192	0	EXTRUD01	SOLID	N/A	complete		
96001283	AN-104	7 SAMPLE	S96T005192	0	LLIQWT01	SOLID	N/A	25		g
96001283	AN-104	8 SAMPLE	S96T005192	0	NOTEBOOK	SOLID	N/A	N-1343		
96001283	AN-104	9 SAMPLE	S96T005192	0	SLDVOL01	SOLID	N/A	NA		ml
96001283	AN-104	10 SAMPLE	S96T005192	0	SLDWT-01	SOLID	N/A	0		g
96001283	AN-104	11 SAMPLE	S96T005192	0	APPEAR01	SOLID	N/A	complete		
96001283	AN-104	12 SAMPLE	S96T005192	0	ORGVOL01	SOLID	N/A	0		ml

Final page for worklist # 13539

Analyst Signature: CE Date: 10-28-96

Analyst Signature: CE Date: 10-28-96

Bartlett JF II
10-28-96

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 13540

Analyst: EC Instrument: BA000 Book # NA

Method: LO-160-103 Rev/Mod B0

Worklist Comment: AN-104 C163 SEG # 12 RISER 10A EXTRUSION

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	INSTCHK01				EXTRUD01	SOLID	<u>20</u>	<u>20.00</u>	<u>N/A</u>	
		2	INSTCHK02				EXTRUD01	SOLID	<u>900</u>	<u>500.07</u>	<u>N/A</u>	
96001283	AN-104	3	SAMPLE	S96T005193	0		DLIQVOL1	SOLID	<u>N/A</u>	<u>210</u>		ml
96001283	AN-104	4	SAMPLE	S96T005193	0		DLIQWT01	SOLID	<u>N/A</u>	<u>222.3</u>		g
96001283	AN-104	5	SAMPLE	S96T005193	0		EST.G/ML	SOLID	<u>N/A</u>	<u>1.06</u>		g/mL
96001283	AN-104	6	SAMPLE	S96T005193	0		EXTRUD01	SOLID	<u>N/A</u>	<u>complete</u>		
96001283	AN-104	7	SAMPLE	S96T005193	0		LLIQWT01	SOLID	<u>N/A</u>	<u>55</u>		g
96001283	AN-104	8	SAMPLE	S96T005193	0		NOTEBOOK	SOLID	<u>N/A</u>	<u>N-1343</u>		
96001283	AN-104	9	SAMPLE	S96T005193	0		SLDVOL01	SOLID	<u>N/A</u>	<u>NA</u>		ml
96001283	AN-104	10	SAMPLE	S96T005193	0		SLDWT-01	SOLID	<u>N/A</u>	<u>78.0</u>		g
96001283	AN-104	11	SAMPLE	S96T005193	0		APPEAR01	SOLID	<u>N/A</u>	<u>complete</u>		
96001283	AN-104	12	SAMPLE	S96T005193	0		ORGVOL01	SOLID	<u>N/A</u>	<u>0</u>		ml

Final page for worklist # 13540

Analyst Signature EC Date 10-31-96
Burk Giff II
11-4-96

Analyst Signature CAH Date 10-21-96

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 13541

Analyst: CE Instrument: BA000 Book # NA

Method: LO-160-103 Rev/Mod B0

Worklist Comment: AN-104 C163 SEG 14 RISER 10A EXTRUSION

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	INSTCHK01				EXTRUD01	SOLID	<u>20</u>	<u>20.01</u>	<u>N/A</u>	
		2	INSTCHK02				EXTRUD01	SOLID	<u>500</u>	<u>500.09</u>	<u>N/A</u>	
96001283	AN-104	3	SAMPLE	S96T005194	0		DLIQVOL1	SOLID	<u>N/A</u>	<u>30</u>		ml
96001283	AN-104	4	SAMPLE	S96T005194	0		DLIQWT01	SOLID	<u>N/A</u>	<u>43.7</u>		g
96001283	AN-104	5	SAMPLE	S96T005194	0		EST.G/ML	SOLID	<u>N/A</u>	<u>1.46</u>		g/ml
96001283	AN-104	6	SAMPLE	S96T005194	0		EXTRUD01	SOLID	<u>N/A</u>	<u>complete</u>		
96001283	AN-104	7	SAMPLE	S96T005194	0		LLIQWT01	SOLID	<u>N/A</u>	<u><10</u>		g
96001283	AN-104	8	SAMPLE	S96T005194	0		NOTEBOOK	SOLID	<u>N/A</u>	<u>N-1343</u>		
96001283	AN-104	9	SAMPLE	S96T005194	0		SLDVOL01	SOLID	<u>N/A</u>	<u>NA</u>		ml
96001283	AN-104	10	SAMPLE	S96T005194	0		SLDWT-01	SOLID	<u>N/A</u>	<u>325.6</u>		g
96001283	AN-104	11	SAMPLE	S96T005194	0		APPEAR01	SOLID	<u>N/A</u>	<u>complete</u>		
96001283	AN-104	12	SAMPLE	S96T005194	0		ORGVOL01	SOLID	<u>N/A</u>	<u>0</u>		ml

Final page for worklist # 13541

CE 10-28-96
Analyst Signature Date
Burton Duff
10-28-96

CE 10-28-96
Analyst Signature Date

Data Entry Comments:

LABCORE Data Entry Template for Worklist# 13542

Analyst: CE Instrument: BA000 Book # NA

Method: LO-160-103 Rev/Mod B30

Worklist Comment: AN-104 C163 SEG # 18 RISER 10A EXTRUSION

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	INSTCHK01				EXTRUD01	SOLID	<u>20</u>	<u>20.00</u>	<u>N/A</u>	
		2	INSTCHK02				EXTRUD01	SOLID	<u>500</u>	<u>500.07</u>	<u>N/A</u>	
96001283	AN-104	3	SAMPLE	S96T005195	0		DLIQVOL1	SOLID	<u>N/A</u>	<u>0</u>		ml
96001283	AN-104	4	SAMPLE	S96T005195	0		DLIQWT01	SOLID	<u>N/A</u>	<u>0</u>		g
96001283	AN-104	5	SAMPLE	S96T005195	0		EST.G/ML	SOLID	<u>N/A</u>	<u>0</u>		g/ml
96001283	AN-104	6	SAMPLE	S96T005195	0		EXTRUD01	SOLID	<u>N/A</u>	<u>complete</u>		
96001283	AN-104	7	SAMPLE	S96T005195	0		LLIQWT01	SOLID	<u>N/A</u>	<u><10</u>		g
96001283	AN-104	8	SAMPLE	S96T005195	0		NOTEBOOK	SOLID	<u>N/A</u>	<u>NA343</u>		
96001283	AN-104	9	SAMPLE	S96T005195	0		SLDVOL01	SOLID	<u>N/A</u>	<u>NA</u>		ml
96001283	AN-104	10	SAMPLE	S96T005195	0		SLDWT-01	SOLID	<u>N/A</u>	<u>200.9</u>		g
96001283	AN-104	11	SAMPLE	S96T005195	0		APPEAR01	SOLID	<u>N/A</u>	<u>complete</u>		
96001283	AN-104	12	SAMPLE	S96T005195	0		ORGVOL01	SOLID	<u>N/A</u>	<u>0</u>		ml

Final page for worklist # 13542

CE 10-31-96
Analyst Signature Date
Batista
11-4-96

CE 10-31-96
Analyst Signature Date

Data Entry Comments:

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

HNF-SD-WM-DP-226, REV. 0

SAMPLE PREPARATIONS

HNF-SD-WM-DP-226, REV. 0

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10/01/96 11:43

LABCORE Data Entry Template for Worklist# 13520

Analyst: DCD Instrument: FUS01 Book # N/AMethod: LA-549-141 Rev/Mod F.OWorklist Comment: AN-104 FUSION DIGEST C164S1,13,14 LH,UH lad

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			FUSION01	SOLID	<u>1</u>	<u>.250</u>	<u>N/A</u>	<u>g/L</u>
96001174	AN-104	2 SAMPLE	S96T004795 O F		FUSION01	SOLID	<u>N/A</u>	<u>2.0068</u>		<u>g/L</u>
			<u>.5017g → .250L</u>							
96001174	AN-104	3 SAMPLE	S96T004795 O F		DOSE-02	SOLID	<u>N/A</u>	<u>30</u>		<u>mrad/hour</u>
96001174	AN-104	4 DUP	S96T004795 O F		FUSION01	SOLID	<u>2.0068</u>	<u>2.0404</u>	<u>N/A</u>	<u>g/L</u>
			<u>.5101g → .250L</u>							
96001174	AN-104	5 DUP	S96T004795 O F		DOSE-02	SOLID	<u>N/A</u>	<u>30</u>		<u>mrad/hour</u>
96001174	AN-104	6 SAMPLE	S96T004796 O F		FUSION01	SOLID	<u>N/A</u>	<u>1.9908</u>		<u>g/L</u>
			<u>.4977g → .250L</u>							
96001174	AN-104	7 SAMPLE	S96T004796 O F		DOSE-02	SOLID	<u>N/A</u>	<u>1.9908</u>		<u>mrad/hour</u>
96001174	AN-104	8 DUP	S96T004796 O F		FUSION01	SOLID	<u>1.9908</u>	<u>1.9764</u>	<u>N/A</u>	<u>g/L</u>
			<u>.4941g → .250L</u>							
96001174	AN-104	9 DUP	S96T004796 O F		DOSE-02	SOLID	<u>N/A</u>	<u>30</u>		<u>mrad/hour</u>
96001174	AN-104	10 SAMPLE	S96T005030 O F		FUSION01	SOLID	<u>N/A</u>	<u>2.0004</u>		<u>g/L</u>
			<u>.5001g → .250L</u>							
96001174	AN-104	11 SAMPLE	S96T005030 O F		DOSE-02	SOLID	<u>N/A</u>	<u>70</u>		<u>mrad/hour</u>
96001174	AN-104	12 DUP	S96T005030 O F		FUSION01	SOLID	<u>2.0004</u>	<u>2.0135</u>	<u>N/A</u>	<u>g/L</u>
			<u>.5034g → .250L</u>							
96001174	AN-104	13 DUP	S96T005030 O F		DOSE-02	SOLID	<u>N/A</u>	<u>70</u>		<u>mrad/hour</u>
96001174	AN-104	14 SAMPLE	S96T005035 O F		FUSION01	SOLID	<u>N/A</u>	<u>2.0112</u>		<u>g/L</u>
			<u>.5028g → .250L</u>							
96001174	AN-104	15 SAMPLE	S96T005035 O F		DOSE-02	SOLID	<u>N/A</u>	<u>70</u>		<u>mrad/hour</u>
96001174	AN-104	16 DUP	S96T005035 O F		FUSION01	SOLID	<u>2.0112</u>	<u>1.9886</u>	<u>N/A</u>	<u>g/L</u>
			<u>.4974g → .250L</u>							
96001174	AN-104	17 DUP	S96T005035 O F		DOSE-02	SOLID	<u>N/A</u>	<u>70</u>		<u>mrad/hour</u>

Data Entry Comments:

David weighed only all samples 5ml 4M HCL #
5ml Con HCL. 8% Solids. Color: clear.

HAT Sergey Shkarsky only container 20 ml/hy
container 2.20 ml/hy

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

worklistrpt Version 2.1 05/15/95
10/01/96 11:43

HNF-SD-WM-DP-226, REV. 0

Page: 2

LABCORE Data Entry Template for Worklist# 13520

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
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Final page for worklist # 13520

David D. Lambel 10-19-96
Analyst Signature Date

A. Lambel 10-20-96
Analyst Signature Date

Timothy M. Mark 10-20-96
Analyst Signature Date

deliberated
S. Bulley 10/20/96

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 13521

Analyst: Dcd Instrument: FUS01 Book # N/A
 Method: LA-549-141 Rev/Mod F.O
 Worklist Comment: AN-104 FUSION DIGEST C164S15,16 UH,LH lad

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK-PREP		FUSION01	SOLID	<u>1</u>	<u>.250</u>	N/A	g/L
96001174	AN-104	2	SAMPLE S96T005032 0 F		FUSION01	SOLID	<u>N/A</u>	<u>2.0272</u>		g/L
			<u>.5068g → .250 L</u>							
96001174	AN-104	3	SAMPLE S96T005032 0 F		DOSE-02	SOLID	<u>N/A</u>	<u>75</u>		mrad/hour
96001174	AN-104	4	DUP S96T005032 0 F		FUSION01	SOLID	<u>2.0272</u>	<u>1.9960</u>	N/A	g/L
			<u>.4990g → .250 L</u>							
96001174	AN-104	5	DUP S96T005032 0 F		DOSE-02	SOLID	<u>N/A</u>	<u>75</u>	N/A	mrad/hour
96001174	AN-104	6	SAMPLE S96T005033 0 F		FUSION01	SOLID	<u>N/A</u>	<u>2.804</u>		g/L
			<u>.5226g → .250 L</u>							
96001174	AN-104	7	SAMPLE S96T005033 0 F		DOSE-02	SOLID	<u>N/A</u>	<u>75</u>		mrad/hour
96001174	AN-104	8	DUP S96T005033 0 F		FUSION01	SOLID	<u>2.0904</u>	<u>2.1436</u>	N/A	g/L
			<u>.5359g → .25 L</u>							
96001174	AN-104	9	DUP S96T005033 0 F		DOSE-02	SOLID	<u>N/A</u>	<u>75</u>	N/A	mrad/hour
96001174	AN-104	10	SAMPLE S96T005036 0 F		FUSION01	SOLID	<u>N/A</u>	<u>1.9908</u>		g/L
			<u>.4977g → .250 L</u>							
96001174	AN-104	11	DUP S96T005036 0 F		FUSION01	SOLID	<u>1.9908</u>	<u>2.0352</u>	N/A	g/L
96001174	AN-104	12	SAMPLE S96T005036 0 F		DOSE-02	SOLID	<u>N/A</u>	<u>60</u>		mrad/hour
			<u>.5089g → .250 L</u>							
96001174	AN-104	13	DUP S96T005036 0 F		DOSE-02	SOLID	<u>N/A</u>	<u>60</u>	N/A	mrad/hour
96001174	AN-104	14	SAMPLE S96T005037 0 F		FUSION01	SOLID	<u>N/A</u>	<u>2.0820</u>		g/L
			<u>.5205g → .25 L</u>							
96001174	AN-104	15	SAMPLE S96T005037 0 F		DOSE-02	SOLID	<u>N/A</u>	<u>60</u>		mrad/hour
96001174	AN-104	16	DUP S96T005037 0 F		FUSION01	SOLID	<u>2.0820</u>	<u>2.1848</u>	N/A	g/L
			<u>.5462g → .25 L</u>							
96001174	AN-104	17	DUP S96T005037 0 F		DOSE-02	SOLID	<u>N/A</u>	<u>60</u>	N/A	mrad/hour

Data Entry Comments: David weighed only. All samples have 5ml -
4m HCL & 5ml Cont HCL. 0% Solids - Color is: Clear.
#PI Larry Gunnuskey OTT: contaminated
20mw / hr
contaminated 2:20 mr/hr
 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.

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
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Final page for worklist # 13521

David C. Dunbar

Analyst Signature

10-19-96

Date

A. Lambel

10-20-96

Frederick Mark

Analyst Signature

10-20-96

Date

Val: dated
M Kelly 10/20/96

Data Entry Comments:

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

10/01/96 11:47

LABCORE Data Entry Template for Worklist# 13523

Analyst:

DPB

Instrument: FUS01

Book #

N/A

Method: LA-549-141 Rev/Mod

FO

Worklist Comment: AN-104 FUSION DIGEST C164S17,19 LH,UH lad

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			FUSION01	SOLID	1	250	N/A	g/L
96001174	AN-104	2 SAMPLE	S96T005031	0 F	FUSION01	SOLID	N/A	1.8312		g/L
			4578g → .25L							
96001174	AN-104	3 SAMPLE	S96T005031	0 F	DOSE-02	SOLID	N/A	60		mrad/hour
96001174	AN-104	4 DUP	S96T005031	0 F	FUSION01	SOLID	1.8312	1.8440	N/A	g/L
			4610g → .25L							
96001174	AN-104	5 DUP	S96T005031	0 F	DOSE-02	SOLID	N/A	60		mrad/hour
96001174	AN-104	6 SAMPLE	S96T005034	0 F	FUSION01	SOLID	N/A	1.8720		g/L
			4680g → .25L							
96001174	AN-104	7 SAMPLE	S96T005034	0 F	DOSE-02	SOLID	N/A	60		mrad/hour
96001174	AN-104	8 DUP	S96T005034	0 F	FUSION01	SOLID	1.8720	1.8400	N/A	g/L
			4600g → .25L							
96001174	AN-104	9 DUP	S96T005034	0 F	DOSE-02	SOLID	N/A	60		mrad/hour
96001174	AN-104	10 SAMPLE	S96T005038	0 F	FUSION01	SOLID	N/A	2.0708		g/L
			5177g → .25L							
96001174	AN-104	11 SAMPLE	S96T005038	0 F	DOSE-02	SOLID	N/A	75		mrad/hour
96001174	AN-104	12 DUP	S96T005038	0 F	FUSION01	SOLID	2.0708	2.1084	N/A	g/L
			5271g → .25L							
96001174	AN-104	13 DUP	S96T005038	0 F	DOSE-02	SOLID	N/A	75		mrad/hour
96001174	AN-104	14 SAMPLE	S96T005039	0 F	FUSION01	SOLID	N/A	2.0580		g/L
			5145g → .25L							
96001174	AN-104	15 SAMPLE	S96T005039	0 F	DOSE-02	SOLID	N/A	75		mrad/hour
96001174	AN-104	16 DUP	S96T005039	0 F	FUSION01	SOLID	2.0580	1.9984	N/A	g/L
			4996g → .25L							
96001174	AN-104	17 DUP	S96T005039	0 F	DOSE-02	SOLID	N/A	75		mrad/hour

Data Entry Comments:

Can weighed only. All samples have 5ml 4N HCL & 5ml Con H₂O. 0% Solids, color: Clear. HPT: Larry Lumsbury
 (continued) CONTINUED 2
 OT: 1700/hr 20 min/hr

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.

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LABCORE Data Entry Template for Worklist# 13523

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
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Final page for worklist # 13523

Daniel P. Bruley 10/19/96
Analyst Signature Date

Leisha Munk 10-20-96
Analyst Signature Date

A Lambert 10-20-96

*Validated**A Mally 10/20/96*

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 13524

Analyst: TM / RJ

Instrument: FUS01

Book # _____

Method: LA-549-141 Rev/Mod EO

Worklist Comment: AN-104 FUSION DIGEST C164S20 UH, LH lad

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			FUSION01	SOLID	<u>1</u>	<u>2.250</u>	<u>N/A</u>	g/L
96001174	AN-104	2 SAMPLE	S96T005278 0 F		FUSION01	SOLID	<u>N/A</u>	<u>2.1208</u>		g/L
		<u>.5302g</u> → <u>.250</u>								
96001174	AN-104	3 SAMPLE	S96T005278 0 F		DOSE-02	SOLID	<u>N/A</u>	<u>90</u>		mrad/hour
96001174	AN-104	4 DUP	S96T005278 0 F		FUSION01	SOLID	<u>2.1208</u>	<u>2.0646</u>	<u>N/A</u>	g/L
		<u>.5174g</u> → <u>.250</u>								
96001174	AN-104	5 DUP	S96T005278 0 F		DOSE-02	SOLID	<u>N/A</u>	<u>90</u>	<u>N/A</u>	mrad/hour
96001174	AN-104	6 SAMPLE	S96T005281 0 F		FUSION01	SOLID	<u>N/A</u>	<u>2.3256</u>		g/L
		<u>.5814g</u> → <u>.250</u>								
96001174	AN-104	7 SAMPLE	S96T005281 0 F		DOSE-02	SOLID	<u>N/A</u>	<u>85</u>		mrad/hour
96001174	AN-104	8 DUP	S96T005281 0 F		FUSION01	SOLID	<u>2.5256</u>	<u>2.1628</u>	<u>N/A</u>	g/L
		<u>.5407g</u> → <u>.250</u>								
96001174	AN-104	9 DUP	S96T005281 0 F		DOSE-02	SOLID	<u>N/A</u>	<u>80</u>	<u>N/A</u>	mrad/hour

Final page for worklist # 13524

T.A. MURPHY
Analyst Signature11/23/96
Date5250 → 52785249 → 5281Rae Ann Green 11-23-96
Analyst Signature Date[Signature] 11-24-96[Signature]
11/24/96

Data Entry Comments:

weighed 11-23-96 ADMUnits shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

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LABCORE Data Entry Template for Worklist# 14164

Analyst: T. A. Murphy

Instrument: FUS01

Book #

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

Worklist Comment: AN-104 FUSION DIGEST C163S1,2,16 LH UH lad

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			FUSION01	SOLID	<u>1</u>	<u>.250</u>	<u>N/A</u>	g/L
96001283	AN-104	2 SAMPLE	S96T005284	0 F	FUSION01	SOLID	<u>N/A</u>	<u>2.1336</u>		g/L
		<u>.5334g → .250g</u>								
96001283	AN-104	3 SAMPLE	S96T005284	0 F	DOSE-02	SOLID	<u>N/A</u>	<u>85</u>		mrad/hour
		<u>.5344g → .250g</u>								
96001283	AN-104	4 DUP	S96T005284	0 F	FUSION01	SOLID	<u>2.1336</u>	<u>2.1376</u>	<u>N/A</u>	g/L
		<u>.5344g → .250g</u>								
96001283	AN-104	5 DUP	S96T005284	0 F	DOSE-02	SOLID	<u>N/A</u>	<u>75</u>	<u>N/A</u>	mrad/hour
		<u>.5344g → .250g</u>								
96001283	AN-104	6 SAMPLE	S96T005285	0 F	FUSION01	SOLID	<u>N/A</u>	<u>2.2376</u>		g/L
		<u>.5544g → .250g</u>								
96001283	AN-104	7 SAMPLE	S96T005285	0 F	DOSE-02	SOLID	<u>N/A</u>	<u>70</u>		mrad/hour
		<u>.5544g → .250g</u>								
96001283	AN-104	8 DUP	S96T005285	0 F	FUSION01	SOLID	<u>2.2376</u>	<u>2.0928</u>	<u>N/A</u>	g/L
		<u>.5232g → .250g</u>								
96001283	AN-104	9 DUP	S96T005285	0 F	DOSE-02	SOLID	<u>N/A</u>	<u>60</u>	<u>N/A</u>	mrad/hour
		<u>.5232g → .250g</u>								
96001283	AN-104	10 SAMPLE	S96T005293	0 F	FUSION01	SOLID	<u>N/A</u>	<u>2.2556</u>		g/L
		<u>.5639g → .250g</u>								
96001283	AN-104	11 SAMPLE	S96T005293	0 F	DOSE-02	SOLID	<u>N/A</u>	<u>75</u>		mrad/hour
		<u>.5639g → .250g</u>								
96001283	AN-104	12 DUP	S96T005293	0 F	FUSION01	SOLID	<u>2.2556</u>	<u>2.1080</u>	<u>N/A</u>	g/L
		<u>.5270g → .250g</u>								
96001283	AN-104	13 DUP	S96T005293	0 F	DOSE-02	SOLID	<u>N/A</u>	<u>90</u>	<u>N/A</u>	mrad/hour
		<u>.5270g → .250g</u>								

Final page for worklist # 14164

T. A. Murphy
Analyst Signature11/23/96
Date5269 → 5284
5270 → 5285
5271 → 5293Rae Ann Green 11-23-96
Analyst Signature Date

Steve Peters 11-24-96

Data Entry Comments:

weighed 11-23-96 OAM

M. A. H.
11/24/96Units 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# 14435

Analyst: TM/RZ Instrument: FUS01 Book # _____

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

Worklist Comment: AN-104 FUSION DIGEST C163S16,20 LH UH lad

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			FUSION01	SOLID	1	100	N/A	g/L
96001283	AN-104	2 SAMPLE	S96T005286 0 F		FUSION01	SOLID	N/A	2.0148		g/L
96001283	AN-104	3 SAMPLE	S96T005286 0 F		DOSE-02	SOLID	N/A	80		mrad/hour
96001283	AN-104	4 DUP	S96T005286 0 F		FUSION01	SOLID	2.0148	2.1820	N/A	g/L
96001283	AN-104	5 DUP	S96T005286 0 F		DOSE-02	SOLID	N/A	80	N/A	mrad/hour
96001283	AN-104	6 SAMPLE	S96T005556 0 F		FUSION01	SOLID	N/A	2.1640		g/L
96001283	AN-104	7 SAMPLE	S96T005556 0 F		DOSE-02	SOLID	N/A	95		mrad/hour
96001283	AN-104	8 DUP	S96T005556 0 F		FUSION01	SOLID	2.1640	2.0604	N/A	g/L
96001283	AN-104	9 DUP	S96T005556 0 F		DOSE-02	SOLID	N/A	95	N/A	mrad/hour
96001283	AN-104	10 SAMPLE	S96T005559 0 F		FUSION01	SOLID	N/A	2.0476		g/L
96001283	AN-104	11 SAMPLE	S96T005559 0 F		DOSE-02	SOLID	N/A	90		mrad/hour
96001283	AN-104	12 DUP	S96T005559 0 F		FUSION01	SOLID	2.0476	2.0504	N/A	g/L
96001283	AN-104	13 DUP	S96T005559 0 F		DOSE-02	SOLID	N/A	115	N/A	mrad/hour

Final page for worklist # 14435

T.A. MURPHY 11/23/96
Analyst Signature Date
5272 → 5286
5548 → 5556
5549 → 5559

Rae Ann Green 11-24-96
Analyst Signature Date
Jim Peterson 11-24-96
M. J. 11/24/96

Data Entry Comments: weighed by OAM 11-23-96 OAM

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.

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LABCORE Data Entry Template for Worklist# 14511

Analyst: DPB Instrument: FUS01 Book # _____Method: LA-549-141 Rev/Mod F-0

Worklist Comment: AN-104 FUSION DIGEST C163S14,12 UH LH lad

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			FUSION01	SOLID	<u>1</u>	<u>.250</u>	<u>N/A</u>	<u>g/L</u>
96001283	AN-104	2 SAMPLE	S96T005747	0 F	FUSION01	SOLID	<u>N/A</u>	<u>1.8300</u>		<u>g/L</u>
96001283	AN-104	3 SAMPLE	S96T005747	0 F	DOSE-02	SOLID	<u>N/A</u>	<u>60</u>		<u>mrads/hour</u>
96001283	AN-104	4 DUP	S96T005747	0 F	FUSION01	SOLID	<u>N/A</u>	<u>60</u>	<u>N/A</u>	<u>g/L</u>
96001283	AN-104	5 DUP	S96T005747	0 F	DOSE-02	SOLID	<u>60</u>	<u>60</u>	<u>N/A</u>	<u>mrads/hour</u>
96001283	AN-104	6 SAMPLE	S96T005748	0 F	FUSION01	SOLID	<u>N/A</u>	<u>2.1960</u>		<u>g/L</u>
96001283	AN-104	7 SAMPLE	S96T005748	0 F	DOSE-02	SOLID	<u>N/A</u>	<u>75</u>		<u>mrads/hour</u>
96001283	AN-104	8 DUP	S96T005748	0 F	FUSION01	SOLID	<u>2.1960</u>	<u>2.12%</u>	<u>N/A</u>	<u>g/L</u>
96001283	AN-104	9 DUP	S96T005748	0 F	DOSE-02	SOLID	<u>75</u>	<u>75</u>	<u>N/A</u>	<u>mrads/hour</u>
96001283	AN-104	10 SAMPLE	S96T005780	0 F	FUSION01	SOLID	<u>N/A</u>	<u>2.1812</u>		<u>g/L</u>
96001283	AN-104	11 SAMPLE	S96T005780	0 F	DOSE-02	SOLID	<u>N/A</u>	<u>65</u>		<u>mrads/hour</u>
96001283	AN-104	12 DUP	S96T005780	0 F	FUSION01	SOLID	<u>2.1812</u>	<u>2.1580</u>	<u>N/A</u>	<u>g/L</u>
96001283	AN-104	13 DUP	S96T005780	0 F	DOSE-02	SOLID	<u>65</u>	<u>50</u>	<u>N/A</u>	<u>mrads/hour</u>

Final page for worklist # 14511

Analyst Signature Daniel P. Bromley Date 11/12/96Analyst Signature [Signature] Date 11-18-96

Kim Thomas 11-18-96

Data Entry Comments:

Validated by
RK Fuller
11/19/96Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

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LABCORE Data Entry Template for Worklist# 14512Analyst: DPB Instrument: FUS01 Book # 250Method: LA-549-141 Rev/Mod F-0

Worklist Comment: AN-104 FUSION DIGEST C163S18 UH LH lad

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			FUSION01	SOLID	<u>1</u>	<u>-250</u>	<u>N/A</u>	<u>g/L</u>
96001283	AN-104	2 SAMPLE	S96T005777 0 F		FUSION01	SOLID	<u>N/A</u>	<u>1.9508</u>		<u>g/L</u>
96001283	AN-104	3 SAMPLE	S96T005777 0 F		DOSE-02	SOLID	<u>N/A</u>	<u>100</u>		<u>mrads/hour</u>
96001283	AN-104	4 DUP	S96T005777 0 F		FUSION01	SOLID	<u>1.9508</u>	<u>2.0152</u>	<u>N/A</u>	<u>g/L</u>
96001283	AN-104	5 DUP	S96T005777 0 F		DOSE-02	SOLID	<u>100</u>	<u>75</u>	<u>N/A</u>	<u>mrads/hour</u>
96001283	AN-104	6 SAMPLE	S96T005781 0 F		FUSION01	SOLID	<u>N/A</u>	<u>1.8780</u>		<u>g/L</u>
96001283	AN-104	7 SAMPLE	S96T005781 0 F		DOSE-02	SOLID	<u>N/A</u>	<u>100</u>		<u>mrads/hour</u>
96001283	AN-104	8 DUP	S96T005781 0 F		FUSION01	SOLID	<u>1.8780</u>	<u>1.8696</u>	<u>N/A</u>	<u>g/L</u>
96001283	AN-104	9 DUP	S96T005781 0 F		DOSE-02	SOLID	<u>100</u>	<u>90</u>	<u>N/A</u>	<u>mrads/hour</u>

Final page for worklist # 14512

David P. Bromley 11/12/96
Analyst Signature Date

John A. Hammett 11-18-96
Analyst Signature Date

Data Entry Comments:

20 mL 4m HCl added; 40 mL con HNO₃ added
HPT was Scott Corbaley

Validated
11/19/96
RK Fuller

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.

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LABCORE Data Entry Template for Worklist# 13530

Analyst: DCD Instrument: H2001 Book # N/AMethod: LA-504-101 Rev/Mod E.OWorklist Comment: AN-104 H2O DIGEST C164S1,13,14 UH,LH lad

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK-PREP		H2001G01	SOLID	<u>1</u>	<u>.100</u>	<u>N/A</u>	<u>g/L</u>
96001174	AN-104	2	SAMPLE S96T004799 0 W		H2001G01	SOLID	<u>N/A</u>	<u>5.091</u>		<u>g/L</u>
			<u>.5091g → .100 g</u>							
96001174	AN-104	3	SAMPLE S96T004799 0 W		DOSE-02	SOLID	<u>N/A</u>	<u>50</u>		<u>mrads/hour</u>
96001174	AN-104	4	DUP S96T004799 0 W		H2001G01	SOLID	<u>5.091</u>	<u>5.040</u>	<u>N/A</u>	<u>g/L</u>
			<u>.5040g → .100 g</u>							
96001174	AN-104	5	DUP S96T004799 0 W		DOSE-02	SOLID	<u>N/A</u>	<u>50</u>		<u>mrads/hour</u>
							<u>100</u>			
96001174	AN-104	6	SAMPLE S96T004800 0 W		H2001G01	SOLID	<u>N/A</u>	<u>4.937</u>		<u>g/L</u>
			<u>.4937g → .100 g</u>							
96001174	AN-104	7	SAMPLE S96T004800 0 W		DOSE-02	SOLID	<u>N/A</u>	<u>50</u>		<u>mrads/hour</u>
96001174	AN-104	8	DUP S96T004800 0 W		H2001G01	SOLID	<u>4.937</u>	<u>5.018</u>	<u>N/A</u>	<u>g/L</u>
			<u>.5018g → .100 g</u>							
96001174	AN-104	9	DUP S96T004800 0 W		DOSE-02	SOLID	<u>N/A</u>	<u>50</u>		<u>mrads/hour</u>
							<u>100</u>			
96001174	AN-104	10	SAMPLE S96T005067 0 W		H2001G01	SOLID	<u>N/A</u>	<u>5.008</u>		<u>g/L</u>
			<u>.5008g → .100 g</u>							
96001174	AN-104	11	SAMPLE S96T005067 0 W		DOSE-02	SOLID	<u>N/A</u>	<u>50</u>		<u>mrads/hour</u>
96001174	AN-104	12	DUP S96T005067 0 W		H2001G01	SOLID	<u>5.008</u>	<u>4.991</u>	<u>N/A</u>	<u>g/L</u>
			<u>.4991g → .100 g</u>							
96001174	AN-104	13	DUP S96T005067 0 W		DOSE-02	SOLID	<u>N/A</u>	<u>50</u>		<u>mrads/hour</u>
							<u>100</u>			

Final page for worklist # 13530

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.

10/01/96 12:39

LABCORE Data Entry Template for Worklist# 13531

Analyst: DGD Instrument: H2001 Book # N/AMethod: LA-504-101 Rev/Mod E.O

Worklist Comment: AN-104 H2O DIGEST C164S14, 15 LH, UH lad

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			H2001G01	SOLID	<u>1</u>	<u>100</u>	N/A	g/L
96001174	AN-104	2 SAMPLE	S96T005065	0 W	H2001G01	SOLID	N/A	<u>4.961</u>		g/L
96001174	AN-104	3 SAMPLE	S96T005065	0 W	DOSE-02	SOLID	N/A	<u>50</u>		mrad/hour
96001174	AN-104	4 DUP	S96T005065	0 W	H2001G01	SOLID	<u>4.961</u>	<u>5.102</u>	N/A	g/L
96001174	AN-104	5 DUP	S96T005065	0 W	DOSE-02	SOLID	N/A	<u>50</u>		mrad/hour
96001174	AN-104	6 SAMPLE	S96T005068	0 W	H2001G01	SOLID	N/A	<u>4.973</u>		g/L
96001174	AN-104	7 SAMPLE	S96T005068	0 W	DOSE-02	SOLID	N/A	<u>50</u>		mrad/hour
96001174	AN-104	8 DUP	S96T005068	0 W	H2001G01	SOLID	<u>4.973</u>	<u>5.106</u>	N/A	g/L
96001174	AN-104	9 DUP	S96T005068	0 W	DOSE-02	SOLID	N/A	<u>50</u>		mrad/hour
96001174	AN-104	10 SAMPLE	S96T005071	0 W	H2001G01	SOLID	N/A	<u>5.043</u>		g/L
96001174	AN-104	11 SAMPLE	S96T005071	0 W	DOSE-02	SOLID	N/A	<u>50</u>		mrad/hour
96001174	AN-104	12 DUP	S96T005071	0 W	H2001G01	SOLID	<u>5.043</u>	<u>4.950</u>	N/A	g/L
96001174	AN-104	13 DUP	S96T005071	0 W	DOSE-02	SOLID	N/A	<u>50</u>		mrad/hour

Final page for worklist # 13531

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# 13532

Analyst: DPB Instrument: H2001 Book # N/A

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

Worklist Comment: AN-104 H2O DIGEST C164S16,17 UH,LH lad

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			H20DIG01	SOLID	<u>.100</u>	<u>.100</u>	N/A	g/L
96001174	AN-104	2 SAMPLE	S96T005069 O W		H20DIG01	SOLID	N/A	<u>4.833</u>		g/L
96001174	AN-104	3 SAMPLE	S96T005069 O W		DOSE-02	SOLID	N/A	<u>50</u>		mrad/hour
96001174	AN-104	4 DUP	S96T005069 O W		H20DIG01	SOLID	<u>4.833</u>	<u>4.823</u>	N/A	g/L
96001174	AN-104	5 DUP	S96T005069 O W		DOSE-02	SOLID	N/A	<u>50</u>		mrad/hour
96001174	AN-104	6 SAMPLE	S96T005072 O W		H20DIG01	SOLID	N/A	<u>5.053</u>		g/L
96001174	AN-104	7 SAMPLE	S96T005072 O W		DOSE-02	SOLID	N/A	<u>50</u>		mrad/hour
96001174	AN-104	8 DUP	S96T005072 O W		H20DIG01	SOLID	<u>5.053</u>	<u>5.178</u>	N/A	g/L
96001174	AN-104	9 DUP	S96T005072 O W		DOSE-02	SOLID	N/A	<u>50</u>		mrad/hour
96001174	AN-104	10 SAMPLE	S96T005073 O W		H20DIG01	SOLID	N/A	<u>4.547</u>		g/L
96001174	AN-104	11 SAMPLE	S96T005073 O W		DOSE-02	SOLID	N/A	<u>50</u>		mrad/hour
96001174	AN-104	12 DUP	S96T005073 O W		H20DIG01	SOLID	<u>4.547</u>	<u>4.526</u>	N/A	g/L
96001174	AN-104	13 DUP	S96T005073 O W		DOSE-02	SOLID	N/A	<u>50</u>		mrad/hour

Final page for worklist # 13532

Daniel P. Bromley 10/19/96
Analyst Signature Date
Sandra Ethel Boatright

Jim Mink 10-20-96
Analyst Signature Date
Validation
G. Mally 10/20/96

Data Entry Comments: Dan weighed only. @

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.

Analyst: DPB Instrument: H2001 Book # N/A
 Method: LA-504-101 Rev/Mod E.O
 Worklist Comment: AN-104 H2O DIGEST C164S17,19 UH,LH lad

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK-PREP		H20DIG01	SOLID	<u>700</u>	<u>.100</u>	<u>N/A</u>	g/L
96001174	AN-104	2	SAMPLE S96T005066 0 W		H20DIG01	SOLID	<u>N/A</u>	<u>5.402</u>		g/L
96001174	AN-104	3	SAMPLE S96T005066 0 W		DOSE-02	SOLID	<u>N/A</u>	<u>50</u>		mrad/hour
96001174	AN-104	4	DUP S96T005066 0 W		H20DIG01	SOLID	<u>5.402</u>	<u>5.373</u>	<u>N/A</u>	g/L
96001174	AN-104	5	DUP S96T005066 0 W		DOSE-02	SOLID	<u>N/A</u>	<u>50</u>		mrad/hour
96001174	AN-104	6	SAMPLE S96T005070 0 W		H20DIG01	SOLID	<u>N/A</u>	<u>5.449</u>		g/L
96001174	AN-104	7	SAMPLE S96T005070 0 W		DOSE-02	SOLID	<u>N/A</u>	<u>50</u>		mrad/hour
96001174	AN-104	8	DUP S96T005070 0 W		H20DIG01	SOLID	<u>5.449</u>	<u>5.456</u>	<u>N/A</u>	g/L
96001174	AN-104	9	DUP S96T005070 0 W		DOSE-02	SOLID	<u>N/A</u>	<u>50</u>		mrad/hour
96001174	AN-104	10	SAMPLE S96T005074 0 W		H20DIG01	SOLID	<u>N/A</u>	<u>5.145</u>		g/L
96001174	AN-104	11	SAMPLE S96T005074 0 W		DOSE-02	SOLID	<u>N/A</u>	<u>50</u>		mrad/hour
96001174	AN-104	12	DUP S96T005074 0 W		H20DIG01	SOLID	<u>5.145</u>	<u>5.033</u>	<u>N/A</u>	g/L
96001174	AN-104	13	DUP S96T005074 0 W		DOSE-02	SOLID	<u>N/A</u>	<u>50</u>		mrad/hour

Final page for worklist # 13533

Analyst Signature: Daniel P. Bromley Date: 10/19/96
 Analyst Signature: John Mach Date: 10-20-96
 S. Hood Bootywt
 10-20-96
 Validated
 S. Wholly 10/20/96

Data Entry Comments: Dan weighed only @

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

worklistrpt Version 2.1 05/15/95
10/01/96 12:41

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LABCORE Data Entry Template for Worklist# 13534

Analyst: TM/RS Instrument: H2O01 Book # _____Method: LA-504-101 Rev/Mod E-0

Worklist Comment: AN-104 H2O DIGEST C164S20 UH,LH lad

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			H2ODIG01	SOLID	<u>1</u>	<u>100</u>	<u>N/A</u>	g/L
96001174	AN-104	2 SAMPLE	S96T005280 0 W		H2ODIG01	SOLID	<u>N/A</u>	<u>5.1860</u>		g/L
		<u>.5186g</u> → <u>1000</u>								
96001174	AN-104	3 SAMPLE	S96T005280 0 W		DOSE-02	SOLID	<u>N/A</u>	<u>60</u>		mrad/hour
96001174	AN-104	4 DUP	S96T005280 0 W		H2ODIG01	SOLID	<u>5.1860</u>	<u>5.1440</u>	<u>N/A</u>	g/L
		<u>.5144g</u> → <u>1000</u>								
96001174	AN-104	5 DUP	S96T005280 0 W		DOSE-02	SOLID	<u>N/A</u>	<u>60</u>	<u>N/A</u>	mrad/hour
96001174	AN-104	6 SAMPLE	S96T005283 0 W		H2ODIG01	SOLID	<u>N/A</u>	<u>5.0880</u>		g/L
		<u>.5088g</u> → <u>1000</u>								
96001174	AN-104	7 SAMPLE	S96T005283 0 W		DOSE-02	SOLID	<u>N/A</u>	<u>55</u>		mrad/hour
96001174	AN-104	8 DUP	S96T005283 0 W		H2ODIG01	SOLID	<u>5.0880</u>	<u>5.0520</u>	<u>N/A</u>	g/L
		<u>.5052g</u> → <u>1000</u>								
96001174	AN-104	9 DUP	S96T005283 0 W		DOSE-02	SOLID	<u>N/A</u>	<u>55</u>	<u>N/A</u>	mrad/hour

Final page for worklist # 13534

Analyst Signature: T.A. MURPHY Date: 11/23/96Analyst Signature: Rae Ann Green Date: 11-24-965250 5278 → 5280
.5249 → 5283Jim Veltin 11-24-96
MA
11/24/96Data Entry Comments: weighed 11-23-96 GMMUnits shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

worklistpt Version 2.1 05/15/95
10/21/96 12:55

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LABCORE Data Entry Template for Worklist# 14165

Analyst: T.M. / R2a

Instrument: H2001

Book #

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

Worklist Comment: AN-104 H2O DIGEST C163S1,2,16 UH,LH lad

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			H20D1G01	SOLID	<u>1</u>	<u>.100</u>	<u>N/A</u>	<u>g/L</u>
96001283	AN-104	2 SAMPLE	S96T005290	0 W	H20D1G01	SOLID	<u>N/A</u>	<u>5.266</u>		<u>g/L</u>
96001283	AN-104	3 SAMPLE	S96T005290	0 W	DOSE-02	SOLID	<u>N/A</u>	<u>60</u>		<u>mrad/hour</u>
96001283	AN-104	4 DUP	S96T005290	0 W	H20D1G01	SOLID	<u>5.266</u>	<u>5.513</u>	<u>N/A</u>	<u>g/L</u>
96001283	AN-104	5 DUP	S96T005290	0 W	DOSE-02	SOLID	<u>N/A</u>	<u>60</u>	<u>N/A</u>	<u>mrad/hour</u>
96001283	AN-104	6 SAMPLE	S96T005291	0 W	H20D1G01	SOLID	<u>N/A</u>	<u>5.486</u>		<u>g/L</u>
96001283	AN-104	7 SAMPLE	S96T005291	0 W	DOSE-02	SOLID	<u>N/A</u>	<u>60</u>		<u>mrad/hour</u>
96001283	AN-104	8 DUP	S96T005291	0 W	H20D1G01	SOLID	<u>5.486</u>	<u>5.668</u>	<u>N/A</u>	<u>g/L</u>
96001283	AN-104	9 DUP	S96T005291	0 W	DOSE-02	SOLID	<u>N/A</u>	<u>60</u>	<u>N/A</u>	<u>mrad/hour</u>
96001283	AN-104	10 SAMPLE	S96T005295	0 W	H20D1G01	SOLID	<u>N/A</u>	<u>5.471</u>		<u>g/L</u>
96001283	AN-104	11 SAMPLE	S96T005295	0 W	DOSE-02	SOLID	<u>N/A</u>	<u>65</u>		<u>mrad/hour</u>
96001283	AN-104	12 DUP	S96T005295	0 W	H20D1G01	SOLID	<u>5.471</u>	<u>5.612</u>	<u>N/A</u>	<u>g/L</u>
96001283	AN-104	13 DUP	S96T005295	0 W	DOSE-02	SOLID	<u>N/A</u>	<u>65</u>	<u>N/A</u>	<u>mrad/hour</u>

Final page for worklist # 14165

T.A. Murphy 11/23/96

Analyst Signature Date

Rae Ann Green 11-24-96

Analyst Signature Date

5269 → 5290
 5270 → 5291
 5271 → 5295

11-24-96

Data Entry Comments:

weighed 11-23-96 CAM

11/24/96

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

worklistrpt Version 2.1 05/15/95
10/29/96 15:04

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LABCORE Data Entry Template for Worklist# 14437

Analyst: AMM Instrument: H2001 Book # _____Method: LA-504-101 Rev/Mod E-0

Worklist Comment: AN-104 H2O DIGEST C163S16,20 UH LH lad

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK-PREP				H2001G01	SOLID	<u>1</u>	<u>.100</u>	N/A	g/L
96001283	AN-104	2	SAMPLE	S96T005292	0	W	H2001G01	SOLID	N/A	<u>5.8150</u>		g/L
				<u>.5815g</u>								
96001283	AN-104	3	SAMPLE	S96T005292	0	W	DOSE-02	SOLID	N/A	<u>65</u>		mrad/hour
96001283	AN-104	4	DUP	S96T005292	0	W	H2001G01	SOLID	<u>5.8150</u>	<u>5.4440</u>	N/A	g/L
				<u>.5444g</u>								
96001283	AN-104	5	DUP	S96T005292	0	W	DOSE-02	SOLID	<u>65</u>	<u>75</u>	N/A	mrad/hour
96001283	AN-104	6	SAMPLE	S96T005558	0	W	H2001G01	SOLID	N/A	<u>5.1210</u>		g/L
				<u>.5121g</u>								
96001283	AN-104	7	SAMPLE	S96T005558	0	W	DOSE-02	SOLID	N/A	<u>65</u>		mrad/hour
96001283	AN-104	8	DUP	S96T005558	0	W	H2001G01	SOLID	<u>5.1210</u>	<u>5.3130</u>	N/A	g/L
				<u>.5313g</u>								
96001283	AN-104	9	DUP	S96T005558	0	W	DOSE-02	SOLID	<u>65</u>	<u>70</u>	N/A	mrad/hour
96001283	AN-104	10	SAMPLE	S96T005561	0	W	H2001G01	SOLID	N/A	<u>5.4940</u>		g/L
				<u>.5499g</u>								
96001283	AN-104	11	SAMPLE	S96T005561	0	W	DOSE-02	SOLID	N/A	<u>65</u>		mrad/hour
96001283	AN-104	12	DUP	S96T005561	0	W	H2001G01	SOLID	<u>5.4940</u>	<u>5.3410</u>	N/A	g/L
				<u>.5341g</u>								
96001283	AN-104	13	DUP	S96T005561	0	W	DOSE-02	SOLID	<u>65</u>	<u>55</u>	N/A	mrad/hour

Final page for worklist # 14437

Analyst Signature: AMM Date: 11-24-96Analyst Signature: Susan Bee Date: 11/24/965272 → 5292
5548 → 5558
5549 → 5561

Data Entry Comments:

wright 11-23-96 AMMReviewed: AMM 11-25-96

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

318

worklistrpt Version 2.1 05/15/95
10/31/96 09:51

HNF-SD-WM-DP-226, REV. 0

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LABCORE Data Entry Template for Worklist# 14514

Analyst: SME Instrument: H2O01 Book # NA

Method: LA-504-101 Rev/Mod _____

Worklist Comment: AN-104 H2O DIGEST C16S14, 12 LH UH lad

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK-PREP		H2ODIG01	SOLID	<u>1</u>	<u>.100</u>	N/A	g/L
96001283	AN-104	2	SAMPLE S96T005751	0 W	H2ODIG01	SOLID	N/A	<u>5.006</u>		g/L
			<u>.500g → .100g</u>							
96001283	AN-104	3	SAMPLE S96T005751	0 W	DOSE-02	SOLID	N/A	<u>50</u>		mrad/hour
96001283	AN-104	4	DUP S96T005751	0 W	H2ODIG01	SOLID	<u>5.006</u>	<u>4.969</u>	N/A	g/L
			<u>.4964g → .100g</u>							
96001283	AN-104	5	DUP S96T005751	0 W	DOSE-02	SOLID	<u>50</u>	<u>60</u>	N/A	mrad/hour
96001283	AN-104	6	SAMPLE S96T005752	0 W	H2ODIG01	SOLID	N/A	<u>4.628</u>		g/L
			<u>.4628g → .100g</u>							
96001283	AN-104	7	SAMPLE S96T005752	0 W	DOSE-02	SOLID	N/A	<u>55</u>		mrad/hour
96001283	AN-104	8	DUP S96T005752	0 W	H2ODIG01	SOLID	<u>4.628</u>	<u>4.668</u>	N/A	g/L
			<u>.4668g → .100g</u>							
96001283	AN-104	9	DUP S96T005752	0 W	DOSE-02	SOLID	<u>55</u>	<u>55</u>	N/A	mrad/hour
96001283	AN-104	10	SAMPLE S96T005784	0 W	H2ODIG01	SOLID	N/A	<u>5.102</u>		g/L
			<u>.5102g → .100g</u>							
96001283	AN-104	11	SAMPLE S96T005784	0 W	DOSE-02	SOLID	N/A	<u>60</u>		mrad/hour
96001283	AN-104	12	DUP S96T005784	0 W	H2ODIG01	SOLID	<u>5.102</u>	<u>5.112</u>	N/A	g/L
			<u>.5112g → .100g</u>							
96001283	AN-104	13	DUP S96T005784	0 W	DOSE-02	SOLID	<u>60</u>	<u>65</u>	N/A	mrad/hour

Final page for worklist # 14514

Analyst Signature

Date

Analyst Signature

Date

Data Entry Comments:

S96T005743 → S96T005751

S96T005744 → S96T005752

S96T005771 → S96T005784

NPC was Joe Valdez

Validated
11/19/96
RK Fuller

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# 14515

Analyst: SMF Instrument: H2001 Book # NA

Method: LA-504-101 Rev/Mod _____ HNF-SD-WM-DP-226, REV. 0

Worklist Comment: AN-104 H2O DIGEST C163S18 UH LH lad

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNITY
		1	BLNK-PREP		H2ODIG01	SOLID	<u>1</u>	<u>.100</u>	<u>N/A</u>	<u>g/L</u>
96001283	AN-104	2	SAMPLE S96T005779 0 W		H2ODIG01	SOLID	<u>N/A</u>	<u>4.718</u>		<u>g/L</u>
96001283	AN-104	3	SAMPLE S96T005779 0 W		DOSE-02	SOLID	<u>N/A</u>	<u>40</u>		<u>mrad/hour</u>
96001283	AN-104	4	DUP S96T005779 0 W		H2ODIG01	SOLID	<u>4.718</u>	<u>4.986</u>	<u>N/A</u>	<u>g/L</u>
96001283	AN-104	5	DUP S96T005779 0 W		DOSE-02	SOLID	<u>40</u>	<u>45</u>	<u>N/A</u>	<u>mrad/hour</u>
96001283	AN-104	6	SAMPLE S96T005785 0 W		H2ODIG01	SOLID	<u>N/A</u>	<u>4.662</u>		<u>g/L</u>
96001283	AN-104	7	SAMPLE S96T005785 0 W		DOSE-02	SOLID	<u>N/A</u>	<u>50</u>		<u>mrad/hour</u>
96001283	AN-104	8	DUP S96T005785 0 W		H2ODIG01	SOLID	<u>4.662</u>	<u>5.043</u>	<u>N/A</u>	<u>g/L</u>
96001283	AN-104	9	DUP S96T005785 0 W		DOSE-02	SOLID	<u>56</u>	<u>55</u>	<u>N/A</u>	<u>mrad/hour</u>

Danied P. Blomley 11/17/96 Final page for worklist # 14515

Susie M. Julton 11/17/96
 Analyst Signature Date

Dan Hammitt 11/18/96
 Analyst Signature Date

S96T005772 → S96T005779
 S96T005773 → S96T005785

Data Entry Comments:

NPT was Joe Valdez

Validated
 11/19/96
 RK Fuller

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
04/25/97 21:42

Page: 1

LABCORE Data Entry Template for Worklist# 17730

Analyst: DCD Instrument: H2001 Book # N/A

Method: LA-504-101 Rev/Mod _____

Worklist Comment: AN-104 H2O DIGEST C164S1LH, 13LH lad

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			H20DIG01	SOLID	<u>1</u>	<u>.100</u>	<u>N/A</u>	g/L
96001174	AN-104	2 SAMPLE	S97T000648 0 W		H20DIG01	SOLID	<u>N/A</u>	<u>5.000</u>		g/L
		<u>.5000g</u> → <u>.100L</u>								
96001174	AN-104	3 SAMPLE	S97T000648 0 W		DOSE-02	SOLID	<u>N/A</u>	<u>20</u>		mrads/hour
96001174	AN-104	4 DUP	S97T000648 0 W		H20DIG01	SOLID	<u>5.000</u>	<u>5.058</u>	<u>N/A</u>	g/L
		<u>.5058g</u> → <u>.100L</u>								
96001174	AN-104	5 DUP	S97T000648 0 W		DOSE-02	SOLID	<u>20</u>	<u>25</u>	<u>N/A</u>	mrads/hour
96001174	AN-104	6 SAMPLE	S97T000649 0 W		H20DIG01	SOLID	<u>N/A</u>	<u>4.978</u>		g/L
		<u>.4978g</u> → <u>.100L</u>								
96001174	AN-104	7 SAMPLE	S97T000649 0 W		DOSE-02	SOLID	<u>N/A</u>	<u>50</u>		mrads/hour
96001174	AN-104	8 DUP	S97T000649 0 W		H20DIG01	SOLID	<u>4.978</u>	<u>4.994</u>	<u>N/A</u>	g/L
		<u>.4994g</u> → <u>.100L</u>								
96001174	AN-104	9 DUP	S97T000649 0 W		DOSE-02	SOLID	<u>50</u>	<u>40</u>	<u>N/A</u>	mrads/hour

Final page for worklist # 17730

David D. Duda 4-26-97
Analyst Signature Date
Susan M. Fulton 4-27-97

R. Jones 4-27-97
Analyst Signature Date

R. Stearns 4-29-97
REVIEWER SIGNATURE DATE

Data Entry Comments:

#PT: GERRY GUNUSKEY

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.

321

LABCORE Data Entry Template for Worklist# 13527

Analyst: DCD Instrument: ACD01 Book # WNC-1A → 2.5 mL
WNC-2 → 2.5 mL
Method: LA-505-163 Rev/Mod A-O used for both STD & Spike

Worklist Comment: AN-104 ACID DIGEST C164S1,13,14,15 UH,LH lad

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK-PREP				ACIDIG01	SOLID	<u>1</u>	<u>.050</u>	<u>N/A</u>	g/L
		2	STD-PREP				ACIDIG01	SOLID	<u>20</u>	<u>20</u>	<u>N/A</u>	g/L
96001174	AN-104	3	SAMPLE	S96T004797	0	A	ACIDIG01	SOLID	<u>N/A</u>	<u>7.104</u>		g/L
				<u>.3552 g → .050 L</u>					<u>100</u>	<u>100</u>	<u>10-20-96</u>	
96001174	AN-104	4	SAMPLE	S96T004797	0	A	DOSE-02	SOLID	<u>N/A</u>	<u>90</u>	<u>100</u>	mmrad/hour
96001174	AN-104	5	DUP	S96T004797	0	A	ACIDIG01	SOLID	<u>7.104</u>	<u>7.072</u>	<u>N/A</u>	g/L
				<u>.3536 g → .050 L</u>					<u>100</u>	<u>100</u>	<u>10-20-96</u>	
96001174	AN-104	6	DUP	S96T004797	0	A	DOSE-02	SOLID	<u>90</u>	<u>90</u>	<u>N/A</u>	mmrad/hour
96001174	AN-104	7	SPK	S96T004797	0	A	ACIDIG01	SOLID	<u>N/A</u>	<u>7.050</u>	<u>N/A</u>	g/L
				<u>.3525 g → .050 L</u>					<u>100</u>	<u>100</u>	<u>10-20-96</u>	
96001174	AN-104	8	SPK	S96T004797	0	A	DOSE-02	SOLID	<u>10</u>	<u>90</u>	<u>N/A</u>	mmrad/hour
96001174	AN-104	9	SAMPLE	S96T004798	0	A	ACIDIG01	SOLID	<u>N/A</u>	<u>6.882</u>		g/L
				<u>.3441 g → .050 L</u>						<u>100</u>		
96001174	AN-104	10	SAMPLE	S96T004798	0	A	DOSE-02	SOLID	<u>N/A</u>	<u>100</u>		mmrad/hour
96001174	AN-104	11	DUP	S96T004798	0	A	ACIDIG01	SOLID	<u>6.882</u>	<u>6.986</u>	<u>N/A</u>	g/L
				<u>.3493 g → .050 L</u>					<u>100</u>	<u>125</u>		
96001174	AN-104	12	DUP	S96T004798	0	A	DOSE-02	SOLID	<u>100</u>	<u>125</u>	<u>N/A</u>	mmrad/hour
96001174	AN-104	13	SPK	S96T004798	0	A	ACIDIG01	SOLID	<u>N/A</u>	<u>7.032</u>	<u>N/A</u>	g/L
				<u>.3516 g → .050 L</u>					<u>100</u>	<u>125</u>		
96001174	AN-104	14	SPK	S96T004798	0	A	DOSE-02	SOLID	<u>100</u>	<u>125</u>	<u>N/A</u>	mmrad/hour
96001174	AN-104	15	SAMPLE	S96T005040	0	A	ACIDIG01	SOLID	<u>N/A</u>	<u>6.976</u>		g/L
				<u>.3488 g → .050 L</u>						<u>100</u>		
96001174	AN-104	16	SAMPLE	S96T005040	0	A	DOSE-02	SOLID	<u>N/A</u>	<u>100</u>		mmrad/hour
96001174	AN-104	17	DUP	S96T005040	0	A	ACIDIG01	SOLID	<u>6.976</u>	<u>7.082</u>	<u>N/A</u>	g/L
				<u>.3541 g → .050 L</u>					<u>100</u>	<u>100</u>	<u>10-20-96</u>	
96001174	AN-104	18	DUP	S96T005040	0	A	DOSE-02	SOLID	<u>100</u>	<u>100</u>	<u>N/A</u>	mmrad/hour
									<u>100</u>			

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# 13527

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
96001174	AN-104	19 SAMPLE	S96T005042	0 A	ACIDIG01	SOLID	N/A	7.020		g/L
			.3510g → .0502							
96001174	AN-104	20 SAMPLE	S96T005042	0 A	DOSE-02	SOLID	N/A	110		mrad/hour
96001174	AN-104	21 DUP	S96T005042	0 A	ACIDIG01	SOLID	7.020	6.944	N/A	g/L
			.3472g → .0502							
96001174	AN-104	22 DUP	S96T005042	0 A	DOSE-02	SOLID	110	110	N/A	mrad/hour
96001174	AN-104	23 SAMPLE	S96T005043	0 A	ACIDIG01	SOLID	N/A	7.178		g/L
			.3589g → .0502							
96001174	AN-104	24 SAMPLE	S96T005043	0 A	DOSE-02	SOLID	N/A	135		mrad/hour
96001174	AN-104	25 DUP	S96T005043	0 A	ACIDIG01	SOLID	7.178	6.976	N/A	g/L
			.3488g → .0502							
96001174	AN-104	26 DUP	S96T005043	0 A	DOSE-02	SOLID	135	125	N/A	mrad/hour
96001174	AN-104	27 SAMPLE	S96T005061	0 A	ACIDIG01	SOLID	N/A	6.892		g/L
			.3446g → .050							
96001174	AN-104	28 SAMPLE	S96T005061	0 A	DOSE-02	SOLID	N/A	115		mrad/hour
96001174	AN-104	29 DUP	S96T005061	0 A	ACIDIG01	SOLID	6.892	6.936	N/A	g/L
			.3468g → .050							
96001174	AN-104	30 DUP	S96T005061	0 A	DOSE-02	SOLID	115	115	N/A	mrad/hour

Final page for worklist # 13527

Analyst Signature

Date

10-19-96

Analyst Signature

Date

10-21-96

VALIDATED

10/21/96

Data Entry Comments:

HPT: Scott Corbalay

DOSE-02 WSA-RIDE FOR S96T004797 SPK

S96T004795 SPK MA

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# 13528

Analyst: DPB Instrument: ACD01 Book # WMC-1A → 2.5 mL
WMC-2 → 2.5 mL
Method: LA-505-163 Rev/Mod A-0 used for both STD & Spike

Worklist Comment: AN-104 ACID DIGEST C164S16,17,19 UH,LH lad

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT	
		1 BLNK-PREP			ACIDIG01	SOLID	<u>1</u>	<u>.050</u>	<u>N/A</u>	g/L	
		2 STD-PREP			ACIDIG01	SOLID	<u>20</u>	<u>20</u>	<u>N/A</u>	g/L	
96001174	AN-104	3 SAMPLE	S96T005041	0 A	ACIDIG01	SOLID	<u>N/A</u>	<u>6.560</u>		g/L	
			<u>.3280g → .05L</u>								
96001174	AN-104	4 SAMPLE	S96T005041	0 A	DOSE-02	SOLID	<u>N/A</u>	<u>110</u>		mrad/hour	
96001174	AN-104	5 DUP	S96T005041	0 A	ACIDIG01	SOLID	<u>6.560</u>	<u>6.612</u>	<u>N/A</u>	g/L	
			<u>.3306g → .05L</u>								
96001174	AN-104	6 DUP	S96T005041	0 A	DOSE-02	SOLID	<u>110</u>	<u>110</u>	<u>N/A</u>	mrad/hour	
96001174	AN-104	7 SPK	S96T005041	0 A	ACIDIG01	SOLID	<u>N/A</u>	<u>6.676</u>	<u>N/A</u>	g/L	
			<u>.3338g → .05L</u>								
96001174	AN-104	8 SPK	S96T005041	0 A	DOSE-02	SOLID	<u>110</u>	<u>110</u>	<u>N/A</u>	mrad/hour	
96001174	AN-104	9 SAMPLE	S96T005044	0 A	ACIDIG01	SOLID	<u>N/A</u>	<u>6.782</u>		g/L	
			<u>.3391g → .05L</u>								
96001174	AN-104	10 SAMPLE	S96T005044	0 A	DOSE-02	SOLID	<u>N/A</u>	<u>115</u>		mrad/hour	
96001174	AN-104	11 DUP	S96T005044	0 A	ACIDIG01	SOLID	<u>6.782</u>	<u>6.666</u>	<u>N/A</u>	g/L	
			<u>.3333g → .05L</u>								
96001174	AN-104	12 DUP	S96T005044	0 A	DOSE-02	SOLID	<u>115</u>	<u>115</u>	<u>10-20-96</u>	mrad/hour	
								<u>600</u>			
96001174	AN-104	13 SAMPLE	S96T005045	0 A	ACIDIG01	SOLID	<u>N/A</u>	<u>6.894</u>		g/L	
			<u>.3447g → .05L</u>								
96001174	AN-104	14 SAMPLE	S96T005045	0 A	DOSE-02	SOLID	<u>N/A</u>	<u>135</u>		mrad/hour	
96001174	AN-104	15 DUP	S96T005045	0 A	ACIDIG01	SOLID	<u>6.894</u>	<u>6.946</u>	<u>N/A</u>	g/L	
			<u>.3473g → .05L</u>								
96001174	AN-104	16 DUP	S96T005045	0 A	DOSE-02	SOLID	<u>135</u>	<u>75</u>	<u>10-20-96</u>	mrad/hour	
								<u>135</u>			
96001174	AN-104	17 SAMPLE	S96T005062	0 A	ACIDIG01	SOLID	<u>N/A</u>	<u>6.640</u>		g/L	
			<u>.3320g → .05L</u>								
96001174	AN-104	18 SAMPLE	S96T005062	0 A	DOSE-02	SOLID	<u>N/A</u>	<u>115</u>	<u>125</u>	<u>10-20-96</u>	mrad/hour

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 13528

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
96001174	AN-104	19 DUP	S96T005062	0 A	ACIDIG01	SOLID	6.640	6.696	N/A	g/L
			.3348g →		.05L		115	65	DEP 10-21-96	
96001174	AN-104	20 DUP	S96T005062	0 A	DOSE-02	SOLID	125	125	N/A	mrad/hour
96001174	AN-104	21 SAMPLE	S96T005063	0 A	ACIDIG01	SOLID	N/A	7.176		g/L
			.3588g →		.05L					
96001174	AN-104	22 SAMPLE	S96T005063	0 A	DOSE-02	SOLID	N/A	125		mrad/hour
96001174	AN-104	23 DUP	S96T005063	0 A	ACIDIG01	SOLID	7.176	7.004	N/A	g/L
			.3502g →		.05L		125	125	DEP 10-20-96	
96001174	AN-104	24 DUP	S96T005063	0 A	DOSE-02	SOLID	125	65	N/A	mrad/hour
96001174	AN-104	25 SAMPLE	S96T005064	0 A	ACIDIG01	SOLID	N/A	6.610		g/L
			.3305g →		.05L					
96001174	AN-104	26 SAMPLE	S96T005064	0 A	DOSE-02	SOLID	N/A	125		mrad/hour
96001174	AN-104	27 DUP	S96T005064	0 A	ACIDIG01	SOLID	6.610	6.518	N/A	g/L
			.3259g →		.05L		125	125	DEP 10-20-96	
96001174	AN-104	28 DUP	S96T005064	0 A	DOSE-02	SOLID	125	65	N/A	mrad/hour

Final page for worklist # 13528

Daniel P. Brimley 10/19/96
Analyst Signature Date

Jim Kite 10-21-96
Analyst Signature Date

David Dunham 10/20/96

VALIDATED BY
micah
10/21/96

Data Entry Comments:

HPT: Scott Corbaley

DOSE-02 OVERLAP FOR S96T005041 SPK

ma 10/21/96

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

LABCORE Data Entry Template for Worklist# 13529

Analyst: nk Instrument: ACD01 Book # WHC-1A → 2.5 ml
WHC-2 → 2.5 ml

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

Worklist Comment: AN-104 ACID DIGEST C164S20 UH,LH lad

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			ACIDIG01	SOLID	<u>1</u>	<u>.050</u>	N/A	g/L
		2 STD-PREP			ACIDIG01	SOLID	<u>20</u>	<u>20</u>	N/A	g/L
96001174	AN-104	3 SAMPLE	S96T005279 0 A		ACIDIG01	SOLID	N/A	<u>4.4100</u>		g/L
		<u>2205g → .0500</u>								
96001174	AN-104	4 SAMPLE	S96T005279 0 A		DOSE-02	SOLID	N/A	<u>75</u>		mrad/hour
96001174	AN-104	5 DUP	S96T005279 0 A		ACIDIG01	SOLID	<u>4.4100</u>	<u>5.2960</u>	N/A	g/L
		<u>2648g → .0500</u>								
96001174	AN-104	6 DUP	S96T005279 0 A		DOSE-02	SOLID	N/A	<u>75</u>		mrad/hour
96001174	AN-104	7 SPK	S96T005279 0 A		ACIDIG01	SOLID	<u>20</u>	<u>20</u>	N/A	g/L
		<u>2588g → .0500</u>								
96001174	AN-104	8 SPK	S96T005279 0 A		DOSE-02	SOLID	N/A	<u>75</u>		mrad/hour
96001174	AN-104	9 SAMPLE	S96T005282 0 A		ACIDIG01	SOLID	N/A	<u>5.0880</u>		g/L
		<u>2544g → .0500</u>								
96001174	AN-104	10 SAMPLE	S96T005282 0 A		DOSE-02	SOLID	N/A	<u>75</u>		mrad/hour
96001174	AN-104	11 DUP	S96T005282 0 A		ACIDIG01	SOLID	<u>5.0880</u>	<u>5.5166</u>	N/A	g/L
		<u>2773g → .0500</u>								
96001174	AN-104	12 DUP	S96T005282 0 A		DOSE-02	SOLID	<u>75</u>	<u>75</u>	N/A	mrad/hour

Final page for worklist # 13529

Not King 11/25/96
Analyst Signature Date

Jason Bu 11/25/96
Analyst Signature Date

5250 5278 → 5279
5249 → 5282

*Validated
11/25/96
RK Fuller*

Data Entry Comments:
weighed 11-23-96 OAM

* Used 2.5 ml of WHC-1A, WHC-2 for std and spikes
submitted by Not King

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# 14436

Analyst: DJ Instrument: ACD01 Book # WHC-1A → 2.5 mL
WHC-2 → 2.5 mL

Method: LA-505-163 Rev/Mod _____

Worklist Comment: AN-104 ACID DIGEST C163S1,2,16,20 LH UH lad

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			ACIDIG01	SOLID	<u>1</u>	<u>.050</u>	<u>N/A</u>	g/L
		2 STD-PREP			ACIDIG01	SOLID	<u>20</u>	<u>20</u>	<u>N/A</u>	g/L
96001283	AN-104	3 SAMPLE	S96T005287 0 A		ACIDIG01	SOLID	<u>N/A</u>	<u>5.282</u>		g/L
		<u>.2641g → .0501</u>								
96001283	AN-104	4 SAMPLE	S96T005287 0 A		DOSE-02	SOLID	<u>N/A</u>	<u>80</u>		mrad/hour
96001283	AN-104	5 DUP	S96T005287 0 A		ACIDIG01	SOLID	<u>5.282</u>	<u>5.092</u>	<u>N/A</u>	g/L
		<u>.2541g → .0501</u>								
96001283	AN-104	6 DUP	S96T005287 0 A		DOSE-02	SOLID	<u>80</u>	<u>80</u>	<u>N/A</u>	mrad/hour
96001283	AN-104	7 SPK	S96T005287 0 A		ACIDIG01	SOLID	<u>N/A</u>	<u>5.454</u>	<u>N/A</u>	g/L
		<u>.2727g → .0501</u>								
96001283	AN-104	8 SPK	S96T005287 0 A		DOSE-02	SOLID	<u>N/A</u>	<u>80</u>	<u>N/A</u>	mrad/hour *
		<u>.2727g → .0501</u>								
96001283	AN-104	9 SAMPLE	S96T005288 0 A		ACIDIG01	SOLID	<u>N/A</u>	<u>4.512</u>		g/L
		<u>.2256g → .0501</u>								
96001283	AN-104	10 SAMPLE	S96T005288 0 A		DOSE-02	SOLID	<u>N/A</u>	<u>50</u>		mrad/hour
96001283	AN-104	11 DUP	S96T005288 0 A		ACIDIG01	SOLID	<u>N/A</u>	<u>4.512</u>		g/L
		<u>.2160g → .0501</u>								
96001283	AN-104	12 DUP	S96T005288 0 A		DOSE-02	SOLID	<u>50</u>	<u>60</u>	<u>N/A</u>	mrad/hour
96001283	AN-104	13 SPK	S96T005288 0 A		ACIDIG01	SOLID	<u>N/A</u>	<u>4.936</u>	<u>N/A</u>	g/L
		<u>.2468g → .0501</u>								
96001283	AN-104	14 SPK	S96T005288 0 A		DOSE-02	SOLID	<u>N/A</u>	<u>60</u>	<u>N/A</u>	mrad/hour
96001283	AN-104	15 SAMPLE	S96T005289 0 A		ACIDIG01	SOLID	<u>N/A</u>	<u>4.306</u>		g/L
		<u>.2153g → .0501</u>								
96001283	AN-104	16 SAMPLE	S96T005289 0 A		DOSE-02	SOLID	<u>N/A</u>	<u>75</u>		mrad/hour
96001283	AN-104	17 DUP	S96T005289 0 A		ACIDIG01	SOLID	<u>4.306</u>	<u>4.694</u>	<u>N/A</u>	g/L
		<u>.2347g → .0501</u>								
96001283	AN-104	18 DUP	S96T005289 0 A		DOSE-02	SOLID	<u>75</u>	<u>75</u>	<u>N/A</u>	mrad/hour

Data Entry Comments:

weighed 11-23-96 BAM

* spike below cell

LABCORE Data Entry Template for Worklist# 14436

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
96001283	AN-104	19 SPK	S96T005289	0 A	ACIDIG01	SOLID	N/A	4.784	N/A	g/L
			.2342g → .0501							
96001283	AN-104	20 SPK	S96T005289	0 A	DOSE-02	SOLID	N/A	75	N/A	mrad/hour
96001283	AN-104	21 SAMPLE	S96T005294	0 A	ACIDIG01	SOLID	N/A	4.846		g/L
			.2423g → .0501							
96001283	AN-104	22 SAMPLE	S96T005294	0 A	DOSE-02	SOLID	N/A	80		mrad/hour
96001283	AN-104	23 DUP	S96T005294	0 A	ACIDIG01	SOLID	4.846	5.404	N/A	g/L
			.2702g → .0501							
96001283	AN-104	24 DUP	S96T005294	0 A	DOSE-02	SOLID	80	80	N/A	mrad/hour
96001283	AN-104	25 SAMPLE	S96T005557	0 A	ACIDIG01	SOLID	N/A	5.268		g/L
			.2634g → .0501							
96001283	AN-104	26 SAMPLE	S96T005557	0 A	DOSE-02	SOLID	N/A	80		mrad/hour
96001283	AN-104	27 DUP	S96T005557	0 A	ACIDIG01	SOLID	5.268	4.986	N/A	g/L
			.2443g → .0501							
96001283	AN-104	28 DUP	S96T005557	0 A	DOSE-02	SOLID	80	80	N/A	mrad/hour
96001283	AN-104	29 SAMPLE	S96T005560	0 A	ACIDIG01	SOLID	N/A	4.520		g/L
			.2226g → .0501							
96001283	AN-104	30 SAMPLE	S96T005560	0 A	DOSE-02	SOLID	N/A	80		mrad/hour
96001283	AN-104	31 DUP	S96T005560	0 A	ACIDIG01	SOLID	4.520	5.360	N/A	g/L
			.2680g → .0501							
96001283	AN-104	32 DUP	S96T005560	0 A	DOSE-02	SOLID	80	80	N/A	mrad/hour
96001283	AN-104	33 SPK	S96T005560	0 A	ACIDIG01	SOLID	N/A	5.082	N/A	g/L
			.2541g → .0501							
96001283	AN-104	34 SPK	S96T005560	0 A	DOSE-02	SOLID	N/A	80	N/A	mrad/hour

Final page for worklist # 14436

David J. Dunbar 11-25-96
Analyst Signature Date

Leah M. Mark 11-26-96
Analyst Signature Date

Data Entry Comments:

5269 → 5287
5270 → 5288
5272 → 5289
5271 → 5294
5548 → 5557
5549 → 5560

Faxed
Validated 11-25-96
Keith Fuller
11/27/96

LABCORE Data Entry Template for Worklist# 14513

Analyst: DPB/RKT Instrument: ACD01 _____ Book # _____

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

Worklist Comment: AN-104 ACID DIGEST C163S14,12,18 LH UH lad

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			ACIDIG01	SOLID	<u>1</u>	<u>0.050</u>	N/A	g/L
		2 STD-PREP			ACIDIG01	SOLID	<u>20</u>	<u>20</u>	N/A	g/L
*	96001283 AN-104	3 DUP	S96T005783	0 A	ACIDIG01	SOLID			N/A	g/L
96001283	AN-104	4 SAMPLE	S96T005749	0 A	ACIDIG01	SOLID	N/A	<u>7.438</u>		g/L
			<u>3719g → 0.050L</u>							
96001283	AN-104	5 SAMPLE	S96T005749	0 A	DOSE-02	SOLID	N/A	<u>75</u>		mrad/hour
96001283	AN-104	6 DUP	S96T005749	0 A	ACIDIG01	SOLID	<u>7.438</u>	<u>7.634</u>	N/A	g/L
			<u>3817g → 0.050L</u>							
96001283	AN-104	7 DUP	S96T005749	0 A	DOSE-02	SOLID	<u>75</u>	<u>75</u>	N/A	mrad/hour
96001283	AN-104	8 SAMPLE	S96T005750	0 A	ACIDIG01	SOLID	N/A	<u>7.254</u>		g/L
			<u>3627g → 0.050L</u>							
96001283	AN-104	9 SAMPLE	S96T005750	0 A	DOSE-02	SOLID	N/A	<u>75</u>		mrad/hour
96001283	AN-104	10 DUP	S96T005750	0 A	ACIDIG01	SOLID	<u>7.254</u>	<u>7.364</u>	N/A	g/L
			<u>3682g → 0.050L</u>							
96001283	AN-104	11 DUP	S96T005750	0 A	DOSE-02	SOLID	<u>75</u>	<u>80</u>	N/A	mrad/hour
96001283	AN-104	12 SAMPLE	S96T005778	0 A	ACIDIG01	SOLID	N/A	<u>6.922</u>		g/L
			<u>3461g → 0.050L</u>							
96001283	AN-104	13 SAMPLE	S96T005778	0 A	DOSE-02	SOLID	N/A	<u>85</u>		mrad/hour
96001283	AN-104	14 DUP	S96T005778	0 A	ACIDIG01	SOLID	<u>6.922</u>	<u>7.328</u>	N/A	g/L
			<u>3664g → 0.050L</u>							
96001283	AN-104	15 DUP	S96T005778	0 A	DOSE-02	SOLID	<u>85</u>	<u>80</u>	N/A	mrad/hour
96001283	AN-104	16 SAMPLE	S96T005782	0 A	ACIDIG01	SOLID	N/A	<u>7.2900</u>		g/L
			<u>3645g → 0.050L</u>							
96001283	AN-104	17 SAMPLE	S96T005782	0 A	DOSE-02	SOLID	N/A	<u>75</u>		mrad/hour
96001283	AN-104	18 DUP	S96T005782	0 A	ACIDIG01	SOLID	<u>7.2900</u>	<u>7.2240</u>	N/A	g/L
			<u>3612g → 0.050L</u>							

RKT
11/19/96

Data Entry Comments:

Samples weighed out by Dan Breamley

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.

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worklistrpt Version 2.1 05/15/95

10/31/96 09:50

Page: 2

LABCORE Data Entry Template for Worklist# 14513

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
96001283	AN-104	19 DUP	S96T005782	0 A	DOSE-02	SOLID	75	70	N/A	mrad/hour
96001283	AN-104	20 SAMPLE	S96T005783	0 A	ACID1G01	SOLID	N/A	7.0220		g/L
			3511g → 0.050							
96001283	AN-104	21 SAMPLE	S96T005783	0 A	DOSE-02	SOLID	N/A	85		mrad/hour
96001283	AN-104	22 DUP	S96T005783	0 A	ACID1G01	SOLID	70220	7.0480	N/A	g/L
			3524g → 0.050							
96001283	AN-104	23 DUP	S96T005783	0 A	DOSE-02	SOLID	85	75	N/A	mrad/hour

Final page for worklist # 14513

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.

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Validated
11/20/96
RK Fuller

HNF-SD-WM-DP-226, REV. 0

AN-104 BULK DENSITY WORKSHEETS

HNH-SD-WM-DP-226, REV. 0

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HNF-SD-WM-DP-226, REV. 0

Bulk Density Worksheet

Requestor: SteepDate: 11/7/96Tank: AW104Core: 163Seg: 12 LH

Auger: _____

Sample ID: 596T005468

Tank: _____

Core: _____

Seg: _____

Auger: _____

Sample ID: _____

 Start Time: _____
 End Time: _____
 Homogenization
 Time (Min.): _____
Jar#: 11703Jar/Vial Size: 125 mLInitial Weight: 2007 g

Final Weight: _____ g

Net Weight: _____ g

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Cone#: 03Final Vol: 6.5 mLInitial Weight: 7.67 gFinal Weight: 19.11 gNet Weight: 11.44 gSample ID: 596T005468
 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: _____

11.44/6.5 = 1.76 g/mL

Appearance/Narrative: _____

Bulk Density Worksheet

Requestor: SkerrDate: 11/5/96Tank: AN-104Core: 163Seg: 14 LHAuger: Sample ID: 596T005428Start Time:
End Time:
Homogenization
Time (Min.): Jar#: 11514
Jar/Vial Size: 250 mL
Initial Weight: 389.0 g
Final Weight: g
Net Weight: g Cone#: 11514
Final Vol: 11.5 mL
Initial Weight: 7.47 g
Final Weight: 26.51 g
Net Weight: 19.04 g
Sample ID: 596T005428Appearance/Narrative: 19.04/11.5 = 1.65 g/mLTank: AD104Core: 163Seg: 14 LHAuger: Sample ID: 596T005429Start Time:
End Time:
Homogenization
Time (Min.): Jar#: 11559
Jar/Vial Size: 250 mL
Initial Weight: 385.6 g
Final Weight: g
Net Weight: g Cone#: 11559
Final Vol: 9.0 mL
Initial Weight: 7.51 g
Final Weight: 22.05 g
Net Weight: 14.54 g
Sample ID: 596T005429Appearance/Narrative: 14.54/9.0 = 1.61 g/mL

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Bulk Density Worksheet

Date: 10-14-96

Requestor: FAMS

Tank: A02004

Core: 163

Seg: 16 LA

Auger: _____

Sample ID: 5967065237

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

Jar#: 11197
Jar/Vial Size: 350 mL
Initial Weight: 14.6 g
Final Weight: 22.1 g
Net Weight: 7.5 g

Cone#: 97
Final Vol: 9.3 mL
Initial Weight: 7.5 g
Final Weight: 22.1 g
Net Weight: 14.6 g

Sample ID: _____

Appearance/Narrative: _____

335/97 = 1.57 g/mL

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

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

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

Cone#: 146
Final Vol: _____ mL
Initial Weight: _____ g
Final Weight: _____ g
Net Weight: _____ g

Sample ID: _____

Appearance/Narrative: _____

Bulk Density Worksheet

Requestor: FRITSDate: 10/14/96Tank: AD-104Core: 163Seg: 16 LH SolidsAuger: ---Sample ID: 5967005226Start Time: ---
End Time: ---
Homogenization
Time (Min.): ---Jar#: 11198Jar/Vial Size: 250 mLInitial Weight: 7.5 gFinal Weight: 23.1 gNet Weight: 15.6 g Cone#: 98Final Vol: 10.0 mLInitial Weight: 7.5 gFinal Weight: 23.1 gNet Weight: 15.6 g Sample ID: ---Appearance/Narrative: Bulk Density = 15.6/10.0Tank: ---
Core: ---
Seg: ---
Auger: ---
Sample ID: ---Start Time: ---
End Time: ---
Homogenization
Time (Min.): ---Jar#: ---Jar/Vial Size: --- mLInitial Weight: --- gFinal Weight: --- gNet Weight: --- g Cone#: 101Final Vol: 10.0 mLInitial Weight: --- gFinal Weight: --- gNet Weight: --- g Sample ID: ---Appearance/Narrative: ---

HNF-SD-WM-DP-226, REV. 0

Bulk Density Worksheet

Requestor: SpeedDate: 11/8/96Tank: AP104Core: 163Seg: 18 LHAuger: Sample ID: S96T005469Tank: AP104Core: 163Seg: 18 LHAuger: Sample ID: S96T005440 Start Time: End Time:

Homogenization

Time (Min.): Jar#: 11544Jar/Vial Size: 250 mLInitial Weight: 434.5 gFinal Weight: gNet Weight: g

233

Conc#: 11544Final Vol: 80 mLInitial Weight: 7.53 gFinal Weight: 20.31 gNet Weight: 12.78 gSample ID: S96T005469Appearance/Narrative: 12.78/80 = 1.59 g/ml Start Time: End Time:

Homogenization

Time (Min.): Jar#: 11549Jar/Vial Size: 250 mLInitial Weight: 423.8 gFinal Weight: gNet Weight: g Conc#: 11549Final Vol: 100 mLInitial Weight: 7.46 gFinal Weight: 24.65 gNet Weight: 17.19 gSample ID: S96T005440Appearance/Narrative: 17.19/100 = 1.71 g/ml

Bulk Density Worksheet

Requestor: F. Stead

Date: 11/6/96

Tank: AW104
Core: 163
Seg: 20 LH
Auger: —
Sample ID: 596T005553

Start Time: —
End Time: —
Homogenization Time (Min.): —
Jar#: 11394
Jar/Vial Size: 250 mL
Initial Weight: 430.9 g
Final Weight: — g
Net Weight: — g

Cone#: 97
Final Vol: 10.5 mL
Initial Weight: 2.67 g
Final Weight: 24.91 g
Net Weight: 17.24 g
Sample ID: 596T005553

Appearance/Narrative: 17.24/10.5 = 1.64

AK Denim = 17.24/10.5 = 1.64

Tank: AW104
Core: 163
Seg: 20 LH
Auger: —
Sample ID: 596T005552

Start Time: —
End Time: —
Homogenization Time (Min.): —
Jar#: 11398
Jar/Vial Size: 250 mL
Initial Weight: 458.3 g
Final Weight: — g
Net Weight: — g

Cone#: 98
Final Vol: 7.50 mL
Initial Weight: 746 g
Final Weight: 190.67 g
Net Weight: 12.21 g
Sample ID: 596T005552

Appearance/Narrative: 12.21/7.50 = 1.63

AK Denim = 12.21/7.50 = 1.63

Bulk Density Worksheet

HNF-SD-WM-DP-226, REV. 0

Date: 11/6/96equestor: F. SteadTank: AW104Core: 163Seg: 20 LAAuger: Sample ID: 596T005553
 Start Time:
 End Time:
 Homogenization
 Time (Min.):
Jar#: 11394Jar/Vial Size: 250 mLInitial Weight: 430.9 gFinal Weight: gNet Weight: g Cone#: 97Final Vol: 10.5 mLInitial Weight: 24.9 gFinal Weight: 24.9 gNet Weight: 17.24 gSample ID: 596T005553Appearance/Narrative: BK dens = 17.24 / 10.5 = 1.64Tank: AW104Core: 163Seg: 20 LAAuger: Sample ID: 596T005552
 Start Time:
 End Time:
 Homogenization
 Time (Min.):
Jar#: 11398Jar/Vial Size: 250 mLInitial Weight: 408.3 gFinal Weight: gNet Weight: g Cone#: 98Final Vol: 7.50 mLInitial Weight: 74.6 gFinal Weight: 19.67 gNet Weight: 12.21 gSample ID: 596T005552Appearance/Narrative: BK dens = 12.21 / 7.50 = 1.63

HNF-SD-WM-DP-226, REV. 0

Bulk Density Worksheet

equestor: F Spear
 Date: 9/4/96

Tank: AN104
 Core: 164
 Seg: 13 LA
 Auger:
 Sample ID: 596T004444

Start Time:
 End Time:
 Homogenization Time (Min.):
 Jar#: 10991
 Jar/Vial Size: 125 mL
 Initial Weight: 14.6 g
 Final Weight: 9.4 g
 Net Weight: 5.2 g

Cone#: 91
 Final Vol: 10.2 mL
 Initial Weight: 7.5 g
 Final Weight: 23.1 g
 Net Weight: 15.6 g
 Sample ID: 596T004771

Appearance/Narrative:
8406401 = 15.6 / 10.2 = 1.53 g/mL

Tank:
 Core:
 Seg:
 Auger:
 Sample ID:

Start Time:
 End Time:
 Homogenization Time (Min.):
 Jar#:
 Jar/Vial Size: mL
 Initial Weight: g
 Final Weight: g
 Net Weight: g

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

Appearance/Narrative:

Bulk Density Worksheet

Requestor: _____

Date: 9/8/96

Tank: AN-104
Core: 164
Seg: 14 UH
Auger: _____
Sample ID: S96T004965

Tank: AN-104
Core: 164
Seg: 14 L. Half Solids
Auger: _____
Sample ID: S96T024966

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

Jar#: S96T004965
Jar/Vial Size: 125 mL
Initial Weight: 85.2 g
Final Weight: _____ g
Net Weight: 139.2 g

Cone#: 11147
Final Vol: 9.1 mL
Initial Weight: 6.3 g
Final Weight: 20.5 g
Net Weight: 14.2 g

Sample ID: _____

Appearance/Narrative: Black Oil = 14.7%

1.56 g/cc

Jar#: 11154
Jar/Vial Size: 125 mL
Initial Weight: 228.5 g
Final Weight: 138.8 g
Net Weight: 142.2 g

Cone#: 11154
Final Vol: 12.4 mL
Initial Weight: 6.3 g
Final Weight: 25.2 g
Net Weight: 18.9 g

Sample ID: _____

Appearance/Narrative: Black Oil = 18.9/12.4

1.52 g/cc

HNF-SD-WM-DP-226, REV. 0

Bulk Density Worksheet

Requestor: F Steel

Date: 9/20/96

Tank: Ant-104
Core: 164
Seg: 15 LH
Auger: —
Sample ID: 5967004968

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

Jar#: 11183
Jar/Vial Size: mL
Initial Weight: g
Final Weight: 24.6 g
Net Weight: 24.6 g

Cone#: 83
Final Vol: 11.0 mL
Initial Weight: 7.5 g
Final Weight: 24.6 g
Net Weight: 17.1 g

Sample ID:

Appearance/Narrative: Bulk Denal = 17.1/11.0

1.55 g/cc

Tank: Ant-104
Core: 164
Seg: 15 LH
Auger: —
Sample ID: 5967004967

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

Jar#: 11186
Jar/Vial Size: mL
Initial Weight: g
Final Weight: 25.5 g
Net Weight: 25.5 g

Cone#: 86
Final Vol: 11.5 mL
Initial Weight: 7.5 g
Final Weight: 25.5 g
Net Weight: 18.0 g

Sample ID:

Appearance/Narrative: Bulk Denal = 18.0/11.5

1.57 g/cc

Bulk Density Worksheet

Requestor: F. STEEN

Date: 9/25/96

Tank: AN-104
Core: 164
Seg: 164H
Auger: -
Sample ID: 596T004970

Tank: AN-104
Core: 164
Seg: 164H
Auger: -
Sample ID: 596T004969

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

Jar#: 1172
Jar/Vial Size: _____ mL
Initial Weight: _____ g
Final Weight: 26.1 g
Net Weight: _____ g

Jar#: 1171
Jar/Vial Size: _____ mL
Initial Weight: _____ g
Final Weight: 23.8 g
Net Weight: _____ g

Cone#: 72
Final Vol: 11.9 mL
Initial Weight: 7.5 g
Final Weight: 26.1 g
Net Weight: 18.6 g
Sample ID: _____

Cone#: 71
Final Vol: 10.4 mL
Initial Weight: 7.4 g
Final Weight: 23.8 g
Net Weight: 16.4 g
Sample ID: _____

Appearance/Narrative: 18.6/11.9

Appearance/Narrative: 16.4/10.4

1.56 g/cc

1.58 g/cc

HNF-SD-WM-DP-226, REV. 0

Bulk Density Worksheet

Requestor: E. Steen

Date: 9/24/96

Tank: As/od
Core: 164
Seg: 174H
Auger: -
Sample ID: 5967004971

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

Jar#: 11149
Jar/Vial Size: 125 mL
Initial Weight: 98 g
Final Weight: 98 g
Net Weight: _____ g

Cone#: 49
Final Vol: 10.9 mL
Initial Weight: 7.5 g
Final Weight: 24.2 g
Net Weight: 16.7 g

Sample ID: _____

Appearance/Narrative: Bulk Density = 16.7/10.9 = 1.53 g/cc

Tank: As/od
Core: 164
Seg: 174H
Auger: -
Sample ID: 5967004972

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

Jar#: 11184
Jar/Vial Size: 250 mL
Initial Weight: 98 g
Final Weight: 98 g
Net Weight: _____ g

Cone#: 84
Final Vol: 11.2 mL
Initial Weight: 7.5 g
Final Weight: 24.9 g
Net Weight: 17.4 g

Sample ID: _____

Appearance/Narrative: Bulk Density = 17.4/11.2 = 1.55 g/cc

HNF-SD-WM-DP-226, REV. 0

Bulk Density Worksheet

Date: 9-21-96

Requestor: F. STEEN

Tank: AN-104
Core: 164
Seg: 19CH
Auger: —
Sample ID: 5967004974

Start Time: —
End Time: —
Homogenization Time (Min.): —
Jar#: 11170
Jar/Vial Size: 250 mL
Initial Weight: 9.96 g
Final Weight: 9.96 g
Net Weight: — g

Cone#: 70
Final Vol: 10.8 mL
Initial Weight: 7.5 g
Final Weight: 24.6 g
Net Weight: 17.1 g
Sample ID: —

Appearance/Narrative: Beckman = 17.1 / 10.8 = 1.58 g/mL

Tank: AN-104
Core: 164
Seg: 19CH
Auger: —
Sample ID: 5967004973

Start Time: —
End Time: —
Homogenization Time (Min.): —
Jar#: 11178
Jar/Vial Size: 250 mL
Initial Weight: 9.96 g
Final Weight: 9.96 g
Net Weight: — g

Cone#: 78
Final Vol: 9.4 mL
Initial Weight: 7.5 g
Final Weight: 22.2 g
Net Weight: 14.7 g
Sample ID: —

Appearance/Narrative: Beckman = 14.7 / 9.4 = 1.56 g/mL

HNF-SD-WM-DP-226, REV. 0

Bulk Density Worksheet

Requestor: FEITZDate: 10/14/96Tank: AD-104Core: 164Seg: 20 & 14Auger: Sample ID: 5967005222

Tank:
 Core:
 Seg:
 Auger:
 Sample ID:

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

Jar#: 11190Jar/Vial Size: 250 mLInitial Weight: 7.5 gFinal Weight: 25.1 gNet Weight: 17.6 g Cone#: 90Final Vol: 11.0 mLInitial Weight: 7.5 gFinal Weight: 25.1 gNet Weight: 17.6 gSample ID: Appearance/Narrative:

$$\frac{25.1}{11.0} = 1.60$$

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

Jar#: Jar/Vial Size: mLInitial Weight: gFinal Weight: gNet Weight: g Cone#: 10/14Final Vol: 19.6 mLInitial Weight: gFinal Weight: gNet Weight: gSample ID: Appearance/Narrative:

Bulk Density Worksheet

Requestor: FluorDate: 10/14/96Tank: AD-104Core: 164Seg: 20 LH

Auger:

Sample ID: 5967005223Start Time: _____
End Time: _____
Homogenization
Time (Min.): _____ Jar#: 11191
Jar/Vial Size: 250 mL
Initial Weight: 146 g
Final Weight: 141 g
Net Weight: _____ g

347

Cone#: 91
Final Vol: 10.0 mL
Initial Weight: 7.5 g
Final Weight: 23.5 g
Net Weight: 16.0 g

Sample ID: _____

Appearance/Narrative:

840601 = 16.9/10.01.60Tank: _____
Core: _____
Seg: _____
Auger: _____
Sample ID: _____Start Time: _____
End Time: _____
Homogenization
Time (Min.): _____ Jar#: _____
Jar/Vial Size: _____ mL
Initial Weight: _____ g
Final Weight: _____ g
Net Weight: _____ g Cone#: 90
Final Vol: _____ mL
Initial Weight: _____ g
Final Weight: _____ g
Net Weight: _____ g

Sample ID: _____

Appearance/Narrative:

Bulk Density Worksheet

Requestor: E. Sten

Tank: AN104
Core: 164
Seg: Comp
Auger: —

Sample ID: 5967005970

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

Jar#: 11566
Jar/Vial Size: 250 mL
Initial Weight: 166 g
Final Weight: 161.8 g
Net Weight: 4.2 g

Cone#: 66
Final Vol: 9.8 mL
Initial Weight: 2.5 g
Final Weight: 22.9 g
Net Weight: 15.4 g

Sample ID: 5967205970

Appearance/Narrative:

Ball Density = 15.4 / 9.8 = 1.57 g/mL

Date: 12/8/96

HNF-SD-WM-DP-226, REV. 0

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

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

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

Cone#: 12/8
Final Vol: 196 mL
Initial Weight: — g
Final Weight: — g
Net Weight: — g

Sample ID: —

Appearance/Narrative:

HNF-SD-WM-DP-226, Rev. 0

Bulk Density Worksheet

Requestor: F. Steel

Date: 12/8/96

Tank: Ad104
Core: 164
Seg: Comp
Auger: —
Sample ID: 5967005970

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

Jar#: 11566
Jar/Vial Size: 250 mL
Initial Weight: 166 g
Final Weight: 118 g
Net Weight: 48 g

Cone#: 66
Final Vol: 9.8 mL
Initial Weight: 7.5 g
Final Weight: 22.9 g
Net Weight: 15.4 g

Sample ID: 5967005970

Appearance/Narrative:

Bulk Density = 15.4 / 9.8 = 1.57 g/cc

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

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

Jar#: 1218
Jar/Vial Size: 196 mL
Initial Weight: — g
Final Weight: — g
Net Weight: — g

Cone#: —
Final Vol: 196 mL
Initial Weight: — g
Final Weight: — g
Net Weight: — g

Sample ID: —

Appearance/Narrative:

HNF-SD-WM-DP-226, REV. 0

INORGANIC ANALYSIS

HNH-SD-WM-DP-226, REV. 0

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LABCORE Data Entry Template for Worklist# 13622

Analyst: AM Instrument: DSC01 _____ Book # 12N4B

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

Worklist Comment: DSC-01 FOR AN-104 PLEASE RUN UNDER N2 RTS!

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	LIQUID	28.45 26.5*	N/A		Joules/g
96001174	AN-104	2 SAMPLE	S96T004774	0	DSC-01	LIQUID	N/A 12.5	N/A 10.8-96		Joules/g
96001174	AN-104	3 DUP	S96T004774	0	DSC-01	LIQUID	42.5	0	N/A	Joules/g
96001174	AN-104	4 SAMPLE	S96T004778	0	DSC-01	LIQUID	N/A	0		Joules/g
96001174	AN-104	5 DUP	S96T004778	0	DSC-01	LIQUID	0	0	N/A	Joules/g

Final page for worklist # 13622

AMurphy 10-8-96
Analyst Signature Date

Susan Brea 10/11/96
Analyst Signature Date

Verified/Validated by

Blondina
Valepinela
10-14-96

Data Entry Comments:

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

WHC QCHISTORY TABLE EDIT SCREEN

Sample#		Assc		Sample ID				
Group#				Customer				
Worklist# 13622				WL Comment DSC-01 FOR AN-104 PLEASE RUN UNDER N2				
Test	Matrx	Type	Actual	Found	Yield	STAT	AnalDate	User
DSC-01	LIQUI	STD	28.45	26.5	93.1459	NEW	10/11/96 0202	skb
DSC-01	LIQUI	DUP	0	0	0.0000	NEW	10/11/96 0202	skb
DSC-01	LIQUI	DUP	0	0	0.0000	NEW	10/11/96 0202	skb

Save (F12) End (F3)

DSC-01 standard needed to be changed to
a text entry.

10-14-96

Blandina
Valenzuela

WHC QCHISTORY TABLE EDIT SCREEN

Sample#	Assc	Sample ID						
Group#		Customer						
Worklist# 13622		WL Comment DSC-01 FOR AN-104 PLEASE RUN UNDER N2						
Test	Matrx	Type	Actual	Found	Yield	STAT	AnalDate	User
DSC-01	LIQUI	STD	28.45	26.5*	93.1459	TEXT	10/11/96 0202	skb
DSC-01	LIQUI	DUP	0	0	0.0000	NEW	10/11/96 0202	skb
DSC-01	LIQUI	DUP	0	0	0.0000	NEW	10/11/96 0202	skb

Save (F12) End (F3)

DSC-01 standard was changed to a text entry.

10-14-96

Blandina

Valenzuela

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED AND VERIFIED THE CALIBRATION ANALYSIS ON PAGES 355-359

Murphy D. S. Jr.

DSC STD 12N14-B N2

34.640 mg

Rate: 10.0 °C/min

File: 00055.001

Ident: 0.0

DSC METTLER

07-Oct-96

222-S Laboratory

exo

20. mW

Integration
Delta H 918 mJ
26.5 J/g
Peak 160.0 °C
-36.5 mW

S96T004778 N2

35.517 mg

Rate: 10.0 °C/min

File: 00077.001

Ident: 0.0

DSC METTLER

08-Oct-96

222-S Laboratory

S96T004778 DUP N2

63.551 mg

Rate: 10.0 °C/min

File: 00079.001

Ident: 0.0

DSC METTLER

08-Oct-96

222-S Laboratory

LABCORE Data Entry Template for Worklist# 13623

Analyst:

QAM

Instrument: DSC0 1

Book # 12N14-B

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

Worklist Comment: DSC-01 FOR AN-104 PLEASE RUN UNDER N2 RTS!

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	LIQUID	<u>28.45</u>	<u>27.3</u>	<u>N/A</u>	Joules/g
96001174	AN-104	2 SAMPLE	S96T004779	0	DSC-01	LIQUID	<u>N/A</u>	<u>0</u>		Joules/g
96001174	AN-104	3 DUP	S96T004779	0	DSC-01	LIQUID	<u>0</u>	<u>0</u>	<u>N/A</u>	Joules/g
96001174	AN-104	4 SAMPLE	S96T004780	0	DSC-01	LIQUID	<u>N/A</u>	<u>0</u>		Joules/g
96001174	AN-104	5 DUP	S96T004780	0	DSC-01	LIQUID	<u>0</u>	<u>15.7</u>	<u>N/A</u>	Joules/g

Final page for worklist # 13623

QAMurphy 10-10-96
Analyst Signature Date

Susan Bee 10/11/96
Analyst Signature Date

Verified/Validated by
Blandina
Valenzuela
10-14-96

Data Entry Comments:

OK S96T004780 duplicate thermogram displayed a sharp exotherm at 220°C. This exotherm is probably due to a pure substance scattered throughout the waste.

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 364 TO 365.

G. Murphy 10 + 9-96

S96T004779 DUP N2

58.517 mg

Rate: 10.0 °C/min.

File: 00085.001

DSC

METTLER

09-Oct-96

Ident: 0.0

222-S

Laboratory

S96T004780 SAM N2

14.209 mg

Rate: 10.0 °C/min

File: 00001.001

DSC METTLER

96-730-60

Ident: 0.0 222-S Laboratory

S96T004780 DUP N2

17.860 mg

Rate: 10.0 °C/min

File: 00003.001

Ident: 0.0

DSC METTLER

09-Oct-96

222-S Laboratory

exo

20. mW

Integration
Delta H 578 mJ
32.3 J/g
Peak 246.0 °C
-7.8 mW

Integration
Delta H 280 mJ
15.7 J/g
Peak 198.7 °C
13.4 mW

Integration
Delta H 12580 mJ
704.4 J/g
Peak 135.9 °C
-42.6 mW

100.

200.

300.

400.

°C

LABCORE Data Entry Template for Worklist# 13624

Analyst: DCD Instrument: DSC01 Book # 12N14-BMethod: LA-514-113 Rev/Mod C-1

Worklist Comment: DSC-01 FOR AN-104 PLEASE RUN UNDER N2 RTS!

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	LIQUID	<u>28.45</u>	<u>27.3</u>	<u>N/A</u>	Joules/g
96001174	AN-104	2 SAMPLE	S96T004781	0	DSC-01	LIQUID	<u>N/A</u>	<u>Ø</u>		Joules/g
96001174	AN-104	3 DUP	S96T004781	0	DSC-01	LIQUID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g
96001174	AN-104	4 SAMPLE	S96T004782	0	DSC-01	LIQUID	<u>N/A</u>	<u>Ø</u>		Joules/g
96001174	AN-104	5 DUP	S96T004782	0	DSC-01	LIQUID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g

Final page for worklist # 13624

Analyst Signature

Date

Analyst Signature

Date

Verified/Validated by

Blandina

Valenzuela

10-15-96

Data Entry Comments:

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

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 367 TO 377.

S96T004781 DUP N2

14.846 mg

Rate: 10.0 °C/min

File: 00029.001

DSC METTLER

12-Oct-96

Ident: 0.0 222-S Laboratory

S96T004782 SAM N2

15.967 mg

Rate: 10.0 °C/min

File: 00031.001

DSC METTLER

12-Oct-98

Ident: 0.0 222-S Laboratory

S96T004782 DUP N2
15.707 mg
Rate: 10.0 °C/min
File: 00033.001
Ident: 0.0
DSC METTLER 13-Oct-96
222-S Laboratory

LABCORE Data Entry Template for Worklist# 13625

Analyst: RDM Instrument: DSC0 3 Book # 12N114B

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

Worklist Comment: DSC-01 FOR AN-104 PLEASE RUN UNDER N2 RTS!

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-03	LIQUID	<u>28.45</u>	<u>28.27</u>	<u>N/A</u>	Joules/g
96001174	AN-104	2 SAMPLE	S96T004783	0	DSC-03	LIQUID	<u>N/A</u>	<u>Ø</u>		Joules/g
96001174	AN-104	3 DUP	S96T004783	0	DSC-03	LIQUID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g
96001174	AN-104	4 SAMPLE	S96T004784	0	DSC-03	LIQUID	<u>N/A</u>	<u>Ø</u>		Joules/g
96001174	AN-104	5 DUP	S96T004784	0	DSC-03	LIQUID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g

Final page for worklist # 13625

See Attached for Signatures
Analyst Signature _____ Date _____

Suzanne Bee 10/14/96
Analyst Signature _____ Date _____

Verified/Validated by

Diana Valenzuela
10-15-96

Data Entry Comments:

LABCORE Data Entry Template for Worklist# 13625

Analyst: ROM Instrument: DSC0 3 Book # 12NHR

Method: LA-514-113 Rev/Mod D-0

Worklist Comment: DSC-01 FOR AN-104 PLEASE RUN UNDER N2 RTS!

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	LIQUID			N/A	Joules/g
96001174	AN-104	2 SAMPLE	S96T004783	0	DSC-01	LIQUID	N/A			Joules/g
96001174	AN-104	3 DUP	S96T004783	0	DSC-01	LIQUID			N/A	Joules/g
96001174	AN-104	4 SAMPLE	S96T004784	0	DSC-01	LIQUID	N/A			Joules/g
96001174	AN-104	5 DUP	S96T004784	0	DSC-01	LIQUID			N/A	Joules/g

Final page for worklist # 13625

ROM 10/11/96
Analyst Signature Date

Analyst Signature Date

DSC-03 Instrument was used.

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: ind101101 Fri Oct 11 06:14:08 1996

Sample Weight: 22.750 mg

12N14-B INDIUM AT 10C/MIN

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 374 TO 378

Curve 1: DSC
 File Info: SAK101101 Fri Oct 11 08:41:55 1996
 Sample Weight: 13.840 mg
 S96T004783

N2 10C/min
 Temp: 35.0 °C
 TIME: 0.0 min RATE: 10.0 °C/min
 rd meyers
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Mon Oct 14 08:05:13 1996

Curve 1: DSC
 File Info: SAM101102 Fri Oct 11 12:18:31 1996
 Sample Weight: 14.050 mg
 S95T004783DUP

Curve 1: DSC

File Info: SAM101103 Fri Oct 11 14:05:10 1996

Sample Weight: 14.600 mg

596T004784

N2 10C/min

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

rd meyers
PERKIN-ELMER
7 Series Thermal Analysis System
Mon Oct 14 08:19:43 1996

Curve 1: DSC

File info: SAM101104 Fri Oct 11 15:43:19 1996

Sample Weight: 13.950 mg

S961004784DUP

N2 10C/min

TEMP: 35.0 °C

TIME: 0.0

0.0 min RATE: 10.0 °C/min

rd meyers

PERKIN-ELMER

7 Series Thermal Analysis System
Mon Oct 14 08:26:27 1996

LABCORE Data Entry Template for Worklist# 13626

Analyst: Dcd Instrument: DSC01 _____ Book # 12N14-B

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

Worklist Comment: DSC-01 FOR AN-104 PLEASE RUN UNDER N2 RTS!

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	LIQUID	<u>28.45</u>	<u>25.6</u>	<u>N/A</u>	Joules/g
96001174	AN-104	2 SAMPLE	S96T004976	0	DSC-01	LIQUID	<u>N/A</u>	<u>Ø</u>		Joules/g
96001174	AN-104	3 DUP	S96T004976	0	DSC-01	LIQUID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g
96001174	AN-104	4 SAMPLE	S96T004977	0	DSC-01	LIQUID	<u>N/A</u>	<u>Ø</u>		Joules/g
96001174	AN-104	5 DUP	S96T004977	0	DSC-01	LIQUID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g

Final page for worklist # 13626

David C. Dulan 10-11-96
Analyst Signature Date

Susan Bue 10/14/96
Analyst Signature Date

Verified/Validated by

Blandina
Valenzuela 10-15-96

Data Entry Comments:

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

WHC QCHISTORY TABLE EDIT SCREEN

Sample#	Assc	Sample ID						
Group#		Customer						
Worklist# 13626		WL Comment DSC-01 FOR AN-104 PLEASE RUN UNDER N2						
Test	Matrx	Type	Actual	Found	Yield	STAT	AnalDate	User
DSC-01	LIQUI	STD	28.45	25.6	89.9824	NEW	10/14/96 1356	skb
DSC-01	LIQUI	DUP	0	0	0.0000	NEW	10/14/96 1356	skb
DSC-01	LIQUI	DUP	0	0	0.0000	NEW	10/14/96 1356	skb

Save (F12) End (F3)

DSC-01 standard needed to be changed to a
text entry.

10-15-96

Blandina
Valenzuela

WHC QCHISTORY TABLE EDIT SCREEN

Sample#	Assc	Sample ID						
Group#		Customer						
Worklist# 13626		WL Comment DSC-01 FOR AN-104 PLEASE RUN UNDER N2						
Test	Matrx	Type	Actual	Found	Yield	STAT	AnalDate	User
DSC-01	LIQUI	STD	28.45	25.6*	89.9824	TEXT	10/14/96 1356	skb
DSC-01	LIQUI	DUP	0	0	0.0000	NEW	10/14/96 1356	skb
DSC-01	LIQUI	DUP	0	0	0.0000	NEW	10/14/96 1356	skb

Save (F12) End (F3)

DSC-01 standard was changed to a-text
entry.

10-15-96

Blandina
Valepszek

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 382 TO 386.

DSC STD 12N14-B N2 File: 00005.001 DSC METTLER 11-Oct-96
17.838 mg Rate: 10.0 °C/min Ident: 0.0 222-S Laboratory

S96T004976 SAM N2
 17.305 mg
 Rate: 10.0 °C/min
 File: 00011.001
 Ident: 0.0
 DSC METTLER 11-Oct-96
 222-S Laboratory

S96T004977 SAM N2
18.111 mg
Rate: 10.0 °C/min
File: 00015.001 DSC METTLER 12-Oct-96
Ident: 0.0 222-S Laboratory

S96T004977 DUP N2
13.130 mg
Rate: 10.0 °C/min
File: 00017.001
Ident: 0.0
DSC METTLER 12-Oct-96
222-S Laboratory

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

Document number: SD-WM-DP-226

Section 2 of 6

Title: Tank 241-AN-104 Cores 163 and 164
Analytical Results for the Final Report

Date: 6/5/97 Revision: A000

Originator: John LXL

Co: RFLH

Recipient: _____

Co: _____

References: EDT- 620405

worklistrpt Version 2.1 05/15/95
10/14/96 09:01

Page: 1

LABCORE Data Entry Template for Worklist# 13627

Analyst: DCD Instrument: DSC0 3 Book # 12N14BMethod: LA-514-114 Rev/Mod D-7

Worklist Comment: DSC-01 FOR AN-104 PLEASE RUN UNDER N2 RTS!

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-03	LIQUID	<u>28.45</u>	<u>28.56*</u>	<u>N/A</u>	Joules/g
96001174	AN-104	2 SAMPLE	S96T004978	0	DSC-03	LIQUID	<u>N/A</u>	<u>Ø</u>		Joules/g
96001174	AN-104	3 DUP	S96T004978	0	DSC-03	LIQUID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g
96001174	AN-104	4 SAMPLE	S96T004979	0	DSC-03	LIQUID	<u>N/A</u>	<u>Ø</u>		Joules/g
96001174	AN-104	5 DUP	S96T004979	0	DSC-03	LIQUID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g

Final page for worklist # 13627

See Attached for Signatures
Analyst Signature Date Jason Bee 10/14/96
Analyst Signature Date Verified/Validated by
Blandina
Valenzuela
10-15-96

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 13627

Analyst: DGD Instrument: DSC03 Book # 12N14-B

Method: LA-514-113 Rev/Mod _____

Worklist Comment: DSC-01 FOR AN-104 PLEASE RUN UNDER N2 RTS!

GROUP	PROJECT	S. TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	LIQUID	_____	_____	N/A	Joules/g
96001174	AN-104	2 SAMPLE	S96T004978	0	DSC-01	LIQUID	N/A	_____	_____	Joules/g
96001174	AN-104	3 DUP	S96T004978	0	DSC-01	LIQUID	_____	_____	N/A	Joules/g
96001174	AN-104	4 SAMPLE	S96T004979	0	DSC-01	LIQUID	N/A	_____	_____	Joules/g
96001174	AN-104	5 DUP	S96T004979	0	DSC-01	LIQUID	_____	_____	N/A	Joules/g

Final page for worklist # 13627

Daniel D. Dinkler 10-11-96
Analyst Signature Date

Analyst Signature Date

DSC-03 Instrument was used.

Data Entry Comments:

WHC QCHISTORY TABLE EDIT SCREEN

Sample#	Assc	Sample ID						
Group#		Customer						
Worklist# 13627	WL Comment DSC-01 FOR AN-104 PLEASE RUN UNDER N2							
Test	Matrx	Type	Actual	Found	Yield	STAT	AnalDate	User
DSC-03	LIQUI	STD	28.45	28.56	100.3866	NEW	10/14/96 1408	skb
DSC-03	LIQUI	DUP	0	0	0.0000	NEW	10/14/96 1408	skb
DSC-03	LIQUI	DUP	0	0	0.0000	NEW	10/14/96 1408	skb

Save (F12) End (F3)

DSC-03 Standard need to be changed to a text entry.

10-15-96

Blandina
Valenzuela

[illegible]

Save (F12) End (F3)

DSC-03 standard was changed to a test entry.

10-15-96

Blandina
Valerius

Curve 1: DSC

File Info: Ind101101 Fri Oct 11 06:11:08 1996

Sample Weight: 22.750 mg

12N14-B INDIUM AT 10C/MIN

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 391 TO 395

Curve 1: DSC
 File Info: SAM1011005 Fr-1 Oct 11 21:57:29 1996
 Sample Weight: 16.490 mg
 S96T004978

DC DUNHAM
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sat Oct 12 00:12:13 1996

N2 10C/min
 Temp: 300.0 °C
 Time: 0.0 min
 Rate: 30.0 °C/min

Curve 1: DSC
File Info: SAM101106 Fri Oct 11 23: 07: 12 1996
Sample Weight: 12.820 mg
S96T004978 DUP

N2 10C/min
TIME: 33.8 s
TEMP: 500.8 °C

DC DUNHAM
PERKIN-ELMER
7 Series Thermal Analysis System
Sat Oct 12 00: 23: 57 1996

Curve 1: DSC
 File Info: SAM101107 Sat Oct 12 00:25:02 1996
 Sample Weight: 13.360 mg
 S96T004979

DC DUNHAM
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sat Oct 12 02:42:19 1996

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

Curve 1: DSC
File info: SAM101108 Sat Oct 12 01:39:55 1996
Sample Weight: 12.780 mg
S96T004979 DUP

N2 10C/min
TEMP: 55.8 °C
TIME: 65.8 s

DC DUNHAM
PERKIN-ELMER
7 Series Thermal Analysis System
Sat Oct 12 06:31:09 1996

LABCORE Data Entry Template for Worklist# 13629

Analyst: KRM Instrument: DSC0 3 Book # 12N14B

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

Worklist Comment: DSC-01 FOR AN-104 PLEASE RUN UNDER N2 RTS!

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-03	SOLID	<u>28.45</u>	<u>27.30</u>	<u>N/A</u>	Joules/g
96001174	AN-104	2 SAMPLE	S96T004772	0	DSC-03	SOLID	<u>N/A</u>	<u>Ø</u>		Joules/g
96001174	AN-104	3 DUP	S96T004772	0	DSC-03	SOLID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g
96001174	AN-104	4 SAMPLE	S96T004773	0	DSC-03	SOLID	<u>N/A</u>	<u>Ø</u>		Joules/g
96001174	AN-104	5 DUP	S96T004773	0	DSC-03	SOLID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g

Final page for worklist # 13629

See attached for signatures 10-22-96
Analyst Signature Date 801

Frank Mack 10-24-96
Analyst Signature Date

Verified/Validated by

Blandina
Valenzuela
10-30-96

Data Entry Comments:

LABCORE Data Entry Template for Worklist# 13629

Analyst:

KRM

Instrument: DSC0

Book #

12N14B

Method: LA-514-113 Rev/Mod

Worklist Comment: DSC-01 FOR AN-104 PLEASE RUN UNDER N2 RTS!

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	SOLID			N/A	Joules/g
96001174	AN-104	2 SAMPLE	S96T004772	0	DSC-01	SOLID	N/A			Joules/g
96001174	AN-104	3 DUP	S96T004772	0	DSC-01	SOLID			N/A	Joules/g
96001174	AN-104	4 SAMPLE	S96T004773	0	DSC-01	SOLID	N/A			Joules/g
96001174	AN-104	5 DUP	S96T004773	0	DSC-01	SOLID			N/A	Joules/g

Final page for worklist # 13629

Analyst Signature

Date

10-20-96

Analyst Signature

Date

*DSC-03 instrument
was used.*

10-30-96

Blandina

Valenzuela

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: IND102001 Sun Oct 20 04:29:34 1996

Sample Weight: 22.750 mg

12N14-B INDIUM AT 10C/MIN

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 398 TO 402.

KR MONTEITH
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Oct 20 04:36:24 1996

10-20-96

Curve 1: DSC

File info: SAM102002 Sun Oct 20 06:55:05 1996

Sample Weight: 12.860 mg

596T004772

N2 10C/mfD

00
00
00

TIME: 0.0 min RATE: 10.0 C/min

Temperature (°C)

**KR MONTEITH
PERKIN-ELMER**

7 Series Thermal Analysis System
Sun Oct 20 07:45:03 1996

Curve 1: DSC
 File info: SAM102003 Sun Oct 20 08:15:44 1996
 Sample Weight: 17.910 mg
 S96T004772 DUP

KR MONTEITH
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Oct 20 08:34:03 1996

Curve 1: DSC
File info: SAK102004 Sun Oct 20 09:17:42 1996
Sample Weight: 17.950 mg
S96T004773

KR MONTEITH
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Oct 20 09:18:06 1996

N2 100/min
TEMP: 500.0 °C
TIME: 0.0 min RATE: 10.0 °C/min

Curve 1: DSC
 File Info: SAH02005 Sun Oct 20 10:29:35 1996
 Sample Weight: 9.430 mg
 S96T004773 DUP

KR MONTEITH
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Oct 20 11:38:38 1996

N2 100/min
 TEMPERATURE 50.0 °C
 TIME 0.0 min
 RATE 10.0 °C/min

LABCORE Data Entry Template for Worklist# 13630

Analyst: KRM Instrument: DSC0 3 Book # 12N148

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

Worklist Comment: DSC-01 FOR AN-104 PLEASE RUN UNDER N2 RTS!

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-03	SOLID	<u>38.45</u>	<u>27.22</u>	<u>N/A</u>	Joules/g
96001174	AN-104	2 SAMPLE	S96T004984	0	DSC-03	SOLID	<u>N/A</u>	<u>Ø</u>		Joules/g
96001174	AN-104	3 DUP	S96T004984	0	DSC-03	SOLID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g
96001174	AN-104	4. SAMPLE	S96T004985	0	DSC-03	SOLID	<u>N/A</u>	<u>Ø</u>		Joules/g
96001174	AN-104	5 DUP	S96T004985	0	DSC-03	SOLID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g

Final page for worklist # 13630

See attached for signature 10-22-96
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# 13630

Analyst: KRM Instrument: DSC0 Book # 12N14B

Method: LA-514-113 Rev/Mod _____

Worklist Comment: DSC-01 FOR AN-104 PLEASE RUN UNDER N2 RTS!

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	SOLID	_____	_____	N/A	Joules/g
96001174	AN-104	2 SAMPLE	S96T004984	0	DSC-01	SOLID	N/A	_____	_____	Joules/g
96001174	AN-104	3 DUP	S96T004984	0	DSC-01	SOLID	_____	_____	N/A	Joules/g
96001174	AN-104	4 SAMPLE	S96T004985	0	DSC-01	SOLID	N/A	_____	_____	Joules/g
96001174	AN-104	5 DUP	S96T004985	0	DSC-01	SOLID	_____	_____	N/A	Joules/g

Final page for worklist # 13630

Analyst Signature

Date

10-20-96

Analyst Signature

Date

DSC-03 instrument
was used.

10-22-96

Blandina
Valenzuela

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.

WHC QCHISTORY TABLE EDIT SCREEN

Sample#	Assc	Sample ID							
Group#		Customer							
Worklist# 13630	WL Comment DSC-01 FOR AN-104 PLEASE RUN UNDER N2								
Test	Matrx	Type	Actual	Found	Yield	STAT	AnalDate		User
DSC-03	SOLID	STD	28.45	27.22	95.6766	NEW	10/24/96	2211	tro
DSC-03	SOLID	DUP	0	0	0.0000	NEW	10/24/96	2211	tro
DSC-03	SOLID	DUP	0	0	0.0000	NEW	10/24/96	2211	tro

Save (F12) End (F3)

DSC-03 standard needed to be changed
to a text entry.

10-30-96

Blandina

Valenzuela

WHC QCHISTORY TABLE EDIT SCREEN

Sample#		Assc		Sample ID				
Group#				Customer				
Worklist# 13630				WL Comment DSC-01 FOR AN-104 PLEASE RUN UNDER N2				
Test	Matrx	Type	Actual	Found	Yield	STAT	AnalDate	User
DSC-03	SOLID	STD	28.45	27.22*	95.6766	TEXT	10/24/96 2211	tro
DSC-03	SOLID	DUP	0	0	0.0000	NEW	10/24/96 2211	tro
DSC-03	SOLID	DUP	0	0	0.0000	NEW	10/24/96 2211	tro

Save (F12) End (F3)

DSC-03 standard was changed to a
text entry.

10-30-96

Blandina
Valenzuela

Curve 1: DSC

File Info: IND102001 Sun Oct 20 04:28:34 1998

Sample Weight: 22.750 mg

12M14-B INDIUM AT 10C/MIN

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 507 TO 510.

10-20-96

Curve 1: DSC

File info: SAM02006 Sun Oct 20 12:14:50 1996

Sample Weight: 15.830 mg

SP67004984

NR 100/min
TEMP: 35.0 °C
TIME: 500.0 s

KR MONTEITH
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Oct 20 12:15:13 1996

Curve 1: DSC
File Info: SAK102007 Sun Oct 20 13:10:03 1996
Sample Weight: 16.340 mg
S96T004984 DUP

N2 10C/min
TEMP: 50.0 °C
TIME: 0.0 min RATE: 10.0 °C/min

KR MONTEITH
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Oct 20 14:31:20 1996

Curve 1: DSC
 File info: SAK102008 Sun Oct 20 15:03:44 1996
 Sample Weight: 24.480 mg
 S96T004985

N2 100/min
 TEMPS 35.0 °C
 TEMPS 608.8 °C
 TIME: 0.0 min RATE: 10.0 °C/min
 KR MONTEITH
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Oct 20 15:16 1996

LABCORE Completed Worklist Report for Worklist# 13631

Analyst: krm

Instrument: DSC01

Book# 12N14B

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

Worklist Comment: DSC-01 FOR AN-104 PLEASE RUN UNDER N2 RTS!

Seq Type	Sample# R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD	0	DSC-01	SOLID	28.45	29.0	101.933	% Recovery
2 SAMPLE	S96T004986 0	DSC-01	SOLID	N/A	35.7		Joules/g
3 DUF	S96T004986 0	DSC-01	SOLID	35.7	19.7	57.762	RPD
4 SAMPLE	S96T004987 0	DSC-01	SOLID	N/A	25.9		Joules/g
5 DUF	S96T004987 0	DSC-01	SOLID	25.9	32.6	25.882	RPD

Final page for worklist# 13631

See attached for signatures
Analyst Signature _____ Date 10-29-96 BDR

Analyst Signature _____ Date _____

Blandina Valenzuela
Reviewer Signature _____ Date 10-29-96

WHC QCHISTORY TABLE EDIT SCREEN

Sample#		Assc Y Sample ID						
Group#		Customer						
Worklist# 13631		WL Comment DSC-01 FOR AN-104 PLEASE RUN UNDER N2						
Test	Matrx	Type	Actual	Found	Yield	STAT	AnalDate	User
DSC-01	SOLID	STD	28.45	29.0	101.9332	NEW	10/24/96 1915	lc
DSC-01	SOLID	DUP	35.7	19.7	57.7617	NEW	10/24/96 1915	lc
DSC-01	SOLID	DUP	25.9	33.6	25.8824	NEW	10/24/96 1915	lc

Save (F12) End (F3)

DSC-01 standard needed to be changed
to a text entry.

10-29-96

Blandina
Valenzuela

WHC QCHISTORY TABLE EDIT SCREEN

Sample#		Assc Y Sample ID							
Group#				Customer					
Worklist# 13631									
WL Comment DSC-01 FOR AN-104 PLEASE RUN UNDER N2									
Test	Matrx	Type	Actual	Found	Yield	STAT	AnalDate	User	
DSC-01	SOLID	STD	28.45	29.0*	101.9332	TEXT	10/24/96 1915	lc	
DSC-01	SOLID	DUP	35.7	19.7	57.7617	NEW	10/24/96 1915	lc	
DSC-01	SOLID	DUP	25.9	33.6	25.8824	NEW	10/24/96 1915	lc	

Save (F12) End (F3)

DSC-01 standard was changed to a
text entry.

10-29-96

Blandina

Valenzuela

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 4/4 TO 4/8

DSC STD 12N14B N2 File: 00033.001 DSC METTLER 19-Oct-96
34.640 mg Rate: 10.0 °C/min Ident: 0.0 222-S Laboratory

John F. Miller 10-20-96

LABCORE Completed Worklist Report for Worklist# 13632

Book# 12N148

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

Worklist Comment: DSC-01 FOR AN-104 PLEASE RUN UNDER N2 RTS!

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD		0	DSC-01	SOLID	28.45	29.0	101.933 % Recovery	
2 SAMPLE	S96T004988	0	DSC-01	SOLID	N/A	32.6		Joules/g
3 DUP	S96T004988	0	DSC-01	SOLID	32.6	24.2	26.783 RPD	
4 SAMPLE	S96T004989	0	DSC-01	SOLID	N/A	16.5		Joules/g
5 DUP	S96T004989	0	DSC-01	SOLID	16.5	0	200.000 RPD	

Final page for worklist# 13632

See attached for signatures
Analyst Signature _____ Date _____

10-30-96

Analyst Signature

Date

Blandina Valenzuela 10-30-96
Reviewer Signature Date

Reviewer Signature

Date _____

WHC QCHISTORY TABLE EDIT SCREEN

Sample#	Assc	Sample ID						
Group#		Customer						
Worklist# 13632	WL Comment DSC-01 FOR AN-104 PLEASE RUN UNDER N2							
Test	Matrx	Type	Actual	Found	Yield	STAT	AnalDate	User
DSC-01	SOLID	STD	28.45	29.0	101.9332	NEW	10/24/96 1933	lc
DSC-01	SOLID	DUP	32.6	24.9	26.7826	NEW	10/24/96 1933	lc
DSC-01	SOLID	DUP	16.5	0	200.0000	NEW	10/24/96 1933	lc

Save (F12) End (F3)

DSC-01 standard needed to be changed to a
text entry. 10-30-96
Blandina
Valenzuela

WHC QCHISTORY TABLE EDIT SCREEN

Sample#	Assc	Sample ID						
Group#		Customer						
Worklist# 13632	WL Comment DSC-01 FOR AN-104 PLEASE RUN UNDER N2							
Test	Matrx	Type	Actual	Found	Yield	STAT	AnalDate	User
DSC-01	SOLID	STD	28.45	29.0*	101.9332	TEXT	10/24/96 1933	lc
DSC-01	SOLID	DUP	32.6	24.9	26.7826	NEW	10/24/96 1933	lc
DSC-01	SOLID	DUP	16.5	0	200.0000	NEW	10/24/96 1933	lc

Save (F12) End (F3)

DSC-01 standard was changed to a text entry.

10-30-96

Blandina

Valezzola

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 422 TO 426

DSC STD 12N14B N2
34.640 mg
Rate: 10.0 °C/min
File: 00033.001 DSC METTLER 19-Oct-96
Ident: 0.0 222-S Laboratory

S96T004988 N2

23.238 mg

Rate: 10.0 °C/min

File: 00051.001

DSC METTLER

19-Oct-86

Ident: 0.0 222-s Laboratory

 Δx

S96T004989 N2

22.268 mg

File: 00055.001 DSC METTLER 20-Oct-96

Ident: 0.0 222-S Laboratory

Rate: 10.0 °C/min

<exo

LABCORE Completed Worklist Report for Worklist# 13633

Analyst: rga

Instrument: DSC01

Book# 12N148

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

Worklist Comment: DSC-01 FOR AN-104 PLEASE RUN UNDER N2 RTS!

Seq Type	Sample# R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD	0	DSC-01	SOLID	28.45	29.05	101.932	% Recovery
2 SAMPLE	S96T004990 0	DSC-01	SOLID	N/A	7.0		Joules/g
3 DUP	S96T004990 0	DSC-01	SOLID	7.0	0	200.000	RPD
4 SAMPLE	S96T004991 0	DSC-01	SOLID	N/A	2.2		Joules/g
5 DUP	S96T004991 0	DSC-01	SOLID	2.2	4.7	72.464	RPD

Final page for worklist# 13633

See attached for signatures 10-30-96
Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Blandina Valenzuela 10-30-96
Reviewer Signature _____ Date _____

[illegible]

Valenzuela

WHC QCHISTORY TABLE EDIT SCREEN

Sample#		Assc Y Sample ID						
Group#		Customer						
Worklist# 13633		WL Comment DSC-01 FOR AN-104 PLEASE RUN UNDER N2						
Test	Matrx	Type	Actual	Found	Yield	STAT	AnalDate	User
DSC-01	SOLID	STD	28.45	29.0*	101.9332	TEXT	10/24/96 1926	lc
DSC-01	SOLID	DUP	7.0	0	200.0000	NEW	10/24/96 1926	lc
DSC-01	SOLID	DUP	2.2	4.7	72.4638	NEW	10/24/96 1926	lc

Save (F12) End (F3)

DSC-01 standard was changed to a text
entry.

10-30-96
Blandina
Valenzuela

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 430 TO 434

DSC STD 12N14B N2
34.640 mg
Rate: 10.0 °C/min
File: 00033.001 DSC METTLER 19-Oct-96
Ident: 0.0 222-S Laboratory

LABCORE Data Entry Template for Worklist# 13634Analyst: JDS Instrument: DSC0 3 Book # 12N14BMethod: LA-514-114 Rev/Mod D-0

Worklist Comment: DSC-01 FOR AN-104 PLEASE RUN UNDER N2 RTS!

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-03	SOLID	<u>28.45</u>	<u>28.11</u>	<u>N/A</u>	Joules/g
96001174	AN-104	2 SAMPLE	S96T004992	0	DSC-03	SOLID	<u>N/A</u>	<u>Ø</u>		Joules/g
96001174	AN-104	3 DUP	S96T004992	0	DSC-03	SOLID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g
96001174	AN-104	4 SAMPLE	S96T004993	0	DSC-03	SOLID	<u>N/A</u>	<u>Ø</u>		Joules/g
96001174	AN-104	5 DUP	S96T004993	0	DSC-03	SOLID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g

Final page for worklist # 13634

See attached for signatures.

Analyst Signature

Date

10-22-96

BAY

Jenick Mack 10-24-96

Analyst Signature

Date

Verified/Validated by

Blandina
Valenzuela

10-30-96

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 13634

Analyst: SL Instrument: DSC0 _____ Book # 12N1413

Method: LA-514-113 Rev/Mod _____

Worklist Comment: DSC-01 FOR AN-104 PLEASE RUN UNDER N2 RTS!

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	SOLID			N/A	Joules/g
96001174	AN-104	2 SAMPLE	S96T004992	0	DSC-01	SOLID	N/A			Joules/g
96001174	AN-104	3 DUP	S96T004992	0	DSC-01	SOLID			N/A	Joules/g
96001174	AN-104	4 SAMPLE	S96T004993	0	DSC-01	SOLID	N/A			Joules/g
96001174	AN-104	5 DUP	S96T004993	0	DSC-01	SOLID			N/A	Joules/g

Final page for worklist # 13634

Sp Sp 10-21-96
Analyst Signature Date

Analyst Signature Date

DSC-03 instrument
was used.

10-22-96

Blandina
Valenzuela

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: IND102101 Mon Oct 21 05: 43: 49 1996
 Sample Weight: 22.750 mg
 12M14-B INDIUM AT 10C/MIN

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 437 TO 442.

Curve 1: DSC

File Info: SAM102101 Mon Oct 21 07: 14: 17 1996

Sample Weight: 29.120 mg

S96T004992

JD SPELLMAN
PERKIN-ELMER
7 Series Thermal Analysis System
Mon Oct 21 08:27:08 1996

N2 10C/min
TEMP: 25.0 °C
TIME: 00:00

Curve 1: DSC

File Info: SAK102102 Mon Oct 21 09:28:39 1996

Sample Weight: 28.800 mg

S96T004892 DUP

JD SPELLMAN
PERKIN-ELMER
7 Series Thermal Analysis System
Mon Oct 21 09:49:11 1996

N2 100/min
TEMP 50.0 °C
TIME 0.0 min RATE 10.0 °C/min

Curve 1: DSC
 File Info: SAM102103 Mon Oct 21 10:54:07 1996
 Sample Weight: 24.190 mg
 S96T004993

JD SPELLMAN
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Mon Oct 21 11:08:51 1996

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

LABCORE Data Entry Template for Worklist# 14096

Analyst: BON Instrument: DSC01 Book #

Method: LA-514-113 Rev/Mod

Worklist Comment: Dry DSC for AN-102. bdv

LAD 10/18/96

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
96001174	AN-104	1 SAMPLE	S96T004774	0	DSC-02	LIQUID	N/A	Ø		Joules/g Dry
96001174	AN-104	2 DUP	S96T004774	0	DSC-02	LIQUID	Ø	Ø	N/A	Joules/g Dry
96001174	AN-104	3 SAMPLE	S96T004778	0	DSC-02	LIQUID	N/A	Ø		Joules/g Dry
96001174	AN-104	4 DUP	S96T004778	0	DSC-02	LIQUID	Ø	Ø	N/A	Joules/g Dry
96001174	AN-104	5 SAMPLE	S96T004779	0	DSC-02	LIQUID	N/A	Ø		Joules/g Dry
96001174	AN-104	6 DUP	S96T004779	0	DSC-02	LIQUID	Ø	Ø	N/A	Joules/g Dry
96001174	AN-104	7 SAMPLE	S96T004780	0	DSC-02	LIQUID	N/A	Ø		Joules/g Dry
96001174	AN-104	8 DUP	S96T004780	0	DSC-02	LIQUID	Ø	32.5	N/A	Joules/g Dry
96001174	AN-104	9 SAMPLE	S96T004781	0	DSC-02	LIQUID	N/A	Ø		Joules/g Dry
96001174	AN-104	10 DUP	S96T004781	0	DSC-02	LIQUID	Ø	Ø	N/A	Joules/g Dry
96001174	AN-104	11 SAMPLE	S96T004782	0	DSC-02	LIQUID	N/A	Ø		Joules/g Dry
96001174	AN-104	12 DUP	S96T004782	0	DSC-02	LIQUID	Ø	Ø	N/A	Joules/g Dry
96001174	AN-104	13 SAMPLE	S96T004783	0	DSC-02	LIQUID	N/A	Ø		Joules/g Dry
96001174	AN-104	14 DUP	S96T004783	0	DSC-02	LIQUID	Ø	Ø	N/A	Joules/g Dry
96001174	AN-104	15 SAMPLE	S96T004784	0	DSC-02	LIQUID	N/A	Ø		Joules/g Dry
96001174	AN-104	16 DUP	S96T004784	0	DSC-02	LIQUID	Ø	Ø	N/A	Joules/g Dry
96001174	AN-104	17 SAMPLE	S96T004976	0	DSC-02	LIQUID	N/A	Ø		Joules/g Dry
96001174	AN-104	18 DUP	S96T004976	0	DSC-02	LIQUID	Ø	Ø	N/A	Joules/g Dry

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 14096

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

Final page for worklist # 14096

Blanding Valenzuela 10-17-96
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.

Dry DSC for AN-104

CALCULATED DRY DSC			
SAMPLE NO.	DSC RESULT (J/g)	TGA RESULT (% water)	DRY DSC RESULT
S96T004774	Ø	—	Ø
4774D	Ø	—	Ø
4778	Ø	—	Ø
4778D	Ø	—	Ø
4779	Ø	—	Ø
4779D	Ø	—	Ø
4780	Ø	—	Ø
4780D	15.7	51.63	30.5
4781	Ø	—	Ø
4781D	Ø	—	Ø
4782	Ø	—	Ø
4782D	Ø	—	Ø
4783	Ø	—	Ø
4783D	Ø	—	Ø
4784	Ø	—	Ø
4784D	Ø	—	Ø
4976	Ø	—	Ø
4976D	Ø	—	Ø

LABCORE Data Entry Template for Worklist# 14097

Analyst: BW Instrument: DSC01 Book #

Method: LA-514-113 Rev/Mod

Worklist Comment: Dry DSC for AN-104. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
96001174	AN-104	1 SAMPLE	S96T004977	0	DSC-02	LIQUID	N/A	Ø		Joules/g Dry
96001174	AN-104	2 DUP	S96T004977	0	DSC-02	LIQUID	Ø	Ø	N/A	Joules/g Dry
96001174	AN-104	3 SAMPLE	S96T004978	0	DSC-02	LIQUID	N/A	Ø		Joules/g Dry
96001174	AN-104	4 DUP	S96T004978	0	DSC-02	LIQUID	Ø	Ø	N/A	Joules/g Dry
96001174	AN-104	5 SAMPLE	S96T004979	0	DSC-02	LIQUID	N/A	Ø		Joules/g Dry
96001174	AN-104	6 DUP	S96T004979	0	DSC-02	LIQUID	Ø	Ø	N/A	Joules/g Dry
96001174	AN-104	7 SAMPLE	S96T005253	0	DSC-02	LIQUID	N/A	Ø		Joules/g Dry
96001174	AN-104	8 DUP	S96T005253	0	DSC-02	LIQUID	Ø	Ø	N/A	Joules/g Dry
96001283	AN-104	9 SAMPLE	S96T005255	0	DSC-02	LIQUID	N/A	Ø		Joules/g Dry
96001283	AN-104	10 DUP	S96T005255	0	DSC-02	LIQUID	Ø	Ø	N/A	Joules/g Dry
96001283	AN-104	11 SAMPLE	S96T005256	0	DSC-02	LIQUID	N/A	Ø		Joules/g Dry
96001283	AN-104	12 DUP	S96T005256	0	DSC-02	LIQUID	Ø	Ø	N/A	Joules/g Dry
96001283	AN-104	13 SAMPLE	S96T005257	0	DSC-02	LIQUID	N/A	Ø		Joules/g Dry
96001283	AN-104	14 DUP	S96T005257	0	DSC-02	LIQUID	Ø	17.5	N/A	Joules/g Dry
96001283	AN-104	15 SAMPLE	S96T005258	0	DSC-02	LIQUID	N/A	Ø		Joules/g Dry
96001283	AN-104	16 DUP	S96T005258	0	DSC-02	LIQUID	Ø	30.5	N/A	Joules/g Dry
96001283	AN-104	17 SAMPLE	S96T005260	0	DSC-02	LIQUID	N/A	30.6		Joules/g Dry
96001283	AN-104	18 DUP	S96T005260	0	DSC-02	LIQUID	30.6	Ø	N/A	Joules/g Dry

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 14097

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
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Final page for worklist # 14097

Blandina Valenzuela 12-3-96
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# 14098

Analyst: BOY Instrument: DSC01 Book #

Method: LA-514-113 Rev/Mod

Worklist Comment: Dry DSC for AN-104. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
96001174	AN-104	1 SAMPLE	S96T004772	0	DSC-02	SOLID	N/A	Ø		Joules/g Dry
96001174	AN-104	2 DUP	S96T004772	0	DSC-02	SOLID	Ø	Ø	N/A	Joules/g Dry
96001174	AN-104	3 SAMPLE	S96T004773	0	DSC-02	SOLID	N/A	Ø		Joules/g Dry
96001174	AN-104	4 DUP	S96T004773	0	DSC-02	SOLID	Ø	Ø	N/A	Joules/g Dry
96001174	AN-104	5 SAMPLE	S96T004984	0	DSC-02	SOLID	N/A	Ø		Joules/g Dry
96001174	AN-104	6 DUP	S96T004984	0	DSC-02	SOLID	Ø	Ø	N/A	Joules/g Dry
96001174	AN-104	7 SAMPLE	S96T004985	0	DSC-02	SOLID	N/A	Ø		Joules/g Dry
96001174	AN-104	8 DUP	S96T004985	0	DSC-02	SOLID	Ø	Ø	N/A	Joules/g Dry
96001174	AN-104	9 SAMPLE	S96T004986	0	DSC-02	SOLID	N/A	67.6		Joules/g Dry
96001174	AN-104	10 DUP	S96T004986	0	DSC-02	SOLID	67.6	37.3	N/A	Joules/g Dry
96001174	AN-104	11 SAMPLE	S96T004987	0	DSC-02	SOLID	N/A	47.5		Joules/g Dry
96001174	AN-104	12 DUP	S96T004987	0	DSC-02	SOLID	47.5	61.6	N/A	Joules/g Dry
96001174	AN-104	13 SAMPLE	S96T004988	0	DSC-02	SOLID	N/A	60.6		Joules/g Dry
96001174	AN-104	14 DUP	S96T004988	0	DSC-02	SOLID	60.6	46.3	N/A	Joules/g Dry
96001174	AN-104	15 SAMPLE	S96T004989	0	DSC-02	SOLID	N/A	31.9		Joules/g Dry
96001174	AN-104	16 DUP	S96T004989	0	DSC-02	SOLID	31.9	Ø	N/A	Joules/g Dry
96001174	AN-104	17 SAMPLE	S96T004990	0	DSC-02	SOLID	N/A	14.0	12-3-16 Rev	Joules/g Dry
96001174	AN-104	18 DUP	S96T004990	0	DSC-02	SOLID	14.0	Ø	N/A	Joules/g Dry

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 14098

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
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Final page for worklist # 14098

Blandina Valenzuela 12-3-96
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.

Dry DSC for AN-104

CALCULATED DRY DSC			
SAMPLE NO.	DSC RESULT (J/g)	TGA RESULT (% water)	DRY DSC RESULT
S96TD04772	Ø	—	Ø
4772D	Ø	—	Ø
4773	Ø	—	Ø
4773D	Ø	—	Ø
4984	Ø	—	Ø
4984D	Ø	—	Ø
4985	Ø	—	Ø
4985D	Ø	—	Ø
4986	35.7	47.17	67.58
4986D	19.7	47.17	37.29
4987	25.9	45.44	47.47
4987D	33.6	45.44	61.58
4988	32.6	46.17	60.56
4988D	24.9	46.17	46.26
4989	16.5	48.26	31.89
4989D	Ø	48.26	Ø
4990	7.0	49.68	14.01
4990D	Ø	49.68	Ø

LABCORE Completed Worklist Report for Worklist# 14099

Analyst: bdv Instrument: DSC01 Book# _____

Method: _____ Rev/Mod _____

Worklist Comment: Dry DSC for AN-104. bdv

Seq Type	Sample# R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 SAMPLE	S96T005272 0	DSC-02	SOLID	N/A	4.25		Joules/g Dry
2 DUP	S96T005272 0	DSC-02	SOLID	4.25	9.07	72.372 RPD	
3 SAMPLE	S96T004991 0	DSC-02	SOLID	N/A	0		Joules/g Dry
4 DUP	S96T004991 0	DSC-02	SOLID	0	0	0.000 RPD	
5 SAMPLE	S96T004992 0	DSC-02	SOLID	N/A	0		Joules/g Dry
6 DUP	S96T004992 0	DSC-02	SOLID	0	0	0.000 RPD	
7 SAMPLE	S96T004993 0	DSC-02	SOLID	N/A	0		Joules/g Dry
8 DUP	S96T004993 0	DSC-02	SOLID	0	0	0.000 RPD	
9 SAMPLE	S96T005249 0	DSC-02	SOLID	N/A	0		Joules/g Dry
10 DUP	S96T005249 0	DSC-02	SOLID	0	0	0.000 RPD	
11 SAMPLE	S96T005250 0	DSC-02	SOLID	N/A	0		Joules/g Dry
12 DUP	S96T005250 0	DSC-02	SOLID	0	0	0.000 RPD	
13 SAMPLE	S96T005269 0	DSC-02	SOLID	N/A	0		Joules/g Dry
14 DUP	S96T005269 0	DSC-02	SOLID	0	0	0.000 RPD	
15 SAMPLE	S96T005270 0	DSC-02	SOLID	N/A	0		Joules/g Dry
16 DUP	S96T005270 0	DSC-02	SOLID	0	0	0.000 RPD	
17 SAMPLE	S96T005271 0	DSC-02	SOLID	N/A	204		Joules/g Dry
18 DUP	S96T005271 0	DSC-02	SOLID	204	62.8	105.847 RPD	

Final page for worklist# 14099

Blandina Valenzuela 12-5-96
Analyst Signature Date

Analyst Signature Date

Reviewer Signature Date

Dry DSC for AN-104

CALCULATED DRY DSC			
SAMPLE NO.	DSC RESULT (J/g)	TGA RESULT (% water)	DRY DSC RESULT
S96T004991	2.2	48.17	4.25
4991D	4.7	48.17	9.07
4992	Ø	—	Ø
4992D	Ø	—	Ø
4993	Ø	—	Ø
4993D	Ø	—	Ø
5249	Ø	—	Ø
5249D	Ø	—	Ø
5250	Ø	—	Ø
5250D	Ø	—	Ø
5108	done		—
5108D	done		—
5269	Ø	—	Ø
5269D	Ø	—	Ø
5270	Ø	—	Ø
5270D	Ø	—	Ø
5271	106.6	47.80	204.2
5271D	32.8	47.80	62.8
5272	31.4	45.09	57.18
5272D	24.2	45.09	44.07

LABCORE Data Entry Template for Worklist# 14216

Analyst: JDS Instrument: DSC0 3 Book # 12N14B

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

Worklist Comment: AN-104 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>27.71</u>	<u>N/A</u>	Joules/g
96001174	AN-104	2 SAMPLE	S96T005253	0	DSC-03	LIQUID	<u>N/A</u>	<u>Ø</u>		Joules/g
96001174	AN-104	3 DUP	S96T005253	0	DSC-03	LIQUID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g
96001283	AN-104	4 SAMPLE	S96T005255	0	DSC-03	LIQUID	<u>N/A</u>	<u>Ø</u>		Joules/g
96001283	AN-104	5 DUP	S96T005255	0	DSC-03	LIQUID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g

Final page for worklist # 14216

See attached for signatures
Analyst Signature 10-23-96
Date EDY

FR-Oleson
Analyst Signature 10/24/96
Date

Verified/Validated by
Blandina
Valenzuela
10-30-96

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 14216

Analyst: JS

Instrument: DSC0

Book # 12N14B

Method: LA-514-113 Rev/Mod

Worklist Comment: AN-104 DSC, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	LIQUID			N/A	Joules/g
96001174	AN-104	2 SAMPLE	S96T005253	0	DSC-01	LIQUID	N/A			Joules/g
96001174	AN-104	3 DUP	S96T005253	0	DSC-01	LIQUID			N/A	Joules/g
96001283	AN-104	4 SAMPLE	S96T005255	0	DSC-01	LIQUID	N/A			Joules/g
96001283	AN-104	5 DUP	S96T005255	0	DSC-01	LIQUID			N/A	Joules/g

Final page for worklist # 14216

JS
Analyst Signature

10-22-96
Date

Analyst Signature

Date

DSC-03 instrument
was used

10-23-96

Blandina
Valenzuela

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: IND102201 Tue Oct 22 05:25:16 1996
 Sample Weight: 22.750 mg
 12N14-B INDIUM AT 10C/MIN

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 454 TO 458.

N2, EXOTHERM DOWN
 THERM 149.8 g
 THERM 155.8 g

0.0 min RATE: 10.0 C/min

Temperature (°C)

JD SPELLMAN
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Tue Oct 22 05:26:03 1996

Curve 1: DSC

File Info: SAM102201 Tue Oct 22 07:52:05 1996

Sample Weight: 20.240 mg

S96T005253

N2 10C/min
TEMP 50.0 °C
TIME: 0.0

0.0 min RATE: 10.0 °C/min

Temperature (°C)

JD SPELLMAN
PERKIN-ELMER
7 Series Thermal Analysis System
Tue Oct 22 07:57:06 1996

Curve 1: DSC

File Info: SAM102202 Tue Oct 22 09:37:44 1996

Sample Weight: 17.340 mg

S96T005253 DUP

N2 10C/min
Temp 50.0 °C
Time 00:00

TIME: 0.0 min RATE: 10.0 C/min

Temperature (°C)

JD SPELLMAN
PERKIN-ELMER
7 Series Thermal Analysis System

Tue Oct 22 11:09:20 1996

Curve 1: DSC

File Info: SAN102203 Tue Oct 22 12:25:03 1996

Sample Weight: 38.440 mg

S96T005255

JD SPELLMAN
PERKIN-ELMER
7 Series Thermal Analysis System
Tue Oct 22 13:16:48 1996

N2 10C/min
Temp 55.8 °C
Time: 0.0 min RATE: 10.0 °C/min

Curve 1: DSC
File Info: SAM102204 Tue Oct 22 15:50:32 1996
Sample Weight: 21.470 mg
596T005255 DUP

JD SPELLMAN
PERKIN-ELMER
7 Series Thermal Analysis System
Tue Oct 22 16:51:47 1996

N2 100./min
TEMP: 558.8 g
TIME: 0.0 min RATE: 10.0 C/min

LABCORE Data Entry Template for Worklist# 14217

Analyst: SMF Instrument: DSC0 1 Book # 12N14BMethod: LA-514-113 Rev/Mod C-1

Worklist Comment: AN-104 DSC, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	LIQUID	<u>28.45</u>	<u>28.0*</u>	<u>N/A</u>	Joules/g
96001283	AN-104	2 SAMPLE	S96T005256	0	DSC-01	LIQUID	<u>N/A</u>	<u>Ø</u>		Joules/g
96001283	AN-104	3 DUP	S96T005256	0	DSC-01	LIQUID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g
96001283	AN-104	4 SAMPLE	S96T005257	0	DSC-01	LIQUID	<u>N/A</u>	<u>Ø</u>		Joules/g
96001283	AN-104	5 DUP	S96T005257	0	DSC-01	LIQUID	<u>Ø</u>	<u>8.4</u>	<u>N/A</u>	Joules/g

Final page for worklist # 14217

Susie M. Outloa 10-23-96
Analyst Signature Date

Shirley M. Mack 10-30-96
Analyst Signature Date

Verified/Validated by
Blandina
Valenzuela
11-1-96

Data Entry Comments:

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

WHC QCHISTORY TABLE EDIT SCREEN

Sample#		Assc Y Sample ID						
Group#		Customer						
Worklist# 14217		WL Comment AN-104 DSC, RUN UNDER N2. RCJ						
Test	Matrx	Type	Actual	Found	Yield	STAT	AnalDate	User
DSC-01	LIQUI	STD	28.45	28.0	98.4183	NEW	10/30/96 0919	lc
DSC-01	LIQUI	DUP	0	0	0.0000	NEW	10/30/96 0919	lc
DSC-01	LIQUI	DUP	0	0	0.0000	NEW	10/30/96 0919	lc

Save (F12) End (F3)

DSC-01 Standard needed to be changed to
a text entry.

11-1-96

Blandina

Valenzuela

WHC QCHISTORY TABLE EDIT SCREEN

Sample#		Assc Y Sample ID							
Group#				Customer					
Worklist# 14217				WL Comment AN-104 DSC, RUN UNDER N2. RCJ					
Test	Matrx	Type	Actual	Found	Yield	STAT	AnalDate	User	
DSC-01	LIQUI	STD	28.45	28.0*	98.4183	TEXT	10/30/96 0919	lc	
DSC-01	LIQUI	DUP	0	0	0.0000	NEW	10/30/96 0919	lc	
DSC-01	LIQUI	DUP	0	0	0.0000	NEW	10/30/96 0919	lc	

Save (F12) End (F3)

DSC-01 standard was changed to a text entry

11-1-96

Blandina

Valenzuela

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 462 TO 466.

DSC STD 12N14B N2 File: 00022.001 DSC METTLER 23-Oct-96
34.640 mg Rate: 10.0 °C/min Ident: 0.0 222-S Laboratory

exo

Integration
Delta H 971 mJ
28.0 J/g
Peak 158.6°C
-47.3 mW

20. mW

120. 130. 140. 150. 160. 170. °C

Signature P. 23-96

S96T005257 N2

13.187 mg

Rate: 10.0 °C/min

File: 00034.001

Ident: 0.0

DSC METTLER

24-Oct-98

222-S Laboratory

S96T005257 DUP N2

18.407 mg

Rate: 10.0 °C/min

File: 00036.001

DSC METTLER 24-Oct-96

Ident: 0.0 222-S Laboratory

exo >

HNF-SD-WM-DP-226, REV. 0

LABCORE Completed Worklist Report for Worklist# 14218

Analyst: smf

Instrument: DSC01

Book# 12N14B

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

Worklist Comment: AN-104 DSC, RUN UNDER N2. RCJ

Seq	Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD		0	DSC-01	LIQUID	28.45	25.6 *	89.982 %	Recovery
2	SAMPLE	S96T005258	0	DSC-01	LIQUID	N/A	0		Joules/g
3	DUP	S96T005258	0	DSC-01	LIQUID	0	14.6	200.000	RPD
4	SAMPLE	S96T005260	0	DSC-01	LIQUID	N/A	14.7		Joules/g
5	DUP	S96T005260	0	DSC-01	LIQUID	14.7	0	200.000	RPD

Final page for worklist# 14218

See attached for signatures
Analyst Signature _____ Date 10-30-96 *RCJ*

Analyst Signature _____ Date _____

Blondina Valenzuela
Reviewer Signature _____ Date 10-30-96 *RCJ*

WHC QCHISTORY TABLE EDIT SCREEN

Sample#		Assc Y Sample ID						
Group#		Customer						
Worklist# 14218		WL Comment AN-104 DSC, RUN UNDER N2. RCJ						
Test	Matrx	Type	Actual	Found	Yield	STAT	AnalDate	User
DSC-01	LIQUI	STD	28.45	25.6	89.9824	NEW	10/24/96 2043	lc
DSC-01	LIQUI	DUP	0	14.6	200.0000	NEW	10/24/96 2043	lc
DSC-01	LIQUI	DUP	14.7	0	200.0000	NEW	10/24/96 2043	lc

Save (F12) End (F3)

DSC-01 standard needed to
be changed to a text entry.

10-30-96

Blandina

Valenzuela

WHC QCHISTORY TABLE EDIT SCREEN

Sample#		Assc Y Sample ID						
Group#		Customer						
Worklist# 14218		WL Comment AN-104 DSC, RUN UNDER N2. RCJ						
Test	Matrx	Type	Actual	Found	Yield	STAT	AnalDate	User
DSC-01	LIQUI	STD	28.45	25.6*	89.9824	TEXT	10/24/96 2043	lc
DSC-01	LIQUI	DUP	0	14.6	200.0000	NEW	10/24/96 2043	lc
DSC-01	LIQUI	DUP	14.7	0	200.0000	NEW	10/24/96 2043	lc

Save (F12) End (F3)

was
DSC-01 standard ~~need to be~~ 10-30-96 BDI
changed to a text entry.

10-30-96

Blandina

Valenzuela

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 470 TO 474.

DSC STD 12N14B N2 File: 00001.001 DSC METTLER 21-Oct-96
34.640 mg Rate: 10.0 °C/min Ident: 0.0 222-S Laboratory

S96T005258 DUP N2

18.279 mg

Rate: 10.0 °C/min

File: 00012.001

DSC METTLER

22-Oct-96

Ident: 0.0

222-S Laboratory

x0x9

100.

200.

300.

400.

°C

S96T005260 N2

15.714 mg

Rate: 10.0 °C/min

File: 00014.001 DSC METTLER 22-Oct-96
Ident: 0.0 222-S Laboratory

exo

20. mW

Integration
Delta H 560 mJ
Peak 35.6 J/g
244.7 °C
-7.8 mW

Integration
Delta H 231 mJ
Peak 14.7 J/g
197.2 °C
8.9 mW

Integration
Delta H11601 mJ
Peak 738.3 J/g
132.7 °C
-41.2 mW

100.

200.

300.

400.

°C

LABCORE Data Entry Template for Worklist# 14227

Analyst: SMF Instrument: DSC0 3 Book # 12N4B

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

Worklist Comment: AN-104 DSC, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-03	SOLID	<u>28.46</u>	<u>28.01</u>	<u>*</u>	<u>N/A</u> Joules/g
96001174	AN-104	2 SAMPLE	S96T005249	0	DSC-03	SOLID	<u>N/A</u>	<u>Ø</u>		Joules/g
96001174	AN-104	3 DUP	S96T005249	0	DSC-03	SOLID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g
96001174	AN-104	4 SAMPLE	S96T005250	0	DSC-03	SOLID	<u>N/A</u>	<u>Ø</u>		Joules/g
96001174	AN-104	5 DUP	S96T005250	0	DSC-03	SOLID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g

Final page for worklist # 14227

See attached for signatures
Analyst Signature 10-23-96
Date 8/24

Frank Mark
Analyst Signature 10-24-96
Date

Verified/Validated by
Blandina Valenzuela
10.30.96

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 14227

Analyst: SMF Instrument: DSC0 Book # 12514B

Method: LA-514-113 Rev/Mod _____

Worklist Comment: AN-104 DSC, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	SOLID	_____	_____	N/A	Joules/g
96001174	AN-104	2 SAMPLE	S96T005249	0	DSC-01	SOLID	N/A	_____	_____	Joules/g
96001174	AN-104	3 DUP	S96T005249	0	DSC-01	SOLID	_____	_____	N/A	Joules/g
96001174	AN-104	4 SAMPLE	S96T005250	0	DSC-01	SOLID	N/A	_____	_____	Joules/g
96001174	AN-104	5 DUP	S96T005250	0	DSC-01	SOLID	_____	_____	N/A	Joules/g

Final page for worklist # 14227

Lurie M. Fulton 10-22-96
Analyst Signature Date

Analyst Signature Date

DSC-03 instrument
was used.

10-23-96

Blandina
Valenzuela

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.

WHC QCHISTORY TABLE EDIT SCREEN

Sample#	Assc	Sample ID						
Group#		Customer						
Worklist# 14227	WL Comment AN-104 DSC, RUN UNDER N2. RCJ							
Test	Matrx	Type	Actual	Found	Yield	STAT	AnalDate	User
DSC-03	SOLID	STD	28.45	28.01	98.4534	NEW	10/24/96 2048	lc
DSC-03	SOLID	DUP	0	0	0.0000	NEW	10/24/96 2048	lc
DSC-03	SOLID	DUP	0	0	0.0000	NEW	10/24/96 2048	lc

Save (F12) End (F3)

DSC-03 standard needed to be changed
to a text entry.

10-30-96

Blandina

Valenzuela

WHC QCHISTORY TABLE EDIT SCREEN

Sample#		Assc		Sample ID					
Group#				Customer					
Worklist# 14227		WL Comment AN-104 DSC, RUN UNDER N2. RCJ							
Test	Matrx	Type	Actual	Found	Yield	STAT	AnalDate		User
DSC-03	SOLID	STD	28.45	28.01*	98.4534	TEXT	10/24/96 2048		lc
DSC-03	SOLID	DUP	0	0	0.0000	NEW	10/24/96 2048		lc
DSC-03	SOLID	DUP	0	0	0.0000	NEW	10/24/96 2048		lc

Save (F12) End (F3)

DSC-03 standard was changed to
a text entry.

10-30-96

Blandina
Valenzuela

Curve 1: DSC

File Info: IND102201 Tue Oct 22 05:25:16 1996

Sample Weight: 22.750 mg

12N14-B INDIUM AT 10C/MIN

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 472 TO 483.

N2, EXOTHERM DOWN

TEMPERATURE 140.0 °C TIME 11.0 min RATE 10.0 °C/min

Curve 1: DSC
File Info: SAM102207 Tue Oct 22 21:30:20 1996
Sample Weight: 22.180 mg
S98T005249

Curve 1: DSC
File Info: SAH102208 Tue Oct 22 22:51:40 1996
Sample Weight: 10.640 mg
S96T005249 DUP

Curve 1: DSC
 File Info: SAM102205 Tue Oct 22 16:28:12 1996
 Sample Weight: 9.440 mg
 S96T005250

SM FULTON
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Tue Oct 22 19:29:27 1996

N2 10C/min
 Temp: 50.0 °C
 Time: 0.0 min
 Rate: 10.0 C/min

Curve 1: DSC
 File info: SAM102206 Tue Oct 22 20:19:01 1996
 Sample Weight: 12.200 mg
 SS6T005250DUP

SM FULTON
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Tue Oct 22 20:19:53 1996

N2 100/min
 TEMPERATURE 200.0 °C
 TIME 10.0 min
 RATE 10.0 °C/min

LABCORE Data Entry Template for Worklist# 14237

Analyst: SMF Instrument: DSC 3 Book # 12N14B

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

Worklist Comment: AN-104 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>28.01</u> *	<u>N/A</u>	Joules/g
96001283	AN-104	2 SAMPLE	S96T005269	0	DSC-03	SOLID	<u>N/A</u>	<u>Ø</u>		Joules/g
96001283	AN-104	3 DUP	S96T005269	0	DSC-03	SOLID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g
96001283	AN-104	4 SAMPLE	S96T005270	0	DSC-03	SOLID	<u>N/A</u>	<u>Ø</u>		Joules/g
96001283	AN-104	5 DUP	S96T005270	0	DSC-03	SOLID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g

Final page for worklist # 14237

See attached for signatures 10-23-96
Analyst Signature SMF Date 10/23/96

TR Olsen 10/24/96
Analyst Signature TR Olsen Date 10/24/96

Verified/Validated by
Blandina
Valenzuela 10-30-96

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 14237

Analyst: SMF/ds Instrument: DSC0 _____ Book # 12N14B

Method: LA-514-113 Rev/Mod _____

Worklist Comment: AN-104 DSC, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	SOLID	_____	_____	N/A	Joules/g
96001283	AN-104	2 SAMPLE	S96T005269	0	DSC-01	SOLID	N/A	_____	_____	Joules/g
96001283	AN-104	3 DUP	S96T005269	0	DSC-01	SOLID	_____	_____	N/A	Joules/g
96001283	AN-104	4 SAMPLE	S96T005270	0	DSC-01	SOLID	N/A	_____	_____	Joules/g
96001283	AN-104	5 DUP	S96T005270	0	DSC-01	SOLID	_____	_____	N/A	Joules/g

Final page for worklist # 14237

Susie M. Dalton 10-23-96 [Signature] 10-23-96
Analyst Signature Date Analyst Signature Date

DSC-03 instrument
was used.

10-23-96

Blandina
Valenzuela

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.

WHC QCHISTORY TABLE EDIT SCREEN

Sample#		Assc		Sample ID					
Group#				Customer					
Worklist# 14237				WL Comment AN-104 DSC, RUN UNDER N2. RCJ					
Test	Matrx	Type	Actual	Found	Yield	STAT	AnalDate		User
DSC-03	SOLID	STD	28.45	28.01	98.4534	NEW	10/24/96	2216	tro
DSC-03	SOLID	DUP	0	0	0.0000	NEW	10/24/96	2216	tro
DSC-03	SOLID	DUP	0	0	0.0000	NEW	10/24/96	2216	tro

Save (F12) End (F3)

DSC-03 standard needed to be changed to
a text entry.

10-30-96

Blandina

Valenzuela

WHC QCHISTORY TABLE EDIT SCREEN

Sample#		Assc		Sample ID					
Group#				Customer					
Worklist# 14237				WL Comment AN-104 DSC, RUN UNDER N2. RCJ					
Test	Matrx	Type	Actual	Found	Yield	STAT	AnalDate		User
DSC-03	SOLID	STD	28.45	28.01*	98.4534	TEXT	10/24/96	2216	tro
DSC-03	SOLID	DUP	0	0	0.0000	NEW	10/24/96	2216	tro
DSC-03	SOLID	DUP	0	0	0.0000	NEW	10/24/96	2216	tro

Save (F12) End (F3)

DSC-03 standard was changed to
a text entry.

10-30-96

Blandina

Valenzuela

Curve 1: DSC
 File Info: IND102201 Tue Oct 22 05:25:16 1996
 Sample Weight: 22.750 mg
 12N14-B INDIUM AT 10C/MIN

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES ~~188~~ TO ~~192~~.

JD SPELLMAN
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Tue Oct 22 19:36:36 1996

N2, EXOTHERM DOWN
 TEMPERATURE 140.0 °C
 0.0 min RATE: 10.0 °C/min

Curve 1: DSC
 File Info: SAM102211 Wed Oct 23 01:33:41 1996
 Sample Weight: 29.810 mg
 996T005269

SM FULTON
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Wed Oct 23 02:26:10 1996

Curve 1: DSC

File Info: SAM102212 Wed Oct 23 03:16:57 1996

Sample Weight: 31.340 mg

S96T005269 DUP

SM FULTON
PERKIN-ELMER
7 Series Thermal Analysis System
Wed Oct 23 03:24:35 1996

N2 10C/min
TEMP 50.0 °C
TIME 0.0 min
RATE 10.0 °C/min

Curve 1: DSC
 File Info: SAM102301 Wed Oct 23 06:37:14 1996
 Sample Weight: 39.610 mg
 S96T005270

N2 10C/min
 THERM 500.0 g
 THERM 0.0 g

0.0 min RATE: 10.0 °C/min

JD SPELLMAN
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Wed Oct 23 07:16:21 1996

Curve 1: DSC

File info: SAM102302 Wed Oct 23 08:35:05 1996

Sample Weight: 42.940 mg

S96T005270 DUP

JD SPELLMAN
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Wed Oct 23 08:37:37 1996

LABCORE Completed Worklist Report for Worklist# 14238

Analyst: smf Instrument: DSC01

Book# 12N14B

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

Worklist Comment: AN-104 DSC, RUN UNDER N2. RCJ

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD		0		DSC-01	SOLID	28.45	25.67	89.982 % Recovery	
2	SAMPLE	S96T005271	0		DSC-01	SOLID	N/A	106.6		Joules/g
3	DUP	S96T005271	0		DSC-01	SOLID	106.6	32.8	105.882 RPD	
4	STD		0		DSC-01	SOLID	28.45	28.6	100.527 % Recovery	
5	SAMPLE	S96T005272	0		DSC-01	SOLID	N/A	31.4		Joules/g
6	DUP	S96T005272	0		DSC-01	SOLID	31.4	24.2	25.899 RPD	

Final page for worklist# 14238

See attached for signatures 11-1-96
Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Blandina Valenzuela 11-1-96
Reviewer Signature _____ Date _____

LABCORE Data Entry Template for Worklist# 14238

Analyst: SPE/SAS Instrument: DSC0 Book # 12N14B

Method: LA-514-113 Rev/Mod _____

Worklist Comment: AN-104 DSC, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	SOLID			N/A	Joules/g
96001283	AN-104	2 SAMPLE	S96T005271	0	DSC-01	SOLID	N/A			Joules/g
96001283	AN-104	3 DUP	S96T005271	0	DSC-01	SOLID			N/A	Joules/g
96001283	AN-104	4 SAMPLE	S96T005272	0	DSC-01	SOLID	N/A			Joules/g
96001283	AN-104	5 DUP	S96T005272	0	DSC-01	SOLID			N/A	Joules/g

Final page for worklist # 14238

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.

WHC QCHISTORY TABLE EDIT SCREEN

Sample#		Assc Y Sample ID							
Group#		Customer							
Worklist# 14238				WL Comment AN-104 DSC, RUN UNDER N2. RCJ					
Test	Matrx	Type	Actual	Found	Yield	STAT	AnalDate		User
DSC-01	SOLID	STD	28.45	25.6	89.9824	NEW	10/30/96	1112	tro
DSC-01	SOLID	DUP	106.6	32.8	105.8824	NEW	10/30/96	1112	tro
DSC-01	SOLID	STD	28.45	28.6	100.5272	NEW	10/30/96	1112	tro
DSC-01	SOLID	DUP	31.4	24.2	25.8993	NEW	10/30/96	1112	tro

Save (F12) End (F3)

DSC-01 standard needed to be changed to
a text entry.

11-1-96

Blandina

Valenzuela

WHC QCHISTORY TABLE EDIT SCREEN

Sample#		Assc Y Sample ID							
Group#		Customer							
Worklist# 14238		WL Comment AN-104 DSC, RUN UNDER N2. RCJ							
Test	Matrx	Type	Actual	Found	Yield	STAT	AnalDate		User
DSC-01	SOLID	STD	28.45	25.6*	89.9824	TEXT	10/30/96	1112	tro
DSC-01	SOLID	DUP	106.6	32.8	105.8824	NEW	10/30/96	1112	tro
DSC-01	SOLID	STD	28.45	28.6	100.5272	NEW	10/30/96	1112	tro
DSC-01	SOLID	DUP	31.4	24.2	25.8993	NEW	10/30/96	1112	tro

Save (F12) End (F3)

DSC-01 std was changed to a text entry.

11-19-96

Blandina
Valenzuela

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 497 TO 522.

DSC STD 12N14B N2
34.640 mg
Rate: 10.0 °C/min
File: 00001.001 DSC METTLER 21-Oct-98
Ident: 0.0 222-S Laboratory

S96T005271 DUP N2

41.056 mg

Rate: 10.0 °C/min

File: 00020.001

DSC METTLER 23-Oct-86

Ident: 0.0 222-S Laboratory

exo

DSC STD 12N14B N2

34.640 mg

Rate: 10.0 °C/min

File: 00022.001

Ident: 0.0

DSC METTLER

23-Oct-98

222-S Laboratory

exo

Integration
Delta H 990 mJ
28.6 J/g
Peak 158.6°C
-47.6 mW

20. mW

10.2396
J/g Spillman

120. 130. 140. 150. 160. 170. °C

LABCORE Data Entry Template for Worklist# 14733

Analyst: BDY Instrument: DSC01 Book #

Method: LA-514-113 Rev/Mod

Worklist Comment: Dry DSC for AN-104. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
96001283	AN-104	1 SAMPLE	S96T005548	0	DSC-02	SOLID	N/A	Ø		Joules/g Dry
96001283	AN-104	2 DUP	S96T005548	0	DSC-02	SOLID	Ø	Ø	N/A	Joules/g Dry
96001283	AN-104	3 SAMPLE	S96T005549	0	DSC-02	SOLID	N/A	Ø		Joules/g Dry
96001283	AN-104	4 DUP	S96T005549	0	DSC-02	SOLID	Ø	Ø	N/A	Joules/g Dry
96001283	AN-104	5 SAMPLE	S96T005743	0	DSC-02	SOLID	N/A	Ø		Joules/g Dry
96001283	AN-104	6 DUP	S96T005743	0	DSC-02	SOLID	Ø	Ø	N/A	Joules/g Dry
96001283	AN-104	7 SAMPLE	S96T005744	0	DSC-02	SOLID	N/A	Ø		Joules/g Dry
96001283	AN-104	8 DUP	S96T005744	0	DSC-02	SOLID	Ø	Ø	N/A	Joules/g Dry
96001283	AN-104	9 SAMPLE	S96T005771	0	DSC-02	SOLID	N/A	59.6		Joules/g Dry
96001283	AN-104	10 DUP	S96T005771	0	DSC-02	SOLID	59.6	48.9	N/A	Joules/g Dry
96001283	AN-104	11 SAMPLE	S96T005772	0	DSC-02	SOLID	N/A	40.2		Joules/g Dry
96001283	AN-104	12 DUP	S96T005772	0	DSC-02	SOLID	40.2	33.2	N/A	Joules/g Dry
96001283	AN-104	13 SAMPLE	S96T005773	0	DSC-02	SOLID	N/A	37.1		Joules/g Dry
96001283	AN-104	14 DUP	S96T005773	0	DSC-02	SOLID	37.1	39.6	N/A	Joules/g Dry

Final page for worklist # 14733

Blandina Valenzuela 12-3-96
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.

Dry DSC for AN-104

CALCULATED DRY DSC			
SAMPLE NO.	DSC RESULT (J/g)	TGA RESULT (% water)	DRY DSC RESULT
S96T005548	0	-----	0
5548D	0	-----	0
5549	0	-----	0
5549D	0	-----	0
5743	0	-----	0
5743D	0	-----	0
5744	0	-----	0
5744D	0	-----	0
5771	31.6	46.99	59.61
5771D	25.9	46.99	48.86
5772	23.6	41.26	40.18
5772D	19.5	41.26	33.20
5773	22.1	40.38	37.07
5773D	23.6	40.38	39.58
Ø			

LABCORE Completed Worklist Report for Worklist# 14734

Analyst: bdv

Instrument: DSC01

Book#

Method: Rev/Mod

Worklist Comment: Dry DSC for AN-104. bdv.

Seq	Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	SAMPLE	S96T005527	0	DSC-02	LIQUID	N/A	57.8		Joules/g Dry
2	DUP	S96T005527	0	DSC-02	LIQUID	57.8	80.1	32.342 RPD	
3	SAMPLE	S96T005528	0	DSC-02	LIQUID	N/A	82.0		Joules/g Dry
4	DUP	S96T005528	0	DSC-02	LIQUID	82.0	0	200.000 RPD	
5	SAMPLE	S96T005554	0	DSC-02	LIQUID	N/A	0		Joules/g Dry
6	DUP	S96T005554	0	DSC-02	LIQUID	0	0	0.000 RPD	
7	SAMPLE	S96T005739	0	DSC-02	LIQUID	N/A	0		Joules/g Dry
8	DUP	S96T005739	0	DSC-02	LIQUID	0	54.9	200.000 RPD	
9	SAMPLE	S96T005741	0	DSC-02	LIQUID	N/A	0		Joules/g Dry
10	DUP	S96T005741	0	DSC-02	LIQUID	0	30.1	200.000 RPD	
11	SAMPLE	S96T005766	0	DSC-02	LIQUID	N/A	0		Joules/g Dry
12	DUP	S96T005766	0	DSC-02	LIQUID	0	0	0.000 RPD	

Final page for worklist# 14734

Blandina Valenzuela 12-6-96
Analyst Signature Date

Analyst Signature Date

Reviewer Signature Date

LABCORE Data Entry Template for Worklist# 14734

Analyst: BDV Instrument: DSC01 Book #

Method: LA-514-113 Rev/Mod

Worklist Comment: Dry DSC for AN-104. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
96001283	AN-104	1 SAMPLE	S96T005527	0	DSC-02	LIQUID	N/A	57.8		Joules/g Dry
96001283	AN-104	2 DUP	S96T005527	0	DSC-02	LIQUID	57.8	80.1	N/A	Joules/g Dry
96001283	AN-104	3 SAMPLE	S96T005528	0	DSC-02	LIQUID	N/A	82.0		Joules/g Dry
96001283	AN-104	4 DUP	S96T005528	0	DSC-02	LIQUID	82.0	Ø	N/A	Joules/g Dry
96001283	AN-104	5 SAMPLE	S96T005554	0	DSC-02	LIQUID	N/A	Ø		Joules/g Dry
96001283	AN-104	6 DUP	S96T005554	0	DSC-02	LIQUID	Ø	Ø	N/A	Joules/g Dry
96001283	AN-104	7 SAMPLE	S96T005739	0	DSC-02	LIQUID	N/A	Ø		Joules/g Dry
96001283	AN-104	8 DUP	S96T005739	0	DSC-02	LIQUID	Ø	54.9 Ø 12-3-96 N/A Ø BY		Joules/g Dry
96001283	AN-104	9 SAMPLE	S96T005741	0	DSC-02	LIQUID	N/A	Ø		Joules/g Dry
96001283	AN-104	10 DUP	S96T005741	0	DSC-02	LIQUID	Ø	27.9	N/A	Joules/g Dry
96001283	AN-104	11 SAMPLE	S96T005766	0	DSC-02	LIQUID	N/A	Ø		Joules/g Dry
96001283	AN-104	12 DUP	S96T005766	0	DSC-02	LIQUID	Ø	Ø	N/A	Joules/g Dry

Final page for worklist # 14734

Blandina Valenzuela 12-3-96
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# 14861

Analyst: DCD Instrument: DSC0 1 Book # 12N14B

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

Worklist Comment: AN-104 DSC, RUN UNDER N2, RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	LIQUID	<u>28.45</u>	<u>26.9</u>	<u>N/A</u>	Joules/g
96001283	AN-104	2 SAMPLE	S96T005527	0	DSC-01	LIQUID	<u>N/A</u>	<u>27.7</u>		Joules/g
96001283	AN-104	3 DUP	S96T005527	0	DSC-01	LIQUID	<u>27.7</u>	<u>38.4</u>	<u>N/A</u>	Joules/g
96001283	AN-104	4 SAMPLE	S96T005528	0	DSC-01	LIQUID	<u>N/A</u>	<u>39.3</u>		Joules/g
96001283	AN-104	5 DUP	S96T005528	0	DSC-01	LIQUID	<u>39.3</u>	<u>Ø</u>	<u>N/A</u>	Joules/g
		6 STD			DSC-01	LIQUID	<u>28.45</u>	<u>27.9</u>	<u>N/A</u>	Joules/g
96001283	AN-104	7 SAMPLE	S96T005554	0	DSC-01	LIQUID	<u>N/A</u>	<u>Ø</u>		Joules/g
96001283	AN-104	8 DUP	S96T005554	0	DSC-01	LIQUID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g

Final page for worklist # 14861

See attached for signatures

Analyst Signature

Date

11-26-96

BDP

h. Jones
Analyst Signature

12-2-96

Date

Verified/Validated by

Blandina

Valenzuela

12-2-96

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 14861

Analyst: DGD Instrument: DSC0 Book # 12N14B

Method: LA-514-113 Rev/Mod _____

Worklist Comment: AN-104 DSC, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	LIQUID			N/A	Joules/g
96001283	AN-104	2 SAMPLE	S96T005527	0	DSC-01	LIQUID	N/A			Joules/g
96001283	AN-104	3 DUP	S96T005527	0	DSC-01	LIQUID			N/A	Joules/g
96001283	AN-104	4 SAMPLE	S96T005528	0	DSC-01	LIQUID	N/A			Joules/g
96001283	AN-104	5 DUP	S96T005528	0	DSC-01	LIQUID			N/A	Joules/g
96001283	AN-104	6 SAMPLE	S96T005554	0	DSC-01	LIQUID	N/A			Joules/g
96001283	AN-104	7 DUP	S96T005554	0	DSC-01	LIQUID			N/A	Joules/g

Final page for worklist # 14861

David C Dunham 11-20-96
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.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 570 TO 577.

DSC STD 12N14B
34.640 mg

Rate: 10.0 °C/min

File: 00008.001 DSC METTLER 16-Nov-96
Ident: 0.0 222-S Laboratory

exo >

120.

140.

160

180 °C

James M. DeLong 4/16/98

LABCORE Data Entry Template for Worklist# 14862

Analyst: RGa Instrument: DSC0 3 Book # 12N14B

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

Worklist Comment: AN-104 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>27.13</u>	<u>N/A</u>	Joules/g
96001283	AN-104	2 SAMPLE	S96T005739	0	DSC-03	LIQUID	<u>N/A</u>	<u>Ø</u>		Joules/g
96001283	AN-104	3 DUP	S96T005739	0	DSC-03	LIQUID	<u>Ø</u>	<u>27.1</u>	<u>N/A</u>	Joules/g
96001283	AN-104	4 SAMPLE	S96T005741	0	DSC-03	LIQUID	<u>N/A</u>	<u>Ø</u>		Joules/g
96001283	AN-104	5 DUP	S96T005741	0	DSC-03	LIQUID	<u>Ø</u>	<u>15.9</u>	<u>N/A</u>	Joules/g
96001283	AN-104	6 SAMPLE	S96T005766	0	DSC-03	LIQUID	<u>N/A</u>	<u>Ø</u>		Joules/g
96001283	AN-104	7 DUP	S96T005766	0	DSC-03	LIQUID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g

Final page for worklist # 14862

See attached for signatures
Analyst Signature 11-19-96 Date 11-19-96

11/21/96
Analyst Signature 11/21/96 Date

Verified/Validated by
Blandina
Valepinela 11-26-96

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 14862

Analyst: RGF Instrument: DSC0 _____ Book # 12N14-B

Method: LA-514-113 Rev/Mod _____

Worklist Comment: AN-104 DSC, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	LIQUID	_____	_____	N/A	Joules/g
96001283	AN-104	2 SAMPLE	S96T005739	0	DSC-01	LIQUID	N/A	_____	_____	Joules/g
96001283	AN-104	3 DUP	S96T005739	0	DSC-01	LIQUID	_____	_____	N/A	Joules/g
96001283	AN-104	4 SAMPLE	S96T005741	0	DSC-01	LIQUID	N/A	_____	_____	Joules/g
96001283	AN-104	5 DUP	S96T005741	0	DSC-01	LIQUID	_____	_____	N/A	Joules/g
96001283	AN-104	6 SAMPLE	S96T005766	0	DSC-01	LIQUID	N/A	_____	_____	Joules/g
96001283	AN-104	7 DUP	S96T005766	0	DSC-01	LIQUID	_____	_____	N/A	Joules/g

Final page for worklist # 14862

[Signature] 11-16-96
Analyst Signature Date

Analyst Signature Date

DSC-03 instrument
was used. 11-18-96

Blancina
Valenzuela

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.

WHC QCHISTORY TABLE EDIT SCREEN

Sample#		Assc Y Sample ID						
Group#		Customer						
Worklist# 14862		WL Comment AN-104 DSC, RUN UNDER N2. RCJ						
Test	Matrx	Type	Actual	Found	Yield	STAT	AnalDate	User
DSC-03	LIQUI	STD	28.45	27.13	95.3603	NEW	11/21/96 1358	rts
DSC-03	LIQUI	DUP	0	27.1	200.0000	NEW	11/21/96 1358	rts
DSC-03	LIQUI	DUP	0	15.9	200.0000	NEW	11/21/96 1358	rts
DSC-03	LIQUI	DUP	0	0	0.0000	NEW	11/21/96 1358	rts

Save (F12) End (F3)

DSC-03 ¹¹⁻²⁶⁻⁹⁶ instrument standard needs to be changed
to a text entry. 11-26-96

Blandina
Valenzuela

WHC QCHISTORY TABLE EDIT SCREEN

Sample#		Assc		Sample ID				
Group#				Customer				
Worklist# 14862				WL Comment AN-104 DSC, RUN UNDER N2: RCJ				
Test	Matrx	Type	Actual	Found	Yield	STAT	AnalDate	User
DSC-03	LIQUI	STD	28.45	27.13*	95.3603	TEXT	11/21/96 1358	rts
DSC-03	LIQUI	DUP	0	27.1	200.0000	NEW	11/21/96 1358	rts
DSC-03	LIQUI	DUP	0	15.9	200.0000	NEW	11/21/96 1358	rts
DSC-03	LIQUI	DUP	0	0	0.0000	NEW	11/21/96 1358	rts

Save (F12) End (F3)

¹¹⁻²⁶⁻⁹⁶
DSC-03 ~~instrum~~ standard was changed
to a text entry.

11-26-96

Blandino

Valenzuela

Curve 1: DSC
 File Info: IND111601 Sat Nov 16 05:58:05 1996 SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 Sample Weight: 8.580 mg COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 522 TO 528
 12N14-B INDIUM AT 10C/MIN

1 12N14-B INDIUM AT 10C/MIN: IND111601

Heat Flow (mW)

SM FULTON
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sat Nov 16 23:50:14 1996

N2, EXOTHERM DOWN

TEMP 140.0 °C
 TIME 160.0 S
 RATE 10.0 °C/min

Curve 1: DSC
 File Info: SAM1110605 Sun Nov 17 04:55:55 1996
 Sample Weight: 11.990 mg
 S96T005739 SAM

RG Achen
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Mon Nov 18 13:40 1996

Curve 1: DSC
 File info: DUP110606 Sat Nov 16 12:44:13 1996
 Sample Weight: 13.720 mg
 S96T005739 DUP

RS Achen
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Mon Nov 18 13:18:54 1996

Curve 1: DSC
File Info: SAM1110607 Sat Nov 16 21:08:50 1996
Sample Weight: 13.020 mg
SS6T005741 SAM

RG Achen
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Nov 17 00:22:59 1996

N2 100/min
TEMP: 500.0 °C
TIME: 0.0 min RATE: 10.0 °C/min

Curve 1: DSC

File Info: DUP110508 Sun Nov 17 02:55:58 1996

Sample Weight: 16.220 mg

936T005741 DUP

RS Achen
PERKIN-ELMER
7 Series Thermal Analysis System
Mon Nov 18 13:44:23 1996

Curve 1: DSC
 File Info: SAM110609 Sun Nov 17 00:33:30 1996
 Sample Weight: 11.600 mg
 996T005766 SAM

RS Aachen
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Mon Nov 18 14:00:41 1996

Curve 1: DSC

File Info: DUP110610 Sun Nov 17 04:05:02 1996

Sample Weight: 13.060 mg

S96T005766 DUP

N2 10C/min

TEMP: 250.0 °C TIME: 0.0 min RATE: 10.0 °C/min

RS Achen
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Nov 17 07:26:42 1996

LABCORE Completed Worklist Report for Worklist# 14863

Analyst: smf

Instrument: DSC03

Book# 12N14B

Method: 1A-514-114 Rev/Mod DO

Worklist Comment: AN-104 DSC, RUN UNDER N2. RCJ

Seq	Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD		0	DSC-03	SOLID	28.45	27.13	25.360 % Recovery	
2	SAMPLE	S96T005548	0	DSC-03	SOLID	N/A	0		Joules/g
3	DUP	S96T005548	0	DSC-03	SOLID	0	0	0.000 RPD	
4	SAMPLE	S96T005549	0	DSC-03	SOLID	N/A	0		Joules/g
5	DUP	S96T005549	0	DSC-03	SOLID	0	0	0.000 RPD	

Final page for worklist# 14863

See attached for signatures 11-27-96
Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Blandina Valenzuela 11-27-96
Reviewer Signature _____ Date _____

Curve 1: 132
 File info: IND111601 Sat Nov 16 05:58:05 1996
 Sample Weight: 8.580 mg
 12N14-B INDIUM AT 10C/MIN

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 530 TO 534.

Curve M. Sullivan 11.16.96

SM FULTON
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sat Nov 16 06:03:59 1996

N2, EXOTHERM DOWN
 TEMPERATURE 140.0 °C
 RATE: 0.0 min RATE: 10.0 °C/min

Curve 1: 3SC
 File Info: SAM11601 Sat Nov 16 08:25:07 1996
 Sample Weight: 30.050 mg
 S96T0055

SM FULTON
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sat Nov 16 08:30:31 1996

Curve 1: 3C
 File Info: SAM111602 Sat Nov 16 09:40:54 1996
 Sample Weight: 16.870 mg
 S95T0055/1 DUP

SM FULTON
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sat Nov 16 09:41:19 1996

N2 100/min
 Temp 300.0 °C
 Time 0.0 min
 Rate 10.0 °C/min

Curve 1: CSC
 File Info: SAM111603 Sat Nov 16 10:45:48 1996
 Sample Weight: 18.670 mg
 S96T00554

SM FULTON
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sat Nov 16 11:31:48 1996

N2 100/min
 TEMPERATURE 500.3 °C
 TIME: 0.0 min RATE: 10.0 °C/min

Curve 1: DSC

File info: SAM111604 Sat Nov 16 12:26:37 1996

Sample Weight: 25.170 mg

S96T005543 DUP

N2 10.0/min
 Temp: 25.0 °C
 Time: 00:08

TIME: 0.0 min RATE: 10.0 °C/min

Temperature (°C)

SM FULTON
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sat Nov 16 14:24:05 1996

LABCORE Data Entry Template for Worklist 14864

Analyst: DGD Instrument: DSC 3 Peak # 12N14B

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

Worklist Comment: AN-104 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>26.48</u>	<u>N/A</u>	Joules/g
96001283	AN-104	2 SAMPLE	S96T005743	0	DSC-03	SOLID	<u>N/A</u>	<u>Ø</u>		Joules/g
96001283	AN-104	3 DUP	S96T005743	0	DSC-03	SOLID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g
96001283	AN-104	4 SAMPLE	S96T005744	0	DSC-03	SOLID	<u>N/A</u>	<u>Ø</u>		Joules/g
96001283	AN-104	5 DUP	S96T005744	0	DSC-03	SOLID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g

Final page for worklist # 14864

See attached for signatures

Analyst Signature 11-18-96 Date

RLB/BA 11/21/96
Analyst Signature Date

Verified/Validated by
Blandina
Valenzuela 11-27-96

Data Entry Comments:

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

11/11/96 10:40

LABCORE Data Entry Template for Worklist# 14864

Analyst:

DJD

Instrument:

DSC2

Batch # 1211112

Method: LA-514-113 Rev/Mod _____

Worklist Comment: AN-104 DSC, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	SOLID	_____	_____	N/A	Joules/g
96001283	AN-104	2 SAMPLE	S96T005743	0	DSC-01	SOLID	N/A	_____	_____	Joules/g
96001283	AN-104	3 DUP	S96T005743	0	DSC-01	SOLID	_____	_____	N/A	Joules/g
96001283	AN-104	4 SAMPLE	S96T005744	0	DSC-01	SOLID	N/A	_____	_____	Joules/g
96001283	AN-104	5 DUP	S96T005744	0	DSC-01	SOLID	_____	_____	N/A	Joules/g

Final page for worklist # 14864

Analyst Signature

Date

11-17-96

Analyst Signature

Date

Data Entry Comments:

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

Curve 1: SC

File Info: IND111701 Sun Nov 17 07:58:01 1996

Sample Wt: 8.580 mg

12N14-B DDM AT 100/MIN

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 537 TO 544.

N2, OTHER DOWN

TEMPERATURE: 100.0 °C RATES: 10.0 °C/min

Temperature (°C)

DC DUNHAM
PERKIN-ELMER7 Series Thermal Analysis System
Sun Nov 17 08:06:37 1996

Curve 1: 3C
 File Info: SAM11701 Sun Nov 17 12:49:52 1996
 Sample Weight: 17.860 mg
 996T0057 SAM

DC DUNHAM
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Nov 17 12:28:02 1996

N2 100/min
 Temp 63.3 °C
 Time 10.0 min RATE: 10.0 °C/min

Curve 1: TSC
 File Infor: SAM11702 Sun Nov 17 13:28:32 1986
 Sample Weight: 31.630 mg
 SS67005743 DUP

DC DUNHAM
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Nov 17 14:34:52 1986

N2 100/min
 Temp 50.0 °C
 Rate 10.0 °C/min
 Time 0.0 min

Curve 1: REC
File Info: SAM11703 Sun Nov 17 15:16:17 1996
Sample Weight: 18.890 mg
996T00574 SAM

DC DURNHAM
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Nov 17 17:57:59 1996

N2 100%/min
THERM 30.0 g
TIME: 500.0 g
0.0 min RATE: 10.0 °/min

Curve 1: DSC
 File Info: SAM111704 Sun Nov 17 16:11:14 1996
 Sample Weight: 11.980 mg
 S96T005744 DUP

DC DUNHAM
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Nov 17 17:50:41 1996

LABCORE Data Entry Template for Worklist# 14865

Analyst: DCD Instrument: DSC0 1 Book # 12N148

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

Worklist Comment: AN-104 DSC, RUN UNDER N2. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	SOLID	<u>28.45</u>	<u>26.0</u>	<u>N/A</u>	Joules/g
96001283	AN-104	2 SAMPLE	S96T005771	0	DSC-01	SOLID	<u>N/A</u>	<u>31.6</u>		Joules/g
96001283	AN-104	3 DUP	S96T005771	0	DSC-01	SOLID	<u>31.6</u>	<u>25.9</u>	<u>N/A</u>	Joules/g
96001283	AN-104	4 SAMPLE	S96T005772	0	DSC-01	SOLID	<u>N/A</u>	<u>23.6</u>		Joules/g
96001283	AN-104	5 DUP	S96T005772	0	DSC-01	SOLID	<u>23.6</u>	<u>19.5</u>	<u>N/A</u>	Joules/g
96001283	AN-104	6 SAMPLE	S96T005773	0	DSC-01	SOLID	<u>N/A</u>	<u>22.1</u>		Joules/g
96001283	AN-104	7 DUP	S96T005773	0	DSC-01	SOLID	<u>22.1</u>	<u>23.6</u>	<u>N/A</u>	Joules/g

Final page for worklist # 14865

David C. Dunham 11-19-96
Analyst Signature Date

R/D/Date 11/21/96
Analyst Signature Date

Validated/Verified by
Blandina
Valenzuela 11-27-96

S96T005771 results are the sum of two exotherms

Data Entry Comments: S96T005772 results are the sum of two exotherms

S96T005773 results are the sum of two exotherms

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 543 TO 549

DSC STD 12N14B N2
8.590 mg
Rate: 10.0 °C/min
File: 00021.001 DSC METTLER 19-Nov-96
Ident: 0.0 222-S Laboratory

S96T005771 DUP N2

14.920 mg

Rate: 10.0 °C/min

File: 00025.001

DSC METTLER

19-Nov-96

Ident: 0.0

222-S Laboratory

LABCORE Data Entry Template for Worklist# 15534

Analyst: PJM Instrument: DSC01/ 3 Book # 12N148

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

Worklist Comment: AN-104, DSC-01, Run under Nitrogen. Std s.s. = 8mg. skm

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-03	LIQUID	<u>28.45</u>	<u>29.25</u> <small>1-2-97 BDR</small>	<u>N/A</u>	Joules/g
96001174	AN-104	2 SAMPLE	S96T005978	0	DSC-03	LIQUID	<u>N/A</u>	<u>18.5</u>		Joules/g
96001174	AN-104	3 DUP	S96T005978	0	DSC-03	LIQUID	<u>18.5</u>	<u>19.4</u>	<u>N/A</u>	Joules/g

Final page for worklist # 15534

See attached for signatures 12-31-96

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Verified/Validated by
Blandina
Valenzuela 13-97

Data Entry Comments:

The exotherm produced by this sample appears to be
one from a pure substance decomposing at lower temperatures
1-2-97 BDR

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# 15534

Analyst: Rm Instrument: DSC01 Book # 12N14B

Method: LA-514-113 Rev/Mod _____

Worklist Comment: AN-104, DSC-01, Run under Nitrogen. Std s.s. = 8mg. skm

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	LIQUID	_____	_____	N/A	Joules/g
96001174	AN-104	2 SAMPLE	S96T005978	0	DSC-01	LIQUID	N/A	_____	_____	Joules/g
96001174	AN-104	3 DUP	S96T005978	0	DSC-01	LIQUID	_____	_____	N/A	Joules/g

Final page for worklist # 15534

Rm 12/27/96
Analyst Signature Date

Analyst Signature Date

DSC-03 instrument
was used.

1-2-97

Blandina
Valenzuela

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: IND122701 Fri Dec 27 06:18:21 1996
 Sample Weight: 17.680 mg
 STD 12N14-B

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 552 TO 554

PJ MCCOWN
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Fri Dec 27 07:28:48 1996

Temperature (°C)

30.0 °C/min

0.0 min RATE:

N2, EXOTHERM DOWN

TEMP: 140.0 °C TIME: 160.0

Curve 1: DSC
 File Info: SAM122701 Fri Dec 27 09:09:25 1996
 Sample Weight: 20.540 mg
 S96T005978

PJ MCCOMB
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Thu Jan 2 08:42:15 1997

N2 10C/min
 TEMPERATURE 50.0 °C
 TIME 600.0 S
 0.0 min RATE: 10.0 °C/min

Curve 1: DSC
 File Info: SAM122702 Fri Dec 27 10:30:42 1996
 Sample Weight: 22.690 mg
 S96T005978 DUP

PJ MCCOMB
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Thu Jan 2 08:51:12 1997

N2 10C/min
 Temp 50.0 °C
 Time 0.0 min
 Rate 10.0 C/min

LABCORE Data Entry Template for Worklist# 15540

Analyst: R. L. L. Instrument: DSC01 Book # 12A14B

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

Worklist Comment: AN-104, DSC-01, Run under Nitrogen. Std s.s. = 8mg. skm

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	SOLID	<u>28.45</u>	<u>28.0</u>	<u>N/A</u>	Joules/g
96001174	AN-104	2 SAMPLE	S96T005972	0	DSC-01	SOLID	<u>N/A</u>	<u>101</u>	<u>N/A</u>	Joules/g
96001174	AN-104	3 DUP	S96T005972	0	DSC-01	SOLID	<u>101</u>	<u>104.5</u>	<u>N/A</u>	Joules/g

Final page for worklist # 15540

R. L. L. 1/2/97
Analyst Signature Date

Analyst Signature Date

Verified/Validated by
Blandina
Valenzuela 1-6-97

Data Entry Comments: Duplicate result is the sum of two exotherms.

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 556 TO 562.

DSC STD 12N14B N2

22.750 mg

Rate: 10.0 °C/min

File: 00005.001

DSC METTLER 02-Jan-97

Ident: 0.0

222-S Laboratory

BlueCrown 1/2/97

exo >

Integration

Delta H 638 mJ

28.0 J/g

Peak 159.1°C

-31.8 mW

S96T005972 SAM N2

15.792 mg

Rate: 10.0 °C/min

File: 00001.001

02-Jan-97

Ident: 0.0 222-S Laboratory

S96T005972 DUP N2

16.844 mg

Rate: 10.0 °C/min

File: 00003.001

DSC METTLER

02-Jan-97

Ident: 0.0 222-S Laboratory

<exo>

Integration

Delta H 331 mJ

19.6 J/g

Peak

251.0°C

2.1 mW

Integration

Delta H 1432 mJ

85.0 J/g

Peak

435.0°C

2.5 mW

Integration

Delta H16485 mJ

978.7 J/g

Peak

132.8°C

-44.1 mW

Integration

Delta H 138 mJ

8.2 J/g

Peak

314.8°C

-1.4 mW

20. mW

100.

200.

300.

400.

°C

LABCORE Data Entry Template for Worklist# 16050

Analyst: BDV Instrument: DSC01 Book #

Method: LA-514-113 Rev/Mod

Worklist Comment: Dry DSC for AN-104. bdv

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
96001174	AN-104	1	SAMPLE	S96T005978	0		DSC-02	LIQUID	<u>N/A</u>	<u>37.9</u>		Joules/g Dry
96001174	AN-104	2	DUP	S96T005978	0		DSC-02	LIQUID	<u>37.9</u>	<u>39.7</u>	<u>N/A</u>	Joules/g Dry
96001174	AN-104	3	SAMPLE	S96T005972	0		DSC-02	SOLID	<u>N/A</u>	<u>171</u>		Joules/g Dry
96001174	AN-104	4	DUP	S96T005972	0		DSC-02	SOLID	<u>171</u>	<u>178</u>	<u>N/A</u>	Joules/g Dry

Final page for worklist # 16050

Blandina Valenzuela 1-27-97
Analyst Signature Date

Analyst Signature Date

Data Entry Comments:

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

560

LABCORE Data Entry Template for Worklist# 13610

Analyst: QAM Instrument: TGA0 1 Book # 82N8-A

Method: LA-560-112 Rev/Mod B-1

Worklist Comment: TGA FOR AN-104 RTS! Under Ne

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	LIQUID	<u>59.2</u>	<u>59.72</u>	<u>N/A</u>	%
96001174	AN-104	2 SAMPLE	S96T004774	0	TGA-01	LIQUID	<u>N/A</u>	<u>47.35</u>		%
96001174	AN-104	3 DUP	S96T004774	0	TGA-01	LIQUID	<u>47.35</u>	<u>51.28</u>	<u>N/A</u>	%
96001174	AN-104	4 SAMPLE	S96T004778	0	TGA-01	LIQUID	<u>N/A</u>	<u>52.25</u>		%
96001174	AN-104	5 DUP	S96T004778	0	TGA-01	LIQUID	<u>52.25</u>	<u>49.11</u>	<u>N/A</u>	%

Final page for worklist # 13610

QAM 10-8-96
Analyst Signature Date

Susan Bee 10/09/96
Analyst Signature Date

Verified/Validated by Blandina Valenzuela 10-10-96

S96T004774 + 4778 are the sum of two weight loss steps.

Data Entry Comments:

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 562 TO 566

D. Murphy 10-8-96

TGA STD 82N8-A N2

19.399 mg

Rate: 10.0 °C/min

File: 00056.001

Ident: 0.0

TG

METTLER

07-Oct-96

222-S Laboratory

Step Analysis

Height-11.58 mg

-59.72 %

ResidC. 7.81 mg

40.28 %

Dpeak 79.2 °C

S96T004774 N2

32.872 mg

Rate: 10.0 °C/min

File: 00074.001

TG METTLER

08-Oct-96

Ident: 0.0 222-S Laboratory

Step Analysis
Height-12.39 mg
-37.70 %
Resid. 20.48 mg
62.30 %

Step Analysis
Height -3.17 mg
-9.65 %
Resid. 17.31 mg
52.65 %

S96T004774 DUP N2

43.813 mg

Rate: 10.0 °C/min

File: 00076.001

TG

METTLER

08-Oct-96

Ident: 0.0 222-S Laboratory

Step Analysis

Height-18.42 mg

-42.04 %

Resid. 25.39 mg

57.96 %

Step Analysis

Height -4.05 mg

-9.24 %

Resid. 21.35 mg

48.72 %

S96T004778 N2

61.976 mg

Rate: 10.0 °C/min

File: 00078.001 TG METTLER 08-Oct-96

Ident: 0.0 222-S Laboratory

Step Analysis
Height-26.89 mg
-43.39 %
Resid. 35.08 mg
56.61 %
Dpeak 139.0 °C

Step Analysis
Height -5.49 mg
-8.86 %
Resid. 29.59 mg
47.75 %

S96T004778 DUP N2

55.689 mg

Rate: 10.0 °C/min

File: 00080.001 TG METTLER 08-Oct-96

Ident: 0.0 222-S Laboratory

Step Analysis

Height-26.76 mg

-40.74 %

Resic. 38.93 mg

59.26 %

Step Analysis

Height -5.50 mg

-8.37 %

Resic. 33.43 mg

50.89 %

LABCORE Data Entry Template for Worklist# 13611

Analyst: AM Instrument: TGA0 1 Book # 8208-A

Method: LA-560-112 Rev/Mod C-0

Worklist Comment: TGA FOR AN-104 RTS! under n2

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL ^{99%} 10-10-96	FOUND	DL	UNIT
		1 STD			TGA-01	LIQUID	<u>589.2</u>	<u>58.38</u>	N/A	%
96001174	AN-104	2 SAMPLE	S96T004779	0	TGA-01	LIQUID	<u>N/A</u>	<u>51.03</u>		%
96001174	AN-104	3 DUP	S96T004779	0	TGA-01	LIQUID	<u>51.03</u>	<u>51.65</u> ^{10-10-96 99%}	N/A	%
96001174	AN-104	4 SAMPLE	S96T004780	0	TGA-01	LIQUID	<u>N/A</u>	<u>51.65</u>		%
96001174	AN-104	5 DUP	S96T004780	0	TGA-01	LIQUID	<u>51.65</u>	<u>51.61</u>	N/A	%

Final page for worklist # 13611

AM 10-10-96
Analyst Signature Date

Susan Bas 10/11/96
Analyst Signature Date

Verified/Validated by:
Blandina
Valenzuela
10-14-96

Data Entry Comments: S96T004779 results are the sum of two weight loss steps

S96T004780 results are the sum of two weight loss steps

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 568 TO 572

Murphy 10-8-96

TGA STD 82N8-A

53.343 mg

Rate: 10.0 °C/min

File: 00082.001

Ident: 0.0

TG METTLER

222-S Laboratory

09-Oct-96

Step Analysis
Height-31.14 mg
-58.38 %
ResidC. 22.20 mg
41.62 %
Dpeak 125.0 °C

10. mg

50.

100.

150.

200.

°C

S96T004779 DUP N2

44.195 mg

Rate: 10.0 °C/min

File: 00086.001

TG METTLER

09-Oct-96

Ident: 0.0 222-S Laboratory

10. mg

Step Analysis

Height-19.49 mg

-44.11 %

ResidC. 24.63 mg

55.72 %

Step Analysis

Height -1.49 mg

-3.37 %

ResidC. 23.14 mg

52.35 %

Step Analysis

Height -1.60 mg

-3.61 %

ResidC. 21.54 mg

48.74 %

100.

200.

300.

400.

°C

S96T004780 SAM N2
 17.762 mg
 Rate: 10.0 °C/min
 File: 00002.001 TG METTLER 09-Oct-96
 Ident: 0.0 222-S Laboratory

S96T004780 DUP N2

15.936 mg

Rate: 10.0 °C/min

File: 00004.001

Ident: 0.0

TG METTLER

09-Oct-96

222-S Laboratory

Step Analysis

Height -6.87 mg

-43.10 %

Resid. 9.06 mg

56.83 %

Step Analysis

Height -0.44 mg

-2.79 %

Resid. 8.61 mg

54.04 %

Step Analysis

Height -0.91 mg

-5.72 %

Resid. 7.70 mg

48.32 %

Dpeak 181.0 °C

LABCORE Data Entry Template for Worklist# 13612

Analyst: Dcd Instrument: TGA0 1 Book # 82N8-A

Method: LA-560-112 Rev/Mod C-0

Worklist Comment: TGA FOR AN-104 RTS! under N₂

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	LIQUID	<u>59.2</u>	<u>59.23</u>	<u>N/A</u>	%
96001174	AN-104	2 SAMPLE	S96T004781	0	TGA-01	LIQUID	<u>N/A</u>	<u>51.82</u>		%
96001174	AN-104	3 DUP	S96T004781	0	TGA-01	LIQUID	<u>51.82</u>	<u>52.23</u>	<u>N/A</u>	%
96001174	AN-104	4 SAMPLE	S96T004782	0	TGA-01	LIQUID	<u>N/A</u>	<u>51.73</u>		%
96001174	AN-104	5 DUP	S96T004782	0	TGA-01	LIQUID	<u>51.73</u>	<u>51.69</u>	<u>N/A</u>	%

Final page for worklist # 13612

Daniel Dunham 10-12-96
Analyst Signature Date

Susan Bee 10/14/96
Analyst Signature Date

Verified/Validated by

Blandina
Valenzuela 10-15-96

Data Entry Comments:

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 574 TO 578

S96T004781 SAM N2

16.528 mg

Rate: 10.0 °C/min

File: 00028.001

Ident: 0.0

TG METTLER

12-Oct-96

222-S Laboratory

Step Analysis

Height -7.39 mg

-44.70 %

Resid. 9.14 mg

55.30 %

Dpeak 85.0 °C

Step Analysis

Height -1.18 mg

-7.12 %

Resid. 7.96 mg

48.18 %

Dpeak 199.0 °C

S96T004781 DUP N2
12.115 mg
Rate: 10.0 °C/min
File: 00030.001 TG METTLER 12-Oct-96
Ident: 0.0 222-S Laboratory

Step Analysis
Height -5.45 mg
-45.02 %
ResID. 6.66 mg
54.98 %
Dpeak 75.0 °C

Step Analysis
Height -0.87 mg
-7.21 %
ResID. 5.79 mg
47.77 %
Dpeak 191.0 °C

S96T004782 SAM N2
16.934 mg
Rate: 10.0 °C/min
File: 00032.001 TG METTLER 12-Oct-96
Ident: 0.0 222-S Laboratory

S96T004782 DUP N2
17.003 mg
Rate: 10.0 °C/min
File: 00034.001 TG METTLER 13-Oct-98
Ident: 0.0 222-S Laboratory

Step Analysis
Height -7.50 mg
-44.09 %
Resid. 9.51 mg
55.91 %
Dpeak 89.0°C

Step Analysis
Height -1.29 mg
-7.60 %
Resid. 8.21 mg
48.31 %
Dpeak 181.0°C

LABCORE Data Entry Template for Worklist# 13613

Analyst: ROM Instrument: TGA0 3 Book # 82N8A

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

Worklist Comment: TGA FOR AN-104 RTS!

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-03	LIQUID	<u>59.2</u>	<u>59.11</u>	<u>N/A</u>	%
96001174	AN-104	2 SAMPLE	S96T004783	0	TGA-03	LIQUID	<u>N/A</u>	<u>51.37</u>		%
96001174	AN-104	3 DUP	S96T004783	0	TGA-03	LIQUID	<u>51.37</u>	<u>50.87</u>	<u>N/A</u>	%
96001174	AN-104	4 SAMPLE	S96T004784	0	TGA-03	LIQUID	<u>N/A</u>	<u>51.44</u>		%
96001174	AN-104	5 DUP	S96T004784	0	TGA-03	LIQUID	<u>51.44</u>	<u>51.76</u>	<u>N/A</u>	%

Final page for worklist # 13613

See Attached for Signatures
Analyst Signature _____ Date _____

Susan Bee 10/14/96
Analyst Signature _____ Date _____

Verified/Validated by

Blandino

Valenzuela 10-15-96

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 13613

Analyst: Ran Instrument: TGA0 3 Book # BLNBA

Method: LA-560-112 Rev/Mod 0-0

Worklist Comment: TGA FOR AN-104 RTS! under N₂

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	LIQUID			N/A	%
96001174	AN-104	2 SAMPLE	S96T004783	0	TGA-01	LIQUID	N/A			%
96001174	AN-104	3 DUP	S96T004783	0	TGA-01	LIQUID			N/A	%
96001174	AN-104	4 SAMPLE	S96T004784	0	TGA-01	LIQUID	N/A			%
96001174	AN-104	5 DUP	S96T004784	0	TGA-01	LIQUID			N/A	%

Final page for worklist # 13613

Analyst Signature R. Duggan Date 10/11/96

Analyst Signature _____ Date _____

TGA-03 Instrument was used.

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: ter101101 Fri Oct 11 06:40:51 1996

Sample Weight: 15.125 mg

TGA STD 82N8-A

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 587 TO 585.

N2 10C/MIN
TEMP: 58.8 °C
TIME: 58.8 s

0.0 min RATE: 10.0 °C/min

rd meyers

PERKIN-ELMER

7 Series Thermal Analysis System
Fri Oct 11 06:54:05 1996

MacLellan 5/20/97

Curve 1: TGA
 File info: SAM101101 Fri Oct 11 09: 46: 25 1996
 Sample Weight: 13.319 mg
 S96T004783

100./MIN N2
 THERM: 25.0 g
 THERM: 500.0 g
 TIME: 0.0 min RATE: 10.0 C/min
 RD MEYERS
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Fri Oct 11 11:28:16 1996

Curve 1: TGA
File info: SAM101102 Fri Oct 11 12:24:25 1996
Sample Weight: 15.666 mg
S96T004783DUP

RD MEYERS
PERKIN-ELMER
7 Series Thermal Analysis System
Fri Oct 11 12:59:39 1996

10C/MIN N2
TEMP: 25.0 °C
TIME: 500.0 s
0.0 min RATE: 10.0 C/min

Curve 1: TGA

File Info: SAM101103 Fri Oct 11 14:09:47 1996

Sample Weight: 13.650 mg

S98T004784

Curve 1: TGA

File info: SAM101104 Fri Oct 11 15:53:17 1996

Sample Height: 12.721 mg

596T004784DUP

10C/MIN N2

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Index

9.0. 930 RATE:

0410

Temperature (°C)

AD MEYERS
PEAKIN-ELMER

7 Series Thermal Analysis System
Fri Oct 11 17:54:01 1996

LABCORE Data Entry Template for Worklist# 13614

Analyst: DCD Instrument: TGA01 Book # 82N8-A

Method: LA-560-112 Rev/Mod C-0

Worklist Comment: TGA FOR AN-104 RTS! UNDERN2

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	LIQUID	<u>59.2</u>	<u>59.18</u>	<u>N/A</u>	%
96001174	AN-104	2 SAMPLE	S96T004976	0	TGA-01	LIQUID	<u>N/A</u>	<u>51.77</u>		%
96001174	AN-104	3 DUP	S96T004976	0	TGA-01	LIQUID	<u>51.77</u>	<u>49.57</u>	<u>N/A</u>	%
96001174	AN-104	4 SAMPLE	S96T004977	0	TGA-01	LIQUID	<u>N/A</u>	<u>49.32</u>		%
96001174	AN-104	5 DUP	S96T004977	0	TGA-01	LIQUID	<u>49.32</u>	<u>51.88</u>	<u>N/A</u>	%
96001174	AN-104	6 SAMPLE	S96T004978	0	TGA-01	LIQUID	<u>N/A</u>	<u>52.03</u>		%
96001174	AN-104	7 DUP	S96T004978	0	TGA-01	LIQUID	<u>52.03</u>	<u>51.03</u>	<u>N/A</u>	%

Final page for worklist # 13614

Daniel C. Dunham 10-11-96
Analyst Signature Date

Susan R. Bue 10/14/96
Analyst Signature Date

Verified/Validated by
Blandina Valenzuela
10-15-96

Data Entry Comments:

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 582 TO 583.

S96T004976 SAM N2
14.669 mg
Rate: 10.0 °C/min
File: 00012.001 TG METTLER 11-Oct-96
Ident: 0.0 222-S Laboratory

Step Analysis
Height -6.54 mg
-44.56 %
ResiC. 8.13 mg
55.44 %
Dpeak 81.0 °C

Step Analysis
Height -1.06 mg
-7.21 %
ResiC. 7.07 mg
48.23 %
Dpeak 185.0 °C

5. mg

°C

400.

300.

200.

100.

S96T004977 SAM N2
 15.328 mg
 Rate: 10.0 °C/min
 File: 00016.001 TG METTLER 12-Oct-96
 Ident: 0.0 222-S Laboratory

Step Analysis
 Height -6.44 mg
 -42.03 %
 Resid. 8.89 mg
 57.97 %
 Dpeak 83.0 °C

Step Analysis
 Height -1.12 mg
 -7.29 %
 Resid. 7.77 mg
 50.68 %
 Dpeak 187.0 °C

S96T004977 DUP N2
15.926 mg
Rate: 10.0 °C/min
File: 00018.001 TG METTLER 12-Oct-96
Idant: 0.0 222-S Laboratory

Step Analysis
Height -7.13 mg
-44.77 %
Resic. 8.80 mg
55.23 %
Dpeak 87.0 °C

Step Analysis
Height -1.13 mg
-7.11 %
Resic. 7.66 mg
48.12 %
Dpeak 195.0 °C

S96T004978 DUP N2

18.521 mg

Rate: 10.0 °C/min

File: 00020.001 TG METTLER 12-Oct-96

Ident: 0.0 222-S Laboratory

Step Analysis
Height -8.29 mg
-44.78 %
Resid. 10.23 mg
55.22 %
Dpeak 89.0 °C

Step Analysis
Height -1.16 mg
-6.25 %
Resid. 9.01 mg
48.64 %

worklist rpt Version 2.1 05/15/95
10/22/96 15:47

Page: 1

LABCORE Data Entry Template for Worklist# 13616

Analyst: KRM Instrument: TGA0 3 Book # 82N8A

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

Worklist Comment: TGA-01 FOR AN-104 PLEASE RUN UNDER N2 RTS!

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-03	SOLID	<u>59.2</u>	<u>58.65</u>	<u>N/A</u>	%
96001174	AN-104	2 SAMPLE	S96T004772	0	TGA-03	SOLID	<u>N/A</u>	<u>41.31</u>		%
96001174	AN-104	3 DUP	S96T004772	0	TGA-03	SOLID	<u>41.31</u>	<u>43.50</u>	<u>N/A</u>	%
96001174	AN-104	4 SAMPLE	S96T004773	0	TGA-03	SOLID	<u>N/A</u>	<u>47.20</u>		%
96001174	AN-104	5 DUP	S96T004773	0	TGA-03	SOLID	<u>47.20</u>	<u>45.64</u>	<u>N/A</u>	%

Final page for worklist # 13616

See attached for signatures

Analyst Signature

Date

10-22-96

BRY

Final Mark 10-24-96

Analyst Signature

Date

Verified/Validated by
Blandina

Valenzuela

10-30-96

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 13616

Analyst: KRM Instrument: TGA0 1 Book # 82N8AMethod: LA-560-112 Rev/Mod D-0

Worklist Comment: TGA-01 FOR AN-104 PLEASE RUN UNDER N2 RTS!

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID			N/A	%
96001174	AN-104	2 SAMPLE	S96T004772	0	TGA-01	SOLID	N/A			%
96001174	AN-104	3 DUP	S96T004772	0	TGA-01	SOLID			N/A	%
96001174	AN-104	4 SAMPLE	S96T004773	0	TGA-01	SOLID	N/A			%
96001174	AN-104	5 DUP	S96T004773	0	TGA-01	SOLID			N/A	%

Final page for worklist # 13616

Analyst Signature

Date

10-20-96

Analyst Signature

Date

TGA-03 Instrument
was used.

10-30-96

Blandina

Valenzuela

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: TER102001 Sun Oct 20 04:54:12 1996

Sample Weight: 21.269 mg

TGA STD 82N8-A

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 596 TO 600. N2 10C/MIN
TEMP: 50.0 °C
TEMP: 500.0 °C

TIME: 0.0 min RATE: 10.0 °C/min

Temperature (°C)

KR MONTEITH
PERKIN-ELMER
7 Series Thermal Analysis System

Sun Oct 20 04:54:45 1996

10-20-96

Curve 1: TGA
 File Info: SAM02002 Sun Oct 20 07:03:18 1996
 Sample Weight: 14.220 mg
 S96T004772

KR MONTEITH
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Oct 20 07:36:56 1996

100/MIN N2

TEMP: 25.0 °C
 TIME: 00.0 s
 RATE: 0.0 min RATE: 10.0 °C/min

Curve 1: TGA
File info: SAH102003 Sun Oct 20 08:16:03 1996
Sample Weight: 10.557 mg
S98T004772 DUP

KR MONTEITH
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Oct 20 08:26:46 1996

100./MIN N2
25.0 g
565.8 g

0.0 min RATE:: 10.0 g/min

TIME::

TEMP::

7 Series Thermal Analysis System
Sun Oct 20 09:23:20 1996

Curve 1: TGA
 File Info: SAM102005 Sun Oct 20 10:28:54 1996
 Sample Weight: 10.975 mg
 S96T004773 DUP

10C/MIN N2
 TGA24 55.0 g
 TGA24 55.0 g
 0.0 min RATE: 10.0 C/min
 KR MONTEITH
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Oct 20 11:35:55 1996

LABCORE Data Entry Template for Worklist# 13617

Analyst: KRM Instrument: TGA0 3 Book # 82N8A

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

Worklist Comment: TGA-01 FOR AN-104 PLEASE RUN UNDER N2 RTS!

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-03	SOLID	<u>59.2</u>	<u>58.65</u>	<u>* N/A</u>	%
96001174	AN-104	2 SAMPLE	S96T004984	0	TGA-03	SOLID	<u>N/A</u>	<u>46.04</u>		%
96001174	AN-104	3 DUP	S96T004984	0	TGA-03	SOLID	<u>46.04</u>	<u>45.63</u>	<u>N/A</u>	%
96001174	AN-104	4 SAMPLE	S96T004985	0	TGA-03	SOLID	<u>N/A</u>	<u>46.72</u>		%
96001174	AN-104	5 DUP	S96T004985	0	TGA-03	SOLID	<u>46.72</u>	<u>46.60</u>	<u>N/A</u>	%

Final page for worklist # 13617

See attached for signatures 10-24-96
Analyst Signature [Signature] Date 10-24-96

10-24-96
10-25-96
Analyst Signature [Signature] Date 10-25-96

Verified/Validated by
Blandina
Valeznuela 10-30-96

Data Entry Comments: S96T004985 contains hydrated salts containing water

worklist rpt Version 2.1 05/15/95
10/02/96 13:44

Page: 1

LABCORE Data Entry Template for Worklist# 13617

Analyst: KRM Instrument: TGA0 _____ Book # 82N8A

Method: LA-560-112 Rev/Mod _____

Worklist Comment: TGA-01 FOR AN-104 PLEASE RUN UNDER N2 RTS!

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID	_____	_____	N/A	%
96001174	AN-104	2 SAMPLE	S96T004984	0	TGA-01	SOLID	N/A	_____	_____	%
96001174	AN-104	3 DUP	S96T004984	0	TGA-01	SOLID	_____	_____	N/A	%
96001174	AN-104	4 SAMPLE	S96T004985	0	TGA-01	SOLID	N/A	_____	_____	%
96001174	AN-104	5 DUP	S96T004985	0	TGA-01	SOLID	_____	_____	N/A	%

Final page for worklist # 13617

Analyst Signature

Date

10-20-96

Analyst Signature

Date

TGA-03 instrument
was used.
10-22-96Blandina
Valenzuela

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: TER102001 Sun Oct 20 04:54:12 1996
 Sample Weight: 21.269 mg
 TGA STD 82N8-A

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 123 TO 127.

N2 10C/MIN
 TGA 35.0 g
 TGA 300.0 g

TIME: 0.0 min RATE: 10.0 C/min

Temperature (°C)

KR MONTEITH
 PERKIN-ELMER

7 Series Thermal Analysis System
 Sun Oct 20 10:01:41 1996

[Signature]

10-20-96

Curve 1: TGA
 File Info: SAM102006 Sun Oct 20 12:15:06 1996
 Sample Weight: 14.301 mg
 S96T004984

100/MIN N2
 TGA: 25.0 g
 1500°C
 TIME: 0.0 min RATE: 10.0 °C/min
 KR MONTEITH
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Oct 20 12:21:49 1996

Curve 1: TGA
 File info: SAM102007 Sun Oct 20 13:19:21 1996
 Sample Weight: 15.988 mg
 SS6T004984 DUP

10C/MIN N2
 50.0 g
 500.0 g
 0.0 min RATE 10.0 C/min
 TIME: 00:00
 KR MONTEITH
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Oct 20 14:24:53 1996

Curve 1: TGA

File Info: SAM102008 Sun Oct 20 15:03:41 1996

Sample Weight: 15.747 mg

S96T004985

10C/MIN N2

TIME: 00:08

0.0 MIN RATE: 10.0 C/min

Temperature (°C)

KR MONTEITH
PERKIN-ELMER7 Series Thermal Analysis System
Sun Oct 20 15:04:08 1996

Curve 1: TGA

File Info: SAM102009 Sun Oct 20 16:02:07 1996

Sample Weight: 12.305 mg

S96T004985 DUP

KR MONTEITH
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Oct 20 17:47:09 1996

LABCORE Data Entry Template for Worklist# 13618

Analyst: KRM Instrument: TGA0 1 Book # 82081

Method: LA-560-112 Rev/Mod C-0

Worklist Comment: TGA-01 FOR AN-104 PLEASE RUN UNDER N2 RTS!

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID	<u>59.2</u>	<u>59.01</u>	<u>*</u>	<u>N/A</u> %
96001174	AN-104	2 SAMPLE	S96T004986	0	TGA-01	SOLID	<u>N/A</u>	<u>47.48</u>		%
96001174	AN-104	3 DUP	S96T004986	0	TGA-01	SOLID	<u>47.48</u>	<u>46.86</u>	<u>N/A</u>	%
96001174	AN-104	4 SAMPLE	S96T004987	0	TGA-01	SOLID	<u>N/A</u>	<u>45.45</u>		%
96001174	AN-104	5 DUP	S96T004987	0	TGA-01	SOLID	<u>45.45</u>	<u>45.42</u>	<u>N/A</u>	%

Final page for worklist # 13618

[Signature] 10-20-96
Analyst Signature Date

[Signature] 10/24/96
Analyst Signature Date

Verified/Validated by
Blandina
Valenzuela 10-30-96

Data Entry Comments:

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 609 TO 613.

TGA STD 82N8A N2 File: 00034.001 TG METTLER 20-Oct-96
20.615 mg Rate: 10.0 °C/min Ident: 0.0 222-S Laboratory

Handwritten Signature 10-20-96

S96T004986 N2

9.926 mg

Rate: 10.0 °C/min

File: 00044.001 TG METTLER 20-Oct-96

Ident: 0.0 222-S Laboratory

Step Analysis
Height -4.71 mg
-47.48 %
Res1C. 5.21 mg
52.52 %
Dpeak 63.0 °C

S96T004986 DUP N2

20.816 mg

Rate: 10.0 °C/min

File: 00046.001

TG METTLER

20-Oct-96

Ident: 0.0

222-S Laboratory

5 mg

Step Analysis
Height -9.75 mg
-46.86 %
Resid. 11.06 mg
53.14 %
Dpeak 99.0 °C

S96T004987 N2

19.940 mg

Rate: 10.0 °C/min

File: 00048.001 TG METTLER 20-Oct-96
Ident: 0.0 222-S Laboratory

LABCORE Data Entry Template for Worklist# 13619

Analyst: RGH Instrument: TGA0 1 Book # 82N8AMethod: LA-560-112 Rev/Mod C-0

Worklist Comment: TGA-01 FOR AN-104 PLEASE RUN UNDER N2 RTS!

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD.			TGA-01	SOLID	<u>59.2</u>	<u>58.93</u>	<u>*N/A</u>	%
96001174	AN-104	2 SAMPLE	S96T004988	0	TGA-01	SOLID	<u>N/A</u>	<u>45.09</u>		%
96001174	AN-104	3 DUP	S96T004988	0	TGA-01	SOLID	<u>45.09</u>	<u>47.25</u>	<u>N/A</u>	%
96001174	AN-104	4 SAMPLE	S96T004989	0	TGA-01	SOLID	<u>N/A</u>	<u>47.18</u>		%
96001174	AN-104	5 DUP	S96T004989	0	TGA-01	SOLID	<u>47.18</u>	<u>49.33</u>	<u>N/A</u>	%

Final page for worklist # 13619

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.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 615 TO 619

TGA STD 82N8A N2 File: 00034.004 TG METTLER 20-Oct-86
20.615 mg Rate: 10.0 °C/min Ident: 0.0 222-S Laboratory

Step Analysis
Height-12.15 mg
-58.93 %
Resid. 8.46 mg
41.05 %
Dpeak 88.3°C

S96T004988 DUP N2

19.088 mg

Rate: 10.0 °C/min

File: 00054.001 TG METTLER 20-Oct-86

Ident: 0.0 222-S Laboratory

S96T004989 N2

26.564 mg

Rate: 10.0 °C/min

File: 00056.001 TG METTLER 20-Oct-98
Ident: 0.0 222-S Laboratory

S96T004989 DUP N2
 30.587 mg
 Rate: 10.0 °C/min
 File: 00058.001 TG METTLER 20-Oct-96
 Ident: 0.0 222-S Laboratory

LABCORE Data Entry Template for Worklist# 13620

Analyst: RGA Instrument: TGA0 1 Book # 82N8A

Method: LA-560-112 Rev/Mod C-0

Worklist Comment: TGA-01 FOR AN-104 PLEASE RUN UNDER N2 RTS!

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID	<u>59.2</u>	<u>58.93</u>	<u>*</u>	<u>N/A</u> %
96001174	AN-104	2 SAMPLE	S96T004990	0	TGA-01	SOLID	<u>N/A</u>	<u>49.51</u>		%
96001174	AN-104	3 DUP	S96T004990	0	TGA-01	SOLID	<u>49.51</u>	<u>49.85</u>	<u>N/A</u>	%
96001174	AN-104	4 SAMPLE	S96T004991	0	TGA-01	SOLID	<u>N/A</u>	<u>47.76</u>		%
96001174	AN-104	5 DUP	S96T004991	0	TGA-01	SOLID	<u>47.76</u>	<u>48.57</u>	<u>N/A</u>	%

Final page for worklist # 13620

[Signature]
Analyst Signature

10-21-96
Date

[Signature]
Analyst Signature

10-24-96 Lem
10-25-96
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 1021 TO 1022

TGA STD 82N8A N2

20.615 mg

File: 00034.001

TG

METTTLER

20-Oct-96

Rate: 10.0 °C/min

Ident: 0.0

222-S Laboratory

Step Analysis

Height-12.15 mg

-58.93 %

Resid. 8.46 mg

41.05 %

Dpeak 88.3 °C

S96T004990 DUP N2

31.276 mg

Rate: 10.0 °C/min

File: 00062.001 TG METTLER 21-Oct-96

Ident: 0.0 222-S Laboratory

S96T004991 DUP N2

17.128 mg

Rate: 10.0 °C/min

File: 00066.001 TG METTLER 21-Oct-86
Ident: 0.0 222-S Laboratory

Step Analysis

Height -7.00 mg

-40.89 %

Resid. 10.10 mg

58.98 %

Dpeak 81.0 °C

Step Analysis

Height -1.31 mg

-7.68 %

Resid. 8.79 mg

51.31 %

LABCORE Data Entry Template for Worklist# 13621

Analyst: JDS Instrument: TGA0 3 Book # 82N8A

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

Worklist Comment: TGA-01 FOR AN-104 PLEASE RUN UNDER N2 RTS!

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-03	SOLID	<u>59.2</u>	<u>58.68</u>	<u>N/A</u>	%
96001174	AN-104	2 SAMPLE	S96T004992	0	TGA-03	SOLID	<u>N/A</u>	<u>46.16</u>		%
96001174	AN-104	3 DUP	S96T004992	0	TGA-03	SOLID	<u>46.16</u>	<u>45.93</u>	<u>N/A</u>	%
96001174	AN-104	4 SAMPLE	S96T004993	0	TGA-03	SOLID	<u>N/A</u>	<u>46.08</u>		%
96001174	AN-104	5 DUP	S96T004993	0	TGA-03	SOLID	<u>46.08</u>	<u>44.0</u>	<u>N/A</u>	%

Final page for worklist # 13621

See attached for signatures
Analyst Signature _____ Date 10-22-96

Frank Mueck
Analyst Signature _____ Date 10-24-96

Verified/Validated by
Blandina Valenzuela
Date 10-30-96

Data Entry Comments: S96T004992 results are the sum of two weight loss steps.

S96T004993 results are the sum of two weight loss steps.

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# 13621

Analyst: Sds

Instrument: TGA0 _____

Book # 52N84

Method: LA-560-112 Rev/Mod _____

Worklist Comment: TGA-01 FOR AN-104 PLEASE RUN UNDER N2 RTS!

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID	_____	_____	N/A	%
96001174	AN-104	2 SAMPLE	S96T004992	0	TGA-01	SOLID	N/A	_____	_____	%
96001174	AN-104	3 DUP	S96T004992	0	TGA-01	SOLID	_____	_____	N/A	%
96001174	AN-104	4 SAMPLE	S96T004993	0	TGA-01	SOLID	N/A	_____	_____	%
96001174	AN-104	5 DUP	S96T004993	0	TGA-01	SOLID	_____	_____	N/A	%

Final page for worklist # 13621

Analyst Signature SdsDate 10-11-96

Analyst Signature _____

Date _____

TGA-03 instrument
is used.

10-22-96

Blandina
Valenzuela

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: TER102101 Mon Oct 21 06: 06: 07 1996
Sample Weight: 18.778 mg
TGA STD 62N8-A

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 6288 TO 6289.

N2 10C/MIN
TEMP: 35.0 °C
TIME: 306.8 s

Temperature (°C)

0.0 min RATE: 10.0 C/min

JD SPELLMAN
PERKIN-ELMER
7 Series Thermal Analysis System
Mon Oct 21 06: 10: 03 1996

Curve 1: TGA

File info: SAM102101 Mon Oct 21 07:13:38 1996

Sample Weight: 38.626 mg

S96T004992

10C/MIN N2

TEMP: 38.0 °C

TIME: 0.0

MIN RATE: 10.0

C/MIN

Temperature (°C)

JD SPELLMAN

PERKIN-ELMER

7 Series Thermal Analysis System

Tue Oct 22 09:26:15 1996

Curve 1: TGA

File Info: SAM102102 Mon Oct 21 09:28:28 1996

Sample Weight: 32.672 mg

S96T004992 DUP

10C/MIN N2

TEMP: 350.0 °C

TIME: 6

0.0 min RATE: 10.0 C/min

Temperature (°C)

JD SPELLMAN

PERKIN-ELMER

7 Series Thermal Analysis System

Tue Oct 22 09:37:56 1996

Curve 1: TGA
File Info: SAM102103 Mon Oct 21 10:53:54 1996
Sample Weight: 35.826 mg
S96T004993

Curve 1: TGA
File Info: SAM102104 Mon Oct 21 12:19:21 1996
Sample Weight: 25.579 mg
S96T004993 DUP

JD SPELLMAN
PERKIN-ELMER
7 Series Thermal Analysis System
Tue Oct 22 09:50:07 1996

10C/MIN N2
TEMP: 55.8 C
TIME: 0.0 min RATE: 10.0 C/min

LABCORE Data Entry Template for Worklist# 13669

Analyst: DCD Instrument: TGA0 3 Book # 82N8AMethod: LA-514-114 Rev/Mod D-0

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

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-03	LIQUID	<u>59.2</u>	<u>59.11 *</u>	<u>N/A</u>	%
96001174	AN-104	2 SAMPLE	S96T004979	0	TGA-03	LIQUID	<u>N/A</u>	<u>51.56</u>		%
96001174	AN-104	3 DUP	S96T004979	0	TGA-03	LIQUID	<u>51.59</u>	<u>51.84</u>	<u>N/A</u>	%

Final page for worklist # 13669

See Attached for Signatures

Analyst Signature

Date

Susan Bu

Analyst Signature

10/14/96
Date

Verified/Validated by

Blandina

Valenzuela 10-15-96

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 13669Analyst: DCD Instrument: TGA0 3 Book # 82N8-A

Method: LA-560-112 Rev/Mod _____

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

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	LIQUID			N/A	%
96001174	AN-104	2 SAMPLE	S96T004979	0	TGA-01	LIQUID	N/A			%
96001174	AN-104	3 DUP	S96T004979	0	TGA-01	LIQUID			N/A	%

Final page for worklist # 13669

 Analyst Signature
Date 10-11-96

Analyst Signature

Date

TGA-03 Instrument was used

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: ter101101 Fri Oct 11 06: 40: 51 1996

Sample Weight: 15.125 mg

TGA STD 82NB-A

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 635 TO 637.

N2 10C/MIN

TEMP: 38.8 °C
TIME: 355.8 S

FLOW: 0.0 min RATE: 10.0 C/min

nd mvers

PERKIN-ELMER

7 Series Thermal Analysis System
Fri Oct 11 23: 56: 13 1996

Curve 1: TGA

File Info: SAM101105 Sat Oct 12 00:34:05 1996

Sample Weight: 15.792 mg

S96T004979

10C/MIN N2

TEMP: 30.0 °C

TIME: 0.0

min RATE: 15.0

C/min

PERKIN-ELMER

7 Series Thermal Analysis System

Sat Oct 12 03:19 1996

Curve 1: TGA
File info: SAM101107 Sat Oct 12 01:43:18 1996
Sample Weight: 14.994 mg
596T004979 DUP

LABCORE Completed Worklist Report for Worklist# 14206

Analyst: jds

Instrument: TGA03

Book# 82N8A

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

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

Seq	Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD		0	TGA-03	LIQUID	58.2	58.76	99.257 % Recovery	
2	SAMPLE	896T005253	0	TGA-03	LIQUID	N/A	99.75	%	
3	DUP	896T005253	0	TGA-03	LIQUID	99.75	104	4.172 RPD	
4	SAMPLE	896T005255	0	TGA-03	LIQUID	N/A	51.47	%	
5	DUP	896T005255	0	TGA-03	LIQUID	51.47	51.75	0.543 RPD	

Final page for worklist# 14206

See attached for signatures
Analyst Signature 10-30-96
Date POY

T.R. Olson 10/24/96
Analyst Signature Date

Blam dina Valenzuela 10-30-96
Reviewer Signature Date

LABCORE Data Entry Template for Worklist# 14206

Analyst: JS

Instrument: TGA0

Book # 82N8A

Method: LA-560-112 Rev/Mod

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

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	LIQUID			N/A	%
96001174	AN-104	2 SAMPLE	S96T005253	0	TGA-01	LIQUID	N/A			%
96001174	AN-104	3 DUP	S96T005253	0	TGA-01	LIQUID			N/A	%
96001283	AN-104	4 SAMPLE	S96T005255	0	TGA-01	LIQUID	N/A			%
96001283	AN-104	5 DUP	S96T005255	0	TGA-01	LIQUID			N/A	%

Final page for worklist # 14206

JS
Analyst Signature Date

Analyst Signature Date

TGA-03 instrument
was used.

10-23-96

Blandina
Valenzuela

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: TER102201 Tue Oct 22 05: 42: 22 1996
 Sample Weight: 24.500 mg
 TGA STD 82N8-A

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 640 TO 644

N2 10C/MIN
 TEMP: 28.0 °C
 TWE: 360.0 g
 TWE: 0.0 min RATE: 10.0 °C/min
 Temperature (°C)
 JD SPELLMAN
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Tue Oct 22 05: 43: 06 1996

Curve 1: TGA
 File info: SAM102201 Tue Oct 22 07:48:52 1996
 Sample Weight: 9.379 mg
 S96T005253

10C/MIN N2
 TEMP: 38.9 °C
 TIME: 0.0 min RATE: 10.0 °C/min
 JD SPELLMAN
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Tue Oct 22 08:04:05 1996

Curve 1: TGA
 File Info: SAM102202 Tue Oct 22 09:33:27 1996
 Sample Weight: 18.596 mg
 S96T005253 DUP

10C/MIN N2
 TEMPS 50.0 °C
 TIME: 0.0 min RATE: 10.0 C/min
 JD SPELLMAN
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Tue Oct 22 11:03:40 1996

JD SPELLMAN
PERKIN-ELMER
7 Series Thermal Analysis System
Wed Oct 23 08:26:46 1996

Curve 1: TGA
File info: SAN102204 Tue Oct 22 14: 43: 29 1996
Sample Weight: 36.723 mg
S96T00525SDUP

10C/MIN N2
TEMP: 52.8 °C
TIME: 505.8 S

JD SPELLMAN
PERKIN-ELMER
7 Series Thermal Analysis System
Tue Oct 22 14: 49: 22 1996

0.0 min RATE: 10.0 C/min

LABCORE Data Entry Template for Worklist# 14207

Analyst: SME Instrument: TGA0 1 Book # 82N8A

Method: LA-560-112 Rev/Mod C-0

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

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	LIQUID	<u>59.2</u>	<u>58.92</u>	<u>N/A</u>	<u>%</u>
96001283	AN-104	2 SAMPLE	S96T005256	0	TGA-01	LIQUID	<u>N/A</u>	<u>52.1</u>		<u>%</u>
96001283	AN-104	3 DUP	S96T005256	0	TGA-01	LIQUID	<u>52.1</u>	<u>51.87</u>	<u>N/A</u>	<u>%</u>
		4 STD			TGA-01	LIQUID	<u>59.2</u>	<u>58.42</u>	<u>N/A</u>	<u>%</u>
96001283	AN-104	5 SAMPLE	S96T005257	0	TGA-01	LIQUID	<u>N/A</u>	<u>52.13</u>		<u>%</u>
96001283	AN-104	6 DUP	S96T005257	0	TGA-01	LIQUID	<u>52.13</u>	<u>51.93</u>	<u>N/A</u>	<u>%</u>

Final page for worklist # 14207

See attached for signatures
Analyst Signature

Date

11-1-96

RL Stuck
Analyst Signature

11-1-96

Date

Verified/Validated by
Blandina Valenzuela 11-8-96

Data Entry Comments: S96T005256 results are the sum of two weight loss steps

S96T005257 results are the sum of two weight loss steps

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# 14207

Analyst: SMF Instrument: TGA0 Book # 8208A

Method: LA-560-112 Rev/Mod _____

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

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	LIQUID	_____	_____	N/A	%
96001283	AN-104	2 SAMPLE	S96T005256	0	TGA-01	LIQUID	N/A	_____	_____	%
96001283	AN-104	3 DUP	S96T005256	0	TGA-01	LIQUID	_____	_____	N/A	%
96001283	AN-104	4 SAMPLE	S96T005257	0	TGA-01	LIQUID	N/A	_____	_____	%
96001283	AN-104	5 DUP	S96T005257	0	TGA-01	LIQUID	_____	_____	N/A	%

Final page for worklist # 14207

Susie M. Sutton 10-23-96
Analyst Signature Date

Frederick Wilson 10-29-96
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.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 647 TO 652.

TGA STD 82N8A N2 File: 00023.001 TG METTLER 23-Oct-96
28.624 mg Rate: 10.0 °C/min Ident: 0.0 222-S Laboratory

S96T005256 N2

14.367 mg

Rate: 10.0 °C/min

File: 00031.001

TG METTLER

23-Oct-96

Ident: 0.0 222-S Laboratory

Step Analysis

Height -6.36 mg

-44.30 %

ResiC. 8.00 mg

55.70 %

Dpeak 79.0 °C

Step Analysis

Height -1.12 mg

-7.80 %

ResiC. 6.87 mg

47.85 %

Dpeak 175.0 °C

S96T005256 DUP N2
19.563 mg

Rate: 10.0 °C/min

File: 00033.001 TG METTLER 23-Oct-96
Ident: 0.0 222-S Laboratory

Step Analysis
Height -8.72 mg
-44.56 %
Resid. 10.85 mg
55.44 %
Dpeak 89.0 °C

Step Analysis
Height -1.43 mg
-7.31 %
Resid. 9.41 mg
48.09 %

S96T005257 N2

51.506 mg

Rate: 10.0 °C/min

File: 00017.001 TG METTLER 29-Oct-96

Ident: 0.0 222-S Laboratory

S96T005257 DUP N2

42.974 mg

Rate: 10.0 °C/min

File: 00018.001 TG METTLER 29-Oct-96

Ident: 0.0 222-S Laboratory

Step Analysis
Height-19.13 mg
-44.52 %
Resid. 23.80 mg
55.39 %
Dpeak 115.0 °C

Step Analysis
Height -3.19 mg
-7.41 %
Resid. 20.62 mg
47.97 %
Dpeak 163.0 °C

10. mg

100. 200. 300. 400. °C

LABCORE Data Entry Template for Worklist# 14208

Analyst: SME Instrument: TGA0 1 Book # 8208A

Method: LA-560-112 Rev/Mod C-0

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

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	LIQUID	<u>59.2</u>	<u>58.92</u>	<u>*</u>	<u>N/A</u> %
96001283	AN-104	2 SAMPLE	S96T005258	0	TGA-01	LIQUID	<u>N/A</u>	<u>51.92</u>		%
96001283	AN-104	3 DUP	S96T005258	0	TGA-01	LIQUID	<u>51.92</u>	<u>52.35</u>	<u>N/A</u>	%
96001283	AN-104	4 SAMPLE	S96T005260	0	TGA-01	LIQUID	<u>N/A</u>	<u>52.13</u>		%
96001283	AN-104	5 DUP	S96T005260	0	TGA-01	LIQUID	<u>52.13</u>	<u>51.77</u>	<u>N/A</u>	%

Final page for worklist # 14208

Susie M. Dutton 10-22-96
Analyst Signature Date

Z. R. O'Brien 10/24/96
Analyst Signature Date

Verified/Validated by
Blandina
Valenzuela
10-30-96

Data Entry Comments:

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 654 TO 658.

S96T005260 DUP N2

16.738 mg

Rate: 10.0 °C/min

File: 00017.001 TG METTLER 22-Oct-96
Ident: 0.0 222-S Laboratory

Step Analysis
Height -7.50 mg
-44.81 %
Resic. 9.24 mg
55.19 %
Dpeak 79.0 °C

Step Analysis
Height -1.16 mg
-6.96 %
Resic. 8.06 mg
48.18 %
Dpeak 179.0 °C

LABCORE Data Entry Template for Worklist# 14215

Analyst: SMF Instrument: TGA0 3 Book # 82N8A

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

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

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-03	SOLID	<u>59.2</u>	<u>58.76*</u>	<u>N/A</u>	%
96001174	AN-104	2 SAMPLE	S96T005249	0	TGA-03	SOLID	<u>N/A</u>	<u>50.75</u>		%
96001174	AN-104	3 DUP	S96T005249	0	TGA-03	SOLID	<u>50.75</u>	<u>48.65</u>	<u>N/A</u>	%
96001174	AN-104	4 SAMPLE	S96T005250	0	TGA-03	SOLID	<u>N/A</u>	<u>50.51</u>		%
96001174	AN-104	5 DUP	S96T005250	0	TGA-03	SOLID	<u>50.51</u>	<u>50.05</u>	<u>N/A</u>	%

Final page for worklist # 14215

See attached for signatures 10-23-96
Analyst Signature Date 88Y

Linda Mack 10-24-96
Analyst Signature Date

Verified/Validated by
Blandina Valenzuela 10-30-96

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 14215

Analyst: SMF Instrument: TGA0 Book # 8208A

Method: LA-560-112 Rev/Mod _____

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

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID			N/A	%
96001174	AN-104	2 SAMPLE	S96T005249	0	TGA-01	SOLID	N/A			%
96001174	AN-104	3 DUP	S96T005249	0	TGA-01	SOLID			N/A	%
96001174	AN-104	4 SAMPLE	S96T005250	0	TGA-01	SOLID	N/A			%
96001174	AN-104	5 DUP	S96T005250	0	TGA-01	SOLID			N/A	%

Final page for worklist # 14215

Lucie M. Fulton 10-22-96
Analyst Signature Date

Analyst Signature Date

TGA-03 instrument
was used.

10-30-96

Blandina
Valenzuela

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: TER102201 Tue Oct 22 05:42:22 1996
 Sample Weight: 24.500 mg
 TGA STD 82N8-A

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 661 TO 665

N2 10C/MIN
 TGA STD 82N8-A
 0.0 min RATE: 10.0 C/min
 TIME: 0.0
 Temperature (°C)
 JD SPELLMAN
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Tue Oct 22 19:41:34 1996

Curve 1: TGA
File Info: SAM102207 Tue Oct 22 21:32:13 1996
Sample Weight: 13.934 mg
S96T005249

SM FULTON
PERKIN-ELMER
7 Series Thermal Analysis System
Tue Oct 22 22:00:15 1996

100/MIN N2
TEMP 500.0 °C
TIME 0.0 min RATE: 10.0 °C/min

Curve 1: TGA

File Info: SAM102205 Tue Oct 22 18:32:43 1996

Sample Weight: 15.253 mg

S96T005250

SM FULTON
PERKIN-ELMER
7 Series Thermal Analysis System
Tue Oct 22 19:23:00 1996

Curve 1: TGA
 File info: SAM102206 Tue Oct 22 20: 47 1996
 Sample Weight: 11.996 mg
 SS6T005250 DUP

10C/MIN N2
 TEMP: 25.0 °C
 TIME: 0.0 min RATE: 10.0 °C/min
 SM FULTON
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Tue Oct 22 20: 53 1996

LABCORE Data Entry Template for Worklist# 14229

Analyst: SMF Instrument: TGA0 3 Book # 82N8BMethod: LA-514-114 Rev/Mod D-0

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

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-03	SOLID	<u>59.2</u>	<u>58.76</u>	<u>*</u>	<u>N/A</u> %
96001283	AN-104	2 SAMPLE	S96T005269	0	TGA-03	SOLID	<u>N/A</u>	<u>42.53</u>		%
96001283	AN-104	3 DUP	S96T005269	0	TGA-03	SOLID	<u>42.53</u>	<u>41.69</u>	<u>N/A</u>	%
96001283	AN-104	4 SAMPLE	S96T005270	0	TGA-03	SOLID	<u>N/A</u>	<u>50.56</u>		%
96001283	AN-104	5 DUP	S96T005270	0	TGA-03	SOLID	<u>50.56</u>	<u>51.34</u>	<u>N/A</u>	%

Final page for worklist # 14229

See attached for signatures

Analyst Signature SMF Date 10-23-967.2.0 Kenon 10/24/96
Analyst Signature DateVerified/validated by
Blandina
Valenzuela 10-30-96

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 14229

Analyst: SAF/MS Instrument: TGA0 1 Book # 82128BMethod: LA-560-112 Rev/Mod C-0

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

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID			N/A	%
96001283	AN-104	2 SAMPLE	S96T005269	0	TGA-01	SOLID	N/A			%
96001283	AN-104	3 DUP	S96T005269	0	TGA-01	SOLID			N/A	%
96001283	AN-104	4 SAMPLE	S96T005270	0	TGA-01	SOLID	N/A			%
96001283	AN-104	5 DUP	S96T005270	0	TGA-01	SOLID			N/A	%

Final page for worklist # 14229

Lusie M. Dalton 10-23-96
Analyst Signature Date

SAF 10-23-96
Analyst Signature Date

TGA-01 instrument
was used.

10-23-96

Blandina

Valenzuela

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: TER102201 Tue Oct 22 05:42:22 1996
 Sample Weight: 24.500 mg
 TGA STD 82N8-A

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1118 TO 1122.

N2 10C/MIN
 Temp: 250.0 °C
 Time: 0.0 min RATE: 10.0 °C/min
 JD SPELLMAN
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Tue Oct 22 19:41:34 1996

Curve 1: TGA
 File info: SAM102211 Wed Oct 23 01:35:33 1996
 Sample Weight: 35.600 mg
 S96T005269

SM FULTON
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Wed Oct 23 02:20:39 1996

Curve 1: TGA
File Info: SAK102212 Wed Oct 23 03:20:37 1996
Sample Weight: 33.435 mg
S96T005269 DUP

SN FULTON
PERKIN-ELMER
7 Series Thermal Analysis System
Wed Oct 23 03:36:36 1996

Curve 1: TGA

File Info: SAM102301 Wed Oct 23 06:37:03 1996

Sample Weight: 30.115 mg

S96T005270

J.D. SPELLMAN
PERKIN-ELMER
7 Series Thermal Analysis System
Wed Oct 23 08:46:05 1996

worklist rpt Version 2.1 05/15/95
10/29/96 11:07

LABCORE Data Entry Template for Worklist# 14230

Analyst: SME Instrument: TGA0 1 Book # 82N8A

Method: LA-560-112 Rev/Mod C-0

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

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID	<u>59.2</u>	<u>58.92*</u>	<u>N/A</u>	%
96001283	AN-104	2 SAMPLE	S96T005271 0		TGA-01	SOLID	<u>N/A</u>	<u>50.23</u>		%
96001283	AN-104	3 DUP	S96T005271 0		TGA-01	SOLID	<u>50.23</u>	<u>45.36</u>	<u>N/A</u>	%
		4 STD			TGA-01	SOLID	<u>59.2</u>	<u>58.99</u>	<u>N/A</u>	%
96001283	AN-104	5 SAMPLE	S96T005272 0		TGA-01	SOLID	<u>N/A</u>	<u>46.27</u>		%
96001283	AN-104	6 DUP	S96T005272 0		TGA-01	SOLID	<u>46.27</u>	<u>43.9</u>	<u>N/A</u>	%

Final page for worklist # 14230

See attached for signatures
Analyst Signature

Date

10-29-96

BDY

John Mark 10-30-96
Analyst Signature Date

Verified

Validated by

Blasidina

Valeznuela 11-1-96

Data Entry Comments:

S96T005271 results are the sum of two weight loss steps

S96T005272 results are the sum of two weight loss steps.

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# 14230

Analyst: SME/ld Instrument: TGA0 Book # 8208A

Method: LA-560-112 Rev/Mod _____

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

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID			N/A	%
96001283	AN-104	2 SAMPLE	S96T005271	0	TGA-01	SOLID	N/A			%
96001283	AN-104	3 DUP	S96T005271	0	TGA-01	SOLID			N/A	%
96001283	AN-104	4 SAMPLE	S96T005272	0	TGA-01	SOLID	N/A			%
96001283	AN-104	5 DUP	S96T005272	0	TGA-01	SOLID			N/A	%

Final page for worklist # 14230

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.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 675 TO 680.

TGA STD 82NBA N2

31.516 mg

Rate: 10.0 °C/min

File: 00002.001 TG METTLER 22-Oct-96

Ident: 0.0 222-S Laboratory

Step Analysis
Height-18.57 mg
-58.92 %
Resid. 12.95 mg
41.08 %
Dpeak 100.8°C

S96T005272 DUP N2
25.633 mg

Rate: 10.0 °C/min

File: 00029.001

TG

METTLER

23-Oct-96

Ident: 0.0

222-S Laboratory

Step Analysis
Height -9.57 mg
-37.32 %
ResidC. 16.03 mg
62.55 %

Step Analysis
Height -1.69 mg
-6.58 %
ResidC. 14.33 mg
55.92 %
Dpeak 193.0 °C

LABCORE Completed Worklist Report for Worklist# 14856

Analyst: smf

Instrument: TGA01

Book# 82N8A

Method: LA-560-112 Rev/Mod C-0

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

Seq	Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD	0		TGA-01	LIQUID	5.92801	59.08	99.797 % Recovery	
2	SAMPLE	S96T005527	0	TGA-01	LIQUID	N/A	52.09	%	
3	DUP	S96T005527	0	TGA-01	LIQUID	52.09	52.01	0.154 RPD	
4	SAMPLE	S96T005528	0	TGA-01	LIQUID	N/A	51.77	%	
5	DUP	S96T005528	0	TGA-01	LIQUID	51.77	52.41	1.229 RPD	
6	SAMPLE	S96T005554	0	TGA-01	LIQUID	N/A	52.41	%	
7	DUP	S96T005554	0	TGA-01	LIQUID	52.41	52.27	0.267 RPD	

Final page for worklist# 14856

See attached for signatures 11-27-96
Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Blandina Valenzuela 11-27-96
Reviewer Signature _____ Date _____

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 682 TO 688.

TGA STD 82N8A

15.907 mg

F11e: 00009.001 TG METTLER 16-Nov-96

Rate: 10.0 °C/min Ident: 0.0 222-S Laboratory

Step Analysis

Height -9.40 mg

-59.08 %

Resid. 6.51 mg

40.92 %

Dpeak 81.7 °C

Lucia M. Sullivan 2009 Nov 11:16:38

S96T005528 DUP N2

13.807 mg

Rate: 10.0 °C/min

File: 00017.001 TG METTLER 16-Nov-96

Ident: 0.0 222-S Laboratory

Step Analysis

Height -6.30 mg

-45.66 %

ResidC. 7.50 mg

54.34 %

Dpeak 79.0 °C

Step Analysis

Height -0.93 mg

-6.75 %

ResidC. 6.56 mg

47.48 %

Dpeak 171.0 °C

S96T005554 N2

14.806 mg

Rate: 10.0 °C/min

File: 00019.001

TG METTLER

16-Nov-96

Ident: 0.0 222-S Laboratory

Step Analysis

Height -6.59 mg

-44.53 %

Resid. 8.21 mg

55.47 %

Dpeak 81.0 °C

Step Analysis

Height -1.17 mg

-7.88 %

Resid. 7.05 mg

47.60 %

Dpeak 177.0 °C

S96T005554 DUP N2

11.346 mg

Rate: 10.0 °C/min

File: 00021.001

TG

METTLER

16-Nov-96

Ident: 0.0

222-S Laboratory

LABCORE Data Entry Template for Worklist# 14857

Analyst: RG Instrument: TGA0 3 Book # 82N8A

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

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

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-03	LIQUID	<u>59.2</u>	<u>58.82*</u>	<u>N/A</u>	%
96001283	AN-104	2 SAMPLE	S96T005739	0	TGA-03	LIQUID	<u>N/A</u>	<u>50.94</u>		%
96001283	AN-104	3 DUP	S96T005739	0	TGA-03	LIQUID	<u>50.94</u>	<u>50.26</u>	<u>N/A</u>	%
96001283	AN-104	4 SAMPLE	S96T005741	0	TGA-03	LIQUID	<u>N/A</u>	<u>51.55</u>		%
96001283	AN-104	5 DUP	S96T005741	0	TGA-03	LIQUID	<u>51.55</u>	<u>34.29</u>	<u>N/A</u>	%
96001283	AN-104	6 SAMPLE	S96T005766	0	TGA-03	LIQUID	<u>N/A</u>	<u>52.44</u>		%
96001283	AN-104	7 DUP	S96T005766	0	TGA-03	LIQUID	<u>52.44</u>	<u>52.71</u>	<u>N/A</u>	%

Final page for worklist # 14857

See attached for signatures
Analyst Signature RG Date 11-19-96

RD 11/21/96
Analyst Signature Date

Verified/Validated by

Blandina
Valenzuela 11-27-96

S96T005739 results are the sum of two weight loss steps.

Data Entry Comments:

S96T005741 results are the sum of two weight loss steps
the sample should be rerun because of such a large difference between
sample and duplicate. S96T005741 rerun on worklist #15404

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.

S96T005766 results are the sum of two weight loss steps.

LABCORE Data Entry Template for Worklist# 14857

Analyst: RGA Instrument: TGA0 Book # 8218-A

Method: LA-560-112 Rev/Mod

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

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	LIQUID			N/A	%
96001283	AN-104	2 SAMPLE	S96T005739	0	TGA-01	LIQUID	N/A			%
96001283	AN-104	3 DUP	S96T005739	0	TGA-01	LIQUID			N/A	%
96001283	AN-104	4 SAMPLE	S96T005741	0	TGA-01	LIQUID	N/A			%
96001283	AN-104	5 DUP	S96T005741	0	TGA-01	LIQUID			N/A	%
96001283	AN-104	6 SAMPLE	S96T005766	0	TGA-01	LIQUID	N/A			%
96001283	AN-104	7 DUP	S96T005766	0	TGA-01	LIQUID			N/A	%

Final page for worklist # 14857

[Signature]
Analyst Signature

11-16-96
Date

Analyst Signature

Date

TGA-03 instrument
was used.

11-19-96

Blandina
Valenzuela

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: TER111601 Sat Nov 16 05:18:19 1996
 Sample Weight: 18.315 mg
 TGA STD 82NB-A

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 141 TO 147.

1 TGA STD 82NB-A TER111601

% Weight (wt. %)

N2 10C/MIN

TEMP: 35.0 °C
 TIME: 300.0 s

0.0 min RATE: 10.0 C/min

Temperature (°C)

SM FULTON
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Nov 17 00:10:31 1996

Signature 5/20/97

Curve 1: TGA
File info: SAM
Sample Weight: 10.912 mg
996T005738

Sat Nov 16 18:28:49 1996

RG ACHEN
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Nov 17 00:16:17 1996

10C/MIN N2
TEMP: 55.0 C
TIME: 0.0 min RATE: 10.0 C/min

Curve 1: TGA
File Info: DUP110606 Sat Nov 16 19:38:46 1996
Sample Weight: 16.201 mg
9961005750 DUP

RS ACHEN
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Nov 17 00:32:24 1996

Curve 1: TGA
 File info: SAM1110607 Sat Nov 16 21: 05: 27 1996
 Sample Weight: 15.022 mg
 SS6T005741 SAM

10C/MIN N2
 TEMP: 55.0 C
 TIME: 0.0 min RATE: 10.0 C/min
 RG ACHEN
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Nov 17 00: 39: 58 1996

Curve 1: TGA

File Info: DUP1110608 Sat Nov 16 22:22:40 1996

Sample Weight: 15.022 mg

S96T005741 DUP

10C/MIN N2

TEMPLE 28.0 g

TIME: 0.0 min

RATE: 10.0 C/min

PERKIN-ELMER

7 Series Thermal Analysis System

Sun Nov 17 00:48:11 1996

Curve 1: TGA
File Info: SAM110609 Sun Nov 17 00:29:54 1996
Sample Weight: 6.849 mg
S96T005766 SAM

10C/MIN N2
TEMP: 350.8 °C
TIME: 8
0.0 min RATE: 40.0 C/min
Temperature (°C)
RIS ACHEN
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Nov 17 01:27:01 1996

Curves 1: TGA

File Info: DUP1110610 Sun Nov 17 02:02:12 1996

Sample Weight: 13.549 mg

S96T005766 SAM

RGA
11-17-96
Dup

10C/MIN N2

TEMP: 38.0 °C
TIME: 600.0 s

0.0 min RATE: 10.0 C/min

Temperature (°C)

RG ACHEN
PERKIN-ELMER7 Series Thermal Analysis System
Sun Nov 17 02:24:57 1996

LABCORE Data Entry Template for Worklist# 14858

Analyst: SMF Instrument: TGA0 3 Book # 8218A

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

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

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-03	SOLID	<u>59.2</u>	<u>58.18</u>	<u>81</u>	<u>11-18-96</u>
96001283	AN-104	2 SAMPLE	S96T005548	0	TGA-03	SOLID	<u>N/A</u>	<u>40.80</u>		%
96001283	AN-104	3 DUP	S96T005548	0	TGA-03	SOLID	<u>40.80</u>	<u>40.98</u>		%
96001283	AN-104	4 SAMPLE	S96T005549	0	TGA-03	SOLID	<u>N/A</u>	<u>41.27</u>		%
96001283	AN-104	5 DUP	S96T005549	0	TGA-03	SOLID	<u>41.27</u>	<u>40.91</u>		%

Final page for worklist # 14858

See attached for signature
Analyst Signature 11-18-96 Date

11-21-96
Analyst Signature Date

Verified / Validated by

Blandina
Valenzuela 12-2-96

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 14858

Analyst:

SUF

Instrument: TGA0

Book #

82A28A

Method: LA-560-112 Rev/Mod

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

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID			N/A	%
96001283	AN-104	2 SAMPLE	S96T005548	0	TGA-01	SOLID	N/A			%
96001283	AN-104	3 DUP	S96T005548	0	TGA-01	SOLID			N/A	%
96001283	AN-104	4 SAMPLE	S96T005549	0	TGA-01	SOLID	N/A			%
96001283	AN-104	5 DUP	S96T005549	0	TGA-01	SOLID			N/A	%

Final page for worklist # 14858

Susi M. Pullen 11.16.96
Analyst Signature Date

Analyst Signature

Date

Data Entry Comments:

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

Curve 1: TGA
 File Info: TER111601 Sat Nov 16 05:18:19 1996
 Sample Weight: 18.315 mg
 TGA STD 828-A

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 102 TO 104

Curve 1: TGA
File Info: SAM111601 Sat Nov 16 08:23:33 1996
Sample Weight: 25.456 mg
S96T005548

10C/MIN N2
TEMP: 25.0 °C
TIME: 00:00
0.0 min RATE: 10.0 C/min
SM FULTON
PERKIN-ELMER
7 Series Thermal Analysis System
Sat Nov 16 08:25:17 1996

Curve 1: 5A
 File info: SAM11602 Sat Nov 16 09: 41: 22 1996
 Sample Weight: 22.937 mg
 S96T005643 DUP

100/MIN N2
 TEMPERATURE
 500 3 8
 500 3 8
 0.0 min RATE: 10.0 C/min
 SM FULTON
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sat Nov 16 09: 47: 23 1996

Curve 1: TGA
 File Info: SAM111603 Sat Nov 16 10:47:50 1996
 Sample Weight: 24.557 mg
 S967005543

SM FULTON
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sat Nov 16 11:38:11 1996

100/MIN N2
 TIME: 0.0 min RATE: 10.0 C/min
 TEMPERATURE: 180.716°C

Curve 1: "GA"
 File Info: SAH111604 Sat Nov 16 12:33:07 1996
 Sample We. ght: 17.407 mg
 S96T005540 DUP

100/MIN N2
 TEMPERATURE 50.0 °C
 TIME 0.0 min RATE 10.0 C/min
 SM FULTON
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sat Nov 16 13:12:16 1996

LABCORE Completed Worklist Report for Worklist# 14859

Analyst: dcd

Instrument: TGA03

Book# 82N8A

Method: LA-660-112 Rev/Mod C-0

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

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD		0	TGA-03	SOLID	5.92±0.01	58.77	99.274 % Recovery	
2 SAMPLE	S96T005743	0	TGA-03	SOLID	N/A	44.54	%	
3 DUP	S96T005743	0	TGA-03	SOLID	44.54	46.36	4.004 RPD	
4 SAMPLE	S96T005744	0	TGA-03	SOLID	N/A	44.40	%	
5 DUP	S96T005744	0	TGA-03	SOLID	44.40	43.19	2.763 RPD	

Comments Section:

Comments for sample# S96T005743 and test TGA-03 .
S96T005743 results are the sum of two weight loss steps.

Comments for sample# S96T005744 and test TGA-03 .
S96T005744 results are the sum of two weight loss steps.

Final page for worklist# 14859

See attached for signature 11-27-96
Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Blandina Valenzuela 11-27-96
Reviewer Signature _____ Date _____

LABCORE Data Entry Template for Worklist # 14859

Analyst: DGD Instrument: TGA0 Peak # B2A18A

Method: LA-560-112 Rev/Mod _____

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

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID			N/A	%
96001283	AN-104	2 SAMPLE	S96T005743	0	TGA-01	SOLID	N/A			%
96001283	AN-104	3 DUP	S96T005743	0	TGA-01	SOLID			N/A	%
96001283	AN-104	4 SAMPLE	S96T005744	0	TGA-01	SOLID	N/A			%
96001283	AN-104	5 DUP	S96T005744	0	TGA-01	SOLID			N/A	%

Final page for worklist # 14859

David D. Dunbar
Analyst Signature

11-17-96
Date

Analyst Signature

Date

Data Entry Comments:

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

Curve 1: TGA
 File Info: TGA11701 Sun Nov 17 08:32:22 1996
 Sample Weight: 19.213 mg
 TGA STD 6113-A

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 707 TO 711

N2 100 ml/min
 Temp: 300.0
 Time: 8
 Rate: 0.0 min RATE: 10.0 C/min
 Temperature (°C)
 DC DUNHAM
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Nov 17 09:02:20 1996

Curve 1: 1A
 File Info 3AM11701 Sun Nov 17 12:24:39 1996
 Sample Weight: 21.356 mg
 596T0057/ 3AM

10C/°C N2
 RATE 0.0 min RATE: 10.0 C/min
 TIMES 8
 DC DUNHAM
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Nov 17 12:33:33 1996

Curve 1: 0A
 File Info: 3AM11702 Sun Nov 17 13:34:30 1986
 Sample No: 17.860 mg
 536T0057.0 DUP

10C/100N N2
 RATE: 10.0
 TIME: 0.0
 400.0

DC DUNHAM
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Nov 17 14:44:33 1986

Curve 1: 0.33

File info CAM14703 Sun Nov 17 15:20:13 1996

Sample No.: 14.930 mg

593T00574 3AM

DC DUNHAM
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Nov 17 17:30:08 1996

10.0 MIN RATE: 10.0 C/min

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Curve 4: 13A
 File Info: SAM11704 Sun Nov 17 16:25:12 1996
 Sample No.: 30t: 15.502 mg
 SS31005743 DUP

10C/MIN N2
 TIME: 0.0 min RATE: 40.0 C/min
 DC DUNHAM
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Nov 17 17:21:34 1996

LABCORE Data Entry Template for Worklist# 14860

Analyst: DJD Instrument: TGA0 1 Book # 82N8AMethod: LA-560-112 Rev/Mod C-0

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

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID	<u>59.2</u>	<u>59.12</u>	<u>*</u>	<u>N/A</u> %
96001283	AN-104	2. SAMPLE	S96T005771	0	TGA-01	SOLID	<u>N/A</u>	<u>46.83</u>		%
96001283	AN-104	3 DUP	S96T005771	0	TGA-01	SOLID	<u>46.83</u>	<u>47.15</u>	<u>N/A</u>	%
96001283	AN-104	4. SAMPLE	S96T005772	0	TGA-01	SOLID	<u>N/A</u>	<u>40.95</u>		%
96001283	AN-104	5 DUP	S96T005772	0	TGA-01	SOLID	<u>40.95</u>	<u>41.57</u>	<u>N/A</u>	%
96001283	AN-104	6. SAMPLE	S96T005773	0	TGA-01	SOLID	<u>N/A</u>	<u>39.90</u>		%
96001283	AN-104	7 DUP	S96T005773	0	TGA-01	SOLID	<u>39.90</u>	<u>40.85</u>	<u>N/A</u>	%

Final page for worklist # 14860

Daniel J. Dulaney 11-19-96
Analyst Signature Date

RH Blandina 11/21/96
Analyst Signature Date

Verified/Validated by

Blandina

Valenzuela 11-27-96

S96T005771 results are the sum of two weight loss steps.

Data Entry Comments: S96T005772 results are the sum of two weight loss steps

S96T005773 results are the sum of two weight loss steps.

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 713 TO 714

S96T005772 SAM N2

24.559 mg

Rate: 10.0 °C/min

File: 00028.001

TG METTLER

19-Nov-96

Ident: 0.0 222-S Laboratory

Step Analysis
Height-10.06 mg
-40.95 %
Resid. 14.50 mg
59.05 %
Dpeak 109.0 °C

S96T005773 SAM N2

27.946 mg

Rate: 10.0 °C/min

File: 00032.001

TG METTLER

20-Nov-96

Ident: 0.0 222-S Laboratory

Step Analysis
Height-11.15 mg
-39.90 %
Resid. 16.80 mg
60.10 %
Dpeak 121.0 °C

S96T005773 DUP. N2

14.232 mg

Rate: 10.0 °C/min

File: 00034.001 TG METTLER 20-Nov-96
Ident: 0.0 222-s Laboratory

Step Analysis

Height -2.02 mg

-14.21 %

Resic. 12.21 mg

85.79 %

Step Analysis

Height -3.79 mg

-26.64 %

Resic. 8.42 mg

59.14 %

Dpeak 103.0 °C

LABCORE Data Entry Template for Worklist# 15404

Analyst: ADP Instrument: TGA0 3 Book # 82N8AMethod: LA-514-114 Rev/Mod D-0

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

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-03	LIQUID	<u>59.2</u>	<u>58.00</u>	<u>N/A</u>	%
96001283	AN-104	2 SAMPLE	S96T005741	1	TGA-03	LIQUID	<u>N/A</u>	<u>51.77</u>		%
96001283	AN-104	3 DUP	S96T005741	1	TGA-03	LIQUID	<u>51.77</u>	<u>51.18</u>	<u>N/A</u>	%

Final page for worklist # 15404

Analyst Signature Anthony Purvitt Date 12-5-96

Analyst Signature _____ Date _____

Data Entry Comments:

Sample results are the sum of ^{three} ~~two~~ weight loss steps.

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: TER120501 Thu Dec 5 12:35:48 1996
 Sample Weight: 21.718 mg
 TGA STD 82N8-A

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 721 TO 723

AD PURINTON
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Thu Dec 5 12:43:17 1996

Temperature (°C)

N2 10C/MIN
 THERM 300.0 °C
 TIME: 0.0 min RATE: 10.0 °C/min

Curve 1: TGA
File info: SAM120501 Thu Dec 5 13:50:46 1996
Sample Weight: 18.038 mg
S96T005741 SAM

AD PURINTON
PERKIN-ELMER
7 Series Thermal Analysis System
Thu Dec 5 14:09:14 1996

10C/MIN N2
TEMP: 55.8 C
TIME: 60.8 S
0.0 min RATE: 10.0 C/min

Curve 1: TGA
File info: SAM120502 Thu Dec 5 14:59:47 1996
Sample Weight: 19.451 mg
S96T005741 DUP

10C/MIN N2
TEMP: 35.0 C
TIME: 0.0 min RATE: 10.0 C/min
AD PURINTON
PERKIN-ELMER
7 Series Thermal Analysis System
Thu Dec 5 15:07:22 1996

LABCORE Data Entry Template for Worklist# 15574

Analyst: PJM Instrument: TGA0 3 Book # 97N8A

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

Worklist Comment: TGA-01 FOR AN-104 PLEASE RUN UNDER N2 RTS!

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-03	LIQUID	<u>59.4</u>	<u>58.52</u>	<u>N/A</u>	%
96001174	AN-104	2 SAMPLE	S96T005978	0	TGA-03	LIQUID	<u>N/A</u>	<u>50.86</u>		%
96001174	AN-104	3 DUP	S96T005978	0	TGA-03	LIQUID	<u>50.86</u>	<u>51.37</u>	<u>N/A</u>	%

Final page for worklist # 15574

See attached for signatures 12-31-96
Analyst Signature PJM Date

Analyst Signature _____ Date

Verified/Validated by

Blandina

Valenzuela 1-3-97

1-3-97 ROW

Data Entry Comments:

LABCORE Data Entry Template for Worklist# 15574

Analyst: RM Instrument: TGA0 _____ Book # 97N8A

Method: LA-560-112 Rev/Mod _____

Worklist Comment: TGA-01 FOR AN-104 PLEASE RUN UNDER N2 RTS!

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	LIQUID	_____	_____	N/A	%
96001174	AN-104	2 SAMPLE	S96T005978	0	TGA-01	LIQUID	N/A	_____	_____	%
96001174	AN-104	3 DUP	S96T005978	0	TGA-01	LIQUID	_____	_____	N/A	%

Final page for worklist # 15574

RM 12/27/96
Analyst Signature Date

Analyst Signature Date

TGA-03 instrument was
used. 1-2-97

Blandina
Valenzuela

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: TER122701 Fri Dec 27 06:40:34 1996
 Sample Weight: 19.652 mg
 TGA STD 97N8-A

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 722 TO 728

PJ MCCOHN
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Fri Dec 27 07:35:29 1996

N2 10C/MIN
 TEMP: 35.0 °C
 TIME: 300.0 S
 0.0 min RATE: 10.0 C/min

Curve 1: TGA

File Info: SAM122701 Fri Dec 27 09:22 1996

Sample Weight: 16.617 mg

S96T005978

10C/MIN N2

TEMP: 55.0 °C
TEMP: 500.0 °C

TIME: 0.0 min RATE: 10.0 C/min

Temperature (°C)

PJ MCCOIN

PERKIN-ELMER

7 Series Thermal Analysis System
Fri Dec 27 09:22 1996

Curve 1: TGA
 File info: SAM122702 Fri Dec 27 10:31:02 1996
 Sample Weight: 17.868 mg
 S96T005978 DUP

10C/MIN N2
 TEMPERATURE 300.0 °C
 TIME: 0.0 min RATE: 10.0 C/min
 PJ MCCONN
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Fri Dec 27 11:54:35 1996

LABCORE Data Entry Template for Worklist# 15575

Analyst: Bme Instrument: TGA0 1 Book # 97N8-A

Method: LA-560-112 Rev/Mod C-0

Worklist Comment: TGA-01 FOR AN-104 PLEASE RUN UNDER N2 RTS!

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID	<u>59.4</u>	<u>59.56</u>	<u>N/A</u>	%
96001174	AN-104	2 SAMPLE	S96T005972	0	TGA-01	SOLID	<u>N/A</u>	<u>45.25</u>		%
96001174	AN-104	3 DUP	S96T005972	0	TGA-01	SOLID	<u>45.25</u>	<u>36.54</u>	<u>N/A</u>	%

Final page for worklist # 15575

Bme Corn 1/2/97
Analyst Signature Date

Analyst Signature Date

Verified/Validated by
1/2/97

Blandina
Valenzuela 1-6-97

Data Entry Comments: Results are the sum of two weight loss steps

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 232 TO 232.

TGA STD 97N8-A N2

21.383 mg

Rate: 10.0 °C/min

File: 00006.001 TG METTLER 02-Jan-97

Ident: 0.0 222-S Laboratory

DeLeon 1/2/97

Step Analysis

Height-12.74 mg

-59.56 %

Resid. 8.65 mg

40.44 %

Dpeak 95.8 °C

S96T005972 SAM N2

37.490 mg

Rate: 10.0 °C/min

File: 00002.001 TG METTLER 02-Jan-97

Ident: 0.0

222-S Laboratory

P4

Step Analysis

Height-13.45 mg

-35.89 %

Resic. 24.04 mg

64.11 %

Dpeak 127.0 °C

Step Analysis

Height -3.51 mg

-9.36 %

Resic. 20.52 mg

54.75 %

S96T005972 DUP N2
12.928 mg
Rate: 10.0 °C/min
File: 00004.001 TG METTLER 02-Jan-97
Ident: 0.0 222-S Laboratory

Step Analysis
Height -3.81 mg
-29.46 %
Resid. 9.12 mg
70.54 %

Step Analysis
Height -0.92 mg
-7.08 %
Resid. 8.20 mg
63.46 %
Dpeak 181.0 °C

LABCORE Data Entry Template for Worklist# 13635

Analyst: RM Instrument: BA001 Book # 133N/16A

Method: LA-510-112 Rev/Mod C-3

Worklist Comment: spg for an-104 rts

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			SPG-01	LIQUID	<u>1.39755</u>	<u>1.384</u>	<u>N/A</u>	Sp.G.
96001174	AN-104	2 SAMPLE	S96T004774	0	SPG-01	LIQUID	<u>N/A</u>	<u>1.442</u>	<u>0.010</u>	Sp.G.
96001174	AN-104	3 DUP	S96T004774	0	SPG-01	LIQUID	<u>1.442</u>	<u>1.414</u>	<u>N/A</u>	Sp.G.
96001174	AN-104	4 SAMPLE	S96T004778	0	SPG-01	LIQUID	<u>N/A</u>	<u>1.384</u>	<u>0.010</u>	Sp.G.
96001174	AN-104	5 DUP	S96T004778	0	SPG-01	LIQUID	<u>1.384</u>	<u>1.399</u>	<u>N/A</u>	Sp.G.
96001174	AN-104	6 SAMPLE	S96T004779	0	SPG-01	LIQUID	<u>N/A</u>	<u>1.407</u>	<u>0.010</u>	Sp.G.
96001174	AN-104	7 DUP	S96T004779	0	SPG-01	LIQUID	<u>1.407</u>	<u>1.396</u>	<u>N/A</u>	Sp.G.
96001174	AN-104	8 SAMPLE	S96T004780	0	SPG-01	LIQUID	<u>N/A</u>	<u>1.415</u>	<u>0.010</u>	Sp.G.
96001174	AN-104	9 DUP	S96T004780	0	SPG-01	LIQUID	<u>1.415</u>	<u>1.416</u>	<u>N/A</u>	Sp.G.
96001174	AN-104	10 SAMPLE	S96T004781	0	SPG-01	LIQUID	<u>N/A</u>	<u>1.412</u>	<u>0.010</u>	Sp.G.
96001174	AN-104	11 DUP	S96T004781	0	SPG-01	LIQUID	<u>1.412</u>	<u>1.412</u>	<u>N/A</u>	Sp.G.
96001174	AN-104	12 SAMPLE	S96T004782	0	SPG-01	LIQUID	<u>N/A</u>	<u>1.406</u>	<u>0.010</u>	Sp.G.
96001174	AN-104	13 DUP	S96T004782	0	SPG-01	LIQUID	<u>1.406</u>	<u>1.421</u>	<u>N/A</u>	Sp.G.
96001174	AN-104	14 SAMPLE	S96T004783	0	SPG-01	LIQUID	<u>N/A</u>	<u>1.419</u>	<u>0.010</u>	Sp.G.
96001174	AN-104	15 DUP	S96T004783	0	SPG-01	LIQUID	<u>1.419</u>	<u>1.422</u>	<u>N/A</u>	Sp.G.
96001174	AN-104	16 SAMPLE	S96T004784	0	SPG-01	LIQUID	<u>N/A</u>	<u>1.380</u>	<u>0.010</u>	Sp.G.
96001174	AN-104	17 DUP	S96T004784	0	SPG-01	LIQUID	<u>1.380</u>	<u>1.399</u>	<u>N/A</u>	Sp.G.
96001174	AN-104	18 SAMPLE	S96T004976	0	SPG-01	LIQUID	<u>N/A</u>	<u>1.418</u> <u>1.401</u>	<u>0.010</u>	Sp.G.

ROWS
1/16/97

Data Entry Comments:

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

worklistrpt Version 2.1 05/15/95
01/14/97 06:10

Page: 2

LABCORE Data Entry Template for Worklist# 13635

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
96001174	AN-104	19 DUP	S96T004976	0	SPG-01	LIQUID	1.418 1.408	1.403	N/A	Sp.G.
96001174	AN-104	20 SAMPLE	S96T004977	0	SPG-01	LIQUID	N/A	1.408	0.010	Sp.G.
96001174	AN-104	21 DUP	S96T004977	0	SPG-01	LIQUID	1.408	1.408	N/A	Sp.G.
96001174	AN-104	22 SAMPLE	S96T004978	0	SPG-01	LIQUID	N/A	1.414	0.010	Sp.G.
96001174	AN-104	23 DUP	S96T004978	0	SPG-01	LIQUID	1.414	1.409	N/A	Sp.G.
96001174	AN-104	24 SAMPLE	S96T004979	0	SPG-01	LIQUID	N/A	1.383	0.010	Sp.G.
96001174	AN-104	25 DUP	S96T004979	0	SPG-01	LIQUID	1.383	1.377	N/A	Sp.G.

Final page for worklist # 13635

R. M. M. M. 1/14/97
Analyst Signature Date

Thy. L. M. M. 1-15-97
Analyst Signature Date
Approved R. W. Schneer
1/16/97

Data Entry Comments:

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

HNF-SD-WM-DP-226, REV. 0
SPECIFIC GRAVITY ANALYSIS

1.8773 g STD 1.746

1.9036 g STD 1

1.8667 g BIK 1

1.9193 g BIK 1

2.2209 g STD 6

2.2538 g STD 6

2.1142 g BIK 6

2.1656 g BIK 6

1.9129 g 74

1.8798 g 74D

1.8869 g 78

1.9879 g 78D

1.8852 g 74

1.8493 g 74D

1.8959 g 84

1.8893 g 84D

2.2737 g 74

2.2336 g 74D

2.2333 g 78

2.2588 g 78D

2.2373 g 74

2.1987 g 74D

2.2414 g 84

2.2395 g 84D

1.8089 g 80

1.8124 g 80D

1.8487 g 81

1.8491 g 81D

1.8873 g 82

1.8964 g 82D

1.8928 g 83

1.9017 g 83D

2.1638 g 80

2.1669 g 80D

2.2028 g 81

2.2025 g 81D

2.2391 g 82

2.2521 g 82D

2.2478 g 83

2.2577 g 83D

1.8878 g 76

1.9216 g 76D

1.8714 g 77

1.8678 g 77D

1.8754 g 78

1.8391 g 78D

1.9111 g 74

1.8624 g 74D

2.2428 g 76

2.2728 g 76D

2.2238 g 77

2.2202 g 77D

2.2294 g 78

2.1917 g 78D

2.2573 g 74

2.2871 g 74D

SPECIFIC GRAVITY: LA-510-112 (C-3)

WORKLIST
#

13635

ANALYST
INITIALS

8/8/81

ANALYSIS
DATE

1/14/97

INSTRUMENT
CODE☒ SAMPLE
☐ STANDARD☐ DUPLICATE

SAMPLE # =

1.8 ^{cm} 114

8/113

TARE WEIGHT (g)

2.4209

GROSS WEIGHT (g)

2.5028

VOL. of SOLUTION (mL)

2.5028

REPLICATE
1.9036
0.9530
-1.5028

STD # =

☐ SAMPLE
☐ STANDARD☐ DUPLICATE

SAMPLE # =

1.8667

2.1142

TARE WEIGHT (g)

2.1142

GROSS WEIGHT (g)

2.1656

VOL. of SOLUTION (mL)

2.5028

REPLICATE
1.9193
2.1656
-2.5028

STD # =

☒ SAMPLE
☐ STANDARD☐ DUPLICATE

SAMPLE # =

5967004774

TARE WEIGHT (g)

1.9129

GROSS WEIGHT (g)

2.7731

VOL. of SOLUTION (mL)

2.5028

REPLICATE

STD # =

☐ SAMPLE
☐ STANDARD☒ DUPLICATE

SAMPLE # =

5967004774

TARE WEIGHT (g)

1.8148

GROSS WEIGHT (g)

2.2336

VOL. of SOLUTION (mL)

2.5028

REPLICATE

STD # =

☒ SAMPLE
☐ STANDARD☐ DUPLICATE

SAMPLE # =

5967004770

TARE WEIGHT (g)

1.8864

GROSS WEIGHT (g)

2.2333

VOL. of SOLUTION (mL)

2.5028

REPLICATE

STD # =

☒ SAMPLE
☐ STANDARD☒ DUPLICATE

SAMPLE # =

4778

TARE WEIGHT (g)

9079

GROSS WEIGHT (g)

1.8864

VOL. of SOLUTION (mL)

2.5028

REPLICATE

STD # =

☒ SAMPLE
☐ STANDARD☒ DUPLICATE

SAMPLE # =

4779 SA^m

TARE WEIGHT (g)

1.8862

GROSS WEIGHT (g)

2.2313

VOL. of SOLUTION (mL)

2.5028

REPLICATE

STD # =

☒ SAMPLE
☐ STANDARD☒ DUPLICATE

SAMPLE # =

478079 D^{4p}

TARE WEIGHT (g)

1.8143

GROSS WEIGHT (g)

2.1987

VOL. of SOLUTION (mL)

2.5028

REPLICATE

STD # =

SPECIFIC GRAVITY: LA-510-112 (C-3)

WORKLIST #	ANALYST INITIALS	ANALYSIS DATE	INSTRUMENT CODE
1235	RM	11/9/57	
ANALYSIS TIME 1550			

<div><div>☒ SAMPLE STANDARD</div><div>☐ DUPLICATE</div></div> <div>SAMPLE # = 546604780</div> <div>STD # =</div> <div><div>TARE WEIGHT (g) 1.8085</div><div>GROSS WEIGHT (g) 2.1630</div><div>VOL. of SOLUTION (mL) 2.5028</div></div> <div><div>REPLICATE</div><div></div><div></div><div></div></div>	<div><div>☒ SAMPLE STANDARD</div><div>☐ DUPLICATE</div></div> <div>SAMPLE # = 4782</div> <div>STD # =</div> <div><div>TARE WEIGHT (g) 1.8973</div><div>GROSS WEIGHT (g) 2.2341</div><div>VOL. of SOLUTION (mL) 2.5028</div></div> <div><div>REPLICATE</div><div></div><div></div><div></div></div>
<div><div>☒ SAMPLE STANDARD</div><div>☐ DUPLICATE</div></div> <div>SAMPLE # = 546604780</div> <div>STD # =</div> <div><div>TARE WEIGHT (g) 1.8124</div><div>GROSS WEIGHT (g) 2.1664</div><div>VOL. of SOLUTION (mL) 2.5028</div></div> <div><div>REPLICATE</div><div></div><div></div><div></div></div>	<div><div>☒ SAMPLE STANDARD</div><div>☐ DUPLICATE</div></div> <div>SAMPLE # = 4782</div> <div>STD # =</div> <div><div>TARE WEIGHT (g) 1.8964</div><div>GROSS WEIGHT (g) 2.2521</div><div>VOL. of SOLUTION (mL) 2.5028</div></div> <div><div>REPLICATE</div><div></div><div></div><div></div></div>
<div><div>☒ SAMPLE STANDARD</div><div>☐ DUPLICATE</div></div> <div>SAMPLE # = 4781</div> <div>STD # =</div> <div><div>TARE WEIGHT (g) 1.8487</div><div>GROSS WEIGHT (g) 2.2000</div><div>VOL. of SOLUTION (mL) 2.5028</div></div> <div><div>REPLICATE</div><div></div><div></div><div></div></div>	<div><div>☒ SAMPLE STANDARD</div><div>☐ DUPLICATE</div></div> <div>SAMPLE # = 4783</div> <div>STD # =</div> <div><div>TARE WEIGHT (g) 1.9478</div><div>GROSS WEIGHT (g) 2.2494</div><div>VOL. of SOLUTION (mL) 2.5028</div></div> <div><div>REPLICATE</div><div></div><div></div><div></div></div>
<div><div>☒ SAMPLE STANDARD</div><div>☐ DUPLICATE</div></div> <div>SAMPLE # = 4781</div> <div>STD # =</div> <div><div>TARE WEIGHT (g) 1.9441</div><div>GROSS WEIGHT (g) 2.2075</div><div>VOL. of SOLUTION (mL) 2.5028</div></div> <div><div>REPLICATE</div><div></div><div></div><div></div></div>	<div><div>☒ SAMPLE STANDARD</div><div>☐ DUPLICATE</div></div> <div>SAMPLE # = 4783</div> <div>STD # =</div> <div><div>TARE WEIGHT (g) 1.8948</div><div>GROSS WEIGHT (g) 2.2478</div><div>VOL. of SOLUTION (mL) 2.5028</div></div> <div><div>REPLICATE</div><div></div><div></div><div></div></div>

SPECIFIC GRAVITY: LA-510-112 (C-3)

WORKLIST
#ANALYST
INITIALSANALYSIS
DATEANALYSIS
TIMEINSTRUMENT
CODE

13685

RBR

1/19/51

1550

☐ SAMPLE
☐ STANDARD☒ DUPLICATE

SAMPLE # = 4783

STD # =

TARE WEIGHT (g) 1.9017
GROSS WEIGHT (g) 2.2577
VOL. of SOLUTION (mL) 2.5022

REPLICATE

☐ SAMPLE
☐ STANDARD☒ DUPLICATE

SAMPLE # = 4776

STD # =

TARE WEIGHT (g) 1.9216
GROSS WEIGHT (g) 2.2728
VOL. of SOLUTION (mL) 2.5022

REPLICATE

☒ SAMPLE
☐ STANDARD☐ DUPLICATE

SAMPLE # = 4784

STD # =

TARE WEIGHT (g) 1.9459
GROSS WEIGHT (g) 2.2414
VOL. of SOLUTION (mL) 2.5022

REPLICATE

☒ SAMPLE
☐ STANDARD☐ DUPLICATE

SAMPLE # = 4777

STD # =

TARE WEIGHT (g) 1.8714
GROSS WEIGHT (g) 2.2338
VOL. of SOLUTION (mL) 2.5022

REPLICATE

☐ SAMPLE
☐ STANDARD☒ DUPLICATE

SAMPLE # = 4784

STD # =

TARE WEIGHT (g) 1.8813
GROSS WEIGHT (g) 2.2345
VOL. of SOLUTION (mL) 2.5022

REPLICATE

☐ SAMPLE
☐ STANDARD☒ DUPLICATE

SAMPLE # = 4777

STD # =

TARE WEIGHT (g) 1.8678
GROSS WEIGHT (g) 2.2261
VOL. of SOLUTION (mL) 2.5022

REPLICATE

☒ SAMPLE
☐ STANDARD☐ DUPLICATE

SAMPLE # = 4776

STD # =

TARE WEIGHT (g) 1.8810
GROSS WEIGHT (g) 2.2410
VOL. of SOLUTION (mL) 2.5022

REPLICATE

☒ SAMPLE
☐ STANDARD☒ DUPLICATE

SAMPLE # = 4778

STD # =

TARE WEIGHT (g) 1.8754
GROSS WEIGHT (g) 2.2294
VOL. of SOLUTION (mL) 2.5022

REPLICATE

Dap

SPECIFIC GRAVITY: LA-510-112 (C-3)

WORKLIST
#

13635

ANALYST
INITIALS

BPS

ANALYSIS
DATE

11/4/97

ANALYSIS
TIME

1550

INSTRUMENT
CODE
☒ SAMPLE
☐ STANDARD

SAMPLE # = 4979

☐ DUPLICATE

STD # =

 TARE WEIGHT (g) 1.911
 GROSS WEIGHT (g) 2.2573
 VOL. of SOLUTION (mL) 2.3322

☐ REPLICATE

☒ SAMPLE
☐ STANDARD

SAMPLE # =

☐ DUPLICATE

STD # =

 TARE WEIGHT (g)
 GROSS WEIGHT (g)
 VOL. of SOLUTION (mL)

☐ REPLICATE

☒ SAMPLE
☐ STANDARD

SAMPLE # = 4979

☒ DUPLICATE

STD # =

 TARE WEIGHT (g) 1.0624
 GROSS WEIGHT (g) 2.2871
 VOL. of SOLUTION (mL) 2.3322

☐ REPLICATE

☒ SAMPLE
☐ STANDARD

SAMPLE # =

☐ DUPLICATE

STD # =

 TARE WEIGHT (g)
 GROSS WEIGHT (g)
 VOL. of SOLUTION (mL)

☐ REPLICATE

☒ SAMPLE
☐ STANDARD

439

SAMPLE # =

☐ DUPLICATE

STD # =

 TARE WEIGHT (g)
 GROSS WEIGHT (g)
 VOL. of SOLUTION (mL)

☐ REPLICATE

☒ SAMPLE
☐ STANDARD

SAMPLE # =

☐ DUPLICATE

STD # =

 TARE WEIGHT (g)
 GROSS WEIGHT (g)
 VOL. of SOLUTION (mL)

☐ REPLICATE

☒ SAMPLE
☐ STANDARD

SAMPLE # =

☐ DUPLICATE

STD # =

 TARE WEIGHT (g)
 GROSS WEIGHT (g)
 VOL. of SOLUTION (mL)

☐ REPLICATE

☒ SAMPLE
☐ STANDARD

SAMPLE # =

☐ DUPLICATE

STD # =

 TARE WEIGHT (g)
 GROSS WEIGHT (g)
 VOL. of SOLUTION (mL)

☐ REPLICATE

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		STD	REPLICATE
STD	Gross Weight (W2)	2.2209	2.2530
Work List	Tare Weight (W1)	1.8773	1.9036
13635	Weight of Solution (W2-W1)	0.3436	0.3494
Test Code	Volume of Solution μ L	250.2800	250.2800
SPG-01	Specific Gravity	1.3729	1.3960
Matrix	Specific Gravity (Average)	1.3844	
LIQUID			
Sample #			
133N16A			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
RDM			
Date			
01/14/97	v RESULT v		
Time	Specific Gravity Average =	1.384	
03:50 PM			

Data Entry by:

Date:

01/14/97

Approved by:

Date:

1/16/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMP	REPLICATE
SAMP	Gross Weight (W2)	2.2737	
Work List	Tare Weight (W1)	1.9129	
13635	Weight of Solution (W2-W1)	0.3608	0
Test Code	Volume of Solution μ L	250.2800	
SPG-01	Specific Gravity	1.4416	NA
Matrix			
LIQUID			
Sample #			
S96T004774			
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			
01/14/97	v RESULT v		
Time	Specific Gravity =	1.442	
03:50 PM			

Data Entry by:

Date:

01/14/97

Approved by:

Date:

1/16/97

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PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMP-DUP	REPLICATE
SAMP-DUP	Gross Weight (W2)	2.2336	
Work List	Tare Weight (W1)	1.8798	
13635	Weight of Solution (W2-W1)	0.3538	0
Test Code	Volume of Solution μ L	250.2800	
SPG-01	Specific Gravity	1.4136	NA
Matrix			
LIQUID			
Sample #			
S96T004774			
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			
01/14/97	v RESULT v		
Time	Specific Gravity =	1.414	
03:50 PM			

Data Entry by:	<i>Paul Smith</i>	Date:	01/14/97
Approved by:	<i>RW Schneider</i>	Date:	1/16/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMP	REPLICATE
SAMP	Gross Weight (W2)	2.2333	
Work List	Tare Weight (W1)	1.8869	
13635	Weight of Solution (W2-W1)	0.3464	0
Test Code	Volume of Solution μL	250.2800	
SPG-01	Specific Gravity	1.3840	NA
Matrix			
LIQUID			
Sample #			
S96T004778			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
RDM	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L}/\text{mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g}/\text{mL}]$		
Date			
01/14/97	$\checkmark$ RESULT $\checkmark$		
Time	Specific Gravity =	1.384	
03:50 PM			

Data Entry by:	<i>Frank Mark</i>	Date:	01/14/97
Approved by:	<i>RW Scholten</i>	Date:	1/16/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMP-DUP	REPLICATE
SAMP-DUP	Gross Weight (W2)	2.2580	
Work List	Tare Weight (W1)	1.9079	
13635	Weight of Solution (W2-W1)	0.3501	0
Test Code	Volume of Solution μ L	250.2800	
SPG-01	Specific Gravity	1.3988	NA
Matrix			
LIQUID			
Sample #			
S96T004778			
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			
01/14/97	v RESULT v		
Time	Specific Gravity =	1.399	
03:50 PM			

Data Entry by:	<i>Leslie Sprack</i>	Date:	01/14/97
Approved by:	<i>R. W. Schneider</i>	Date:	1/16/97
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PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMP	REPLICATE
SAMP	Gross Weight (W2)	2.2373	
Work List	Tare Weight (W1)	1.8852	
13635	Weight of Solution (W2-W1)	0.3521	0
Test Code	Volume of Solution μ L	250.2800	
SPG-01	Specific Gravity	1.4068	NA
Matrix			
LIQUID			
Sample #			
S96T004779			
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			
01/14/97	v RESULT v		
Time	Specific Gravity =	1.407	
03:50 PM			

Data Entry by:		Date:	01/14/97
Approved by:		Date:	1/16/97
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PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMP-DUP	REPLICATE
SAMP-DUP	Gross Weight (W2)	2.1987	
Work List	Tare Weight (W1)	1.8493	
13635	Weight of Solution (W2-W1)	0.3494	0
Test Code	Volume of Solution μL	250.2800	
SPG-01	Specific Gravity	1.3960	NA
Matrix			
LIQUID			
Sample #			
S96T004779			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
RDM	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L}/\text{mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g}/\text{mL}]$		
Date			
01/14/97	v RESULT v		
Time	Specific Gravity =	1.396	
03:50 PM			

Data Entry by:

Date:

01/14/97

Approved by:

Date:

1/16/97

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PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMP	REPLICATE
SAMP	Gross Weight (W2)	2.1630	
Work List	Tare Weight (W1)	1.8089	
13635	Weight of Solution (W2-W1)	0.3541	0
Test Code	Volume of Solution μL	250.2800	
SPG-01	Specific Gravity	1.4148	NA
Matrix			
LIQUID			
Sample #			
S96T004780			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
RDM	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L}/\text{mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g}/\text{mL}]$		
Date			
01/14/97	v RESULT v		
Time	Specific Gravity =	1.415	
03:50 PM			

Data Entry by:

Date:

01/14/97

Approved by:

Date:

1/16/97

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PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMP-DUP	REPLICATE
SAMP-DUP	Gross Weight (W2)	2.1669	
Work List	Tare Weight (W1)	1.8124	
13635	Weight of Solution (W2-W1)	0.3545	0
Test Code	Volume of Solution μ L	250.2800	
SPG-01	Specific Gravity	1.4164	NA
Matrix			
LIQUID			
Sample #			
S96T004780			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
RDM			
Date			
01/14/97	v RESULT v		
Time	Specific Gravity =	1.416	
03:50 PM			

Data Entry by:

Date:

01/14/97

Approved by:

Date:

1/16/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMP	REPLICATE
SAMP	Gross Weight (W2)	2.2020	
Work List	Tare Weight (W1)	1.8487	
13635	Weight of Solution (W2-W1)	0.3533	0
Test Code	Volume of Solution μ L	250.2800	
SPG-01	Specific Gravity	1.4116	NA
Matrix			
LIQUID			
Sample #			
S96T004781			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
RDM			
Date			
01/14/97	v RESULT v		
Time	Specific Gravity =	1.412	
03:50 PM			

Data Entry by:

Date: 01/14/97

Approved by:

Date: 1/16/97

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PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMP-DUP	REPLICATE
SAMP-DUP	Gross Weight (W2)	2.2025	
Work List	Tare Weight (W1)	1.8491	
13635	Weight of Solution (W2-W1)	0.3534	0
Test Code	Volume of Solution μ L	250.2800	
SPG-01	Specific Gravity	1.4120	NA
Matrix			
LIQUID			
Sample #			
S96T004781			
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			
01/14/97	v RESULT v		
Time	Specific Gravity =	1.412	
03:50 PM			

Data Entry by:

Date:

01/14/97

Approved by:

Date:

1/16/97

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PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMP	REPLICATE
SAMP	Gross Weight (W2)	2.2391	
Work List	Tare Weight (W1)	1.8873	
13635	Weight of Solution (W2-W1)	0.3518	0
Test Code	Volume of Solution μ L	250.2800	
SPG-01	Specific Gravity	1.4056	NA
Matrix			
LIQUID			
Sample #			
S96T004782			
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			
01/14/97	v RESULT v		
Time	Specific Gravity =	1.406	
03:50 PM			

Data Entry by:

Date:

01/14/97

Approved by:

Date:

1/16/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMP-DUP	REPLICATE
SAMP-DUP	Gross Weight (W2)	2.2521	
Work List	Tare Weight (W1)	1.8964	
13635	Weight of Solution (W2-W1)	0.3557	0
Test Code	Volume of Solution μ L	250.2800	
SPG-01	Specific Gravity	1.4212	NA
Matrix			
LIQUID			
Sample #			
S96T004782			
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			
01/14/97	v RESULT v		
Time	Specific Gravity =	1.421	
03:50 PM			

Data Entry by:

Date:

01/14/97

Approved by:

Date:

1/16/97

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Page 1 of 1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMP	REPLICATE
SAMP	Gross Weight (W2)	2.2479	
Work List	Tare Weight (W1)	1.8928	
13635	Weight of Solution (W2-W1)	0.3551	0
Test Code	Volume of Solution μL	250.2800	
SPG-01	Specific Gravity	1.4188	NA
Matrix			
LIQUID			
Sample #			
S96T004783			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
RDM	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L}/\text{mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g}/\text{mL}]$		
Date			
01/14/97	v RESULT v		
Time	Specific Gravity =	1.419	
03:50 PM			

Data Entry by:

Date:

01/14/97

Approved by:

Date:

1/16/97

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PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMP-DUP	REPLICATE
SAMP-DUP	Gross Weight (W2)	2.2577	
Work List	Tare Weight (W1)	1.9017	
13635	Weight of Solution (W2-W1)	0.356	0
Test Code	Volume of Solution μ L	250.2800	
SPG-01	Specific Gravity	1.4224	NA
Matrix			
LIQUID			
Sample #			
S96T004783			
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			
01/14/97	v RESULT v		
Time	Specific Gravity =	1.422	
03:50 PM			

Data Entry by:

Date:

01/14/97

Approved by:

Date:

4/16/97

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PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMP	REPLICATE
SAMP	Gross Weight (W2)	2.2414	
Work List	Tare Weight (W1)	1.8959	
13635	Weight of Solution (W2-W1)	0.3455	0
Test Code	Volume of Solution μ L	250.2800	
SPG-01	Specific Gravity	1.3805	NA
Matrix			
LIQUID			
Sample #			
S96T004784			
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			
01/14/97	v RESULT v		
Time	Specific Gravity =	1.380	
03:50 PM			

Data Entry by:

Date:

01/14/97

Approved by:

Date:

1/16/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMP-DUP	REPLICATE
SAMP-DUP	Gross Weight (W2)	2.2395	
Work List	Tare Weight (W1)	1.8893	
13635	Weight of Solution (W2-W1)	0.3502	0
Test Code	Volume of Solution μ L	250.2800	
SPG-01	Specific Gravity	1.3992	NA
Matrix			
LIQUID			
Sample #			
S96T004784			
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			
01/14/97	∇ RESULT ∇		
Time	Specific Gravity =	1.399	
03:50 PM			

Data Entry by:

Date:

01/14/97

Approved by:

Date:

1/16/97

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PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMP	REPLICATE
SAMP	Gross Weight (W2)	2.2420	
Work List	Tare Weight (W1)	1.8870	
13635	Weight of Solution (W2-W1)	0.355	0
Test Code	Volume of Solution μ L	250.2800	
SPG-01	Specific Gravity	1.4184	NA
Matrix			
LIQUID			
Sample #			
S96T004976			
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			
01/14/97	∇ RESULT ∇		
Time	Specific Gravity =	1.418	
03:50 PM			

Data Entry by:

Date:

01/14/97

Approved by:

Date:

1/16/97

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PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMP-DUP	REPLICATE
SAMP-DUP	Gross Weight (W2)	2.2728	
Work List	Tare Weight (W1)	1.9216	
13635	Weight of Solution (W2-W1)	0.3512	0
Test Code	Volume of Solution μ L	250.2800	
SPG-01	Specific Gravity	1.4032	NA
Matrix			
LIQUID			
Sample #			
S96T004976			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
RDM	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L}/\text{mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g}/\text{mL}]$		
Date			
01/14/97	v RESULT v		
Time	Specific Gravity =	1.403	
03:50 PM			

Data Entry by:

Date:

01/14/97

Approved by:

Date:

1/16/97

Form 510112L1 Rev. 1.1

Page 1 of 1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMP	REPLICATE
SAMP	Gross Weight (W2)	2.2238	
Work List	Tare Weight (W1)	1.8714	
13635	Weight of Solution (W2-W1)	0.3524	0
Test Code	Volume of Solution μL	250.2800	
SPG-01	Specific Gravity	1.4080	NA
Matrix			
LIQUID			
Sample #			
S96T004977			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
RDM	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L}/\text{mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g}/\text{mL}]$		
Date			
01/14/97	v RESULT v		
Time	Specific Gravity =	1.408	
03:50 PM			

Data Entry by:	<i>Paul M. Schaefer</i>	Date:	01/14/97
Approved by:	<i>RW Schaefer</i>	Date:	1/16/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMP-DUP	REPLICATE
SAMP-DUP	Gross Weight (W2)	2.2202	
Work List	Tare Weight (W1)	1.8678	
13635	Weight of Solution (W2-W1)	0.3524	0
Test Code	Volume of Solution μ L	250.2800	
SPG-01	Specific Gravity	1.4080	NA
Matrix			
LIQUID			
Sample #			
S96T004977			
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			
01/14/97	v RESULT v		
Time	Specific Gravity =	1.408	
03:50 PM			

Data Entry by:

Date:

01/14/97

Approved by:

Date:

1/16/97

Form 510112L1 Rev. 1.1

Page 1 of 1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMP	REPLICATE
SAMP	Gross Weight (W2)	2.2294	
Work List	Tare Weight (W1)	1.8754	
13635	Weight of Solution (W2-W1)	0.354	0
Test Code	Volume of Solution μ L	250.2800	
SPG-01	Specific Gravity	1.4144	NA
Matrix			
LIQUID			
Sample #			
S96T004978			
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			
01/14/97	∇ RESULT ∇		
Time	Specific Gravity =	1.414	
03:50 PM			

Data Entry by:

Date:

01/14/97

Approved by:

Date:

1/16/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMP-DUP	REPLICATE
SAMP-DUP	Gross Weight (W2)	2.1917	
Work List	Tare Weight (W1)	1.8391	
13635	Weight of Solution (W2-W1)	0.3526	0
Test Code	Volume of Solution μ L	250.2800	
SPG-01	Specific Gravity	1.4088	NA
Matrix			
LIQUID			
Sample #			
S96T004978			
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			
01/14/97	v RESULT v		
Time	Specific Gravity =	1.409	
03:50 PM			

Data Entry by:

Date:

01/14/97

Approved by:

Date:

1/16/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMP	REPLICATE
SAMP	Gross Weight (W2)	2.2573	
Work List	Tare Weight (W1)	1.9111	
13635	Weight of Solution (W2-W1)	0.3462	0
Test Code	Volume of Solution μ L	250.2800	
SPG-01	Specific Gravity	1.3833	NA
Matrix			
LIQUID			
Sample #			
S96T004979			
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			
01/14/97	✓ RESULT ✓		
Time	Specific Gravity =	1.383	
03:50 PM			

Data Entry by:

Date:

01/14/97

Approved by:

Date:

1/16/97

Form 510112L1 Rev. 1.1

Page 1 of 1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMP-DUP	REPLICATE
SAMP-DUP	Gross Weight (W2)	2.2071	
Work List	Tare Weight (W1)	1.8624	
13635	Weight of Solution (W2-W1)	0.3447	0
Test Code	Volume of Solution μL	250.2800	
SPG-01	Specific Gravity	1.3773	NA
Matrix			
LIQUID			
Sample #			
S96T004979			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
RDM	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L}/\text{mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
Date			
01/14/97	∇ RESULT ∇		
Time	Specific Gravity =	1.377	
03:50 PM			

Data Entry by:

Date:

01/14/97

Approved by:

Date:

1/16/97

Form 510112L1 Rev. 1.1

Page 1 of 1

LABCORE Completed Worklist Report for Worklist# 14221

Analyst: adp

Instrument: BA001

Book# _____

Method: LA-510-112 Rev/Mod C-3

Worklist Comment: AN-104 SPG. RCJ

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD	0		SPG-01	LIQUID	1.39755	1.396	99.889 % Recovery	
2 SAMPLE	S96T005253	0	SPG-01	LIQUID	N/A	1.002	1.00e-002	Sp.G.
3 DUP	S96T005253	0	SPG-01	LIQUID	1.002	994	0.802 RPD	
4 SAMPLE	S96T005255	0	SPG-01	LIQUID	N/A	1.416	1.00e-002	Sp.G.
5 DUP	S96T005255	0	SPG-01	LIQUID	1.416	1.405	0.709 RPD	
6 SAMPLE	S96T005256	0	SPG-01	LIQUID	N/A	1.384	1.00e-002	Sp.G.
7 DUP	S96T005256	0	SPG-01	LIQUID	1.384	1.389	0.361 RPD	
8 SAMPLE	S96T005257	0	SPG-01	LIQUID	N/A	1.402	1.00e-002	Sp.G.
9 DUP	S96T005257	0	SPG-01	LIQUID	1.402	1.412	0.711 RPD	
10 SAMPLE	S96T005258	0	SPG-01	LIQUID	N/A	1.354	1.00e-002	Sp.G.
11 DUP	S96T005258	0	SPG-01	LIQUID	1.354	1.350	0.296 RPD	
12 SAMPLE	S96T005260	0	SPG-01	LIQUID	N/A	1.369	1.00e-002	Sp.G.
13 DUP	S96T005260	0	SPG-01	LIQUID	1.369	1.384	1.090 RPD	

Final page for worklist# 14221

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

RW Schreder 1/14/97
Reviewer Signature Date

LABCORE Data Entry Template for Worklist# 14221

Analyst: ADP Instrument: BA001 Book # 133N16A

Method: LA-510-112 Rev/Mod C-3

Worklist Comment: AN-104 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>1.396</u>	N/A	Sp.G.
								<u>1.002</u>		
96001174	AN-104	2 SAMPLE	S96T005253	0	SPG-01	LIQUID	N/A	<u>1.0016</u>	<u>0.010</u>	Sp.G. RWS 1/14/97
							<u>1.002</u>	<u>0.494</u>		
96001174	AN-104	3 DUP	S96T005253	0	SPG-01	LIQUID	<u>1.0016</u>	<u>0.9936</u>	N/A	Sp.G. RWS 1/14/97
								<u>1.410</u>		
96001283	AN-104	4 SAMPLE	S96T005255	0	SPG-01	LIQUID	N/A	<u>1.4755</u>	<u>0.010</u>	Sp.G. RWS 1/14/97
							<u>1.416</u>	<u>1.406</u>		
96001283	AN-104	5 DUP	S96T005255	0	SPG-01	LIQUID	<u>1.455</u>	<u>1.4062</u>	N/A	Sp.G. RWS 1/14/97
								<u>1.384</u>		
96001283	AN-104	6 SAMPLE	S96T005256	0	SPG-01	LIQUID	N/A	<u>1.3837</u>	<u>0.010</u>	Sp.G. RWS 1/14/97
							<u>1.384</u>	<u>1.389</u>		
96001283	AN-104	7 DUP	S96T005256	0	SPG-01	LIQUID	<u>1.3837</u>	<u>1.3890</u>	N/A	Sp.G. RWS 1/14/97
								<u>1.402</u>		
96001283	AN-104	8 SAMPLE	S96T005257	0	SPG-01	LIQUID	N/A	<u>1.4022</u>	<u>0.010</u>	Sp.G. RWS 1/14/97
							<u>1.402</u>	<u>1.412</u>		
96001283	AN-104	9 DUP	S96T005257	0	SPG-01	LIQUID	<u>1.4022</u>	<u>1.4115</u>	N/A	Sp.G. RWS 1/14/97
								<u>1.354</u>		
96001283	AN-104	10 SAMPLE	S96T005258	0	SPG-01	LIQUID	N/A	<u>1.3545</u>	<u>0.010</u>	Sp.G. RWS 1/14/97
							<u>1.354</u>	<u>1.350</u>		
96001283	AN-104	11 DUP	S96T005258	0	SPG-01	LIQUID	<u>1.3545</u>	<u>1.3505</u>	N/A	Sp.G. RWS 1/14/97
								<u>1.369</u>		
96001283	AN-104	12 SAMPLE	S96T005260	0	SPG-01	LIQUID	N/A	<u>1.3691</u>	<u>0.010</u>	Sp.G. RWS 1/14/97
							<u>1.369</u>	<u>1.384</u>		
96001283	AN-104	13 DUP	S96T005260	0	SPG-01	LIQUID	<u>1.3691</u>	<u>1.3837</u>	N/A	Sp.G. RWS 1/14/97

Final page for worklist # 14221

Anthony Puro 1-13-97
Analyst Signature Date

John V. Schue 1-14-97
Analyst Signature Date
RW Schue 1/14/97

Data Entry Comments:

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

INSTRUMENT
CODE

ANALYSIS
TIME

ANALYSIS
DATE

SPECIFIC GRAVITY: LA-510-112 (C-3)

WORKLIST
#

ANALYST
INITIALS

2400

1-13-97

ADD

14221

☒ SAMPLE
☐ STANDARD

☐ SAMPLE
☒ STANDARD

☒ SAMPLE
☐ STANDARD

☒ SAMPLE
☐ STANDARD

☒ DUPLICATE

☐ SAMPLE
☒ STANDARD

☒ DUPLICATE

☒ SAMPLE
☐ STANDARD

SAMPLE # = 5967005255 STD # =

TARE WEIGHT (g) 1.8095
GROSS WEIGHT (g) 1.7153
VOL. of SOLUTION (mL) 0.07538
REPLICATE

STD # = 133N16-A

SAMPLE # =

TARE WEIGHT (g) 1.8005
GROSS WEIGHT (g) 1.9057
VOL. of SOLUTION (mL) 0.07538
REPLICATE

☒ SAMPLE
☐ STANDARD

☐ SAMPLE
☒ STANDARD

☒ SAMPLE
☐ STANDARD

☒ SAMPLE
☐ STANDARD

☒ DUPLICATE

☐ SAMPLE
☒ STANDARD

☒ DUPLICATE

☒ SAMPLE
☐ STANDARD

SAMPLE # = 5967005256 STD # =

TARE WEIGHT (g) 1.8341
GROSS WEIGHT (g) 1.9334
VOL. of SOLUTION (mL) 0.07538
REPLICATE

SAMPLE # = 5967005253 STD # =

TARE WEIGHT (g) 1.8757
GROSS WEIGHT (g) 1.9812
VOL. of SOLUTION (mL) 0.07538
REPLICATE

☒ SAMPLE
☐ STANDARD

☐ SAMPLE
☒ STANDARD

☒ SAMPLE
☐ STANDARD

☒ SAMPLE
☐ STANDARD

☒ DUPLICATE

☐ SAMPLE
☒ STANDARD

☒ DUPLICATE

☒ SAMPLE
☐ STANDARD

SAMPLE # = 5967005256 STD # =

TARE WEIGHT (g) 1.8892
GROSS WEIGHT (g) 1.9939
VOL. of SOLUTION (mL) 0.07538
REPLICATE

SAMPLE # = 5967005253 STD # =

TARE WEIGHT (g) 1.8507
GROSS WEIGHT (g) 1.9256
VOL. of SOLUTION (mL) 0.07538
REPLICATE

☒ SAMPLE
☐ STANDARD

☐ SAMPLE
☒ STANDARD

☒ SAMPLE
☐ STANDARD

☒ SAMPLE
☐ STANDARD

☒ DUPLICATE

☐ SAMPLE
☒ STANDARD

☒ DUPLICATE

☒ SAMPLE
☐ STANDARD

SAMPLE # = 5967005257 STD # =

TARE WEIGHT (g) 1.8882
GROSS WEIGHT (g) 1.9939
VOL. of SOLUTION (mL) 0.07538
REPLICATE

SAMPLE # = 5967005255 STD # =

TARE WEIGHT (g) 1.8100
GROSS WEIGHT (g) 1.9167
VOL. of SOLUTION (mL) 0.07538
REPLICATE

SPECIFIC GRAVITY: LA-510-112 (C-3)

INSTRUMENT
CODEWORKLIST
#ANALYST
SIGNATUREANALYSIS
DATEANALYSIS
TIME

14221

7-13-97

2400

☒ SAMPLE
☐ STANDARD☒ DUPLICATE

SAMPLE # = 5967005257 STD # =

TARE WEIGHT (g)	1.9023
GROSS WEIGHT (g)	2.0087
VOL. of SOLUTION (mL)	0.0538

REPLICATE

☒ SAMPLE
☐ STANDARD☒ DUPLICATE

SAMPLE # = 5967005258 STD # =

TARE WEIGHT (g)	1.8519
GROSS WEIGHT (g)	1.9620
VOL. of SOLUTION (mL)	0.0538

REPLICATE

☒ SAMPLE
☐ STANDARD☒ DUPLICATE

SAMPLE # = 5967005258 STD # =

TARE WEIGHT (g)	1.8707
GROSS WEIGHT (g)	1.9725
VOL. of SOLUTION (mL)	0.0538

REPLICATE

☒ SAMPLE
☐ STANDARD☒ DUPLICATE

SAMPLE # = 5967005260 STD # =

TARE WEIGHT (g)	1.8664
GROSS WEIGHT (g)	1.9196
VOL. of SOLUTION (mL)	0.0538

REPLICATE

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		STANDARD	STANDARD
STANDARD	Gross Weight (W2)	1.9057	1.9604
Work List	Tare Weight (W1)	1.8005	1.8552
14221	Weight of Solution (W2-W1)	0.1052	0.1052
Test Code	Volume of Solution μ L	75.3800	75.3800
SPG-01	Specific Gravity	1.3956	1.3956
Matrix	Specific Gravity (Average)	1.3956	
LIQUID			
Sample #			
STD			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
ADP	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
Date			
01/13/97	$\checkmark$ RESULT $\checkmark$		
Time	Specific Gravity Average =	1.396	
12:00 AM			

Data Entry by: *Dan Hammett*

Date: 01/14/97

Approved by: *R.W. Schwedler*

Date: 1/14/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMPLE	REPLICATE
SAMPLE	Gross Weight (W2)	1.9512	1.9256
Work List	Tare Weight (W1)	1.8757	1.8507
14221	Weight of Solution (W2-W1)	0.0755	0.0749
Test Code	Volume of Solution μ L	75.3800	75.3800
SPG-01	Specific Gravity	1.0016	0.9936
Matrix	Specific Gravity (Average)	0.9976	
LIQUID			
Sample #			
S96T005253			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
ADP			
Date			
01/13/97	∇ RESULT ∇		
Time	Specific Gravity Average =	0.998	
12:00 AM			

Duplicate

RWS
1/14/97

Data Entry by:

Date:

01/14/97

Approved by:

Date:

1/14/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMPLE	REPLICATE
SAMPLE	Gross Weight (W2)	1.9384	1.9939
Work List	Tare Weight (W1)	1.8341	1.8892
14221	Weight of Solution (W2-W1)	0.1043	0.1047
Test Code	Volume of Solution μ L	75.3800	75.3800
SPG-01	Specific Gravity	1.3837	1.3890
Matrix	Specific Gravity (Average)	1.3863	
LIQUID			
Sample #			
S96T005256			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
ADP	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
Date	∇ RESULT ∇		
01/13/97			
Time	Specific Gravity Average =	1.386	
12:00 AM			

Replicate
aws
1/14/97

Data Entry by: <i>Dmy H...</i>	Date: 01/14/97
Approved by: <i>RW Schneider</i>	Date:

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMPLE	REPLICATE
SAMPLE	Gross Weight (W2)	1.9167	1.9155
Work List	Tare Weight (W1)	1.8100	1.8095
14221	Weight of Solution (W2-W1)	0.1067	0.106
Test Code	Volume of Solution μ L	75.3800	75.3800
SPG-01	Specific Gravity	1.4155	1.4062
Matrix	Specific Gravity (Average)	1.4109	
LIQUID			
Sample #			
S96T005255			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
ADP	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
Date			
01/13/97	v RESULT v		
Time	Specific Gravity Average =	1.411	
12:00 AM			

Duplicate

RWS
1/14/97

Data Entry by:

Date: 01/14/97

Approved by:

Date: 1/14/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Duplicate

Type		SAMPLE	REPLICATE
SAMPLE	Gross Weight (W2)	1.9939	2.0087
Work List	Tare Weight (W1)	1.8882	1.9023
14221	Weight of Solution (W2-W1)	0.1057	0.1064
Test Code	Volume of Solution μ L	75.3800	75.3800
SPG-01	Specific Gravity	1.4022	1.4115
Matrix	Specific Gravity (Average)	1.4069	
LIQUID			
Sample #			
S96T005257			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
ADP	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
Date			
01/13/97	v RESULT v		
Time	Specific Gravity Average =	1.407	
12:00 AM			

RWS
1/14/97Data Entry by: *Doug Schneider*

Date: 01/14/97

Approved by: *RW Schneider*

Date: 1/14/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Duplicate

RWS
1/14/97

Type		SAMPLE	REPLICATE
SAMPLE	Gross Weight (W2)	1.9620	1.9725
Work List	Tare Weight (W1)	1.8599	1.8707
14221	Weight of Solution (W2-W1)	0.1021	0.1018
Test Code	Volume of Solution μ L	75.3800	75.3800
SPG-01	Specific Gravity	1.3545	1.3505
Matrix	Specific Gravity (Average)	1.3525	
LIQUID			
Sample #			
S96T005258			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
ADP	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
Date			
01/13/97	v RESULT v		
Time	Specific Gravity Average =	1.352	
12:00 AM			

Data Entry by: <i>Dan Schmitt</i>	Date: 01/14/97
Approved by: <i>RW Schmitt</i>	Date: 1/14/97
Form 510112L1 Rev. 1.1	Page 1 of 1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMPLE	REPLICATE
SAMPLE	Gross Weight (W2)	1.9196	1.9940
Work List	Tare Weight (W1)	1.8164	1.8897
14221	Weight of Solution (W2-W1)	0.1032	0.1043
Test Code	Volume of Solution μ L	75.3800	75.3800
SPG-01	Specific Gravity	1.3691	1.3837
Matrix	Specific Gravity (Average)	1.3764	
LIQUID			
Sample #			
S96T005260			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
ADP	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L}/\text{mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
Date			
01/13/97	v RESULT v		
Time	Specific Gravity Average =	1.376	
12:00 AM			

Data Entry by: <i>Donna L. Schneider</i>	Date: 01/14/97
Approved by: <i>RW Schneider</i>	Date: 1/14/97
Form 510112L1 Rev. 1.1	Page 1 of 1

LABCORE Data Entry Template for Worklist# 14866

Analyst: Jds Instrument: BA001 Book # 133N16A

Method: LA-510-112 Rev/Mod C-3

Worklist Comment: AN-104 SPG. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			SPG-01	LIQUID	<u>1.398</u>	<u>1.352</u>	<u>N/A</u>	Sp.G.
96001283	AN-104	2 SAMPLE	S96T005527	0	SPG-01	LIQUID	<u>N/A</u>	<u>1.358</u>	<u>0.010</u>	Sp.G.
96001283	AN-104	3 DUP	S96T005527	0	SPG-01	LIQUID	<u>1.358</u>	<u>1.373</u>	<u>N/A</u>	Sp.G.
96001283	AN-104	4 SAMPLE	S96T005528	0	SPG-01	LIQUID	<u>N/A</u>	<u>1.362</u>	<u>0.010</u>	Sp.G.
96001283	AN-104	5 DUP	S96T005528	0	SPG-01	LIQUID	<u>1.362</u>	<u>1.426</u>	<u>N/A</u>	Sp.G.
96001283	AN-104	6 SAMPLE	S96T005554	0	SPG-01	LIQUID	<u>N/A</u>	<u>1.344</u>	<u>0.010</u>	Sp.G.
96001283	AN-104	7 DUP	S96T005554	0	SPG-01	LIQUID	<u>1.344</u>	<u>1.343</u>	<u>N/A</u>	Sp.G.
96001283	AN-104	8 SAMPLE	S96T005739	0	SPG-01	LIQUID	<u>N/A</u>	<u>1.340</u>	<u>0.010</u>	Sp.G.
96001283	AN-104	9 DUP	S96T005739	0	SPG-01	LIQUID	<u>1.340</u>	<u>1.339</u>	<u>N/A</u>	Sp.G.

Final page for worklist # 14866

See attached for signature

Analyst Signature Date

Analyst Signature

Date

Frank Mank 1-16-97
RW Schuech 1/21/97

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.

LABCORE Data Entry Template for Worklist# 14866

Analyst: sds Instrument: BA001 Book # 132MKA

Method: LA-510-112 Rev/Mod _____

Worklist Comment: AN-104 SPG. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			SPG-01	LIQUID			N/A	Sp.G.
96001283	AN-104	2 SAMPLE	S96T005527	0	SPG-01	LIQUID	N/A			Sp.G.
96001283	AN-104	3 DUP	S96T005527	0	SPG-01	LIQUID			N/A	Sp.G.
96001283	AN-104	4 SAMPLE	S96T005528	0	SPG-01	LIQUID	N/A			Sp.G.
96001283	AN-104	5 DUP	S96T005528	0	SPG-01	LIQUID			N/A	Sp.G.
96001283	AN-104	6 SAMPLE	S96T005554	0	SPG-01	LIQUID	N/A			Sp.G.
96001283	AN-104	7 DUP	S96T005554	0	SPG-01	LIQUID			N/A	Sp.G.
96001283	AN-104	8 SAMPLE	S96T005739	0	SPG-01	LIQUID	N/A			Sp.G.
96001283	AN-104	9 DUP	S96T005739	0	SPG-01	LIQUID			N/A	Sp.G.
96001283	AN-104	10 SAMPLE	S96T005741	0	SPG-01	LIQUID	N/A			Sp.G.
96001283	AN-104	11 DUP	S96T005741	0	SPG-01	LIQUID			N/A	Sp.G.
96001283	AN-104	12 SAMPLE	S96T005766	0	SPG-01	LIQUID	N/A			Sp.G.
96001283	AN-104	13 DUP	S96T005766	0	SPG-01	LIQUID			N/A	Sp.G.

Final page for worklist # 14866

Jpk Spk 11/16/97
Analyst Signature Date

Analyst Signature Date

Data Entry Comments:

#5 5741 and 5766 need to be
added to another wk resubmitted on worklist #16247
pipette size used .07538 of ml
55/11/97

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

SPECIFIC GRAVITY ANALYSIS

1.3586 g

1.9605 g

STD

1.8129 g

1.9204 g

5528
Dup

1.9027 g

2.0046 g

STD

1.8971 g

1.9984 g

5554

1.8864 g

1.9688 g

5527

1.8706 g

1.9718 g

5554
Dup

1.8433 g

1.9468 g

5527
Dup

1.9219 g

2.0229 g

5739

1.9043 g

2.0070 g

5528

1.9631 g

2.0640 g

5739
Dup

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		STD	REPLICATE
STD	Gross Weight (W2)	1.9605	2.0046
Work List	Tare Weight (W1)	1.8586	1.9027
14866	Weight of Solution (W2-W1)	0.1019	0.1019
Test Code	Volume of Solution μ L	75.3800	75.3800
SPG-01	Specific Gravity	1.3518	1.3518
Matrix	Specific Gravity (Average)	1.3518	
LIQUID			
Sample #			
STD# 133N16A			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
JDS	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
Date			
01/16/97	v RESULT v		
Time	Specific Gravity Average =	1.352	

Data Entry by:

Date:

01/16/97

Approved by:

Date:

1/21/97

Form 510112L1 Rev. 1.1

Page 1 of 1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMP	REPLICATE
SAMP	Gross Weight (W2)	1.9888	
Work List	Tare Weight (W1)	1.8864	
14866	Weight of Solution (W2-W1)	0.1024	0
Test Code	Volume of Solution μ L	75.3800	
SPG-01	Specific Gravity	1.3585	NA
Matrix			
LIQUID			
Sample #			
S96T005527			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
JDS	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L}/\text{mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
Date			
01/16/97	v RESULT v		
Time	Specific Gravity =	1.358	

Data Entry by:

Date:

01/16/97

Approved by:

Date:

1/21/97

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

Document number: SD-WM-DP-226

Section 3 of 6

Title: Tank 241-A1-104 Cores 163 and 164
Analytical Results for the Final Report

Date: 6/5/97 Revision: A000

Originator: STEVEN SKL
Co: RFSH

Recipient: _____
Co: _____

References: EDT-620405

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMP-DUP	REPLICATE
SAMP-DUP	Gross Weight (W2)	1.9468	
Work List	Tare Weight (W1)	1.8433	
14866	Weight of Solution (W2-W1)	0.1035	0
Test Code	Volume of Solution μ L	75.3800	
SPG-01	Specific Gravity	1.3730	NA
Matrix			
LIQUID			
Sample #			
S96T006527			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
JDS	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
Date			
01/16/97	v RESULT v		
Time	Specific Gravity =	1.373	

Data Entry by:

Date:

01/16/97

Approved by:

Date:

1/21/97

Form 510112L1 Rev. 1.1

Page 1 of 1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMP	REPLICATE
SAMP	Gross Weight (W2)	2.0070	
Work List	Tare Weight (W1)	1.9043	
14866	Weight of Solution (W2-W1)	0.1027	0
Test Code	Volume of Solution μ L	75.3800	
SPG-01	Specific Gravity	1.3624	NA
Matrix			
LIQUID			
Sample #			
S96T005528			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
JDS	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
Date			
01/16/97	v RESULT v		
Time	Specific Gravity =	1.362	

Data Entry by:

Date:

01/16/97

Approved by:

Date:

1/21/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMP-DUP	REPLICATE
SAMP-DUP	Gross Weight (W2)	1.9204	
Work List	Tare Weight (W1)	1.8129	
14866	Weight of Solution (W2-W1)	0.1075	0
Test Code	Volume of Solution μ L	75.3800	
SPG-01	Specific Gravity	1.4261	NA
Matrix			
LIQUID			
Sample #			
S96T005528			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
JDS	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
Date			
01/16/97	∇ RESULT ∇		
Time	Specific Gravity =	1.426	

Data Entry by:

Date:

01/16/97

Approved by:

Date:

1/21/97

Form 510112L1 Rev. 1.1

Page 1 of 1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMP	REPLICATE
SAMP	Gross Weight (W2)	1.9984	
Work List	Tare Weight (W1)	1.8971	
14866	Weight of Solution (W2-W1)	0.1013	0
Test Code	Volume of Solution μ L	75.3800	
SPG-01	Specific Gravity	1.3439	NA
Matrix			
LIQUID			
Sample #			
S96T005554			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
JDS	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
Date			
01/16/97	v RESULT v		
Time	Specific Gravity =	1.344	

Data Entry by:

Date:

01/16/97

Approved by:

Date:

1/21/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMP-DUP	REPLICATE
SAMP-DUP	Gross Weight (W2)	1.9718	
Work List	Tare Weight (W1)	1.8706	
14866	Weight of Solution (W2-W1)	0.1012	0
Test Code	Volume of Solution μ L	75.3800	
SPG-01	Specific Gravity	1.3425	NA
Matrix			
LIQUID			
Sample #			
S96T005554			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
JDS	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
Date			
01/16/97	v RESULT v		
Time	Specific Gravity =	1.343	

Data Entry by:

Date:

01/16/97

Approved by:

Date:

1/21/97

Form 510112L1 Rev. 1.1

Page 1 of 1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMP	REPLICATE
SAMP	Gross Weight (W2)	2.0229	
Work List	Tare Weight (W1)	1.9219	
14866	Weight of Solution (W2-W1)	0.101	0
Test Code	Volume of Solution μ L	75.3800	
SPG-01	Specific Gravity	1.3399	NA
Matrix			
LIQUID			
Sample #			
S96T005739			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
JDS	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
Date			
01/16/97	∇ RESULT ∇		
Time	Specific Gravity =	1.340	

Data Entry by:

Date:

01/16/97

Approved by:

Date:

1/21/97

Form 510112L1 Rev. 1.1

Page 1 of 1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMP-DUP	REPLICATE
SAMP-DUP	Gross Weight (W2)	2.0640	
Work List	Tare Weight (W1)	1.9631	
14866	Weight of Solution (W2-W1)	0.1009	0
Test Code	Volume of Solution μ L	75.3800	
SPG-01	Specific Gravity	1.3386	NA
Matrix			
LIQUID			
Sample #			
S96T005739			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
JDS	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
Date			
01/16/97	∇ RESULT ∇		
Time	Specific Gravity =	1.339	

Data Entry by:

Date:

01/16/97

Approved by:

Date:

1/21/97

LABCORE Data Entry Template for Worklist# 15542

Analyst: ADP Instrument: BA001 Book # 133N16A

Method: LA-510-112 Rev/Mod C-3

Worklist Comment: AN-104, SPG-01, Use calibrated pipette. skm

GROUP	PROJECT	S. TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			SPG-01	LIQUID	<u>1.398</u>	<u>1.396</u>	<u>N/A</u>	Sp.G.
96001174	AN-104	2 SAMPLE	S96T005981	0	SPG-01	LIQUID	<u>N/A</u>	<u>1.411</u>	<u>0.010</u>	Sp.G.
96001174	AN-104	3 DUP	S96T005981	0	SPG-01	LIQUID	<u>1.411</u>	<u>1.401</u>	<u>N/A</u>	Sp.G.

Final page for worklist # 15542

Anthony P. Smith 1-11-97
Analyst Signature Date

Frank M. Hale 1-12-97
Analyst Signature Date

approved DW Schneider 1/14/97

Data Entry Comments:

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

5-02 ZND12 Use *unmarked* *pyrex* .3001
SPECIFIC GRAVITY: LA-510-112 (C-3)

WORKSHEET
#

ANALYST
INITIALS

ANALYSIS
DATE

INSTRUMENT
CODE

15542

ADP

1-11-97

2300

☒ SAMPLE
☐ STANDARD

☐ DUPLICATE

SAMPLE # =

STD # =

133N16A

TARE WEIGHT (g) 1.8168
GROSS WEIGHT (g) 1.9501
VOL. of SOLUTION (mL) 1.000

REPLICATE
1.8810
1.9287
1.0000

☒ SAMPLE
☐ STANDARD

☐ DUPLICATE

SAMPLE # =

STD # =

TARE WEIGHT (g) _____
GROSS WEIGHT (g) _____
VOL. of SOLUTION (mL) _____

REPLICATE

☒ SAMPLE
☐ STANDARD

☐ DUPLICATE

SAMPLE # =

STD # =

5967005981

TARE WEIGHT (g) 1.8097
GROSS WEIGHT (g) 1.9508
VOL. of SOLUTION (mL) 1.000

REPLICATE

☒ SAMPLE
☐ STANDARD

☐ DUPLICATE

SAMPLE # =

STD # =

TARE WEIGHT (g) _____
GROSS WEIGHT (g) _____
VOL. of SOLUTION (mL) _____

REPLICATE

☒ SAMPLE
☐ STANDARD

☒ DUPLICATE

SAMPLE # =

STD # =

5967005981

TARE WEIGHT (g) 1.8276
GROSS WEIGHT (g) 1.9677
VOL. of SOLUTION (mL) 1.000

REPLICATE

☒ SAMPLE
☐ STANDARD

☐ DUPLICATE

SAMPLE # =

STD # =

TARE WEIGHT (g) _____
GROSS WEIGHT (g) _____
VOL. of SOLUTION (mL) _____

REPLICATE

☒ SAMPLE
☐ STANDARD

☐ DUPLICATE

SAMPLE # =

STD # =

TARE WEIGHT (g) _____
GROSS WEIGHT (g) _____
VOL. of SOLUTION (mL) _____

REPLICATE

☒ SAMPLE
☐ STANDARD

☐ DUPLICATE

SAMPLE # =

STD # =

TARE WEIGHT (g) _____
GROSS WEIGHT (g) _____
VOL. of SOLUTION (mL) _____

REPLICATE

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		STD	REPLICATE
STD	Gross Weight (W2)	1.9561	2.0289
Work List	Tare Weight (W1)	1.8168	1.8890
15542	Weight of Solution (W2-W1)	0.1393	0.1399
Test Code	Volume of Solution μ L	100.0000	100.0000
SPG-01	Specific Gravity	1.3930	1.3990
Matrix	Specific Gravity (Average)	1.3960	
LIQUID			
Sample #			
STD 133N16A			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
ADP	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
Date			
01/11/97	∇ RESULT ∇		
Time	Specific Gravity Average =	1.396	
11:00 PM			

Data Entry by:

Date:

01/12/97

Approved by:

Date:

1/14/96

Form 510112L1 Rev. 1.1

Page 1 of 1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMP	REPLICATE
SAMP	Gross Weight (W2)	1.9508	
Work List	Tare Weight (W1)	1.8097	
15542	Weight of Solution (W2-W1)	0.1411	0
Test Code	Volume of Solution μ L	100.0000	
SPG-01	Specific Gravity	1.4110	NA
Matrix			
LIQUID			
Sample #			
S96T005981			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
ADP	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
Date			
01/11/97	∇ RESULT ∇		
Time	Specific Gravity =	1.411	
11:00 PM			

Data Entry by:	<i>[Signature]</i>	Date:	01/12/97
Approved by:	<i>[Signature]</i>	Date:	1/14/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMP-DUP	REPLICATE
SAMP-DUP	Gross Weight (W2)	1.9677	
Work List	Tare Weight (W1)	1.8276	
15542	Weight of Solution (W2-W1)	0.1401	0
Test Code	Volume of Solution μ L	100.0000	
SPG-01	Specific Gravity	1.4010	NA
Matrix			
LIQUID			
Sample #			
S96T005981			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
ADP	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
Date			
01/11/97	∇ RESULT ∇		
Time	Specific Gravity =	1.401	
11:00 PM			

Data Entry by:

Date:

01/12/97

Approved by:

Date:

1/14/97

Form 510112L1 Rev. 1.1

Page 1 of 1

LABCORE Data Entry Template for Worklist# 16247

Analyst: RS Instrument: BA001 Book # 97N8A 133N16A
Method: LA-510-112 Rev/Mod C-3 Rev 1/24/97
Worklist Comment: SPG-01 FOR AN-104 RTS!

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			SPG-01	LIQUID	1.398	1.402	N/A	Sp.G.
96001283	AN-104	2 SAMPLE	S96T005741 0		SPG-01	LIQUID	N/A	1.489	0.010	Sp.G.
96001283	AN-104	3 DUP	S96T005741 0		SPG-01	LIQUID	1.489	1.490	N/A	Sp.G.
96001283	AN-104	4 SAMPLE	S96T005766 0		SPG-01	LIQUID	N/A	1.449	0.010	Sp.G.
96001283	AN-104	5 DUP	S96T005766 0		SPG-01	LIQUID	1.449	1.463	N/A	Sp.G.

Final page for worklist # 16247

Rae Ann Green 1-21-97
Analyst Signature Date

RW Schreiber 1/24/97
Analyst Signature Date

Approved RW Schreiber 1/24/97

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 = Sample Number

SpG SLUDGE: LA-510-116 (B-0)

WORKLIST
#ANALYST
INITIALSANALYSIS
DATEDISPLACING
LIQUIDINSTRUMENT
CODE

10247

R24

1-21-97

☒ SAMPLE
☐ STANDARD

☐ DUPLICATE

SAMPLE # =

RWS 1/24/97

STD # = 97178-A
133 N16A

REPLICATE
1.4354
1.7347
2.3488

TUBE/VIAL WEIGHT (W) 1.3145
SAMPLE WEIGHT (S) 1.06716
SAMPLE/SOLV. WEIGHT (SH) 353g

250280 ml

calibrated pipette

☒ SAMPLE
☐ STANDARD

☐ DUPLICATE

SAMPLE # = 5967005741

STD # =

TUBE/VIAL WEIGHT (W) 1.3920
SAMPLE WEIGHT (S) 1.7047
SAMPLE/SOLV. WEIGHT (SH) 3721

REPLICATE
2.1680
2.17352
1.7252
2.3728

250280 ml

calibrated pipette

☒ SAMPLE
☐ STANDARD

☐ DUPLICATE

794

SAMPLE # = 5967005766

STD # =

TUBE/VIAL WEIGHT (W) 1.3854
SAMPLE WEIGHT (S) 1.7480
SAMPLE/SOLV. WEIGHT (SH) 3626

REPLICATE
1.9327
1.7989
1.3602

250280 ml

calib. pipette

☐ SAMPLE
☐ STANDARD

☐ DUPLICATE

SAMPLE # =

STD # =

TUBE/VIAL WEIGHT (W)
SAMPLE WEIGHT (S)
SAMPLE/SOLV. WEIGHT

REPLICATE

☐ SAMPLE
☐ STANDARD

☐ DUPLICATE

SAMPLE # =

STD # =

TUBE/VIAL WEIGHT (W)
SAMPLE WEIGHT (S)
SAMPLE/SOLV. WEIGHT (SH)

REPLICATE

☐ SAMPLE
☐ STANDARD

☐ DUPLICATE

SAMPLE # =

STD # =

TUBE/VIAL WEIGHT (W)
SAMPLE WEIGHT (S)
SAMPLE/SOLV. WEIGHT (SH)

REPLICATE

☐ SAMPLE
☐ STANDARD

☐ DUPLICATE

SAMPLE # =

STD # =

TUBE/VIAL WEIGHT (W)
SAMPLE WEIGHT (S)
SAMPLE/SOLV. WEIGHT (SH)

REPLICATE

☐ SAMPLE
☐ STANDARD

☐ DUPLICATE

SAMPLE # =

STD # =

TUBE/VIAL WEIGHT (W)
SAMPLE WEIGHT (S)
SAMPLE/SOLV. WEIGHT (SH)

REPLICATE

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		STD	REPLICATE
STD	Gross Weight (W2)	1.6676	1.7842
Work List	Tare Weight (W1)	1.3145	1.4354
16247	Weight of Solution (W2-W1)	0.3531	0.3488
Test Code	Volume of Solution μ L	250.2800	250.2800
SPG-01	Specific Gravity	1.4108	1.3936
Matrix	Specific Gravity (Average)	1.4022	
LIQUID			
Sample #			
STD# 97N8A			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
RAG	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
Date			
01/21/97	∇ RESULT ∇		
Time	Specific Gravity Average =	1.402	

Data Entry by:

Date:

01/21/97

Approved by:

Date:

1/24/97

Form 510112L1 Rev. 1.1

Page 1 of 1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMP	REPLICATE
SAMP	Gross Weight (W2)	1.7647	
Work List	Tare Weight (W1)	1.3920	
16247	Weight of Solution (W2-W1)	0.3727	0
Test Code	Volume of Solution μ L	250.2800	
SPG-01	Specific Gravity	1.4891	NA
Matrix			
LIQUID			
Sample #			
S96T005741			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
RAG			
Date			
01/21/97	∇ RESULT ∇		
Time	Specific Gravity =	1.489	

Data Entry by:

Date:

01/21/97

Approved by:

Date:

1/24/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMP-DUP	REPLICATE
SAMP-DUP	Gross Weight (W2)	2.1080	
Work List	Tare Weight (W1)	1.7352	
16247	Weight of Solution (W2-W1)	0.3728	0
Test Code	Volume of Solution μ L	250.2800	
SPG-01	Specific Gravity	1.4895	NA
Matrix			
LIQUID			
Sample #			
S96T005741			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
RAG	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
Date			
01/21/97	∇ RESULT ∇		
Time	Specific Gravity =	1.490	

Data Entry by:

Date:

01/21/97

Approved by:

Date:

1/24/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMP	REPLICATE
SAMP	Gross Weight (W2)	1.7480	
Work List	Tare Weight (W1)	1.3854	
16247	Weight of Solution (W2-W1)	0.3626	0
Test Code	Volume of Solution μ L	250.2800	
SPG-01	Specific Gravity	1.4488	NA
Matrix			
LIQUID			
Sample #			
S96T005766			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
RAG	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
Date			
01/21/97	∇ RESULT ∇		
Time	Specific Gravity =	1.449	

Data Entry by:

Date:

01/21/97

Approved by:

Date:

1/24/97

Form 510112L1 Rev. 1.1

Page 1 of 1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMP-DUP	REPLICATE
SAMP-DUP	Gross Weight (W2)	1.7989	
Work List	Tare Weight (W1)	1.4327	
16247	Weight of Solution (W2-W1)	0.3662	0
Test Code	Volume of Solution μL	250.2800	
SPG-01	Specific Gravity	1.4632	NA
Matrix			
LIQUID			
Sample #			
S96T005766			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L}/\text{mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g}/\text{mL}]$		
RAG			
Date			
01/21/97	v RESULT v		
Time	Specific Gravity =	1.463	

Data Entry by:

Date:

01/21/97

Approved by:

Date:

1/24/97

Form 510112L1 Rev. 1.1

Page 1 of 1

LABCORE Completed Worklist Report for Worklist# 15526

Analyst: rws

Instrument: PH01

Book# _____

Method: LA-211-102 Rev/Mod C-O

Worklist Comment: OH-01 FOR AN-104 (STD SS IS.050ML)

RTS!

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 BLANK	0		OH-01	LIQUID	1	<42		ug/mL
2 STD	0		OH-01	LIQUID	1.664e4	1.68e4	100.962 % Recovery	
3 SAMPLE	S96T005981	0	OH-01	LIQUID	N/A	7.14e4	5000.000	ug/mL
4 DUP	S96T005981	0	OH-01	LIQUID	7.14e4	7.04e4	1.410	RPD

Final page for worklist# 15526

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

RW Schwedn 1/24/97
Reviewer Signature Date

OH (AUTO): LA-211-102 (C-0)

WORKLIST
#

15526

INITIALS

ADR

ANALYSIS
DATE

1-23-97

ANALYSIS
TIME

0310

INSTRUMENT
CODE☐ SAMPLE
STANDARD☐ DUPLICATE
PREP BLANK☒ SPIKE
REAGENT BLANKSAMPLE/STD # = BLK
3mL ADRMATRIX = H₂OSAMPLE SIZE (mL) 3mLVOL. H₂O ADDED FOR DILUTION (if necessary)3mL1mL Back

VOL. DILUTED SAMPLE ANALYZED

* BaCl₂ VOLUME ADDED

* ATTACH PRINT REPORT #2 & #5

EPI .006
HNO₃ .2005M☒ SAMPLE
STANDARD☐ DUPLICATE
PREP BLANK☐ SPIKE
REAGENT BLANKSAMPLE/STD # = 79N8

MATRIX =

SAMPLE SIZE (mL) .050VOL. H₂O ADDED FOR DILUTION (if necessary)3mL1mL Back

VOL. DILUTED SAMPLE ANALYZED

* BaCl₂ VOLUME ADDED

* ATTACH PRINT REPORT #2 & #5

EPI .246
HNO₃ .2005M☒ SAMPLE
STANDARD☐ DUPLICATE
PREP BLANK☐ SPIKE
REAGENT BLANKSAMPLE/STD # = 596T005981

MATRIX =

SAMPLE SIZE (mL) .025VOL. H₂O ADDED FOR DILUTION (if necessary)3mL1mL Back

VOL. DILUTED SAMPLE ANALYZED

* BaCl₂ VOLUME ADDED

* ATTACH PRINT REPORT #2 & #5

EPI H76
HNO₃ .2005M☐ SAMPLE
STANDARD☒ DUPLICATE
PREP BLANK☐ SPIKE
REAGENT BLANKSAMPLE/STD # = 596T005981

MATRIX =

SAMPLE SIZE (mL) .025VOL. H₂O ADDED FOR DILUTION (if necessary)3mL1mL Back

VOL. DILUTED SAMPLE ANALYZED

* BaCl₂ VOLUME ADDED

* ATTACH PRINT REPORT #2 & #5

EPI
HNO₃ .2005M☐ SAMPLE
STANDARD☐ DUPLICATE
PREP BLANK☐ SPIKE
REAGENT BLANKSAMPLE/STD # = 596T005981MATRIX = TNDSAMPLE SIZE (mL) .025VOL. H₂O ADDED FOR DILUTION (if necessary)3mL

VOL. DILUTED SAMPLE ANALYZED

* BaCl₂ VOLUME ADDED 1mL

* ATTACH PRINT REPORT #2 & #5

EPI
HNO₃ .2005M☐ SAMPLE
STANDARD☐ DUPLICATE
PREP BLANK☐ SPIKE
REAGENT BLANK

SAMPLE/STD # =

MATRIX =

SAMPLE SIZE (mL)

VOL. H₂O ADDED FOR DILUTION (if necessary)

VOL. DILUTED SAMPLE ANALYZED

* BaCl₂ VOLUME ADDED

* ATTACH PRINT REPORT #2 & #5

☐ SAMPLE
STANDARD☐ DUPLICATE
PREP BLANK☐ SPIKE
REAGENT BLANK

SAMPLE/STD # =

MATRIX =

SAMPLE SIZE (mL)

VOL. H₂O ADDED FOR DILUTION (if necessary)

VOL. DILUTED SAMPLE ANALYZED

* BaCl₂ VOLUME ADDED

* ATTACH PRINT REPORT #2 & #5

☐ SAMPLE
STANDARD☐ DUPLICATE
PREP BLANK☐ SPIKE
REAGENT BLANK

SAMPLE/STD # =

MATRIX =

SAMPLE SIZE (mL)

VOL. H₂O ADDED FOR DILUTION (if necessary)

VOL. DILUTED SAMPLE ANALYZED

* BaCl₂ VOLUME ADDED

* ATTACH PRINT REPORT #2 & #5

HNF-SD-WM-DP-226, REV. 0

A-0004-1

LABCORE Data Entry Template for Worklist# 15526Analyst: ADP Instrument: PH01 Book# 79N8Method: LA-211-102 Rev/Mod C-0

Worklist Comment: OH-01 FOR AN-104 (STD SS IS.050ML) RTS!

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 BLNK			OH-01	LIQUID		
2 STD			OH-01	LIQUID		
3 SAMPLE	S96T005981 0		OH-01	LIQUID	96001174	AN-104
	Analytes Requested: OH-01					
4 DUP	S96T005981 0		OH-01	LIQUID		

Final page for worklist # 15526

Anthony Peruto 1-23-97
Analyst Signature Date

Analyst Signature Date

Data Entry Comments:

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

B1K

date 97-01-23 time 02:33
 GET pH 12 # 29
 Id.#1 0000
 Id.#2 .2005
 pH(init) 5.41
 V/ml pH
 EP1 .006 4.60
 stop volt. reached
 =====

date 97-01-23 time 02:33
 GET pH 12 # 29
 .10ml/div Δ pH=1/div
 start V .000 ml

STD # 79N8
 .050

date 97-01-23 time 02:46
 GET pH 12 # 30
 Id.#1 0001
 Id.#2 .2005
 pH(init) 12.01
 V/ml pH
 EP1 .246 10.12
 EP2 .313 7.64
 EP3 .349 4.74
 stop volt. reached
 =====

date 97-01-23 time 02:47
 GET pH 12 # 30
 .10ml/div Δ pH=1/div
 start V .000 ml

Am
0.025 mL

date 97-01-23 time 03:31
GET pH 12 # 33
Id.#1 5981
Id.#2 2005
pH(init) 12.06

	V/ml	pH
EP1	.476	10.62
EP2	.508	10.10
EP3	.681	8.91
EP4	.863	6.67

stop V reached
=====

date 97-01-23 time 03:32
GET pH 12 # 33
.10ml/div dPH=1/div
start V .000 ml

✓ DUD 0.25

date 97-01-23 time 03:47
GET pH 12 # 34
Id.#1 5981
Id.#2 2005
pH(init) 12.08

	V/ml	pH
EP1	.524	10.35
EP2	.727	8.57
EP3	.809	6.80
EP4	.864	5.85

stop V reached
=====

date 97-01-23 time 03:48
GET pH 12 # 34
.10ml/div dPH=1/div
start V .000 ml

Trp 0.25

date 97-01-23 time 04:00
GET pH 12 # 35
Id.#1 5981
Id.#2 2005
pH(init) 12.02

	V/ml	pH
EP1	.516	10.31
EP2	.716	8.36
EP3	.787	6.98
EP4	.834	5.23

stop V reached
=====

date 97-01-23 time 04:02
GET pH 12 # 35
.10ml/div dPH=1/div
start V .000 ml

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

OH (AUTO) : LA-211-102 (C-0)

		BLK
Type	Sample Size (mL) SS	3.000
BLK	Concentration of HNO3 (Molarity)	0.2005
Work List	HNO3 Titrant at OH end-point in mL	0.006
15526	Dilution Factor DF	1
Test Code	Concentration of OH in Sample (Molarity)	4.01E-04
OH-01	OH in Sample in µg/mL (PPM)	6.82E+00
Matrix		
LIQUID		
Sample #	Detection Limit = 125µg / SS * DF	
BLANK		
Instrument Code	Detection Limit (µg/mL)	4.17E+01
PH-01		
Analyst	OH Molarity = ((mL HNO3)*(M HNO3))/Sample Size in mL*Dilution Factor	
ADP		
Date	OH in µg/mL = (OH MOLARITY)*(17.0g/mole)*((1000000µg/g)/(1000mL/L))	
01/23/97		
Time		
02:33 AM	Concentration of OH in Sample (Molarity)	4.01E-04
	OH in Sample in µg/mL (PPM)	<42

The Result is < Detection Limit

Data Entry by: <i>newlight</i>	Date: 01/23/97
Approved by: <i>Ren Schwach</i>	Date: 1/24/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

OH (AUTO) : LA-211-102 (C-0)

		STD
Type	Sample Size (mL) SS	0.050
STD	Concentration of HNO3 (Molarity)	0.2005
Work List	HNO3 Titrant at OH end-point in mL	0.246
15526	Dilution Factor DF	1
Test Code	Concentration of OH in Sample (Molarity)	9.86E-01
OH-01	OH in Sample in µg/mL (PPM)	1.68E+04
Matrix		
LIQUID		
Sample #	Detection Limit = 125µg / SS * DF	
79N8		
Instrument Code	Detection Limit (µg/mL)	2.50E+03
PH-01		
Analyst	OH Molarity = ((mL HNO3)*(M HNO3))/Sample Size in mL*Dilution Factor	
ADP		
Date	OH in µg/mL = (OH MOLARITY)*(17.0g/mole)*((1000000µg/g)/(1000mL/L))	
01/23/97		
Time		STD
02:33 AM	Concentration of OH in Sample (Molarity)	9.86E-01
	OH in Sample in µg/mL (PPM)	1.68E+04

Data Entry by: <i>newright</i>	Date: 01/23/97
Approved by: <i>rew schwech</i>	Date: 1/24/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

OH (AUTO) : LA-211-102 (C-0)

		DUPLICATE
Type	Sample Size (mL) SS	0.025
DUPLICATE Sample	Concentration of HNO3 (Molarity)	0.2005
Work List	HNO3 Titrant at OH end-point in mL	0.524
15526	Dilution Factor DF	1
Test Code	Concentration of OH in Sample (Molarity)	4.20E+00
OH-01	OH in Sample in µg/mL (PPM)	7.14E+04
Matrix		
LIQUID		
Sample #	Detection Limit = 125µg / SS * DF	
S96T005981		
Instrument Code	Detection Limit (µg/mL)	5.00E+03
PH-01		
Analyst	OH Molarity = ((mL HNO3)*(M HNO3))/Sample Size in mL*Dilution Factor	
ADP		
Date	OH in µg/mL = (OH MOLARITY)*(17.0g/mole)*((1000000µg/g)/((1000mL/L))	
01/23/97		
Time		DUPLICATE
02:33 AM	Concentration of OH in Sample (Molarity)	4.20E+00
	OH in Sample in µg/mL (PPM)	7.14E+04

Data Entry by: *newlight* Date: 01/23/97
 Approved by: *newlight* Date: 1/24/97
 Form 211102_1 Rev. 1.3 Page 1 of 1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

OH (AUTO) : LA-211-102 (C-0)

		TRIPLICATE
Type	Sample Size (mL) SS	0.025
TRIPLICATE Duplicate	Concentration of HNO3 (Molarity)	0.2005
Work List	HNO3 Titrant at OH end-point in mL	0.516
15526	Dilution Factor DF	1
Test Code	Concentration of OH in Sample (Molarity)	4.14E+00
OH-01	OH in Sample in µg/mL (PPM)	7.04E+04
Matrix		
LIQUID		
Sample #	Detection Limit = 125µg / SS * DF	
S96T005981		
Instrument Code	Detection Limit (µg/mL)	5.00E+03
PH-01		
Analyst	OH Molarity = ((mL HNO3)*(M HNO3))/Sample Size in mL*Dilution Factor	
ADP		
Date	OH in µg/mL = (OH MOLARITY)*(17.0g/mole)*((1000000µg/g)/(1000mL/L))	
01/23/97		
Time		TRIPLICATE
02:33 AM	Concentration of OH in Sample (Molarity)	4.14E+00
	OH in Sample in µg/mL (PPM)	7.04E+04

Data Entry by: *TE Wright* Date: 01/23/97
 Approved by: *RW Schneider* Date: 1/24/97

LABCORE Data Entry Template for Worklist# 16159

Analyst: RPD Instrument: PH01 Book # 79108

Method: LA-211-102 Rev/Mod C-0

Worklist Comment: AN-104 FOR OH-01 (STD SS IS .050ML) RTS!

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			OH-01	SOLID	<u>1</u>	<u><2.45e4</u>	<u>N/A</u>	ug/g
		2 STD			OH-01	SOLID	<u>1.66e4</u>	<u>1.78e4</u>	<u>N/A</u>	ug/g
96001174	AN-104	3 SAMPLE	S96T005977	0 W	OH-01	SOLID	<u>N/A</u>	<u>3.61e4</u>	<u>2.45e4</u>	ug/g
96001174	AN-104	4 DUP	S96T005977	0 W	OH-01	SOLID	<u>3.61e4</u>	<u>3.82e4</u>	<u>N/A</u>	ug/g

Final page for worklist # 16159

Analyst Signature

Date

1/16/97

Analyst Signature

Date

1/17/97
1/17/97
1/18/97

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.

INSTRUMENT
CODE

ANALYSIS
TIME

ANALYSIS
DATE

OH (AUTO): LA-211-102 (C-0)

ANALYST
INITIALS

WORKLIST
#

16159

☒ SAMPLE STANDARD ☒ DUPLICATE PREP BLANK ☐ SPIKE REAGENT BLANK

SAMPLE/STD # = MATRIX =

SAMPLE SIZE (mL) 1m

VOL. H₂O ADDED FOR DILUTION (if necessary) 3m

VOL. DILUTED SAMPLE ANALYZED

* BaO₂ VOLUME ADDED 1m

* ATTACH PRINT REPORT #2 & #5

☒ SAMPLE STANDARD ☒ DUPLICATE PREP BLANK ☐ SPIKE REAGENT BLANK

SAMPLE/STD # = MATRIX =

SAMPLE SIZE (mL) 0.50m

VOL. H₂O ADDED FOR DILUTION (if necessary) 3m

VOL. DILUTED SAMPLE ANALYZED

* BaO₂ VOLUME ADDED 1m

* ATTACH PRINT REPORT #2 & #5

☒ SAMPLE STANDARD ☒ DUPLICATE PREP BLANK ☐ SPIKE REAGENT BLANK

SAMPLE/STD # = MATRIX =

SAMPLE SIZE (mL) 1m

VOL. H₂O ADDED FOR DILUTION (if necessary) 3m

VOL. DILUTED SAMPLE ANALYZED

* BaO₂ VOLUME ADDED 1m

* ATTACH PRINT REPORT #2 & #5

H20D1601 = 5105

☐ SAMPLE STANDARD ☒ DUPLICATE PREP BLANK ☐ SPIKE REAGENT BLANK

SAMPLE/STD # = MATRIX =

SAMPLE SIZE (mL) 1m

VOL. H₂O ADDED FOR DILUTION (if necessary) 3m

VOL. DILUTED SAMPLE ANALYZED

* BaO₂ VOLUME ADDED 1m

* ATTACH PRINT REPORT #2 & #5

H20D1601 = 5105

☐ SAMPLE STANDARD ☐ DUPLICATE PREP BLANK ☐ SPIKE REAGENT BLANK

SAMPLE/STD # = MATRIX =

SAMPLE SIZE (mL) _____

VOL. H₂O ADDED FOR DILUTION (if necessary) _____

VOL. DILUTED SAMPLE ANALYZED _____

* BaO₂ VOLUME ADDED _____

* ATTACH PRINT REPORT #2 & #5

☐ SAMPLE STANDARD ☐ DUPLICATE PREP BLANK ☐ SPIKE REAGENT BLANK

SAMPLE/STD # = MATRIX =

SAMPLE SIZE (mL) _____

VOL. H₂O ADDED FOR DILUTION (if necessary) _____

VOL. DILUTED SAMPLE ANALYZED _____

* BaO₂ VOLUME ADDED _____

* ATTACH PRINT REPORT #2 & #5

☐ SAMPLE STANDARD ☐ DUPLICATE PREP BLANK ☐ SPIKE REAGENT BLANK

SAMPLE/STD # = MATRIX =

SAMPLE SIZE (mL) _____

VOL. H₂O ADDED FOR DILUTION (if necessary) _____

VOL. DILUTED SAMPLE ANALYZED _____

* BaO₂ VOLUME ADDED _____

* ATTACH PRINT REPORT #2 & #5

☐ SAMPLE STANDARD ☐ DUPLICATE PREP BLANK ☐ SPIKE REAGENT BLANK

SAMPLE/STD # = MATRIX =

SAMPLE SIZE (mL) _____

VOL. H₂O ADDED FOR DILUTION (if necessary) _____

VOL. DILUTED SAMPLE ANALYZED _____

* BaO₂ VOLUME ADDED _____

* ATTACH PRINT REPORT #2 & #5

Blank

date 97-01-16 time 02:47
 GET pH 12 # 7
 Id.#1 5993
 Id.#2 .2005
 pH(init) 5.31
 V/ml pH
 EP1 .000 4.42
 stop volt.reached
 =====

STD 79N8

date 97-01-16 time 03:02
 GET pH 12 # 8
 Id.#1 5993
 Id.#2 .2005
 pH(init) 11.53
 V/ml pH
 EP1 .261 9.72
 EP2 .333 7.28
 EP3 .473 3.24
 stop volt.reached
 =====

Worklist 10639

date 97-01-16 time 04:21
 GET pH 12 # 15
 Id.#1 5977
 Id.#2 .2005 *amph*
 pH(init) 10.87
 V/ml/m pH
 EP1 .054 9.36
 EP2 .086 7.21
 EP3 .155 4.13
 stop volt.reached
 =====

date 97-01-16 time 05:31
 GET pH 12 # 15
 .10ml/div Δ pH=1/div
 start V .000 ml

date 97-01-16 time 05:44
 GET pH 12 # 16
 Id.#1 5977
 Id.#2 .2005 *Dup*
 pH(init) 10.84
 V/ml/m pH
 EP1 .059 9.34
 EP2 .092 6.99
 EP3 .175 3.61
 stop volt.reached
 =====

date 97-01-16 time 06:04
 GET pH 12 # 17
 Id.#1 5977 *Blank*
 Id.#2 .2005 *Prep*
 pH(init) 5.45
 V/ml/m pH
 EP1 .007 4.49
 stop volt.reached
 =====

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

OH (AUTO) : LA-211-102 (C-0)

Type	Sample Size (mL) SS	Prep-Blank
Prep-Blank	Concentration of HNO3 (Molarity)	1.000
Work List	HNO3 Titrant at OH end-point in mL	0.2005
16159	Dilution Factor DF	0.007
Test Code	Concentration of OH in Sample (Molarity)	196
OH-01	OH in Sample in µg/mL (PPM)	2.75E-01
Matrix		4.68E+03
Solid		
Sample #	Detection Limit = 125µg / SS * DF	
BLNK		
Instrument Code	Detection Limit (µg/mL)	2.45E+04
Analyst	OH Molarity = ((mL HNO3)*(M HNO3))/Sample Size in mL*Dilution Factor	
KRQ		
Date	OH in µg/mL = (OH MOLARITY)*(17.0g/mole)*((1000000µg/g)/(1000mL/L))	
01/16/97		
Time		
	Concentration of OH in Sample (Molarity)	Prep-Blank
		2.75E-01
	OH in Sample in µg/mL (PPM)	<24500

The Result is < Detection Limit

Data Entry by:	RWS	Date:	01/17/97
Approved by:	RW Johnson	Date:	1/17/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

OH (AUTO) : LA-211-102 (C-0)

		Standard
Type	Sample Size (mL) SS	0.050
Standard	Concentration of HNO3 (Molarity)	0.2005
Work List	HNO3 Titrant at OH end-point in mL	0.261
16159	Dilution Factor DF	1
Test Code	Concentration of OH in Sample (Molarity)	1.05E+00
OH-01	OH in Sample in µg/mL (PPM)	1.78E+04
Matrix		
Solid		
Sample #		
79N8		
Instrument Code		
Analyst	OH Molarity = ((mL HNO3)*(M HNO3))/Sample Size in mL*Dilution Factor	
KRQ		
Date	OH in µg/mL = (OH MOLARITY)*(17.0g/mole)*((1000000µg/g)/(1000mL/L))	
01/16/97		
Time		
		Standard
Concentration of OH in Sample (Molarity)		1.05E+00
OH in Sample in µg/mL (PPM)		1.78E+04

Data Entry by:	<i>RWS</i>	Date:	01/17/97
Approved by:	<i>Rui Schneider</i>	Date:	1/17/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

OH (AUTO) : LA-211-102 (C-0)

		Sample
Type	Sample Size (mL) SS	1.000
Sample	Concentration of HNO3 (Molarity)	0.2005
Work List	HNO3 Titrant at OH end-point in mL	0.054
16159	Dilution Factor DF	196
Test Code	Concentration of OH in Sample (Molarity)	2.12E+00
OH-01	OH in Sample in µg/mL (PPM)	3.61E+04
Matrix		
Solid		
Sample #	Detection Limit = 125µg / SS * DF	
S96T005977		
Instrument Code	Detection Limit (µg/mL)	2.45E+04
Analyst	OH Molarity = ((mL HNO3)*(M HNO3))/Sample Size in mL*Dilution Factor	
KRQ		
Date	OH in µg/mL = (OH MOLARITY)*(17.0g/mole)*((1000000µg/g)/(1000mL/L))	
01/16/97		
Time		
	Concentration of OH in Sample (Molarity)	2.12E+00
	OH in Sample in µg/mL (PPM)	3.61E+04

Data Entry by:	RWS	Date:	01/17/97
Approved by:	Rw Schroeder	Date:	1/17/97

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

OH (AUTO) : LA-211-102 (C-0)

		Duplicate
Type	Sample Size (mL) SS	1.000
Duplicate	Concentration of HNO3 (Molarity)	0.2005
Work List	HNO3 Titrant at OH end-point in mL	0.059
16159	Dilution Factor DF	190
Test Code	Concentration of OH in Sample (Molarity)	2.25E+00
OH-01	OH in Sample in µg/mL (PPM)	3.82E+04
Matrix		
Solid		
Sample #	Detection Limit = 125µg / SS * DF	
S96T005977		
Instrument Code	Detection Limit (µg/mL)	2.38E+04
Analyst	OH Molarity = ((mL HNO3)*(M HNO3))/Sample Size in mL*Dilution Factor	
KRQ		
Date	OH in µg/mL = (OH MOLARITY)*(17.0g/mole)*((1000000µg/g)/(1000mL/L))	
01/16/97		
Time		
	Concentration of OH in Sample (Molarity)	2.25E+00
	OH in Sample in µg/mL (PPM)	3.82E+04

Data Entry by:	RWS	Date:	01/17/97
Approved by:	RW Schroeder	Date:	1/17/97
Form 211102_1 Rev. 1.3		Page 1 of 1	

LABCORE Data Entry Template for Worklist# 15530

Analyst: VLW Instrument: BA001 Book # 11N19FMethod: LA-265-101 Rev/Mod B-D

Worklist Comment: CRVI-01 FOR AN-104

RTS!

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK			CRVI-01	LIQUID	<u>1.0</u>	<u>20.220</u>	<u>N/A</u>	<u>9mF 12/19/96</u>
		2 STD			CRVI-01	LIQUID	<u>5.00</u>	<u>5.03</u>	<u>N/A</u>	<u>ug/mL</u>
96001174	AN-104	3 SAMPLE	S96T005980	0	CRVI-01	LIQUID	<u>N/A</u>	<u>2.14e2</u>	<u>2.22e2</u>	<u>ug/mL</u>
96001174	AN-104	4 DUP	S96T005980	0	CRVI-01	LIQUID	<u>2.14e2</u>	<u>2.11e2</u>	<u>N/A</u>	<u>ug/mL</u>
96001174	AN-104	5 SPK	S96T005980	0	CRVI-01	LIQUID	<u>100</u>	<u>100.7</u>	<u>N/A</u>	<u>ug/mL</u>

Final page for worklist # 15530

Janet Fegan for V.L. Massie 12/19/96
Analyst Signature Date

H. Anastas 12-23-96
Analyst Signature Date
Data Entry + Validation

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.

12/11/96 07:48

HNF-SD-WM-DP-226, REV. 0

Page: 1

A-0004-1

LABCORE Data Entry Template for Worklist# 15530Analyst: VLm Instrument: BA001 ✓ Book# 11N19-FMethod: LA-265-101 Rev/Mod B-0

Worklist Comment: CRVI-01 FOR AN-104

RTS!

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 BLNK			CRVI-01	LIQUID		
2 STD			CRVI-01	LIQUID		
3 SAMPLE	S96T005980 0		CRVI-01	LIQUID	96001174	AN-104
	Analytes Requested: CRVI-01					
4 DUP	S96T005980 0		CRVI-01	LIQUID		
5 SPK	S96T005980 0		CRVI-01	LIQUID		

Final page for worklist # 15530

Valérie Masson 12-17-96

Analyst Signature

Date

Analyst Signature

Date

Data Entry Comments:

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

Chromium Data Collection Sheet

HNF-SD-WM-DP-226, REV. 0

Worklist Number: 15530Date/Time: 12-17-96 / 14:50Spike Book Number: 11N19-FSpike Volume: 1.0 ml

ABS Reading

Sample Type	Sample Number	Digest Factor	Preparation Factor	Sample Size	Dilution Factor	Comments
STD	11N19-F	N/A	0.363	1.0 ml		
BLNK		N/A	0.000	1.0 ml		540nm 0.000 A
D	596T005940	N/A	0.156	100ul-10-1.0ml		540nm 0.363 A
D	596T005940D	N/A	0.154	100ul-10-1.0ml		540nm 0.156 A
D	596T005940	N/A	0.472	100ul-10-1.0ml		540nm 0.154 A
D	596T005940	N/A	0.472	1.0ml spike		540nm 0.472 A
D	11N19-F		0.363	1.0 ml		
D	Blank	0.000	0.363	1.0 ml		540nm 0.000 A
D	596T005940		0.082	100ul-10-1.0ml		540nm 0.363 A
D	596T005940D		0.083	100ul-10-1.0ml		540nm 0.082 A
D	596T005940S		0.423	100ul-10-1.0ml		540nm 0.083 A
D	11N19-F			1.0ml spike		540nm 0.423 A

PLACE ANALYTICAL CARD HERE OR ATTACH TRAVELER

Cr+6 : LA-265-101 (B-0)

LIQUID SAMPLE

Type	Sample Absorbance at 540 nm (abs)	blank	DUPLICATE
blank	Sample Volume in mL (Vsamp)	0.000	
Work List	Method Factor (10 + Vsamp) (MF)	1.00	
15530	Dilution Factor (DF)	11	10
Test Code	Digest Dilution Factor (DDF)	1	
CRVI-01	Low Calibration Point	0.021	0.021
Matrix	High Calibration Point	0.779	0.779
LIQUID	Y-Intercept (a)	0.00537	0.00537
Sample #	Slope (b)	0.78285	0.78285
S96T005980	Cr +6 µg/mL =	<0.220	ERR

Calibration Date

12/13/96

$$\text{Cr} +6 \mu\text{g/mL} = (\text{abs}-a) * \text{MF} * \text{DF} * \text{DDF} / (b * \text{Vsamp})$$

Instrument Code

$$\text{RPD} = (|\text{Cr} +6 \mu\text{g/mL SAM} - \text{Cr} +6 \mu\text{g/mL DUP}| / \text{AVERAGE OF THE SAM} + \text{DUP}) * 100$$

sp01

Less Than Value = abs < Low Calibration Point

Analyst

vlm

v RESULT v

Date

12/16/96

Time

	blank	DUPLICATE
Cr +6 µg/mL =	<0.220	ERR

Both Absorbances are < Detection Limit (the Low Calibration Point)

RESULT > Recovery % Difference = N/A

Data Entry by:

Date: 12/19/96

Approved by:

Date: 12/19/96

Form 265101L1 Rev. 1.2

Page 1 of 1

PLACE ANALYTICAL CARD HERE OR ATTACH TRAVELER

Sample
Detection Limit

Cr+6 : LA-265-101 (B-0)

LIQUID SAMPLE

		sample	DUPLICATE
Type	Sample Absorbance at 540 nm (abs)	0.000	
sample - Det Lim	Sample Volume in mL (Vsamp)	1.00	
Work List	Method Factor (10 + Vsamp) (MF)	11	10
15530	Dilution Factor (DF)	101	
Test Code	Digest Dilution Factor (DDF)	1	
GRVI-01	Low Calibration Point	0.021	0.021
Matrix	High Calibration Point	0.779	0.779
LIQUID	Y-Intercept (a)	0.00537	0.00537
Sample #	Slope (b)	0.78285	0.78285
S96T005980	Cr +6 µg/mL =	<22.182	ERR
Calibration Date	Cr +6 µg/mL = (abs-a) * MF * DF * DDF / (b * Vsamp)		
12/13/96	RPD = ((Cr +6 µg/mL SAM - Cr +6 µg/mL DUP) / AVERAGE OF THE SAM + DUP)*100		
Instrument Code	Less Than Value = abs < Low Calibration Point		
sp01			
Analyst			
vlm	v RESULT v	sample	DUPLICATE
Date	Cr +6 µg/mL =	<22.182	ERR
12/16/96			
Time			

Both Absorbances are < Detection Limit (the Low Calibration Point)

RESULT > Recovery % Difference = N/A

Data Entry by:	<i>Jana M. Lugo</i>	Date:	12/19/96
Approved by:	<i>Jana M. Lugo</i>	Date:	12/19/96

PLACE ANALYTICAL CARD HERE OR ATTACH TRAVELER

Cr+6 : LA-265-101 (B-0)

LIQUID SAMPLE

		std	DUPLICATE
Type	Sample Absorbance at 540 nm (abs)	0.363	
std	Sample Volume in mL (Vsamp)	1.00	
Work List	Method Factor (10 + Vsamp) (MF)	11	
15530	Dilution Factor (DF)	1	
Test Code	Digest Dilution Factor (DDF)	1	
CRVI-01	Low Calibration Point	0.021	
Matrix	High Calibration Point	0.779	
LIQUID	Y-Intercept (a)	0.00537	
Sample #	Slope (b)	0.78285	
S96T005980	Cr +6 µg/mL =	5.03E+00	

Calibration Date

12/13/96

$$\text{Cr +6 } \mu\text{g/mL} = (\text{abs}-a) * \text{MF} * \text{DF} * \text{DDF} / (b * \text{Vsamp})$$

Instrument Code

sp01

$$\text{RPD} = (|\text{Cr +6 } \mu\text{g/mL SAM} - \text{Cr +6 } \mu\text{g/mL DUP}| / \text{AVERAGE OF THE SAM + DUP}) * 100$$

Less Than Value = abs < Low Calibration Point

Analyst

vjm

v RESULT v

Date

12/17/96

Time

Cr +6 µg/mL =

std

DUPLICATE

5.03E+00

100.6 % Rec.

RESULT >

N/A

Data Entry by:

Date: 12/19/96

Approved by:

Date: 12/19/96

Form 265101L1 Rev. 1.2

Page 1 of 1

PLACE ANALYTICAL CARD HERE OR ATTACH TRAVELER

Cr+6 : LA-265-101 (B-0)

LIQUID SAMPLE

		sample	DUPLICATE
Type	Sample Absorbance at 540 nm (abs)	0.156	0.154
sample	Sample Volume in mL (Vsamp)	1.00	1.00
Work List	Method Factor (10 + Vsamp) (MF)	11	11
15530	Dilution Factor (DF)	101	101
Test Code	Digest Dilution Factor (DDF)	1	1
CRVI-01	Low Calibration Point	0.021	0.021
Matrix	High Calibration Point	0.779	0.779
LIQUID	Y-Intercept (a)	0.00537	0.00537
Sample #	Slope (b)	0.78285	0.78285
S96T005980	Cr +6 µg/mL =	2.14E+02	2.11E+02

Calibration Date

12/13/96

Instrument Code

sp01

Analyst

vIm

Date

12/17/96

Time

Cr +6 µg/mL = (abs-a) * MF * DF * DDF / (b * Vsamp)

RPD = (|Cr +6 µg/mL SAM - Cr +6 µg/mL DUP| / AVERAGE OF THE SAM + DUP)*100

Less Than Value = abs < Low Calibration Point

v RESULT v

	sample	DUPLICATE
Cr +6 µg/mL =	2.14E+02	2.11E+02

RESULT > Recovery % Difference = 1.34%

Data Entry by:

Date: 12/19/96

Approved by:

Date: 12/19/96

Form 265101L1 Rev. 1.2

Page 1 of 1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

Cr+6 : LA-265-101 (B-0) HEXAVALENT CHROMIUM - SPIKE		SPIKE
Type	SAMPLE ABSORBANCE at 540 nm (SAM abs)	0.156
SPIKE	SAMPLE + SPIKE ABSORBANCE at 540 nm (S+S abs)	0.472
Work List	SAMPLE VOLUME (Sample) in mL (Vsam)	1.000
15530	SAMPLE VOLUME (Spiked Sample) in mL (S+S Vsam)	1.000
Test Code	VOLUME of SPIKE in mL (VOL Spk)	1.000
CRVI-01	SPIKE DILUTION FACTOR (SDF)	1
Matrix	SPIKE VALUE (µg/mL)	5
liquid		
Sample #	LOW CALIBRATION POINT	0.021
S96T005980	HIGH CALIBRATION POINT	0.779
Calibration Date	Y-INTERCEPT (a)	0.00537
12/13/96	SLOPE (b)	0.78285
Instrument Code		
sp01	Cr +6 Molarity in SAMP VIAL = (SAM abs - a) / b (MSV)	
Analyst	Cr +6 Molarity in S+S VIAL = (S+S abs - a) / b (MSSV)	
Vlm	TOTAL VOLUME for SAMP VIAL = 10 + Vsam (TVS)	
Date	TOTAL VOLUME for S+S VIAL = 10 + S+S Vsam + VOL Spk (TVSS)	
12/17/96	% Spike Rec. = ((MSSV * TVSS) - (MSV * TVS * SSCF)) / (SPIKE VALUE * VOL Spk / SDF)	
Time	Note: SAMPLE SIZE CORRECTION FACTOR (SSCF) = S+S Vsam / Vsam	

RESULT	% SPIKE RECOVERY	=	100.7%
--------	------------------	---	--------

Data entry by:	<i>[Signature]</i>	Date:	12/19/96
Approved by:	<i>[Signature]</i>	Date:	12/19/96

Form 265101X3 Rev. 1/2 Page 1 of 1

PLACE ANALYTICAL CARD HERE OR ATTACH TRAVELER

not used

Cr+6 : LA-265-101 (B-0)

LIQUID SAMPLE

		sample	DUPLICATE
Type	Sample Absorbance at 540 nm (abs)	0.082	0.083
sample	Sample Volume in mL (Vsamp)	0.50	0.50
Work List	Method Factor (10 + Vsamp) (MF)	10.5	10.5
15530	Dilution Factor (DF)	101	101
Test Code	Digest Dilution Factor (DDF)	1	1
CRVI-01	Low Calibration Point	0.021	0.021
Matrix	High Calibration Point	0.779	0.779
LIQUID	Y-Intercept (a)	0.00537	0.00537
Sample #	Slope (b)	0.78285	0.78285
S96T005980	Cr +6 µg/mL =	2.08E+02	2.10E+02

Calibration Date

12/13/96

Cr +6 µg/mL = (abs-a) * MF * DF * DDF / (b * Vsamp)

Instrument Code

sp01

RPD = ((Cr +6 µg/mL SAM - Cr +6 µg/mL DUP) / AVERAGE OF THE SAM + DUP)*100
Less Than Value = abs < Low Calibration Point

Analyst

vjm

v RESULT v

Date

12/17/96

Cr +6 µg/mL =

sample

DUPLICATE

2.08E+02

2.10E+02

Time

RESULT > Recovery % Difference = 1.30%

Data Entry by: <i>[Signature]</i>	Date: 12/19/96
Approved by: <i>[Signature]</i>	Date: 12/19/96

Form 265101L1 Rev. 1/2

Page 1 of 1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

not used

Cr+6 : LA-265-101 (B-0) HEXAVALENT CHROMIUM - SPIKE		SPIKE
Type	SAMPLE ABSORBANCE at 540 nm (SAM abs)	0.082
SPIKE	SAMPLE + SPIKE ABSORBANCE at 540 nm (S+S abs)	0.423
Work List	SAMPLE VOLUME (Sample) in mL (Vsam)	0.500
15530	SAMPLE VOLUME (Spiked Sample) in mL (S+S Vsam)	0.500
Test Code	VOLUME of SPIKE in mL (VOL Spk)	1.000
CRVI-01	SPIKE DILUTION FACTOR (SDF)	1
Matrix	SPIKE VALUE (ug/mL)	5
liquid		
Sample #	LOW CALIBRATION POINT	0.021
S96T005980	HIGH CALIBRATION POINT	0.779
Calibration Date	Y-INTERCEPT (a)	0.00537
12/13/96	SLOPE (b)	0.78285
Instrument Code		
sp01	Cr +6 Molarity in SAMP VIAL = (SAM abs - a) / b (MSV)	
Analyst	Cr +6 Molarity in S+S VIAL = (S+S abs - a) / b (MSSV)	
vlm	TOTAL VOLUME for SAMP VIAL = 10 + Vsam (TVS)	
Date	TOTAL VOLUME for S+S VIAL = 10 + S+S Vsam + VOL Spk (TVSS)	
12/17/96	% Spike Rec. = ((MSSV * TVSS) - (MSV * TVS * SSCF)) / (SPIKE VALUE * VOL Spk / SDF)	
Time	Note: SAMPLE SIZE CORRECTION FACTOR (SSCF) = S+S Vsam / Vsam	

RESULT	% SPIKE RECOVERY	=	102.1%
--------	------------------	---	--------

Data entry by:	<i>James Lange</i>	Date:	12/19/96
Approved by:	<i>James Lange</i>	Date:	12/19/96

Form 265101X3 Rev. 1.2

Page 1 of 1

LABCORE Data Entry Template for Worklist# 16162

Analyst: DD Instrument: BA001 Book # 11 N19-G

Method: LA-265-101 Rev/Mod B-0

Worklist Comment: CRVI-01 FOR AN-104

RTS

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			CRVI-01	SOLID	<u>5.00</u>	<u>2.43</u> <u>5.24</u>	<u>2.5</u> <u>1.21-97</u> <u>N/A</u>	ug/g
		2 STD			CRVI-01	SOLID	<u>5.00</u>	<u>5.24</u>	<u>N/A</u>	ug/g
96001174	AN-104	3 SAMPLE	S96T005977	0 W	CRVI-01	SOLID	<u>N/A</u>	<u>2.03</u> ⁶⁰²		ug/g
96001174	AN-104	4 DUP	S96T005977	0 W	CRVI-01	SOLID	<u>2.03</u> ⁶⁰²	<u>1.97</u> ⁶⁰²	<u>N/A</u>	ug/g
96001174	AN-104	5 SPK	S96T005977	0 W	CRVI-01	SOLID	<u>100</u>	<u>108</u>	<u>N/A</u>	ug/g

Final page for worklist # 16162

David D. Durham 1-20-97
Analyst Signature Date

R. Jones 1-21-97
Analyst Signature Date

H2ODIG-01 = Sam 5.105
dup 3.250

Validated 2/6/97 Gmf

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.

Cr+6 DATA COLLECTION SHEET

WORKLIST# 16162
MATRIX Solid

SPIKE BOOK# 11N19-G
SPIKE VOLUME 1 mL

ANALYST Del
DATE/TIME 1-20-97 / 1500

SAMPLE TYPE	SAMPLE NUMBER	DIGEST FACTOR	SAMPLE SIZE	ABS. READING	COMMENTS
STD	11N19-G		1.0 mL	.378	
BLNK	Blank	5.105	1.0 mL	.000	
Prep Blank	Prep Blank	5.105	1.0 mL	-.001	
Sam	S96T 5977	5.105	1.0 mL	.079	
Dup	S96T 5977	5.250	1.0 mL	.079	
Spike	11N19-G	5.105	1.0 mL		
	S96T 5977		1.0 mL	.425	

HNF-SD-WM-DP-226, REV. 0

PLACE ANALYTICAL CARD HERE OR ATTACH TRAVELER

Cr+6 : LA-265-101 (B-0) SOLID SAMPLE		BLNK-PREP	DUPLICATE
Type	Sample Absorbance at 540 nm (abs)	-0.001	
BLNK-PREP	Sample Volume in mL (Vsamp)	1.000	
Work List	Method Factor (10 + Vsamp) (MF)	11	
16162	Dilution Factor (DF)	1	
Test Code	Digest g/L (DGL)	5.105	
CRVI-01	Low calibration abs point	0.021	
Matrix	High calibration abs point	0.779	
SOLID	Y-intercept (a)	0.00537	
Sample #	Slope (b)	0.78285	
BLANK	Cr +6 µg/g =	<43.021	
Calibration Date	12/13/96		
Instrument Code	Cr +6 µg/g = (abs-a) * MF * DF * (1000mL/L) / (b * DGL * Vsamp)		
BA001	RPD = Cr +6 µg/g SAM - Cr +6 µg/g DUP / AVERAGE OF THE SAM + DUP * 100		
Analyst	Less Than Value = Sample Absorbance < Low Calibration Point		
DCD	v RESULT v	BLNK-PREP	DUPLICATE
Date	Cr +6 µg/g =	<43.021	
01/20/97			
Time			
03:00 PM			

The Sample Absorbance is < Detection Limit (the Low Calibration Point)

RESULT >

Data Entry by:	Date: 01/21/97
Approved by: <i>[Signature]</i>	Date: 2/1/97
Form 265101S2 Rev. 1.2	Page 1 of 1

PLACE ANALYTICAL CARD HERE OR ATTACH TRAVELER

Cr+6 : LA-265-101 (B-0)

LIQUID SAMPLE

		STANDARD	DUPLICATE
Type	Sample Absorbance at 540 nm (abs)	0.378	N/A
STANDARD	Sample Volume in mL (Vsamp)	1.00	N/A
Work List	Method Factor (10 + Vsamp) (MF)	11	10
16162	Dilution Factor (DF)	1	N/A
Test Code	Digest Dilution Factor (DDF)	1	N/A
CRVI-01	Low Calibration Point	0.021	0.021
Matrix	High Calibration Point	0.779	0.779
LIQUID	Y-Intercept (a)	0.00537	0.00537
Sample #	Slope (b)	0.78285	0.78285
11N19G	Cr +6 µg/mL =	5.24E+00	ERR
Calibration Date	$\text{Cr} +6 \mu\text{g/mL} = (\text{abs}-a) * \text{MF} * \text{DF} * \text{DDF} / (b * \text{Vsamp})$ $\text{RPD} = (\text{Cr} +6 \mu\text{g/mL SAM} - \text{Cr} +6 \mu\text{g/mL DUP} / \text{AVERAGE OF THE SAM} + \text{DUP}) * 100$ Less Than Value = abs < Low Calibration Point		
12/13/96			
Instrument Code			
BA001			
Analyst			
DCD	v RESULT v	STANDARD	DUPLICATE
Date	Cr +6 µg/mL =	5.24E+00	ERR
01/20/97			
Time			
03:00 PM			

The Duplicate Absorbance is < Detection Limit (the Low Calibration Point

RESULT > Recovery % Difference = N/A

Data Entry by:	Date: 01/21/97
Approved by:	Date: 2/1/97
Form 265101L1 Rev. 1.2	Page 1 of 1

PLACE ANALYTICAL CARD HERE OR ATTACH TRAVELER

Cr+6 : LA-265-101 (B-0) SOLID SAMPLE		SAMPLE	DUPLICATE
Type	Sample Absorbance at 540 nm (abs)	0.079	
SAMPLE	Sample Volume in mL (Vsamp)	1.000	
Work List	Method Factor (10 + Vsamp) (MF)	11	
16162	Dilution Factor (DF)	1	
Test Code	Digest g/L (DGL)	5.105	
CRVI-01	Low calibration abs point	0.021	
Matrix	High calibration abs point	0.779	
SOLID	Y-intercept (a)	0.00537	
Sample #	Slope (b)	0.78285	
S96T005977	Cr +6 µg/g =	2.03E+02	
Calibration Date			
12/13/96			
Instrument Code	Cr +6 µg/g = (abs-a) * MF * DF * (1000mL/L) / (b * DGL * Vsamp)		
BA001	RPD = Cr +6 µg/g SAM - Cr +6 µg/g DUP / AVERAGE OF THE SAM + DUP * 100		
Analyst	Less Than Value = Sample Absorbance < Low Calibration Point		
DCD	v RESULT v	SAMPLE	DUPLICATE
Date	Cr +6 µg/g =	2.03E+02	
01/20/97			
Time			
03:00 PM			

RESULT >

Data Entry by:

Date: 01/21/97

Approved by:

Date: 2/6/97

Form 265101S2 Rev. 1.2

Page 1 of 1

PLACE ANALYTICAL CARD HERE OR ATTACH TRAVELER

Cr+6 : LA-265-101 (B-0) SOLID SAMPLE		SAMPLE	DUPLICATE
Type	Sample Absorbance at 540 nm (abs)	0.079	
DUPLICATE	Sample Volume in mL (Vsamp)	1.000	
Work List	Method Factor (10 + Vsamp) (MF)	11	
16162	Dilution Factor (DF)	1	
Test Code	Digest g/L (DGL)	5.25	
CRVI-01	Low calibration abs point	0.021	
Matrix	High calibration abs point	0.779	
SOLID	Y-intercept (a)	0.00537	
Sample #	Slope (b)	0.78285	
S96T005977DUP	Cr +6 µg/g =	1.97E+02	
Calibration Date	12/13/96		
Instrument Code	Cr +6 µg/g = (abs-a) * MF * DF * (1000mL/L) / (b * DGL * Vsamp)		
BA001	RPD = Cr +6 µg/g SAM - Cr +6 µg/g DUP / AVERAGE OF THE SAM + DUP * 100		
Analyst	Less Than Value = Sample Absorbance < Low Calibration Point		
DCD	v RESULT v	SAMPLE	DUPLICATE
Date	Cr +6 µg/g =	1.97E+02	
01/20/97			
Time			
03:00 PM			

RESULT >

Data Entry by:	Date: 01/21/97
Approved by: <i>Janet L. Lyle</i>	Date: 2/6/97
Form 265101S2 Rev. 1.2	Page 1 of 1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

Cr+6 : LA-265-101 (B-0) HEXAVALENT CHROMIUM - SPIKE		SPIKE
Type	SAMPLE ABSORBANCE at 540 nm (SAM abs)	0.079
SPIKE	SAMPLE + SPIKE ABSORBANCE at 540 nm (S+S abs)	0.425
Work List	SAMPLE VOLUME (Sample) in mL (Vsam)	1.000
16162	SAMPLE VOLUME (Spiked Sample) in mL (S+S Vsam)	1.000
Test Code	VOLUME of SPIKE in mL (VOL Spk)	1.000
CRVI-01	SPIKE DILUTION FACTOR (SDF)	1
Matrix	SPIKE VALUE (µg/mL)	5
SOLID		
Sample #	LOW CALIBRATION POINT	0.021
S96T005977	HIGH CALIBRATION POINT	0.779
Calibration Date	Y-INTERCEPT (a)	0.00537
12/13/96	SLOPE (b)	0.78285
Instrument Code		
BA001	Cr +6 Molarity in SAMP VIAL = (SAM abs - a) / b (MSV)	
Analyst	Cr +6 Molarity in S+S VIAL = (S+S abs - a) / b (MSSV)	
DCD	TOTAL VOLUME for SAMP VIAL = 10 + Vsam (TVS)	
Date	TOTAL VOLUME for S+S VIAL = 10 + S+S Vsam + VOL Spk (TVSS)	
01/20/97	% Spike Rec. = ((MSSV * TVSS) - (MSV * TVS * SSCF)) / (SPIKE VALUE * VOL Spk / SDF)	
Time	Note: SAMPLE SIZE CORRECTION FACTOR (SSCF) = S+S Vsam / Vsam	
03:00 PM		

RESULT	% SPIKE RECOVERY	=	108.0%
--------	------------------	---	--------

Data entry by:	Date: 01/21/97
Approved by: <i>[Signature]</i>	Date: <i>[Signature]</i>
Form 265101X3 Rev. 7/2	Page 1 of 1

LABCORE Completed Worklist Report for Worklist# 12829

Analyst: vlm

Instrument: IC01

Book# 36N204

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

Worklist Comment: AN-104(S96T004916) AND B-109 (S96T004933). new

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		5.300e1	5.99e+01	101.528 % Recovery	
2	CCV	0 @IC-QC CL QC		7.900e1	7.64e+01	96.709 % Recovery	
2	CCV	0 @IC-QC NO2 QC		5.390e2	5.15e+02	95.547 % Recovery	
2	CCV	0 @IC-QC BR QC		5.890e2	5.77e+02	97.963 % Recovery	
2	CCV	0 @IC-QC NO3 QC		5.940e2	5.66e+02	95.286 % Recovery	
2	CCV	0 @IC-QC PO4 QC		5.440e2	5.37e+02	98.713 % Recovery	
2	CCV	0 @IC-QC SO4 QC		6.310e2	6.32e+02	100.158 % Recovery	
2	CCV	0 @IC-QC OXALATE2 QC		5.280e2	5.42e+02	102.652 % Recovery	
3	SAMPLE S96T004916	0 @IC-01 F-02 LIQUID	N/A	<	6.181e+01	61.810 ug/mL	
3	SAMPLE S96T004916	0 @IC-01 CL-02 LIQUID	N/A	<	8.757e+01	87.570 ug/mL	
3	SAMPLE S96T004916	0 @IC-01 NO2-02 LIQUID	N/A	<	5.563e+02	556.300 ug/mL	
3	SAMPLE S96T004916	0 @IC-01 BR-02 LIQUID	N/A	<	2.199e+04	643.900 ug/mL	
3	SAMPLE S96T004916	0 @IC-01 NO3-02 LIQUID	N/A	<	7.160e+02	716.000 ug/mL	
3	SAMPLE S96T004916	0 @IC-01 PO4-02 LIQUID	N/A	<	6.181e+02	618.100 ug/mL	
3	SAMPLE S96T004916	0 @IC-01 SO4-02 LIQUID	N/A	<	7.108e+02	710.800 ug/mL	
3	SAMPLE S96T004916	0 @IC-01 OXALATE2 LIQUID	N/A	<	5.409e+02	540.900 ug/mL	
4	DUP S96T004916	0 @IC-01 F-02 LIQUID		<6.18e1	<6.18e1	RPD	
4	DUP S96T004916	0 @IC-01 CL-02 LIQUID		<8.76e1	<8.76e1	RPD	
4	DUP S96T004916	0 @IC-01 NO2-02 LIQUID		<5.56e2	<5.56e2	RPD	
4	DUP S96T004916	0 @IC-01 BR-02 LIQUID		2.20e+04	2.20e+04	0.000 RPD	
4	DUP S96T004916	0 @IC-01 NO3-02 LIQUID		<7.16e2	<7.16e2	RPD	
4	DUP S96T004916	0 @IC-01 PO4-02 LIQUID		<6.18e2	<6.18e2	RPD	
4	DUP S96T004916	0 @IC-01 SO4-02 LIQUID		<7.11e2	7.46e+02	RPD	
4	DUP S96T004916	0 @IC-01 OXALATE2 LIQUID		<5.41e2	<5.41e2	RPD	
5	SPK S96T004916	0 @IC-01 F-02 LIQUID		5.300e1	6.00e+01	101.695 % Recovery	
5	SPK S96T004916	0 @IC-01 CL-02 LIQUID		7.900e1	7.78e+01	98.481 % Recovery	
5	SPK S96T004916	0 @IC-01 NO2-02 LIQUID		5.390e2	5.24e+02	97.217 % Recovery	
5	SPK S96T004916	0 @IC-01 BR-02 LIQUID		5.890e2	5.77e+02	97.963 % Recovery	
5	SPK S96T004916	0 @IC-01 NO3-02 LIQUID		5.940e2	5.76e+02	96.970 % Recovery	
5	SPK S96T004916	0 @IC-01 PO4-02 LIQUID		5.440e2	5.19e+02	95.404 % Recovery	
5	SPK S96T004916	0 @IC-01 SO4-02 LIQUID		6.310e2	6.30e+02	99.842 % Recovery	
5	SPK S96T004916	0 @IC-01 OXALATE2 LIQUID		5.280e2	5.44e+02	103.030 % Recovery	
6	SAMPLE S96T004933	0 @IC-01 F-02 LIQUID	N/A	<	6.181e+01	61.810 ug/mL	

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

LABCORE Completed Worklist Report for Worklist# 12829

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
6 SAMPLE	S96T004933	0	⑥IC-01 CL-02	LIQUID	N/A	9.233e+01	87.570	ug/mL
6 SAMPLE	S96T004933	0	⑥IC-01 NO2-02	LIQUID	N/A	5.563e+02	556.300	ug/mL
6 SAMPLE	S96T004933	0	⑥IC-01 ER-02	LIQUID	N/A	2.138e+04	543.300	ug/mL
6 SAMPLE	S96T004933	0	⑥IC-01 NO3-02	LIQUID	N/A	1.168e+03	716.000	ug/mL
6 SAMPLE	S96T004933	0	⑥IC-01 PO4-02	LIQUID	N/A	6.181e+02	618.100	ug/mL
6 SAMPLE	S96T004933	0	⑥IC-01 SO4-02	LIQUID	N/A	7.108e+02	710.800	ug/mL
6 SAMPLE	S96T004933	0	⑥IC-01 OXALATE2	LIQUID	N/A	5.409e+02	540.900	ug/mL
7 DUP	S96T004933	0	⑥IC-01 F-02	LIQUID	<6.18e1	<6.18e1		RPD
7 DUP	S96T004933	0	⑥IC-01 CL-02	LIQUID	9.233e+01	<6.76e1		RPD
7 DUP	S96T004933	0	⑥IC-01 NO2-02	LIQUID	<5.56e2	<5.56e2		RPD
7 DUP	S96T004933	0	⑥IC-01 ER-02	LIQUID	2.14e+04	2.14e+04	0.000	RPD
7 DUP	S96T004933	0	⑥IC-01 NO3-02	LIQUID	1.17e+03	<7.16e2		RPD
7 DUP	S96T004933	0	⑥IC-01 PO4-02	LIQUID	<6.18e2	<6.18e2		RPD
7 DUP	S96T004933	0	⑥IC-01 SO4-02	LIQUID	<7.11e2	7.81e+02		RPD
7 DUP	S96T004933	0	⑥IC-01 OXALATE2	LIQUID	<5.41e2	<5.41e2		RPD

Final page for worklist# 12829

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

James M. Lyle
Reviewer Signature _____ Date 12/16/96

09/10/96 12:48
A-0004-1

HNFS-D-WM-DP-226, REV. 0

Page: 1

LABCORE Data Entry Template for Worklist# 12829

Analyst: VLM Instrument: IC00 IC0-221 Book# 36N20-A

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

Worklist Comment: AN-104(S96T004916) AND B-109 (S96T004933). new

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	CCB				@IC-QC	QC		
2	CCV				@IC-QC	QC		
3	SAMPLE	S96T004916 0			@IC-01	LIQUID	96001174	AN-104
		Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 ,						
					OXALATE2, PO4-02		SO4-02	
4	DUP	S96T004916 0			@IC-01	LIQUID		
5	SPK	S96T004916 0			@IC-01	LIQUID		
6	SAMPLE	S96T004933 0			@IC-01	LIQUID	96001238	B-109
		Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 ,						
					OXALATE2, PO4-02		SO4-02	
7	DUP	S96T004933 0			@IC-01	LIQUID		

Final page for worklist # 12829

Valeine J. Massie 12-10-96
Analyst Signature Date

Analyst Signature Date

Exported
Sheet

Uploaded JMF 12/16/96
Validated 12/14/96 JMF

Data Entry Comments:

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

835

A-0010-IC

DATA FILE/WORKLIST RESOLUTION

16-Dec-96

Worklist#: 12829

Data File: 12829DEC.CSV

		Seq	Type	Sample #	Seq#	Data File	Dilution
-	=>	1	CCB		-	1 96121021.d02	1.00
	=>	2	CCV		2	96121021.d03	101.00
	=>	3	SAMPLE	S96T004916	3	96121021.d06	5151.00
	=>	4	DUP	S96T004916	4	96121021.d07	5151.00
	=>	5	SPK	S96T004916	5	96121021.d08	5151.00
	=>	6	SAMPLE	S96T004933	6	96121021.d09	5151.00
	=>	7	DUP	S96T004933	7	96121021.d10	5151.00
+					+		

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

Sample Name: INSTR BLANK Date: 12/10/1996 11:14:37
Data File : C:\DX\DATA\96121021.D02
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 2 Detector: CDM-1
Analyst : *Colin Massie* 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	3.58	nitrate	0.069	81	598	1	0.00
2	6.77	sulfate	0.028	75	1200	1	2.42
Totals			0.097	156	1798		

File: 96121021.D02 Sample: INSTR BLANK

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 837 TO 843.

Sample Name: 36N20-A STD Date: 12/10/1996 11:29:03
 Data File : C:\DX\DATA\96121021.D03
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 3 Detector: CDM-1
 Analyst : *Valerie L. Massie* Column: AG4A/AS4A anion column

12-10-96

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	0.92		0.000	35	137	2	
2	1.11	fluoride	59.890	1010	7916	2	2.47
3	1.68	chloride	76.352	1758	9597	1	0.80
4	2.01	nitrite	515.453	6420	43208	1	-1.31
5	3.04	bromide	577.492	4828	33730	1	-2.25
6	3.48	nitrate	566.182	5442	44573	1	-2.79
7	5.07	phosphate	536.773	1318	21414	1	2.15
8	6.67	sulfate	632.377	4112	67112	1	0.81
9	8.85	oxalate	541.767	2109	41446	1	1.84

Totals 3506.286 27031 269132

File: 96121021.D03 Sample: 36N20-A STD

Sample Name: S96T004916 Date: 12/10/1996 14:32:04
 Data File : C:\DX\DATA\96121021.D06
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1. Inject#: 6 Detector: CDM-1
 Analyst : *Valerie L. Mason* Column: AG4A/AS4A anion column
12-10-96

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 5151 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	1.71	chloride	76.278	28	134	1	2.80
2	3.05	bromide	21989.203	3451	24906	1	-1.82
3	3.57	nitrate	499.724	111	815	1	-0.19
4	6.77	sulfate	99.267	75	1109	1	2.42
Totals			22664.473	3665	26964		

File: 96121021.D06 Sample: S96T004916

Sample Name: S96T004916 DUP Date: 12/10/1996 14:46:29
 Data File : C:\DX\DATA\96121021.D07
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 7 Detector: CDM-1
 Analyst : *Valerie M. Mason* Column: AG4A/AS4A anion column
12-10-96

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	5151	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	1.71	chloride	61.938	22	99	1	2.80
2	3.06	bromide	22029.142	3446	24953	1	-1.61
3	3.57	nitrate	625.851	136	1007	1	-0.19
4	6.77	sulfate	745.982	148	2413	1	2.42
Totals			23462.912	3751	28472		

File: 96121021.D07 Sample: S96T004916 DUP

Sample Name: S96T004916 SPIKE Date: 12/10/1996 14:57:57
 Data File : C:\DX\DATA\96121021.D08
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 8 Detector: CDM-1
 Analyst : *Valerie Massie* Column: AG4A/AS4A anion column

12-10-96

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	5151	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	0.92		0.000	34	127	2	
2	1.11	fluoride	3031.613	974	7850	2	2.47
3	1.68	chloride	3927.750	1754	9682	1	0.80
4	2.01	nitrite	26466.110	6387	43512	1	-1.31
5	3.03	bromide	51119.090	8842	59833	1	-2.68
6	3.47	nitrate	29069.814	5385	44877	1	-2.98
7	5.07	phosphate	26223.016	1474	20482	1	2.15
8	6.67	sulfate	31801.557	4568	66171	1	0.81
9	8.80	oxalate	27490.259	2083	41232	1	1.23
Totals			199129.208	31500	293766		

File: 96121021.D08 Sample: S96T004916 SPIKE

Sample Name: S96T004933 Date: 12/10/1996 15:11:01
 Data File : C:\DX\DATA\96121021.D09
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 9 Detector: CDM-1
 Analyst : *Valerie Massi* Column: AG4A/AS4A anion column
12-18-96

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	5151	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	1.71	chloride	92.333	35	174	1	2.80
2	3.05	bromide	21378.323	3453	24188	1	-1.82
3	3.57	nitrate	1168.296	237	1833	1	-0.37
4	6.77	sulfate	575.048	118	2068	1	2.42

Totals 23214.001 3843 28262

File: 96121021.D09 Sample: S96T004933

Sample Name: S96T004933 DUP Date: 12/10/1996 15:23:26
Data File : C:\DX\DATA\96121021.D10
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1. Inject#: 10 Detector: CDM-1
Analyst : *Valerie M. Mason* Column: AG4A/AS4A anion column
12-10-96

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	5151	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	1.71	chloride	61.202	20	97	1	2.80
2	3.05	bromide	21443.973	3438	24265	1	-2.04
3	3.57	nitrate	480.804	106	786	1	-0.37
4	6.72	sulfate	780.641	129	2482	1	1.61

Totals 22766.620 3693 27631

File: 96121021.D10 Sample: S96T004933 DUP

LABCORE Completed Worklist Report for Worklist# 13603

Analyst: eal

Instrument: IC01

Book# 36N20-C

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

Worklist Comment: @IC01 FOR AN-104 RTS

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	<1.33e-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	5.63e+01	95.424 % Recovery	
2 CCV	0	@IC-QC CL	QC	7.90e01	8.10e+01	102.532 % Recovery	
2 CCV	0	@IC-QC NO2	QC	5.41e02	5.33e+02	99.630 % Recovery	
2 CCV	0	@IC-QC BR	QC	5.89e02	5.79e+02	98.302 % Recovery	
2 CCV	0	@IC-QC NO3	QC	5.94e02	6.22e+02	104.714 % Recovery	
2 CCV	0	@IC-QC PO4	QC	5.44e02	5.20e+02	95.588 % Recovery	
2 CCV	0	@IC-QC SO4	QC	6.31e02	6.76e+02	107.132 % Recovery	
2 CCV	0	@IC-QC OXALATE2	QC	5.25e02	5.75e+02	109.524 % Recovery	
3 SAMPLE	S96T004774 0	@IC-01 F-02	LIQUID	N/A	< 6.18e+01	61.810 ug/mL	
3 SAMPLE	S96T004774 0	@IC-01 CL-02	LIQUID	N/A	8.295e+03	87.570 ug/mL	
3 SAMPLE	S96T004774 0	@IC-01 NO2-02	LIQUID	N/A	1.140e+05	556.300 ug/mL	
3 SAMPLE	S96T004774 0	@IC-01 BR-02	LIQUID	N/A	< 6.439e+02	643.900 ug/mL	
3 SAMPLE	S96T004774 0	@IC-01 NO3-02	LIQUID	N/A	1.605e+05	716.000 ug/mL	
3 SAMPLE	S96T004774 0	@IC-01 PO4-02	LIQUID	N/A	2.161e+03	618.100 ug/mL	
3 SAMPLE	S96T004774 0	@IC-01 SO4-02	LIQUID	N/A	1.980e+03	710.800 ug/mL	
3 SAMPLE	S96T004774 0	@IC-01 OXALATE2	LIQUID	N/A	6.034e+02	540.900 ug/mL	
4 DUP	S96T004774 0	@IC-01 F-02	LIQUID	<6.18e1	<6.18e1		RPD
4 DUP	S96T004774 0	@IC-01 CL-02	LIQUID	8.28e+03	8.08e+03	2.445 RPD	
4 DUP	S96T004774 0	@IC-01 NO2-02	LIQUID	1.14e+05	1.14e+05	0.000 RPD	
4 DUP	S96T004774 0	@IC-01 BR-02	LIQUID	<6.44e2	<6.44e2		RPD
4 DUP	S96T004774 0	@IC-01 NO3-02	LIQUID	1.60e+05	1.60e+05	0.000 RPD	
4 DUP	S96T004774 0	@IC-01 PO4-02	LIQUID	2.16e+03	2.31e+03	6.711 RPD	
4 DUP	S96T004774 0	@IC-01 SO4-02	LIQUID	1.98e+03	1.87e+03	5.714 RPD	
4 DUP	S96T004774 0	@IC-01 OXALATE2	LIQUID	6.03e+02	6.16e+02	2.133 RPD	
5 SPK	S96T004774 0	@IC-01 F-02	LIQUID	5.90e01	4.72e+01	80.000 % Recovery	
5 SPK	S96T004774 0	@IC-01 CL-02	LIQUID	7.90e01	7.59e+01	96.076 % Recovery	
5 SPK	S96T004774 0	@IC-01 NO2-02	LIQUID	5.41e02	5.27e+02	97.412 % Recovery	
5 SPK	S96T004774 0	@IC-01 BR-02	LIQUID	5.89e02	5.35e+02	90.832 % Recovery	
5 SPK	S96T004774 0	@IC-01 NO3-02	LIQUID	5.94e02	4.86e+02	81.818 % Recovery	
5 SPK	S96T004774 0	@IC-01 PO4-02	LIQUID	5.44e02	4.95e+02	90.993 % Recovery	
5 SPK	S96T004774 0	@IC-01 SO4-02	LIQUID	6.31e02	6.49e+02	102.694 % Recovery	
5 SPK	S96T004774 0	@IC-01 OXALATE2	LIQUID	5.25e02	5.52e+02	105.143 % Recovery	
6 SAMPLE	S96T004778 0	@IC-01 F-02	LIQUID	N/A	< 6.18e+01	61.810 ug/mL	

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

LABCORE Completed Worklist Report for Worklist# 13603

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
6 SAMPLE	S96T004778	0	QIC-01 CL-02	LIQUID	N/A	8.376e+03	87.570	ug/mL
6 SAMPLE	S96T004778	0	QIC-01 NO2-02	LIQUID	N/A	1.175e+05	556.300	ug/mL
6 SAMPLE	S96T004778	0	QIC-01 BR-02	LIQUID	N/A	1.167e+03	543.900	ug/mL
6 SAMPLE	S96T004778	0	QIC-01 NO3-02	LIQUID	N/A	1.889e+05	716.000	ug/mL
6 SAMPLE	S96T004778	0	QIC-01 PO4-02	LIQUID	N/A	2.665e+03	618.100	ug/mL
6 SAMPLE	S96T004778	0	QIC-01 SO4-02	LIQUID	N/A	2.100e+03	710.800	ug/mL
6 SAMPLE	S96T004778	0	QIC-01 OXALATE2	LIQUID	N/A	1.024e+03	540.900	ug/mL
7 DUP	S96T004778	0	QIC-01 F-02	LIQUID	<6.18e1	<6.18e1		RPD
7 DUP	S96T004778	0	QIC-01 CL-02	LIQUID	8.38e+03	8.36e+03	0.239	RPD
7 DUP	S96T004778	0	QIC-01 NO2-02	LIQUID	1.18e+05	1.18e+05	0.000	RPD
7 DUP	S96T004778	0	QIC-01 BR-02	LIQUID	1.17e+03	1.12e+03	4.367	RPD
7 DUP	S96T004778	0	QIC-01 NO3-02	LIQUID	1.89e+05	1.86e+05	1.608	RPD
7 DUP	S96T004778	0	QIC-01 PO4-02	LIQUID	2.66e+03	2.75e+03	3.327	RPD
7 DUP	S96T004778	0	QIC-01 SO4-02	LIQUID	2.10e+03	1.81e+03	14.834	RPD
7 DUP	S96T004778	0	QIC-01 OXALATE2	LIQUID	1.02e+03	<5.41e2		RPD

Final page for worklist# 13603

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Blandina Valenzuela 1-24-97
Reviewer Signature _____ Date _____

LABCORE Data Entry Template for Worklist# 13603

Analyst: EM Instrument: IC0 IC01 Book# 36N20.C

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

Worklist Comment: @IC01 FOR AN-104 RTS

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	CCB				@IC-QC	QC		
2	CCV				@IC-QC	QC		
3	BLNK				@IC-01	LIQUID	1/24/97	BOY
4	STD				@IC-01	LIQUID	1/24/97	BOY
5	SAMPLE	S96T004774 0			@IC-01	LIQUID	96001174	AN-104
		Analytes Requested:	BR-02		CL-02		F-02	NO2-02
			OXALATE2,	PO4-02			SO4-02	
6	DUP	S96T004774 0			@IC-01	LIQUID		
7	SPK	S96T004774 0			@IC-01	LIQUID		
8	SAMPLE	S96T004778 0			@IC-01	LIQUID	96001174	AN-104
		Analytes Requested:	BR-02		CL-02		F-02	NO2-02
			OXALATE2,	PO4-02			SO4-02	
9	DUP	S96T004778 0			@IC-01	LIQUID		

Final page for worklist # 13603

A. Lambert 01.12.97
Analyst Signature Date

Analyst Signature Date

Uploaded by BOY 1/24/97
Validated by BOY 1/24/97

Data Entry Comments:

A-0010-IC

DATA FILE/WORKLIST RESOLUTION

24-Jan-97

Worklist#: 13603

Data File: 13603JA.CSV

	Seq	Type	Sample #		Seq#	Data File	Sample Name	Dilution
-	=>	1	CCB		1	97011211.d29	INST. BLANK	1.00
	=>	2	CCV		2	97011211.d30	36N20-C STD.	101.00
	=>	3	SAMPLE	S96T004774	3	97011211.d31	S96T004774	5151.00
	=>	4	DUP	S96T004774	4	97011211.d32	S96T004774 DUP	5151.00
	=>	5	SPK	S96T004774	5	97011211.d33	S96T004774 SPIK	5151.00
	=>	6	SAMPLE	S96T004778	6	97011211.d34	S96T004778	5151.00
	=>	7	DUP	S96T004778	7	97011211.d35	S96T004778 DUP	5151.00
+					+			

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

Sample Name: INST. BLANK

Date: 01/12/1997 19:45:08

Data File : C:\DX\DATA\97011211.D29

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

ACI Address: 1 System: 1 Inject#: 29

Detector: CDM-1

Analyst : *John F. [signature]* 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	1.69	chloride	0.011	21	81	1	1.60
2	3.50	nitrate	0.063	80	550	1	-2.23
3	6.45	sulfate	0.031	74	1227	1	-2.42
Totals			0.105	175	1858		

File: 97011211.D29 Sample: INST. BLANK

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 848 TO 855.

Sample Name: 36N20-C STD.

Date: 01/12/1997 22:03:57

Data File : C:\DX\DATA\97011211.D30

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

ACI Address: 1 System: 1 Inject#: 30

Detector: CDM-1

Analyst : Column: AG4A/AS4A anion column

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

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.93		0.000	32	109	1	
2	1.11	fluoride	56.278	1202	7387	1	2.47
3	1.67	chloride	81.046	1935	10199	1	0.40
4	1.99	nitrite	538.999	6468	45260	1	-1.97
5	3.01	bromide	579.486	5071	33851	1	-3.11
6	3.43	nitrate	622.118	5843	49036	1	-4.28
7	4.88	phosphate	520.271	1492	20733	1	-1.61
8	6.35	sulfate	676.442	4927	71819	1	-4.03
9	8.37	oxalate	575.010	2243	44044	1	-3.68
Totals			3649.650	29213	282439		

File: 97011211.D30 Sample: 36N20-C STD.

Data Reprocessed On 01/24/1997 10:39:09

Sample Name: S96T004774 Date: 01/12/1997 22:19:46
Data File : F:\DATA\97011211.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 5151 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	0.93		0.000	275	1937	2	
2	1.23		0.000	271	2385	2	
3	1.31		0.000	345	1893	2	
4	1.65	chloride	8285.069	3558	20792	1	-1.20
5	1.98	nitrite	113965.159	28295	199099	1	-2.62
6	3.32	nitrate	160512.677	26378	264966	1	0.00
7	4.91	phosphate	2161.331	98	1343	1	-1.08
8	6.40	sulfate	1979.781	273	4903	1	-3.23
9	8.43	oxalate	603.443	16	438	1	-3.07
Totals			287507.460	59508	497756		

File: 97011211.D31 Sample: S96T004774

Data Reprocessed On 01/24/1997 10:41:33

Sample Name: S96T004774 DUP	Date: 01/12/1997 22:36:20
Data File : F:\DATA\97011211.D32	
Method : C:\DX\METHOD\KIT.MET	
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
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External	1	5151	3000	5Hz	0.00	10.00		50
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***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.93		0.000	265	1858	2	
2	1.24		0.000	261	2227	2	
3	1.32		0.000	332	1798	2	
4	1.65	chloride	8082.390	3541	20267	1	-1.20
5	1.98	nitrite	113944.824	28268	199062	1	-2.62
6	3.32	nitrate	160323.044	26355	264624	1	0.00
7	4.91	phosphate	2314.924	91	1464	1	-1.08
8	6.40	sulfate	1867.422	282	4676	1	-3.23
9	8.43	oxalate	616.347	26	457	1	-3.07
Totals			287148.951	59422	496433		

File: 97011211.D32 Sample: S96T004774 DUP

Data Reprocessed On 01/24/1997 10:43:05

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Sample Name: S96T004774 SPIKE           Date: 01/12/1997 22:48:31
Data File  : F:\DATA\97011211.D33
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 33      Detector: CDM-1
Analyst    :                          Column: AG4A/AS4A anion column
=====

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=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
=====
External          1          5151   3000  5Hz   0.00 10.00          50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.93		0.000	198	956	1	
2	1.11	fluoride	2385.430	981	6003	1	3.09
3	1.64	chloride	12119.669	5399	30862	1	-1.60
4	1.99	nitrite	140558.165	34986	249086	1	-2.30
5	2.99	bromide	27025.526	4950	30852	1	-3.75
6	3.30	nitrate	185083.372	30799	309979	1	0.00
7	4.85	phosphate	27158.331	1478	21238	1	-2.15
8	6.29	sulfate	34732.004	4317	72309	1	-4.84
9	8.32	oxalate	28479.335	2030	42747	1	-4.29
Totals			457541.831	85137	764032		

File: 97011211.D33 Sample: S96T004774 SPIKE

Data Reprocessed On 01/24/1997 10:44:43

Sample Name: S96T004778	Date: 01/12/1997 22:59:49
Data File : F:\DATA\97011211.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
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External	1	5151	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	0.93		0.000	277	2000	2	
2	1.23		0.000	280	2378	2	
3	1.32		0.000	358	2071	2	
4	1.65	chloride	8376.495	3661	21028	1	-1.20
5	1.98	nitrite	117471.328	29219	205611	1	-2.62
6	3.05	bromide	1166.511	114	713	1	-2.04
7	3.31	nitrate	188934.380	30521	317167	1	-0.10
8	4.91	phosphate	2665.379	111	1738	1	-1.08
9	6.40	sulfate	2099.800	290	5145	1	-3.23
10	8.43	oxalate	1024.437	27	1071	1	-3.07
Totals			321738.329	64858	558923		

File: 97011211.D34 Sample: S96T004778

Data Reprocessed On 01/24/1997 10:46:54

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=====
Sample Name: S96T004778  DUP                      Date: 01/12/1997 23:11:03
Data File  : F:\DATA\97011211.D35
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1  System: 1  Inject#: 35              Detector: CDM-1
Analyst    :                      Column: AG4A/AS4A anion column
=====

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=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
=====
External          1          5151   3000  5Hz   0.00 10.00          50
=====

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```

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

```

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.93		0.000	279	2051	2	
2	1.25		0.000	276	2459	2	
3	1.32		0.000	349	1802	2	
4	1.65	chloride	8362.908	3673	20993	1	-1.20
5	1.98	nitrite	117673.179	29204	205987	1	-2.62
6	3.05	bromide	1115.261	108	654	1	-2.04
7	3.31	nitrate	186484.077	30418	312589	1	-0.10
8	4.91	phosphate	2750.037	108	1805	1	-1.08
9	6.40	sulfate	1809.034	286	4558	1	-3.23
Totals			318194.495	64700	552899		

File: 97011211.D35 Sample: S96T004778 DUP

LABCORE Completed Worklist Report for Worklist# 13604

Analyst: smf

Instrument: IC02

Book# 36N20C

Method: LA533105 Rev/Mod D-1

Worklist Comment: @IC01 FOR AN-104 RTS

Seq Type	Sample# R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 CCB	0	ETC-QC F	QC	1	<1.20e-2		ug/mL
1 CCB	0	ETC-QC CL	QC	1	<1.70e-2		ug/mL
1 CCB	0	ETC-QC NO2	QC	1	<1.08e-1		ug/mL
1 CCB	0	ETC-QC BR	QC	1	<1.25e-1		ug/mL
1 CCB	0	ETC-QC NO3	QC	1	<1.39e-1		ug/mL
1 CCB	0	ETC-QC P04	QC	1	<1.20e-1		ug/mL
1 CCB	0	ETC-QC S04	QC	1	<1.38e-1		ug/mL
1 CCB	0	ETC-QC OXALATE2	QC	1	<1.05e-1		ug/mL
2 CCV	0	ETC-QC F	QC	5.90e01	5.84e+01	98.983 % Recovery	
2 CCV	0	ETC-QC CL	QC	7.90e01	7.69e+01	97.342 % Recovery	
2 CCV	0	ETC-QC NO2	QC	5.41e02	5.31e+02	98.152 % Recovery	
2 CCV	0	ETC-QC BR	QC	5.89e02	5.94e+02	100.849 % Recovery	
2 CCV	0	ETC-QC NO3	QC	5.94e02	6.04e+02	101.684 % Recovery	
2 CCV	0	ETC-QC P04	QC	5.44e02	5.32e+02	97.794 % Recovery	
2 CCV	0	ETC-QC S04	QC	6.31e02	6.40e+02	101.426 % Recovery	
2 CCV	0	ETC-QC OXALATE2	QC	5.25e02	5.56e+02	105.905 % Recovery	
3 SAMPLE	S96T004779	0	ETC-01 F-02	LIQUID	N/A	< 1.224e+02	122.400 ug/mL
3 SAMPLE	S96T004779	0	ETC-01 CL-02	LIQUID	N/A	8.019e+03	173.400 ug/mL
3 SAMPLE	S96T004779	0	ETC-01 NO2-02	LIQUID	N/A	1.093e+05	1102.000 ug/mL
3 SAMPLE	S96T004779	0	ETC-01 BR-02	LIQUID	N/A	1.756e+03	1275.000 ug/mL
3 SAMPLE	S96T004779	0	ETC-01 NO3-02	LIQUID	N/A	1.679e+05	1418.000 ug/mL
3 SAMPLE	S96T004779	0	ETC-01 P04-02	LIQUID	N/A	2.832e+03	1224.000 ug/mL
3 SAMPLE	S96T004779	0	ETC-01 S04-02	LIQUID	N/A	1.997e+03	1408.000 ug/mL
3 SAMPLE	S96T004779	0	ETC-01 OXALATE2	LIQUID	N/A	< 1.071e+03	1071.000 ug/mL
4 DUP	S96T004779	0	ETC-01 F-02	LIQUID	<1.22e3	<1.22e2	RPD
4 DUP	S96T004779	0	ETC-01 CL-02	LIQUID	8.02e+03	8.11e+03	1.116 RPD
4 DUP	S96T004779	0	ETC-01 NO2-02	LIQUID	1.09e+05	1.09e+05	0.000 RPD
4 DUP	S96T004779	0	ETC-01 BR-02	LIQUID	1.76e+03	1.74e+03	1.143 RPD
4 DUP	S96T004779	0	ETC-01 NO3-02	LIQUID	1.68e+05	1.66e+05	1.198 RPD
4 DUP	S96T004779	0	ETC-01 P04-02	LIQUID	2.83e+03	3.11e+03	9.428 RPD
4 DUP	S96T004779	0	ETC-01 S04-02	LIQUID	2.00e+03	2.02e+03	0.995 RPD
4 DUP	S96T004779	0	ETC-01 OXALATE2	LIQUID	<1.07e3	<1.07e3	RPD
5 SPK	S96T004779	0	ETC-01 F-02	LIQUID	5.90e01	6.42e+01	108.814 % Recovery
5 SPK	S96T004779	0	ETC-01 CL-02	LIQUID	7.90e01	8.12e+01	102.785 % Recovery
5 SPK	S96T004779	0	ETC-01 NO2-02	LIQUID	5.41e02	6.00e+02	110.906 % Recovery
5 SPK	S96T004779	0	ETC-01 BR-02	LIQUID	5.89e02	6.00e+02	101.868 % Recovery
5 SPK	S96T004779	0	ETC-01 NO3-02	LIQUID	5.94e02	6.26e+02	105.387 % Recovery
5 SPK	S96T004779	0	ETC-01 P04-02	LIQUID	5.44e02	5.32e+02	97.794 % Recovery
5 SPK	S96T004779	0	ETC-01 S04-02	LIQUID	6.31e02	6.39e+02	101.268 % Recovery
5 SPK	S96T004779	0	ETC-01 OXALATE2	LIQUID	5.25e02	5.68e+02	108.190 % Recovery
6 SAMPLE	S96T004780	0	ETC-01 F-02	LIQUID	N/A	< 1.224e+02	122.400 ug/mL

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

LABCORE Completed Worklist Report for Worklist# 13604

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
6 SAMPLE	S96T004780	0	⊗IC-01 CL-02	LIQUID	N/A	7.843e+03	173.400	ug/mL
6 SAMPLE	S96T004780	0	⊗IC-01 NO2-02	LIQUID	N/A	1.077e+05	1102.000	ug/mL
6 SAMPLE	S96T004780	0	⊗IC-01 BR-02	LIQUID	N/A	1.718e+03	1275.000	ug/mL
6 SAMPLE	S96T004780	0	⊗IC-01 NO3-02	LIQUID	N/A	1.717e+05	1418.000	ug/mL
6 SAMPLE	S96T004780	0	⊗IC-01 PO4-02	LIQUID	N/A	2.769e+03	1223.000	ug/mL
6 SAMPLE	S96T004780	0	⊗IC-01 SO4-02	LIQUID	N/A	1.933e+03	1408.000	ug/mL
6 SAMPLE	S96T004780	0	⊗IC-01 OXALATE2	LIQUID	N/A	1.071e+03	1071.000	ug/mL
7 DUP	S96T004780	0	⊗IC-01 F-02	LIQUID	<1.22e2	<1.22e2		RPD
7 DUP	S96T004780	0	⊗IC-01 CL-02	LIQUID	7.84e+03	8.14e+03	3.755	RPD
7 DUP	S96T004780	0	⊗IC-01 NO2-02	LIQUID	1.08e+05	1.08e+05	0.000	RPD
7 DUP	S96T004780	0	⊗IC-01 BR-02	LIQUID	1.74e+03	1.74e+03	0.000	RPD
7 DUP	S96T004780	0	⊗IC-01 NO3-02	LIQUID	1.72e+05	1.68e+05	2.353	RPD
7 DUP	S96T004780	0	⊗IC-01 PO4-02	LIQUID	2.77e+03	3.10e+03	11.244	RPD
7 DUP	S96T004780	0	⊗IC-01 SO4-02	LIQUID	1.93e+03	1.98e+03	2.558	RPD
7 DUP	S96T004780	0	⊗IC-01 OXALATE2	LIQUID	<1.07e3	<1.07e3		RPD

Final page for worklist# 13604

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

H. Anasto 1-13-97
Reviewer Signature Date

Validated 1-13-97

LABCORE Data Entry Template for Worklist# 13604

Analyst: SMF Instrument: IC0 IC02 Book# 36 D20C

Method: LA-533-105 Rev/Mod _____

Worklist Comment: @IC01 FOR AN-104 RTS

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC-QC	QC		
2 CCV			@IC-QC	QC		
3 BLNK			@IC-01	LIQUID		Hea 1.13.97
4 STD			@IC-01	LIQUID		Hea 1.13.97
5 SAMPLE	S96T004779 0		@IC-01	LIQUID	96001174	AN-104
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
6 DUP	S96T004779 0		@IC-01	LIQUID		
7 SPK	S96T004779 0		@IC-01	LIQUID		
8 SAMPLE	S96T004780 0		@IC-01	LIQUID	96001174	AN-104
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
9 DUP	S96T004780 0		@IC-01	LIQUID		

Final page for worklist # 13604

Susan M. Dutton 1-6-97

Analyst Signature

Date

Analyst Signature

Date

13604JA.CSV uploaded 1.13.97 Hea
Validated 1.13.97 Hea

Data Entry Comments:

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

A-0010-IC				DATA FILE/WORKLIST RESOLUTION				13-Jan-97			
Worklist#: 13604					Data File: 13604JA.CSV						
		Seq	Type	Sample #	Seq#		Data File	Sample Name	Dilution		
-	= >	1	CCB		-	1	97010551.d06	CCB ELUENT BLANK	1.00		
	= >	2	CCV			2	97010551.d07	CCV STD 36N20-C	101.00		
	= >	3	SAMPLE	S96T004779		3	97010561.d01	S96T004779	10201.00		
	= >	4	DUP	S96T004779		4	97010571.d01	S96T004779 DUP	10201.00		
	= >	5	SPK	S96T004779		5	97010571.d02	S96T004779 SPK	10201.00		
	= >	6	SAMPLE	S96T004780		6	97010561.d02	S96T004780	10201.00		
	= >	7	DUP	S96T004780		7	97010571.d03	S96T004780 DUP	10201.00		
+					+						

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

Sample Name: CCB ELUENT BLANK

Date: 01/06/1997 00:42:54

Data File : E:\DATA\97010551.d06

Method : C:\DX\METHOD\ANIONSa.met

ACI Address: 1 System: 1 Inject#: 6

Detector: CDM-1

Analyst : *John F. ...* 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	1.44		0.000	11	54		1
Totals			0.000	11	54		

File: 97010551.d06 Sample: CCB ELUENT BLANK

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETELY VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 859 TO 865.

Data Reprocessed On 01/13/1997 09:46:10

Sample Name: CCV STD 36N20-C	Date: 01/06/1997 00:55:34
Data File : E:\DATA\97010551.d07	
Method : C:\DX\METHOD\ANIONSa.met	
ACI Address: 1 System: 1 Inject#: 7	Detector: CDM-1
Analyst :	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	64	266	2	
2	1.03	FLUORIDE	58.426	2477	11274	2	-1.90
3	1.42		0.000	32	134	2	
4	1.58	CHLORIDE	76.898	2382	10079	2	0.21
5	1.90	NITRITE	531.392	9690	49626	1	-1.22
6	2.86	BROMIDE	593.997	5769	36271	2	-2.17
7	3.25	NITRATE	603.977	6260	47787	2	-3.56
8	4.80	PHOSPHATE	531.543	1671	20636	1	-4.32
9	6.25	SULFATE	639.961	4741	65210	1	-5.30
10	8.21	OXALATE	556.110	2222	41001	1	-5.31
Totals			3592.305	35308	282285		

File: 97010551.d07 Sample: CCV STD 36N20-C

Data Reprocessed On 01/13/1997 09:46:11

Sample Name: S96T004779	Date: 01/06/1997 02:13:34
Data File : E:\DATA\97010561.d01	
Method : C:\DX\METHOD\ANIONS.MET	
ACI Address: 1 System: 1 Inject#: 1	Detector: CDM-1
Analyst :	Column:

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	10201	3000	5Hz	0.00	10.00		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	238	1588	2	
2	1.15		0.000	222	1444	2	
3	1.23		0.000	245	1537	2	
4	1.57	CHLORIDE	8019.081	2123	10413	2	-0.63
5	1.90	NITRITE	109106.709	19074	102979	2	-1.22
6	2.86	BROMIDE	1755.777	63	357	2	-2.17
7	3.20	NITRATE	167927.301	17101	137951	2	-0.10
8	4.83	PHOSPHATE	2832.092	57	610	1	-3.78
9	6.28	SULFATE	1997.169	94	1268	1	-4.90
Totals			291638.128	39218	258147		

File: 97010561.d01 Sample: S96T004779

Data Reprocessed On 01/13/1997 09:46:12

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=====
Sample Name: S96T004779 DUP                      Date: 01/06/1997 05:06:40
Data File  : E:\DATA\97010571.d01
Method     : C:\DX\METHOD\ANIONSa.met
ACI Address: 1 System: 1 Inject#: 1
Analyst    :                      Column:
Detector: CDM-1
=====

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```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          10201    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	237	1553	2	
2	1.15		0.000	191	1199	2	
3	1.23		0.000	214	1203	2	
4	1.57	CHLORIDE	8108.565	2187	10532	2	-0.63
5	1.90	NITRITE	109111.532	19196	102984	2	-1.22
6	2.86	BROMIDE	1743.886	63	350	1	-2.17
7	3.20	NITRATE	165892.932	17096	136177	1	-0.10
8	4.82	PHOSPHATE	3109.175	62	717	1	-3.92
9	6.26	SULFATE	2023.740	94	1295	1	-5.10
Totals			289989.831	39338	256009		

File: 97010571.d01 Sample: S96T004779 DUP

Data Reprocessed On 01/13/1997 09:46:13

Sample Name: S96T004779 SPK
 Data File : E:\DATA\97010571.d02
 Method : C:\DX\METHOD\ANIONSa.met
 ACI Address: 1 System: 1 Inject#: 2
 Analyst : Column:

Date: 01/06/1997 05:19:18

Detector: CDM-1

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	10201	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	231	1112	2	
2	1.03	FLUORIDE	6485.807	2401	12429	3	-1.90
3	1.23		0.000	158	901	4	
4	1.57	CHLORIDE	16225.974	4509	21453	1	-0.63
5	1.90	NITRITE	169670.613	29465	162559	1	-0.87
6	2.84	BROMIDE	62359.047	6145	37763	2	-2.63
7	3.18	NITRATE	231164.266	23567	194377	2	-0.10
8	4.80	PHOSPHATE	56610.951	1763	21809	1	-4.45
9	6.24	SULFATE	66574.403	4880	67230	1	-5.51
10	8.20	OXALATE	57383.496	2243	41911	1	-5.46
Totals			666474.557	75362	561542		

File: 97010571.d02 Sample: S96T004779 SPK

Data Reprocessed On 01/13/1997 09:46:15

Sample Name: S96T004780	Date: 01/06/1997 02:28:45
Data File : E:\DATA\97010561.d02	
Method : C:\DX\METHOD\ANIONS.MET	
ACI Address: 1 System: 1 Inject#: 2	Detector: CDM-1
Analyst :	Column:

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	10201	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	238	1572	2	
2	1.15		0.000	220	1398	2	
3	1.23		0.000	243	1521	2	
4	1.57	CHLORIDE	7842.884	2087	10179	2	-0.63
5	1.90	NITRITE	107664.651	18735	101577	2	-1.22
6	2.85	BROMIDE	1737.998	61	347	2	-2.40
7	3.20	NITRATE	171691.062	17500	141240	2	-0.10
8	4.83	PHOSPHATE	2768.818	56	585	1	-3.78
9	6.26	SULFATE	1932.835	91	1204	1	-5.10
Totals			293638.247	39229	259623		

File: 97010561.d02 Sample: S96T004780

Data Reprocessed On 01/13/1997 09:46:16

Sample Name: S96T004780 DUP	Date: 01/06/1997 05:31:57
Data File : E:\DATA\97010571.d03	
Method : C:\DX\METHOD\ANIONSa.met	
ACI Address: 1 System: 1 Inject#: 3	Detector: CDM-1
Analyst :	Column:

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	10201	3000	5Hz	0.00	10.00		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	226	1455	2	
2	1.15		0.000	178	1089	2	
3	1.23		0.000	198	1069	2	
4	1.58	CHLORIDE	8138.430	2183	10571	1	-0.21
5	1.90	NITRITE	107612.350	18852	101527	1	-1.22
6	2.86	BROMIDE	1739.578	62	348	1	-2.17
7	3.20	NITRATE	167954.032	17321	137974	1	-0.10
8	4.82	PHOSPHATE	3104.011	63	715	1	-4.05
9	6.28	SULFATE	1984.981	93	1256	1	-4.90
Totals			290533.383	39177	256004		

File: 97010571.d03 Sample: S96T004780 DUP

LABCORE Completed Worklist Report for Worklist# 13605

Analyst: smf

Instrument: IC02

Book# 36 N20 - C

Method: LA533165 Rev/Mod D-1

Worklist Comment: @IC01 FOR AN-104 RTS

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	1.95e-01	0.155 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	5.87e+01	99.492 % Recovery
2	CCV	0	@IC-QC	CL	QC	7.90e01	8.20e+01	103.797 % Recovery
2	CCV	0	@IC-QC	NO2	QC	5.41e02	5.13e+02	98.521 % Recovery
2	CCV	0	@IC-QC	BR	QC	5.89e02	5.88e+02	99.830 % Recovery
2	CCV	0	@IC-QC	NO3	QC	5.94e02	6.10e+02	102.694 % Recovery
2	CCV	0	@IC-QC	PO4	QC	5.44e02	5.32e+02	97.794 % Recovery
2	CCV	0	@IC-QC	SO4	QC	6.31e02	6.42e+02	101.745 % Recovery
2	CCV	0	@IC-QC	OXALATE2	QC	5.25e02	5.55e+02	105.714 % Recovery
3	SAMPLE	S96T004781	0	@IC-01	F-02	LIQUID	N/A	< 1.224e+02 122.400 ug/mL
3	SAMPLE	S96T004781	0	@IC-01	CL-02	LIQUID	N/A	8.442e+03 173.400 ug/mL
3	SAMPLE	S96T004781	0	@IC-01	NO2-02	LIQUID	N/A	1.134e+05 1103.000 ug/mL
3	SAMPLE	S96T004781	0	@IC-01	BR-02	LIQUID	N/A	1.356e+03 1275.000 ug/mL
3	SAMPLE	S96T004781	0	@IC-01	NO3-02	LIQUID	N/A	1.718e+05 1418.000 ug/mL
3	SAMPLE	S96T004781	0	@IC-01	PO4-02	LIQUID	N/A	3.195e+03 1224.000 ug/mL
3	SAMPLE	S96T004781	0	@IC-01	SO4-02	LIQUID	N/A	2.424e+03 1408.000 ug/mL
3	SAMPLE	S96T004781	0	@IC-01	OXALATE2	LIQUID	N/A	< 1.071e+03 1071.000 ug/mL
4	DUP	S96T004781	0	@IC-01	F-02	LIQUID	<1.22e2	<1.22e2 RPD
4	DUP	S96T004781	0	@IC-01	CL-02	LIQUID	8.44e+03	9.02e+03 6.644 RPD
4	DUP	S96T004781	0	@IC-01	NO2-02	LIQUID	1.13e+05	1.22e+05 7.660 RPD
4	DUP	S96T004781	0	@IC-01	BR-02	LIQUID	1.36e+03	1.40e+03 2.899 RPD
4	DUP	S96T004781	0	@IC-01	NO3-02	LIQUID	1.72e+05	1.88e+05 8.889 RPD
4	DUP	S96T004781	0	@IC-01	PO4-02	LIQUID	3.20e+03	3.03e+03 5.457 RPD
4	DUP	S96T004781	0	@IC-01	SO4-02	LIQUID	2.42e+03	2.77e+03 13.487 RPD
4	DUP	S96T004781	0	@IC-01	OXALATE2	LIQUID	<1.07e3	<1.07e3 RPD
5	SPK	S96T004781	0	@IC-01	F-02	LIQUID	5.90e01	5.77e+01 97.797 % Recovery
5	SPK	S96T004781	0	@IC-01	CL-02	LIQUID	7.90e01	9.49e+01 120.127 % Recovery
5	SPK	S96T004781	0	@IC-01	NO2-02	LIQUID	5.41e02	7.20e+02 133.087 % Recovery
5	SPK	S96T004781	0	@IC-01	BR-02	LIQUID	5.89e02	6.33e+02 107.470 % Recovery
5	SPK	S96T004781	0	@IC-01	NO3-02	LIQUID	5.94e02	6.47e+02 112.593 % Recovery
5	SPK	S96T004781	0	@IC-01	PO4-02	LIQUID	5.44e02	5.72e+02 105.147 % Recovery
5	SPK	S96T004781	0	@IC-01	SO4-02	LIQUID	6.31e02	6.89e+02 109.192 % Recovery
5	SPK	S96T004781	0	@IC-01	OXALATE2	LIQUID	5.25e02	6.07e+02 115.619 % Recovery
6	SAMPLE	S96T004782	0	@IC-01	F-02	LIQUID	N/A	< 1.224e+02 122.400 ug/mL

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

LABCORE Completed Worklist Report for Worklist# 13605

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
6 SAMPLE	S96T004782	0	@IC-01 CL-02	LIQUID	N/A	7.868e+03	173.400	ug/mL
6 SAMPLE	S96T004782	0	@IC-01 NO2-02	LIQUID	N/A	1.046e+05	1102.000	ug/mL
6 SAMPLE	S96T004782	0	@IC-01 BR-02	LIQUID	N/A	1.7074e+03	1275.000	ug/mL
6 SAMPLE	S96T004782	0	@IC-01 NO3-02	LIQUID	N/A	1.656e+05	1418.000	ug/mL
6 SAMPLE	S96T004782	0	@IC-01 PO4-02	LIQUID	N/A	3.081e+03	1224.000	ug/mL
6 SAMPLE	S96T004782	0	@IC-01 SO4-02	LIQUID	N/A	1.963e+03	1408.000	ug/mL
6 SAMPLE	S96T004782	0	@IC-01 OXALATE2	LIQUID	N/A	1.071e+03	1071.000	ug/mL
7 DUP	S96T004782	0	@IC-01 F-02	LIQUID	<1.22e2	<1.22e2		RPD
7 DUP	S96T004782	0	@IC-01 CL-02	LIQUID	7.87e+03	7.91e+03	0.507	RPD
7 DUP	S96T004782	0	@IC-01 NO2-02	LIQUID	1.05e+05	1.05e+05	0.000	RPD
7 DUP	S96T004782	0	@IC-01 BR-02	LIQUID	1.71e+03	1.75e+03	2.312	RPD
7 DUP	S96T004782	0	@IC-01 NO3-02	LIQUID	1.66e+05	1.67e+05	0.601	RPD
7 DUP	S96T004782	0	@IC-01 PO4-02	LIQUID	3.08e+03	2.61e+03	16.520	RPD
7 DUP	S96T004782	0	@IC-01 SO4-02	LIQUID	1.96e+03	2.11e+03	7.371	RPD
7 DUP	S96T004782	0	@IC-01 OXALATE2	LIQUID	<1.07e3	<1.07e3		RPD

Final page for worklist# 13605

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

J. Anastas
Reviewer Signature _____ Date *1-10-97*

Validated 1-10-97

S96T004781
Poor spk recoveries for Cl, NO₂, NO₃ -
will not be rerun unless requested.
Hea

LABCORE Data Entry Template for Worklist# 13605

Analyst: SMF Instrument: IC0 IC02 Book# 36020-C

Method: LA-533-105 Rev/Mod _____

Worklist Comment: @IC01 FOR AN-104 RTS

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC-QC	QC		
2 CCV			@IC-QC	QC		
3 BLNK			@IC-01	LIQUID		Hea 1-9-97
4 STD			@IC-01	LIQUID		Hea 1-9-97
5 SAMPLE	S96T004781 0		@IC-01	LIQUID	96001174	AN-104
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
6 DUP	S96T004781 0		@IC-01	LIQUID		
7 SPK	S96T004781 0		@IC-01	LIQUID		
8 SAMPLE	S96T004782 0		@IC-01	LIQUID	96001174	AN-104
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
9 DUP	S96T004782 0		@IC-01	LIQUID		

Final page for worklist # 13605

Surie M. Dulton 1-6-97

Analyst Signature _____ Date _____

Analyst Signature _____

Date _____

13605JA.CSV uploaded 1-9-97 Hea

Data Entry Comments:

A-0010-IC

DATA FILE/WORKLIST RESOLUTION

09-Jan-97

Worklist#: 13605

Data File: 13605JA.CSV

Seq Type Sample #				Seq#	Data File	Sample Name	Dilution
-	=>	1	CCB	-	1	97010661.d01	CCB ELUENT BLAN 1.00
	=>	2	CCV		2	97010661.d02	CCV STD 36N20-C 101.00
	=>	3	SAMPLE		3	97010671.d01	S96T004781 10201.00
	=>	4	DUP		4	97010671.d02	S96T004781 DU 10201.00
	=>	5	SPK		5	97010671.d03	S96T004781 SP 10201.00
	=>	6	SAMPLE		6	97010671.d04	S96T004782 10201.00
	=>	7	DUP		7	97010671.d05	S96T004782 DUP 10201.00
+				+			

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

Sample Name: CCV STD 36N20-C

Date: 01/06/1997 19:07:41

Data File : C:\DX\DATA\97010661.D02

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

ACI Address: 1, System: 1 Inject#: 2

Detector: CDM-1

Analyst : *Luis H. Salas* Column:

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

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	64	264	2	
2	1.04	FLUORIDE	58.729	2523	11335	2	-1.27
3	1.42		0.000	15	64	2	
4	1.58	CHLORIDE	81.966	2320	10757	2	-0.21
5	1.90	NITRITE	532.591	9571	49741	2	-0.87
6	2.86	BROMIDE	588.383	5652	35913	2	-1.94
7	3.26	NITRATE	610.130	6265	48294	2	-3.36
8	4.80	PHOSPHATE	532.253	1657	20665	1	-4.32
9	6.25	SULFATE	642.097	4673	65435	1	-5.30
10	8.21	OXALATE	555.052	2183	40921	1	-5.31
Totals			3601.200	34923	283389		

File: 97010661.D02 Sample: CCV STD 36N20-C

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 870 TO 870.

Sample Name: CCB ELUENT BLANK

Date: 01/06/1997 18:42:59

Data File : C:\DX\DATA\97010661.D01

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

ACI Address: 1 System: 1 Inject#: 1

Detector: CDM-1

Analyst : 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	1.42		0.000	12	52	1	
2	1.58	CHLORIDE	0.010	18	61	1	-0.21
4	3.32	NITRATE	0.155	28	142	1	-1.58
Totals			0.165	58	256		

File: 97010661.D01 Sample: CCB ELUENT BLANK

Sample Name: S96T004781

Date: 01/06/1997 20:09:54

Data File : C:\DX\DATA\97010671.D01

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

ACI Address: 1 System: 1 Inject#: 1

Detector: CDM-1

Analyst : Column:

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	10201	3000	5Hz	0.00	10.00		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	263	1577	1	
2	1.15		0.000	211	1202	2	
3	1.23		0.000	242	1361	2	
4	1.57	CHLORIDE	8442.286	2239	10974	1	-0.63
5	1.90	NITRITE	113430.931	19410	107188	1	-0.87
6	2.86	BROMIDE	1356.100	23	116	1	-1.94
7	3.20	NITRATE	171835.075	17701	141366	1	-4.95
8	4.82	PHOSPHATE	3194.899	66	750	1	-3.92
9	6.28	SULFATE	2423.665	122	1695	1	-4.90
Totals			300682.955	40278	266230		

File: 97010671.D01 Sample: S96T004781

Data Reprocessed On 01/08/1997 14:58:30

```

=====
Sample Name:  S96T004781  DUP                      Date: 01/06/1997 23:29:25
Data File   :  E:\DATA\97010671.D02
Method      :  C:\DX\METHOD\ANIONS.MET
ACI Address :  1  System: 1  Inject#: 2              Detector: CDM-1
Analyst     :                               Column:
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          10201    3000   5Hz   0.00 10.00          50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	377	2288	1	
2	1.16		0.000	156	850	2	
3	1.23		0.000	145	728	2	
4	1.44		0.000	158	686	2	
5	1.60	CHLORIDE	9018.689	3036	11740	2	1.05
6	1.92	NITRITE	121679.369	22839	115234	1	-0.17
7	2.87	BROMIDE	1396.375	27	141	1	-1.71
8	3.20	NITRATE	188216.363	19483	155782	1	-0.10
9	4.83	PHOSPHATE	3027.063	65	685	1	-3.78
10	6.29	SULFATE	2770.973	150	2043	1	-4.70
Totals			326108.834	46435	290176		

File: 97010671.D02 Sample: S96T004781 DUP

Data Reprocessed On 01/08/1997 15:00:02

Sample Name: S96T004781	SPK	Date: 01/06/1997 23:40:06
Data File : E:\DATA\97010671.D03		
Method : C:\DX\METHOD\ANIONS.MET		
ACI Address: 1	System: 1	Inject#: 3
Analyst :	Column:	Detector: CDM-1

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	10201	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	307	1389	2	
2	1.04	FLUORIDE	5832.594	2328	11140	2	-1.27
3	1.42		0.000	60	251	2	
4	1.58	CHLORIDE	18025.415	5586	23917	2	0.21
5	1.91	NITRITE	186183.801	32942	179049	1	-0.52
6	2.85	BROMIDE	65276.136	6605	39608	2	-2.40
7	3.18	NITRATE	257438.876	26087	218596	2	-0.10
8	4.80	PHOSPHATE	60973.267	1893	23563	1	-4.32
9	6.24	SULFATE	71979.829	5220	72876	1	-5.51
10	8.20	OXALATE	61271.306	2381	44821	1	-5.46
Totals			726981.224	83409	615211		

File: 97010671.D03 Sample: S96T004781 SPK

```

=====
Sample Name:  S96T004782                      Date: 01/06/1997 23:50:47
Data File   :  C:\DX\DATA\97010671.D04
Method      :  C:\DX\METHOD\ANIONS.MET
ACI Address :  1 System: 1 Inject#: 4
Analyst     :                               Detector: CDM-1
Column:
=====

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```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1       10201    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	244	1598	2	
2	1.15		0.000	192	1207	2	
3	1.23		0.000	213	1261	2	
4	1.58	CHLORIDE	7868.306	2136	10213	2	-0.21
5	1.90	NITRITE	104630.133	18451	98630	2	-0.87
6	2.86	BROMIDE	1707.267	60	328	1	-1.94
7	3.20	NITRATE	165629.355	16879	135947	1	-4.95
8	4.84	PHOSPHATE	3080.514	60	706	1	-3.65
9	6.26	SULFATE	1962.505	92	1233	1	-5.10
Totals			284878.079	38327	251124		

File: 97010671.D04 Sample: S96T004782

```

=====
Sample Name:  S96T004782 DUP                      Date: 01/07/1997 00:01:40
Data File   :  C:\DX\DATA\97010671.D05
Method      :  C:\DX\METHOD\ANIONS.MET
ACI Address :  1 System: 1 Inject#: 5
Analyst     :                               Detector: CDM-1
Column:
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1       10201    3000  5Hz   0.00 10.00       50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	242	1556	2	
2	1.15		0.000	188	1175	2	
3	1.23		0.000	207	1175	2	
4	1.57	CHLORIDE	7911.007	2136	10270	1	-0.63
5	1.90	NITRITE	104908.043	18409	98900	1	-1.22
6	2.86	BROMIDE	1747.912	60	353	2	-2.17
7	3.20	NITRATE	167225.919	16902	137339	2	-4.95
8	4.82	PHOSPHATE	2609.717	53	524	1	-3.92
9	6.26	SULFATE	2106.250	99	1377	1	-5.10

```

-----
Totals      286508.848      38296      252668
-----

```

File: 97010671.D05 Sample: S96T004782 DUP

HNF-SD-WM-DP-226, REV. 0

LABCORE Completed Worklist Report for Worklist# 13606

Analyst: eal

Instrument: IC01

Book# 3620-C

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

Worklist Comment: @IC01 FOR AN-104 RTS

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	S04	QC	1	<1.36e-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	6.42e+01	108.814 % Recovery
2 CCV	0	@IC-QC	CL	QC	7.90e01	7.34e+01	92.911 % Recovery
2 CCV	0	@IC-QC	NO2	QC	5.41e02	4.90e+02	90.573 % Recovery
2 CCV	0	@IC-QC	BR	QC	5.89e02	5.58e+02	94.737 % Recovery
2 CCV	0	@IC-QC	NO3	QC	5.94e02	5.85e+02	98.485 % Recovery
2 CCV	0	@IC-QC	PO4	QC	5.44e02	4.88e+02	89.706 % Recovery
2 CCV	0	@IC-QC	S04	QC	6.31e02	6.27e+02	100.951 % Recovery
2 CCV	0	@IC-QC	OXALATE2	QC	5.25e02	5.32e+02	101.333 % Recovery
3 SAMPLE	S96T004783	0	@IC-01	F-02	LIQUID	N/A	< 6.120e-01
3 SAMPLE	S96T004783	0	@IC-01	CL-02	LIQUID	N/A	9.332e+01
3 SAMPLE	S96T004783	0	@IC-01	NO2-02	LIQUID	N/A	1.308e+03
3 SAMPLE	S96T004783	0	@IC-01	BR-02	LIQUID	N/A	< 6.375e+00
3 SAMPLE	S96T004783	0	@IC-01	NO3-02	LIQUID	N/A	1.316e+03
3 SAMPLE	S96T004783	0	@IC-01	PO4-02	LIQUID	N/A	2.541e+01
3 SAMPLE	S96T004783	0	@IC-01	S04-02	LIQUID	N/A	2.476e+01
3 SAMPLE	S96T004783	0	@IC-01	OXALATE2	LIQUID	N/A	6.351e+00
4 DUP	S96T004783	0	@IC-01	F-02	LIQUID	<6.12e-1	RPD
4 DUP	S96T004783	0	@IC-01	CL-02	LIQUID	9.33e+01	8.97e+01
4 DUP	S96T004783	0	@IC-01	NO2-02	LIQUID	1.31e+03	1.26e+03
4 DUP	S96T004783	0	@IC-01	BR-02	LIQUID	<6.38e0	RPD
4 DUP	S96T004783	0	@IC-01	NO3-02	LIQUID	1.92e+03	1.91e+03
4 DUP	S96T004783	0	@IC-01	PO4-02	LIQUID	2.54e+01	2.84e+01
4 DUP	S96T004783	0	@IC-01	S04-02	LIQUID	2.48e+01	2.78e+01
4 DUP	S96T004783	0	@IC-01	OXALATE2	LIQUID	6.35e+00	7.83e+00
5 SPK	S96T004783	0	@IC-01	F-02	LIQUID	5.90e01	6.80e+01
5 SPK	S96T004783	0	@IC-01	CL-02	LIQUID	7.90e01	6.96e+01
5 SPK	S96T004783	0	@IC-01	NO2-02	LIQUID	5.41e02	3.70e+02
5 SPK	S96T004783	0	@IC-01	BR-02	LIQUID	5.89e02	5.35e+02
5 SPK	S96T004783	0	@IC-01	NO3-02	LIQUID	5.94e02	3.15e+02
5 SPK	S96T004783	0	@IC-01	PO4-02	LIQUID	5.44e02	5.11e+02
5 SPK	S96T004783	0	@IC-01	S04-02	LIQUID	6.31e02	6.42e+02
5 SPK	S96T004783	0	@IC-01	OXALATE2	LIQUID	5.25e02	5.64e+02
6 SAMPLE	S96T004784	0	@IC-01	F-02	LIQUID	N/A	< 6.120e-01

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

LABCORE Completed Worklist Report for Worklist# 13606

Seq Type	Sample# R A	Test	Matrix	Actual	Found	DL or Yield	Unit
6 SAMPLE	S96T004784 0	@IC-01 CL-02	LIQUID	N/A	8.020e+01	0.867	ug/mL
6 SAMPLE	S96T004784 0	@IC-01 NO2-02	LIQUID	N/A	1.121e+03	5.508	ug/mL
6 SAMPLE	S96T004784 0	@IC-01 BR-02	LIQUID	N/A	1.264e+01	6.375	ug/mL
6 SAMPLE	S96T004784 0	@IC-01 NO3-02	LIQUID	N/A	1.824e+03	7.089	ug/mL
6 SAMPLE	S96T004784 0	@IC-01 PO4-02	LIQUID	N/A	2.422e+01	6.120	ug/mL
6 SAMPLE	S96T004784 0	@IC-01 SO4-02	LIQUID	N/A	2.644e+01	7.038	ug/mL
6 SAMPLE	S96T004784 0	@IC-01 OXALATE2	LIQUID	N/A	6.349e+00	5.355	ug/mL
7 DUP	S96T004784 0	@IC-01 F-02	LIQUID	<6.12e-1	<6.12e-1		RPD
7 DUP	S96T004784 0	@IC-01 CL-02	LIQUID	8.020e+01	8.100e+01	0.893	RPD
7 DUP	S96T004784 0	@IC-01 NO2-02	LIQUID	1.121e+03	1.141e+03	1.770	RPD
7 DUP	S96T004784 0	@IC-01 BR-02	LIQUID	1.264e+01	1.299e+01	2.353	RPD
7 DUP	S96T004784 0	@IC-01 NO3-02	LIQUID	1.824e+03	1.799e+03	1.662	RPD
7 DUP	S96T004784 0	@IC-01 PO4-02	LIQUID	2.422e+01	2.511e+01	3.651	RPD
7 DUP	S96T004784 0	@IC-01 SO4-02	LIQUID	2.644e+01	2.622e+01	0.760	RPD
7 DUP	S96T004784 0	@IC-01 OXALATE2	LIQUID	6.350e+00	6.770e+00	6.402	RPD

Final page for worklist# 13606

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Blandina Valenzuela 1-24-97
Reviewer Signature _____ Date _____

LABCORE Data Entry Template for Worklist# 13606

Analyst: EDL Instrument: IC0 IC01 Book# 36N20C

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

Worklist Comment: @IC01 FOR AN-104 RTS

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC-QC	QC		
2 CCV			@IC-QC	QC		
3 BLNK			@IC-01	LIQUID	1/24/97 BDR	
4 STD			@IC-01	LIQUID	1/24/97 BDR	
5 SAMPLE	S96T004783 0		@IC-01	LIQUID	96001174	AN-104
	Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02					
6 DUP	S96T004783 0		@IC-01	LIQUID		
7 SPK	S96T004783 0		@IC-01	LIQUID		
8 SAMPLE	S96T004784 0		@IC-01	LIQUID	96001174	AN-104
	Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02					
9 DUP	S96T004784 0		@IC-01	LIQUID		

Final page for worklist # 13606

A. Lambel
Analyst Signature
1.13.97
Date

Analyst Signature Date

Uploaded 1/24/97 by BDR
Validated by BDR 1/24/96

Data Entry Comments:

A-0010-IC

DATA FILE/WORKLIST RESOLUTION

24-Jan-97

Worklist#: 13606

Data File: 13606JA2.CSV

		Seq	Type	Sample #	Seq#	Data File	Sample Name	Dilution	
-	= v	1	CCB		-	1	97011211.d36	INST. BLANK	1.00
	= v	2	CCV			2	97011211.d37	36N20-C STD.	101.00
	= v	3	SAMPLE	S96T004783		3	97011301.d38	S96T004783	51.00
	= v	4	DUP	S96T004783		4	97011301.d39	S96T004783 DUP	51.00
	= v	5	SPK	S96T004783		5	97011301.d40	S96T004783 SPIKE	51.00
	= v	6	SAMPLE	S96T004784		6	97011301.d41	S96T004784	51.00
	= v	7	DUP	S96T004784		7	97011301.d42	S96T004784 DUP	51.00
+					+				

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

Sample Name: INST. BLANK Date: 01/12/1997 23:23:23
 Data File : C:\DX\DATA\97011211.D36
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 36 Detector: CDM-1
 Analyst *J. J. J.* 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	1.43		0.000	25	162	1	
2	1.71	chloride	0.012	23	102	1	2.40
3	3.52	nitrate	0.116	133	962	1	-1.68
4	6.45	sulfate	0.123	102	2188	1	-2.42
Totals			0.251	283	3413		

File: 97011211.D36 Sample: INST. BLANK

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 881 TO 887

Sample Name: 36N20-C STD.

Date: 01/12/1997 23:34:35

Data File : C:\DX\DATA\97011211.D37

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

ACI Address: 1 System: 1 Inject#: 37

Detector: CDM-1

Analyst : Column: AG4A/AS4A anion column

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

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.94		0.000	21	72	2	
2	1.11	fluoride	64.161	1154	8542	2	2.47
3	1.67	chloride	73.357	1700	9214	1	0.00
4	1.99	nitrite	490.466	5844	41033	1	-2.30
5	3.01	bromide	558.444	4667	32577	1	-3.32
6	3.42	nitrate	584.964	5571	46070	1	-4.47
7	4.88	phosphate	487.729	1388	19394	1	-1.61
8	6.35	sulfate	637.075	4629	67613	1	-4.03
9	8.37	oxalate	531.914	2136	40677	1	-3.68
Totals			3428.110	27110	265191		

File: 97011211.D37 Sample: 36N20-C STD.

Data Reprocessed On 01/24/1997 11:59:38

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=====
Sample Name: S96T004783                      Date: 01/13/1997 01:35:22
Data File  : F:\DATA\97011301.D38
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 38          Detector: CDM-1
Analyst    :                               Column: AG4A/AS4A anion column
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          51    3000  5Hz   0.00 10.00          50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.93		0.000	323	2259	2	
2	1.23		0.000	316	2727	2	
3	1.31		0.000	404	2204	2	
4	1.65	chloride	93.317	4074	23755	1	-1.20
5	1.98	nitrite	1308.230	32598	233095	1	-2.62
6	3.31	nitrate	1915.911	31406	325752	1	-0.10
7	4.91	phosphate	25.408	125	1661	1	-1.08
8	6.40	sulfate	24.756	347	5954	1	-3.23
9	8.48	oxalate	6.351	24	495	1	-2.45
Totals			3373.973	69616	597902		

File: 97011301.D38 Sample: S96T004783

Data Reprocessed On 01/24/1997 11:39:39

```

=====
Sample Name: S96T004783 DUP                      Date: 01/13/1997 01:47:30
Data File  : F:\DATA\97011301.D39
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 39              Detector: CDM-1
Analyst    :                               Column: AG4A/AS4A anion column
=====

```

```

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

```

```

External      1          51    3000  5Hz    0.00 10.00          50
=====

```

```

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

```

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.93		0.000	300	2202	2	
2	1.24		0.000	296	2475	2	
3	1.32		0.000	379	2157	2	
4	1.65	chloride	89.689	3994	22800	1	-1.20
5	1.98	nitrite	1258.820	31795	223692	1	-2.62
6	3.31	nitrate	1907.533	30920	324159	1	-0.10
7	4.91	phosphate	28.415	129	1899	1	-1.08
8	6.40	sulfate	27.825	351	6581	1	-3.23
9	8.43	oxalate	7.827	30	719	1	-3.07
Totals			3320.108	68196	586684		

File: 97011301.D39 Sample: S96T004783 DUP

Data Reprocessed On 01/24/1997 11:42:58

```

=====
Sample Name: S96T004783 SPIKE                      Date: 01/13/1997 02:09:16
Data File  : F:\DATA\97011301.D40
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 40                Detector: CDM-1
Analyst    :                      Column: AG4A/AS4A anion column
=====

```

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 51 3000 5Hz 0.00 10.00 50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.93		0.000	272	1579	2	
2	1.11	fluoride	33.986	1125	9005	2	3.09
3	1.31		0.000	407	2233	2	
4	1.64	chloride	128.117	5759	33054	1	-1.60
5	1.99	nitrite	1493.378	37538	268778	1	-2.30
6	2.99	bromide	267.412	4980	30832	1	-3.75
7	3.29	nitrate	2073.437	34342	356048	1	0.10
8	4.85	phosphate	280.984	1552	22226	1	-2.15
9	6.29	sulfate	345.798	4464	72715	1	-4.84
10	8.32	oxalate	288.600	2107	43773	1	-4.29
Totals			4911.713	92547	840243		

File: 97011301.D40 Sample: S96T004783 SPIKE

Data Reprocessed On 01/24/1997 11:45:11

Sample Name: S96T004784	Date: 01/13/1997 02:30:47
Data File : F:\DATA\97011301.D41	
Method : C:\DX\METHOD\KIT.MET	
ACI Address: 1 System: 1 Inject#: 41	Detector: CDM-1
Analyst :	Column: AG4A/AS4A anion column

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

External	1	51	3000	5Hz	0.00	10.00		50
----------	---	----	------	-----	------	-------	--	----

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.93		0.000	275	2022	2	
2	1.24		0.000	256	2331	2	
3	1.32		0.000	329	1724	2	
4	1.65	chloride	80.196	3577	20312	1	-0.80
5	1.99	nitrite	1120.814	28418	197686	1	-2.30
6	3.06	bromide	12.642	136	839	1	-1.61
7	3.31	nitrate	1824.228	29816	308423	1	0.10
8	4.91	phosphate	24.223	106	1567	1	-1.08
9	6.40	sulfate	26.438	335	6298	1	-3.23
10	8.48	oxalate	6.349	21	495	1	-2.45
Totals			3094.889	63269	541697		

File: 97011301.D41 Sample: S96T004784

Data Reprocessed On 01/24/1997 11:56:08

Sample Name: S96T004784 DUP	Date: 01/13/1997 02:42:43
Data File : F:\DATA\97011301.D42	
Method : C:\DX\METHOD\KIT.MET	
ACI Address: 1 System: 1 Inject#: 42	Detector: CDM-1
Analyst :	Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	51	3000	5Hz	0.00	10.00		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.93		0.000	278	1977	2	
2	1.24		0.000	251	2143	2	
3	1.32		0.000	318	1738	2	
4	1.65	chloride	81.044	3569	20534	1	-1.20
5	1.98	nitrite	1137.816	28214	200870	1	-2.62
6	3.05	bromide	12.862	139	865	1	-2.04
7	3.31	nitrate	1790.969	29746	302190	1	0.10
8	4.91	phosphate	25.101	104	1636	1	-1.08
9	6.40	sulfate	26.241	326	6257	1	-3.23
10	8.43	oxalate	6.766	31	558	1	-3.07
Totals			3080.799	62977	538768		

File: 97011301.D42 Sample: S96T004784 DUP

LABCORE Completed Worklist Report for Worklist# 13608

Analyst: krq

Instrument: IC01

Book# 36N20C

Method: LA533105 Rev/Mod D-1

Worklist Comment: @IC01 FOR AN-104 RTS

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	5.900e1	6.52e+01	110.508 % Recovery	
2 CCV	0	⊖IC-QC CL	QC	7.900e1	7.45e+01	94.304 % Recovery	
2 CCV	0	⊖IC-QC NO2	QC	5.390e2	5.08e+02	94.242 % Recovery	
2 CCV	0	⊖IC-QC BR	QC	5.890e2	5.66e+02	96.095 % Recovery	
2 CCV	0	⊖IC-QC NO3	QC	5.940e2	5.78e+02	97.308 % Recovery	
2 CCV	0	⊖IC-QC PO4	QC	5.440e2	4.96e+02	91.176 % Recovery	
2 CCV	0	⊖IC-QC SO4	QC	6.310e2	6.41e+02	101.585 % Recovery	
2 CCV	0	⊖IC-QC OXALATE2	QC	5.280e2	5.47e+02	103.598 % Recovery	
3 SAMPLE	S96T004978	⊖IC-01 F-02	LIQUID	N/A	4.969e+01	49.690 ug/mL	
3 SAMPLE	S96T004978	⊖IC-01 CL-02	LIQUID	N/A	8.091e+03	70.400 ug/mL	
3 SAMPLE	S96T004978	⊖IC-01 NO2-02	LIQUID	N/A	1.137e+05	117.200 ug/mL	
3 SAMPLE	S96T004978	⊖IC-01 BR-02	LIQUID	N/A	8.487e+02	517.600 ug/mL	
3 SAMPLE	S96T004978	⊖IC-01 NO3-02	LIQUID	N/A	1.790e+05	575.600 ug/mL	
3 SAMPLE	S96T004978	⊖IC-01 PO4-02	LIQUID	N/A	2.479e+03	496.900 ug/mL	
3 SAMPLE	S96T004978	⊖IC-01 SO4-02	LIQUID	N/A	1.642e+03	571.500 ug/mL	
3 SAMPLE	S96T004978	⊖IC-01 OXALATE2	LIQUID	N/A	5.060e+02	434.800 ug/mL	
4 DUP	S96T004978	⊖IC-01 F-02	LIQUID	<4.97e1	<4.97e1	RPD	
4 DUP	S96T004978	⊖IC-01 CL-02	LIQUID	8.09e+03	9.17e+03	12.514 RPD	
4 DUP	S96T004978	⊖IC-01 NO2-02	LIQUID	1.14e+05	1.16e+05	1.739 RPD	
4 DUP	S96T004978	⊖IC-01 BR-02	LIQUID	8.49e+02	8.44e+02	0.591 RPD	
4 DUP	S96T004978	⊖IC-01 NO3-02	LIQUID	1.79e+05	1.78e+05	0.560 RPD	
4 DUP	S96T004978	⊖IC-01 PO4-02	LIQUID	2.48e+03	2.23e+03	10.616 RPD	
4 DUP	S96T004978	⊖IC-01 SO4-02	LIQUID	1.64e+03	1.93e+03	16.246 RPD	
4 DUP	S96T004978	⊖IC-01 OXALATE2	LIQUID	5.06e+02	4.72e+02	6.953 RPD	
5 SPK	S96T004978	⊖IC-01 F-02	LIQUID	5.90e01	7.07e+01	119.831 % Recovery	
5 SPK	S96T004978	⊖IC-01 CL-02	LIQUID	7.90e01	7.57e+01	95.823 % Recovery	
5 SPK	S96T004978	⊖IC-01 NO2-02	LIQUID	5.41e02	5.01e+02	92.605 % Recovery	
5 SPK	S96T004978	⊖IC-01 BR-02	LIQUID	5.89e02	5.11e+02	86.757 % Recovery	
5 SPK	S96T004978	⊖IC-01 NO3-02	LIQUID	5.94e02	5.00e+02	84.175 % Recovery	
5 SPK	S96T004978	⊖IC-01 PO4-02	LIQUID	5.44e02	4.91e+02	90.257 % Recovery	
5 SPK	S96T004978	⊖IC-01 SO4-02	LIQUID	6.31e02	6.35e+02	100.634 % Recovery	
5 SPK	S96T004978	⊖IC-01 OXALATE2	LIQUID	5.25e02	5.45e+02	103.810 % Recovery	
6 SAMPLE	S96T004979	⊖IC-01 F-02	LIQUID	N/A	4.969e+01	49.690 ug/mL	

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

LABCORE Completed Worklist Report for Worklist# 13608

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
6 SAMPLE	S96T004979	0	⑥IC-01 CL-02	LIQUID	N/A	8.108e+03	70.400	ug/mL
6 SAMPLE	S96T004979	0	⑥IC-01 NO2-02	LIQUID	N/A	1.111e+05	447.200	ug/mL
6 SAMPLE	S96T004979	0	⑥IC-01 ER-02	LIQUID	N/A	8.252e+02	517.600	ug/mL
6 SAMPLE	S96T004979	0	⑥IC-01 NO3-02	LIQUID	N/A	1.725e+05	575.600	ug/mL
6 SAMPLE	S96T004979	0	⑥IC-01 PO4-02	LIQUID	N/A	2.171e+03	496.900	ug/mL
6 SAMPLE	S96T004979	0	⑥IC-01 SO4-02	LIQUID	N/A	1.463e+03	571.500	ug/mL
6 SAMPLE	S96T004979	0	⑥IC-01 OXALATE2	LIQUID	N/A	4.954e+02	434.800	ug/mL
7 DUP	S96T004979	0	⑥IC-01 F-02	LIQUID	<4.97e1	<4.97e1		RPD
7 DUP	S96T004979	0	⑥IC-01 CL-02	LIQUID	8.11e+03	8.12e+03	0.123	RPD
7 DUP	S96T004979	0	⑥IC-01 NO2-02	LIQUID	1.11e+05	1.12e+05	0.897	RPD
7 DUP	S96T004979	0	⑥IC-01 ER-02	LIQUID	8.25e+02	8.10e+02	1.835	RPD
7 DUP	S96T004979	0	⑥IC-01 NO3-02	LIQUID	1.72e+05	1.73e+05	0.580	RPD
7 DUP	S96T004979	0	⑥IC-01 PO4-02	LIQUID	2.17e+03	2.18e+03	0.460	RPD
7 DUP	S96T004979	0	⑥IC-01 SO4-02	LIQUID	1.46e+03	1.78e+03	19.753	RPD
7 DUP	S96T004979	0	⑥IC-01 OXALATE2	LIQUID	4.95e+02	6.16e+02	21.782	RPD

Final page for worklist# 13608

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

H Anastos
Reviewer Signature

1-24-97
Date

Validated 1-22-97

LABCORE Data Entry Template for Worklist# 13608

Analyst: JAL Instrument: IC0 IC01 Book# 361020-C

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

Worklist Comment: @IC01 FOR AN-104 RTS

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	CCB				@IC-QC	QC		
2	CCV				@IC-QC	QC		
3	BLENK	<u>1-22-97</u>			@IC-01	LIQUID		
4	STD	<u>1-22-97</u>			@IC-01	LIQUID		
5	SAMPLE	S96T004978 0			@IC-01	LIQUID	96001174	AN-104
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02								
6	DUP	S96T004978 0			@IC-01	LIQUID		
7	SPK	S96T004978 0			@IC-01	LIQUID		
8	SAMPLE	S96T004979 0			@IC-01	LIQUID	96001174	AN-104
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02								
9	DUP	S96T004979 0			@IC-01	LIQUID		

Final page for worklist # 13608

Analyst Signature

Date

Analyst Signature

Date

13608 JA.CSV uploaded 1-22-97 JAL
4979 dup (ox) was 21%. ALL OTHER Q.C. good!
Validated 1-22-97 HLA

Data Entry Comments:

A-0010-IC

DATA FILE/WORKLIST RESOLUTION

22-Jan-97

Worklist#: 13608

Data File: 13608JA.CSV

	Seq	Type	Sample #	Seq#	Data File	Sample Name	Dilution
-	=>	1	CCB	-	1	97011211.d12	CCB 1.00
	=>	2	CCV		2	97011211.d13	CCV 36N20-C 101.00
	=>	3	SAMPLE		3	97011211.d14	S96T004978 SAMPL 4141.00
	=>	4	DUP		4	97011211.d15	S96T004978 DUP 4141.00
	=>	5	SPK		5	97011211.d16	S96T004978 SPIKE 4141.00
	=>	6	SAMPLE		6	97011211.d17	S96T004979 SAMPL 4141.00
	=>	7	DUP		7	97011211.d18	S96T004979 DUP 4141.00
+				+			

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

Data Reprocessed On 01/12/1997 14:52:56

Sample Name: CCV 36N20-C Date: 01/12/1997 13:53:54
 Data File : C:\DX\DATA\97011211.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 1 101 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	0.93		0.000	22	75	2	
2	1.11	fluoride	65.224	1196	8698	2	2.47
3	1.66	chloride	74.465	1736	9356	1	-0.40
4	1.98	nitrite	508.208	6141	42577	1	-2.62
5	2.98	bromide	565.509	4830	33004	1	0.00
6	3.40	nitrate	578.438	5564	45549	1	-5.03
7	4.88	phosphate	495.991	1382	19734	1	-1.61
8	6.35	sulfate	640.946	4667	68026	1	-4.03
9	8.37	oxalate	547.169	2172	41868	1	-3.68
Totals			3475.951	27709	268888		

File: 97011211.D13 Sample: CCV 36N20-C

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES ~~892~~ TO ~~898~~

Data Reprocessed On 01/22/1997 14:54:07

Sample Name: CCB	Date: 01/12/1997 13:38:01
Data File : F:\DATA\97011211.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	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	1.43		0.000	33	226	1	
2	3.51	nitrate	0.004	15	85	1	-2.05
Totals			0.004	47	311		

File: 97011211.d12 Sample: CCB

Data Reprocessed On 01/22/1997 14:54:09

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=====
Sample Name: S96T004978 SAMPLE          Date: 01/12/1997 14:07:01
Data File  : F:\DATA\97011211.d14
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 14      Detector:CDM-1
Analyst    :                          Column: AG4A/AS4A anion column
=====

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=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          4141    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	0.93		0.000	359	2599	2	
2	1.23		0.000	341	2953	2	
3	1.31		0.000	444	2444	2	
4	1.64	chloride	8090.561	4442	25427	1	-1.60
5	1.97	nitrite	113705.437	35764	250765	1	-2.95
6	3.03	bromide	848.652	100	586	1	-2.68
7	3.27	nitrate	179029.313	36089	381866	1	-0.10
8	4.91	phosphate	2479.292	138	2067	1	-1.08
9	6.40	sulfate	1641.585	296	5028	1	-3.23
10	8.43	oxalate	506.029	23	477	1	-3.07
Totals			306300.868	77996	674213		

File: 97011211.d14 Sample: S96T004978 SAMPLE

```

=====
Sample Name: S96T004978 DUP                      Date: 01/12/1997 14:19:20
Data File  : F:\DATA\97011211.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          4141    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	0.93		0.000	342	2424	2	
2	1.23		0.000	330	2801	2	
3	1.31		0.000	425	2352	2	
4	1.63	chloride	9168.884	5099	28964	1	-2.00
5	1.97	nitrite	115762.491	35956	255654	1	-2.95
6	3.02	bromide	843.957	99	579	1	-2.89
7	3.27	nitrate	177772.005	36369	378799	1	-0.10
8	4.91	phosphate	2225.983	130	1820	1	-1.08
9	6.40	sulfate	1927.560	308	5747	1	-3.23
10	8.48	oxalate	472.394	22	414	1	-2.45
Totals			308173.273	79081	679553		

File: 97011211.d15 Sample: S96T004978 DUP

Data Reprocessed On 01/22/1997 14:54:11

Sample Name: S96T004978 SPIKE	Date: 01/12/1997 14:33:19
Data File : F:\DATA\97011211.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		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.93		0.000	313	1950	2	
2	1.11	fluoride	2850.829	1133	9333	2	3.09
3	1.31		0.000	494	2596	2	
4	1.63	chloride	11141.460	6260	35527	1	-2.00
5	1.98	nitrite	133904.521	42232	299370	1	-2.62
6	2.96	bromide	21469.612	4999	30474	1	0.00
7	3.25	nitrate	199209.167	40618	432116	1	-0.10
8	4.88	phosphate	22294.664	1556	21702	1	-1.61
9	6.29	sulfate	27231.814	3919	70509	1	-4.84
10	8.32	oxalate	22495.447	1961	41986	1	-4.29
Totals			440597.513	103485	945563		

File: 97011211.d16 Sample: S96T004978 SPIKE

Data Reprocessed On 01/22/1997 14:54:11

```

=====
Sample Name: S96T004979 SAMPLE                      Date: 01/12/1997 14:45:08
Data File  : F:\DATA\97011211.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          50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.93		0.000	333	2369	2	
2	1.23		0.000	324	2722	2	
3	1.31		0.000	423	2364	2	
4	1.64	chloride	8107.721	4323	25483	1	-1.60
5	1.97	nitrite	111095.480	34669	244582	1	-2.95
6	3.01	bromide	825.246	95	552	1	-3.11
7	3.26	nitrate	172515.518	35211	366052	1	0.00
8	4.91	phosphate	2170.738	121	1766	1	-1.08
9	6.40	sulfate	1462.842	272	4579	1	-3.23
10	8.48	oxalate	495.388	27	457	1	-2.45
Totals			296672.932	75798	650926		

File: 97011211.d17 Sample: S96T004979 SAMPLE

Sample Name: S96T004979 DUP	Date: 01/12/1997 14:57:49
Data File : F:\DATA\97011211.d18	HNF-SD-WM-DP-226, REV. 0
Method : C:\DX\METHOD\KIT.MET	
ACI Address: 1 System: 1 Inject#: 18	Detector: CDM-1
Analyst :	Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	4141	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	0.93		0.000	341	2444	2	
2	1.23		0.000	309	2631	2	
3	1.31		0.000	404	2259	2	
4	1.63	chloride	8124.143	4357	25537	1	-2.00
5	1.97	nitrite	111932.280	34863	246562	1	-2.95
6	3.02	bromide	809.758	93	530	1	-2.89
7	3.26	nitrate	172510.712	35488	366040	1	0.00
8	4.91	phosphate	2179.246	123	1774	1	-1.08
9	6.40	sulfate	1778.339	302	5372	1	-3.23
10	8.48	oxalate	616.233	28	683	1	-2.45
Totals			297950.710	76308	653831		

File: 97011211.d18 Sample: S96T004979 DUP

LABCORE Completed Worklist Report for Worklist# 13607

Analyst: eal

Instrument: IC02

Book# 361200

Method: 64-533-105 Rev/Mod D-1

Worklist Comment: @IC01 FOR AN-104 RTS

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	5.30e01	6.43e+01	108.983 % Recovery	
2 CCV	0	@IC-QC CL	QC	7.30e01	8.44e+01	106.835 % Recovery	
2 CCV	0	@IC-QC NO2	QC	5.41e02	5.77e+02	106.654 % Recovery	
2 CCV	0	@IC-QC BR	QC	5.89e02	5.94e+02	100.849 % Recovery	
2 CCV	0	@IC-QC NO3	QC	5.94e02	6.07e+02	102.183 % Recovery	
2 CCV	0	@IC-QC PO4	QC	5.44e02	5.90e+02	108.456 % Recovery	
2 CCV	0	@IC-QC SO4	QC	6.31e02	6.43e+02	101.902 % Recovery	
2 CCV	0	@IC-QC OXALATE2	QC	5.25e02	6.51e+02	124.000 % Recovery	
3 SAMPLE	S96T004976 0	@IC-01 F-02	LIQUID	N/A	2.734e+02	122.400 ug/mL	
3 SAMPLE	S96T004976 0	@IC-01 CL-02	LIQUID	N/A	6.826e+03	173.400 ug/mL	
3 SAMPLE	S96T004976 0	@IC-01 NO2-02	LIQUID	N/A	9.426e+04	1102.000 ug/mL	
3 SAMPLE	S96T004976 0	@IC-01 BR-02	LIQUID	N/A	< 1.275e+03	1275.000 ug/mL	
3 SAMPLE	S96T004976 0	@IC-01 NO3-02	LIQUID	N/A	1.466e+05	1418.000 ug/mL	
3 SAMPLE	S96T004976 0	@IC-01 PO4-02	LIQUID	N/A	1.679e+03	1224.000 ug/mL	
3 SAMPLE	S96T004976 0	@IC-01 SO4-02	LIQUID	N/A	< 1.408e+03	1408.000 ug/mL	
4 DUP	S96T004976 0	@IC-01 F-02	LIQUID	2.73e+02	<1.22e2		RPD
4 DUP	S96T004976 0	@IC-01 CL-02	LIQUID	6.83e+03	6.81e+03	0.293 RPD	
4 DUP	S96T004976 0	@IC-01 NO2-02	LIQUID	9.43e+04	9.40e+04	0.319 RPD	
4 DUP	S96T004976 0	@IC-01 BR-02	LIQUID	<1.28e3	<1.28e3		RPD
4 DUP	S96T004976 0	@IC-01 NO3-02	LIQUID	1.47e+05	1.49e+05	1.351 RPD	
4 DUP	S96T004976 0	@IC-01 PO4-02	LIQUID	1.68e+03	<1.22e3		RPD
4 DUP	S96T004976 0	@IC-01 SO4-02	LIQUID	<1.41e3	<1.41e3		RPD
4 DUP	S96T004976 0	@IC-01 OXALATE2	LIQUID	<1.07e3	<1.07e3		RPD
5 SPK	S96T004976 0	@IC-01 F-02	LIQUID	5.90e01	7.16e+01	121.356 % Recovery	
5 SPK	S96T004976 0	@IC-01 CL-02	LIQUID	7.30e01	9.32e+01	105.316 % Recovery	
5 SPK	S96T004976 0	@IC-01 NO2-02	LIQUID	5.41e02	6.35e+02	117.375 % Recovery	
5 SPK	S96T004976 0	@IC-01 BR-02	LIQUID	5.89e02	6.59e+02	110.526 % Recovery	
5 SPK	S96T004976 0	@IC-01 NO3-02	LIQUID	5.94e02	7.18e+02	120.875 % Recovery	
5 SPK	S96T004976 0	@IC-01 PO4-02	LIQUID	5.44e02	6.02e+02	110.662 % Recovery	
5 SPK	S96T004976 0	@IC-01 SO4-02	LIQUID	6.31e02	6.79e+02	107.607 % Recovery	
5 SPK	S96T004976 0	@IC-01 OXALATE2	LIQUID	5.25e02	6.66e+02	126.857 % Recovery	
6 SAMPLE	S96T004977 0	@IC-01 F-02	LIQUID	N/A	3.575e+02	122.400 ug/mL	
6 SAMPLE	S96T004977 0	@IC-01 CL-02	LIQUID	N/A	8.932e+03	173.400 ug/mL	

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

LABCORE Completed Worklist Report for Worklist# 13607

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
6 SAMPLE	S96T004977	0	QIC-01 NO2-02	LIQUID	N/A	1.239e+05	1102.000	ug/mL
6 SAMPLE	S96T004977	0	QIC-01 BR-02	LIQUID	N/A	1.275e+03	1275.000	ug/mL
6 SAMPLE	S96T004977	0	QIC-01 NO3-02	LIQUID	N/A	1.754e+05	1418.000	ug/mL
6 SAMPLE	S96T004977	0	QIC-01 PO4-02	LIQUID	N/A	2.194e+03	1224.000	ug/mL
6 SAMPLE	S96T004977	0	QIC-01 SO4-02	LIQUID	N/A	1.408e+02	1408.000	ug/mL
7 DUP	S96T004977	0	QIC-01 P-02	LIQUID	3.59e+02	3.33e+02	7.236	RPD
7 DUP	S96T004977	0	QIC-01 CL-02	LIQUID	8.93e+03	8.65e+03	3.185	RPD
7 DUP	S96T004977	0	QIC-01 NO2-02	LIQUID	1.24e+05	1.22e+05	1.626	RPD
7 DUP	S96T004977	0	QIC-01 BR-02	LIQUID	<1.28e3	<1.28e3		RPD
7 DUP	S96T004977	0	QIC-01 NO3-02	LIQUID	1.75e+05	1.76e+05	0.570	RPD
7 DUP	S96T004977	0	QIC-01 PO4-02	LIQUID	2.19e+03	2.15e+03	1.843	RPD
7 DUP	S96T004977	0	QIC-01 SO4-02	LIQUID	<1.41e3	<1.41e3		RPD
7 DUP	S96T004977	0	QIC-01 OXALATE2	LIQUID	<1.07e3	<1.07e3		RPD

Final page for worklist# 13607

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Reviewer Signature _____ Date 1/21/97

LABCORE Data Entry Template for Worklist# 13607

Analyst: EAL Instrument: IC0 IC02 Book# 36N20-C

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

Worklist Comment: @IC01 FOR AN-104 RTS

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC-QC	QC		
2 CCV			@IC-QC	QC		
3 BLNK			@IC-01	LIQUID	1/21/97 BDV	
4 STD			@IC-01	LIQUID	1/21/97 BDV	
5 SAMPLE	S96T004976 0		@IC-01	LIQUID	96001174	AN-104
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
6 DUP	S96T004976 0		@IC-01	LIQUID		
7 SPK	S96T004976 0		@IC-01	LIQUID		
8 SAMPLE	S96T004977 0		@IC-01	LIQUID	96001174	AN-104
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
9 DUP	S96T004977 0		@IC-01	LIQUID		

Final page for worklist # 13607

A. Lambert
Analyst Signature

01/11/97
Date

Analyst Signature

Date

Uploaded 1/21/97 BDV

Validated 1/21/97 BDV - Oxalate rerun on WKL 16269

Data Entry Comments:

A-0010-IC

DATA FILE/WORKLIST RESOLUTION

21-Jan-97

Worklist#: 13607

Data File: 13607JA.CSV

		Seq	Type	Sample #	Seq#	Data File	Dilution
-	=>	1	CCB		-	1 970111101.d16	INST. BLANK 1.00
	=>	2	CCV		2	970111101.d17	36N20-C STD. 101.00
	=>	3	SAMPLE	S96T004976		970111101.d24	36N20-C STD. 101.00
	=>	4	DUP	S96T004976		970111101.d18	S96T004976 4141.00
	=>	5	SPK	S96T004976	3	970111101.d19	S96T004976 10201.00
	=>	6	SAMPLE	S96T004977	4	970111101.d20	S96T004976 DUP 10201.00
	=>	7	DUP	S96T004977	5	970111101.d21	S96T004976 SPIK 10201.00
					6	970111101.d22	S96T004977 10201.00
					7	970111101.d23	S96T004977 DUP. 10201.00
+					+		

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

Sample Name: INST. BLANK

Date: 01/11/1997 02:23:52

Data File : C:\DX\DATA\97011101.D16

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

ACI Address: 1 System: 1 Inject#: 16

Detector: CDM-1

Analyst : *Ann Lyle* Column:

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 1 3000 5Hz 0.00 10.00 50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.86		0.000	43	264	1	
2	1.40		0.000	21	113	1	
3	1.56	CHLORIDE	0.005	38	128	1	0.00
4	3.31		0.000	143	1006	1	
5	6.24	SULFATE	-0.076	85	1121	1	3.31
Totals			-0.071	330	2633		

File: 97011101.D16 Sample: INST. BLANK

Data Reprocessed On 01/21/1997 14:15:44

Sample Name: 36N20-C STD.

Date: 01/11/1997 02:35:38

Data File : E:\DATA\97011101.D17

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

ACI Address: 1 System: 1 Inject#: 17

Detector: CDM-1

Analyst : *John J. [Signature]* 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	0.86		0.000	115	490	2	
2	1.02	FLUORIDE	64.320	2534	10767	2	0.66
3	1.56	CHLORIDE	84.397	2199	10140	1	0.00
4	1.89	NITRITE	577.390	9498	48501	1	-0.70
5	2.86	BROMIDE	594.214	5309	32564	2	2.88
6	3.25	NITRATE	606.858	5802	43444	2	0.00
7	4.77	PHOSPHATE	589.647	1528	19251	1	2.58
8	6.21	SULFATE	643.398	4328	59989	1	2.87
9	8.17	OXALATE	650.789	2045	38716	1	3.03

Totals			3811.013	33359	263862		
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File: 97011101.D17 Sample: 36N20-C STD.

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 904 TO 909.

Data Reprocessed On 01/21/1997 14:18:45

Sample Name: S96T004976	Date: 01/11/1997 03:00:38
Data File : E:\DATA\97011101.D19	
Method : C:\DX\METHOD\ANIONS.MET	
ACT Address: 1 System: 1 Inject#: 19	Detector: CDM-1
Analyst :	Column:

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	10201	3000	5Hz	0.00	10.00		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.86		0.000	250	1556	2	
2	1.06	FLUORIDE	273.425	114	488	2	0.31
3	1.14		0.000	184	716	2	
4	1.22		0.000	193	1222	2	
5	1.56	CHLORIDE	6825.573	1698	8106	2	-0.43
6	1.88	NITRITE	94262.895	15471	79346	2	-1.05
7	2.86	BROMIDE	926.714	68	374	1	3.12
8	3.21	NITRATE	146636.553	13736	106743	1	4.11
9	4.79	PHOSPHATE	1679.351	42	416	1	3.01
10	6.22	SULFATE	-983.504	73	936	1	3.09
Totals			249621.007	31830	199902		

File: 97011101.D19 Sample: S96T004976

Sample Name: S96T004976 DUP Date: 01/11/1997 03:13:44
 Data File : C:\DX\DATA\97011101.D20
 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 20 Detector: CDM-1
 Analyst : Column:

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	10201	3000	5Hz	0.00	10.00		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.86		0.000	251	1530	2	
2	1.14		0.000	181	1188	2	
3	1.21		0.000	178	1057	2	
4	1.56	CHLORIDE	6814.552	1744	8093	2	-0.43
5	1.88	NITRITE	94018.639	15567	79134	2	-1.05
6	2.86	BROMIDE	948.160	68	386	1	3.12
7	3.21	NITRATE	149249.942	13760	108751	1	4.11
8	6.22	SULFATE	-797.543	82	1098	1	3.09
Totals			250233.749	31831	201237		

File: 97011101.D20 Sample: S96T004976 DUP

Sample Name: S96T004976 SPIKE Date: 01/11/1997 03:26:17
 Data File : C:\DX\DATA\97011101.D21
 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 21 Detector: CDM-1
 Analyst : Column:

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	10201	3000	5Hz	0.00	10.00		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.86		0.000	301	1480	2	
2	1.02	FLUORIDE	7509.037	2578	12483	3	0.66
3	1.22		0.000	164	1091	4	
4	1.56	CHLORIDE	15233.195	3874	18318	2	-0.43
5	1.89	NITRITE	158364.459	26132	135871	2	-0.70
6	2.84	BROMIDE	65763.202	5751	35783	2	2.40
7	3.18	NITRATE	219199.766	20207	164265	2	3.24
8	4.77	PHOSPHATE	62469.405	1629	20225	1	2.58
9	6.20	SULFATE	68540.061	4517	63257	1	2.65
10	8.16	OXALATE	67263.521	2108	39640	1	2.86
Totals			664342.646	67260	492414		

File: 97011101.D21 Sample: S96T004976 SPIKE

Data Reprocessed On 01/21/1997 14:20:56

Sample Name: S96T004977

Date: 01/11/1997 03:37:08

Data File : E:\DATA\97011101.D22

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

ACI Address: 1 System: 1 Inject#: 22

Detector: CDM-1

Analyst : Column:

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
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External	1	10201	3000	5Hz	0.00	10.00		50
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***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.86		0.000	311	1912	2	
2	1.06	FLUORIDE	357.461	148	624	2	0.31
3	1.14		0.000	240	928	2	
4	1.21		0.000	247	1520	2	
5	1.56	CHLORIDE	8931.736	2143	10630	2	-0.43
6	1.89	NITRITE	123883.120	19969	105214	2	-0.70
7	2.86	BROMIDE	541.387	32	170	1	3.12
8	3.20	NITRATE	175402.262	16417	129098	1	3.68
9	4.79	PHOSPHATE	2194.265	55	580	1	3.01
10	6.21	SULFATE	-686.894	89	1195	1	2.87
Totals			310623.337	39651	251870		

File: 97011101.D22 Sample: S96T004977

Data Reprocessed On 01/21/1997 14:22:23

Sample Name: S96T004977 DUP.	Date: 01/11/1997 03:48:40
Data File : E:\DATA\97011101.D23	
Method : C:\DX\METHOD\ANIONS.MET	
ACI Address: 1 System: 1 Inject#: 23	Detector: CDM-1
Analyst :	Column:

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	10201	3000	5Hz	0.00	10.00		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.86		0.000	299	1799	2	
2	1.06	FLUORIDE	333.402	138	585	2	0.31
3	1.14		0.000	228	873	2	
4	1.21		0.000	232	1365	2	
5	1.56	CHLORIDE	8652.815	2178	10295	2	-0.43
6	1.88	NITRITE	121726.380	19804	103316	2	-1.05
7	2.86	BROMIDE	589.183	35	195	1	3.12
8	3.20	NITRATE	176174.829	16438	129706	1	3.68
9	4.79	PHOSPHATE	2149.266	58	565	1	3.01
10	6.22	SULFATE	-670.418	89	1209	1	3.09
Totals			308955.457	39498	249908		

File: 97011101.D23 Sample: S96T004977 DUP.

LABCORE Completed Worklist Report for Worklist# 13702

Analyst: rag Instrument: IC03

Book# 144W98

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

Worklist Comment: AN-104 IC2. RCJ

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 CCB	0		IC2-QC ACETATE2 QC		1	<2.00e-2		ug/mL
1 CCB	0		IC2-QC FORMATE2 QC		1	<2.10e-2		ug/mL
2 CCV	0		IC2-QC ACETATE2 QC		1.240e2	1.14e+02	91.925 % Recovery	
2 CCV	0		IC2-QC FORMATE2 QC		1.200e2	1.17e+02	97.500 % Recovery	
4 DUP	S96T004774	0	IC2-01 ACETATE2 LIQUID		1.35e+04	1.37e+04	1.471 RPD	
4 DUP	S96T004774	0	IC2-01 FORMATE2 LIQUID		5.41e+03	5.71e+03	5.396 RPD	
5 SPK	S96T004774	0	IC2-01 ACETATE2 LIQUID		1.240e2	1.70e+01	13.710 % Recovery	
5 SPK	S96T004774	0	IC2-01 FORMATE2 LIQUID		1.200e2	6.66e+01	55.500 % Recovery	
6 SAMPLE	S96T004778	0	IC2-01 ACETATE2 LIQUID		N/A	5.576e+02	82.820 ug/mL	
6 SAMPLE	S96T004778	0	IC2-01 FORMATE2 LIQUID		N/A	7.503e+02	86.960 ug/mL	
7 DUP	S96T004778	0	IC2-01 ACETATE2 LIQUID		5.58e+02	6.65e+02	17.498 RPD	
7 DUP	S96T004778	0	IC2-01 FORMATE2 LIQUID		7.50e+02	8.73e+02	15.157 RPD	

Final page for worklist# 13702

Analyst Signature Date

Analyst Signature Date

Jan M. Lye 1/20/97
Reviewer Signature Date

S97T004774 rerun on worklist # 16244

LABCORE Data Entry Template for Worklist# 13702

Analyst: RJS Instrument: IC0 IC03 Book# 144N9-B

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

Worklist Comment: AN-104 IC2. RCJ

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC2-QC	QC		
2 CCV			@IC2-QC	QC		
3 SAMPLE	S96T004774 0		@IC2-01	LIQUID	96001174	AN-104
	Analytes Requested:		ACETATE2, FORMATE2			
4 DUP	S96T004774 0		@IC2-01	LIQUID		
5 SPK	S96T004774 0		@IC2-01	LIQUID		
6 SAMPLE	S96T004778 0		@IC2-01	LIQUID	96001174	AN-104
	Analytes Requested:		ACETATE2, FORMATE2			
7 DUP	S96T004778 0		@IC2-01	LIQUID		

Final page for worklist # 13702

Rae Ann Green 1-3-97
Analyst Signature Date

Analyst Signature Date

13707 JA.CSV

REVIEWED RW

SPIKE FAILED

uploaded 1/20/97 JMF

S96T004774 rejected + rerun on 16244. JMF

The other sample was Validated JMF

Data Entry Comments:

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

Sample Name: CCB Date: 01/02/1997 21:40:22
 Data File : C:\DX\DATA\96122221.D01
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 1 Detector: CDM-1
 Analyst : *Rae Ann Green* Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	8.01		0.000	282	1225		2
2	8.39		0.000	7410	407208		2
Totals			0.000	7692	408433		

File: 96122221.D01 Sample: CCB

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 912 TO 915.

Sample Name: CCV 144N9-B Date: 01/02/1997 22:22:29
 Data File : C:\DX\DATA\96122231.D03
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 3 Detector: CDM-1
 Analyst : *Rae Ann Green* Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	101	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.07	fluoride	65.322	1787	13581	2	-1.59
2	2.35	acetate	114.128	701	4637	2	-0.14
3	3.03	formate	116.637	1284	9103	1	-0.44
4	6.05		0.000	5768	591516	2	
5	8.01		0.000	3545	70115	2	
6	8.17		0.000	3730	29151	2	
7	8.32		0.000	3805	194992	2	

Totals: 296.087 20619 913096

File: 96122231.D03 Sample: CCV 144N9-B

Sample Name: S96T004778 Date: 01/03/1997 02:41:34
 Data File : C:\DX\DATA\96122231.D11
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 11 Detector: CDM-1
 Analyst : *Rae Ann Shew* Column: AG4A-SC, AS4A-SC, SRS

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 4141 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.33	acetate	557.565	90	434	1	-0.71
2	3.03	formate	750.312	114	970	1	-0.44
3	3.83		0.000	141	1183	1	
4	5.37		0.000	7768	70683	2	
5	5.75		0.000	36002	640800	3	
6	7.12		0.000	3070	43592	4	
7	7.40		0.000	28059	581441	3	
8	8.32		0.000	1951	164473	4	

Totals 1307.877 77196 1503577

File: 96122231.D11 Sample: S96T004778

Sample Name: S96T004778 DUP Date: 01/03/1997 03:09:23
 Data File : C:\DX\DATA\96122231.D12
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 12 Detector: CDM-1
 Analyst : *Rae Ann Green* Column: AG4A-SC, AS4A-SC, SRS

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 4141 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.31	acetate	665.375	117	544	1	-1.84
2	2.99	formate	872.855	151	1213	1	-1.75
3	3.79		0.000	159	1332	1	
4	5.36		0.000	8391	92084	2	
5	5.73		0.000	36784	581647	2	
6	7.40		0.000	28831	637494	3	
7	8.16		0.000	1284	8651	4	
8	8.31		0.000	1983	168697	4	

Totals 1538.230 77700 1491662

File: 96122231.D12 Sample: S96T004778 DUP

LABCORE Completed Worklist Report for Worklist# 13703

Analyst: vlm

Instrument: IC03

Book# 144MB

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

Worklist Comment: AN-104 IC2. RCJ

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	CCB	0			@IC2-QC ACETATE2 QC		1	<2.00e-2		ug/mL
1	CCB	0			@IC2-QC FORMATE2 QC		1	<2.10e-2		ug/mL
2	CCV	0			@IC2-QC ACETATE2 QC		1.240e2	1.12e+02	90.323	% Recovery
2	CCV	0			@IC2-QC FORMATE2 QC		1.200e2	1.13e+02	94.167	% Recovery
3	SAMPLE	S96T004779	0		@IC2-01 ACETATE2 LIQUID		N/A	5.233e+02	22.220	ug/mL
3	SAMPLE	S96T004779	0		@IC2-01 FORMATE2 LIQUID		N/A	1.033e+03	23.330	ug/mL
4	DUP	S96T004779	0		@IC2-01 ACETATE2 LIQUID		5.23e+02	5.36e+02	2.455	RPD
4	DUP	S96T004779	0		@IC2-01 FORMATE2 LIQUID		1.03e+03	1.05e+03	1.923	RPD
5	SPK	S96T004779	0		@IC2-01 ACETATE2 LIQUID		1.240e2	9.99e+01	80.565	% Recovery
5	SPK	S96T004779	0		@IC2-01 FORMATE2 LIQUID		1.200e2	1.29e+02	107.500	% Recovery
6	SAMPLE	S96T004780	0		@IC2-01 ACETATE2 LIQUID		N/A	5.529e+02	22.220	ug/mL
6	SAMPLE	S96T004780	0		@IC2-01 FORMATE2 LIQUID		N/A	1.009e+03	23.330	ug/mL
7	DUP	S96T004780	0		@IC2-01 ACETATE2 LIQUID		5.53e+02	5.67e+02	2.500	RPD
7	DUP	S96T004780	0		@IC2-01 FORMATE2 LIQUID		1.01e+03	1.02e+03	0.985	RPD

Final page for worklist# 13703

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Jean M. Lyp 1/20/97
Reviewer Signature Date

LABCORE Data Entry Template for Worklist# 13703

Analyst: VUM Instrument: IC0 IC03 Book# 144N9-8

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

Worklist Comment: AN-104 IC2. RCJ

S Type	Sample#	R A Test	Matrix	Group#	Project
1 CCB		@IC2-QC	QC		
2 CCV		@IC2-QC	QC		
3 SAMPLE	S96T004779 0	@IC2-01	LIQUID	96001174	AN-104
Analytes Requested: ACETATE2, FORMATE2					
4 DUP	S96T004779 0	@IC2-01	LIQUID		
5 SPK	S96T004779 0	@IC2-01	LIQUID		
6 SAMPLE	S96T004780 0	@IC2-01	LIQUID	96001174	AN-104
Analytes Requested: ACETATE2, FORMATE2					
7 DUP	S96T004780 0	@IC2-01	LIQUID		

Final page for worklist # 13703

Valerie Masai 01-08-97

Analyst Signature

Date

Analyst Signature

Date

13703 JA.CSV

REVIEWED: RW
Uploaded 1/20/97 GMF
Validated 1/20/97 GMF

Data Entry Comments:

Sample Name: INSTR BLANK Date: 01/08/1997 13:38:58
 Data File : C:\DX\DATA\97010901.D04
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 4 Detector: CDM-1
 Analyst : *Valerie Mason* Column: AG4A-SC, AS4A-SC, SRS

01-08-97

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.71		0.000	12	43	1	
2	6.97		0.000	1043	20853	1	
3	8.15		0.000	297	1804	2	
4	8.40		0.000	693	48758	2	
Totals			0.000	2045	71458		

File: 97010901.D04 Sample: INSTR BLANK

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 918 TO 924.

Sample Name: 144N9-B STD Date: 01/08/1997 13:59:11
 Data File : C:\DX\DATA\97010901.D05
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 5 Detector: CDM-1
 Analyst : *Valery Masari* Column: AG4A-SC, AS4A-SC, SRS

81-08-97

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	101	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.13	fluoride	64.711	2734	14486	2	1.59
2	2.41	acetate	112.460	664	4838	2	0.98
3	3.13	formate	112.621	1362	9625	1	1.40
4	5.99		0.000	4907	327101	2	
5	6.95		0.000	4381	299397	2	
6	8.15		0.000	2886	25359	2	
7	8.40		0.000	2930	185449	2	
Totals			289.792	19865	866256		

File: 97010901.D05 Sample: 144N9-B STD

=====

Sample Name: S96T004779 SAMPLE	Date: 01/08/1997 14:43:58
Data File : C:\DX\DATA\97010901.D07	
Method : C:\DX\METHOD\ACE.MET	
ACI Address: 1 System: 2 Inject#: 7	Detector: CDM-1
Analyst : <i>Valerie Mason</i>	Column: AG4A-SC, AS4A-SC, SRS

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01-08-97

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1111	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.39	acetate	523.262	403	1976	2	-0.14
2	2.53		0.000	296	1831	2	
3	3.09	formate	1033.443	1117	7967	1	0.11
4	3.85		0.000	780	6059	1	
5	5.35		0.000	30420	175436	2	
6	5.68		0.000	82595	1230275	3	
7	7.09		0.000	4914	85442	4	
8	7.24		0.000	66351	1867267	2	
Totals			1556.705	186876	3376253		

File: 97010901.D07 Sample: S96T004779 SAMPLE

Sample Name: S96T004779 DUP Date: 01/08/1997 15:01:38
 Data File : C:\DX\DATA\97010901.D08
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 8 Detector: CDM-1
 Analyst : *Valerie M. Musil* Column: AG4A-SC, AS4A-SC, SRS

81-58-97
 01-58-97

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1111	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.40	acetate	536.442	418	2030	2	0.42
2	2.55		0.000	296	1753	2	
3	3.11	formate	1048.140	1093	8085	1	0.54
4	3.88		0.000	777	6074	1	
5	5.36		0.000	33930	168516	2	
6	5.68		0.000	83385	1227880	2	
7	7.24		0.000	67841	1968638	2	
Totals			1584.581	187739	3382975		

File: 97010901.D08 Sample: S96T004779 DUP

=====

Sample Name: S96T004779 SPIKE	Date: 01/08/1997 15:17:57
Data File : C:\DX\DATA\97010901.D09	
Method : C:\DX\METHOD\ACE.MET	
ACI Address: 1. System: 2. Inject#: 9	Detector: CDM-1
Analyst : <i>Valerie Massad</i>	Column: AG4A-SC, AS4A-SC, SRS

=====

87-88-97

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
-----	-----	-----	-----	-----	-----	-----	-----	-----
External	1	1111	4500	5Hz	0.00	15.00		0

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

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

1	2.10	fluoride	389.351	894	7601	1	0.00
2	2.39	acetate	1532.601	1089	6003	1	-0.14
3	3.11	formate	2331.839	2644	18638	1	0.54
4	3.88		0.000	760	6021	1	
5	5.37		0.000	33635	172361	2	
6	5.69		0.000	83289	1227665	2	
7	7.25		0.000	67738	1938691	2	

Totals			4253.792	190049	3376981		

File: 97010901.D09 Sample: S96T004779 SPIKE

Sample Name: S96T004780 Date: 01/08/1997 15:34:10
Data File : C:\DX\DATA\97010901.D10
Method : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 10 Detector: CDM-1
Analyst : *Valerie M. Mason* Column: AG4A-SC, AS4A-SC, SRS

61-06-97

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 1111 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.39	acetate	552.867	393	2096	2	-0.14
2	2.55		0.000	287	1700	2	
3	3.12	formate	1008.580	1103	7767	1	0.97
4	3.88		0.000	746	6028	1	
5	5.37		0.000	33303	174638	2	
6	5.68		0.000	82358	1224757	2	
7	7.24		0.000	68572	1973525	2	
Totals			1561.447	186760	3390511		

File: 97010901.D10 Sample: S96T004780

Sample Name: S96T004780 DUP Date: 01/08/1997 15:50:29
 Data File : C:\DX\DATA\97010901.D11
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 11 Detector: CDM-1
 Analyst : *Dale L. Mass* Column: AG4A-SC, AS4A-SC, SRS
81-86-97

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 1111 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.40	acetate	567.475	431	2155	2	0.42
2	2.55		0.000	293	1788	2	
3	3.12	formate	1019.497	1109	7854	1	0.97
4	3.89		0.000	761	5913	1	
5	5.36		0.000	31481	169571	2	
6	5.68		0.000	83076	1215023	2	
7	7.23		0.000	68552	1967426	2	
Totals			1586.972	185703	3369731		

File: 97010901.D11 Sample: S96T004780 DUP

LABCORE Completed Worklist Report for Worklist# 13705

Analyst: vlm

Instrument: IC03

Book# 144098

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

Worklist Comment: AN-104 IC2. RCJ

Seq Type	Sample# R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 CCB	0	@IC2-QC ACETATE2 QC		1	<2.00e-2		ug/mL
1 CCB	0	@IC2-QC FORMATE2 QC		1	<2.10e-2		ug/mL
2 CCV	0	@IC2-QC ACETATE2 QC		1.240e2	1.10e+02	88.710 % Recovery	
2 CCV	0	@IC2-QC FORMATE2 QC		1.200e2	1.14e+02	95.000 % Recovery	
3 SAMPLE	S96T004784 0	@IC2-01 ACETATE2 LIQUID		N/A	5.386e+02	22.220 ug/mL	
3 SAMPLE	S96T004784 0	@IC2-01 FORMATE2 LIQUID		N/A	9.946e+02	23.330 ug/mL	
4 DUP	S96T004784 0	@IC2-01 ACETATE2 LIQUID		5.93e+02	5.78e+02	3.569 RPD	
4 DUP	S96T004784 0	@IC2-01 FORMATE2 LIQUID		9.95e+02	9.71e+02	2.442 RPD	
5 SPK	S96T004784 0	@IC2-01 ACETATE2 LIQUID		1.240e2	9.10e+01	73.387 % Recovery	
5 SPK	S96T004784 0	@IC2-01 FORMATE2 LIQUID		1.200e2	1.30e+02	108.333 % Recovery	
6 SAMPLE	S96T004783 0	@IC2-01 ACETATE2 LIQUID		N/A	6.434e+02	22.220 ug/mL	
6 SAMPLE	S96T004783 0	@IC2-01 FORMATE2 LIQUID		N/A	1.061e+03	23.330 ug/mL	
7 DUP	S96T004783 0	@IC2-01 ACETATE2 LIQUID		6.43e+02	6.23e+02	3.160 RPD	
7 DUP	S96T004783 0	@IC2-01 FORMATE2 LIQUID		1.06e+03	1.06e+03	0.000 RPD	

Final page for worklist# 13705

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Reviewer Signature *James M. Luge* Date *1/27/97*

LABCORE Data Entry Template for Worklist# 13705

Analyst: VLM Instrument: IC0 IC03 Book# 144N9-8

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

Worklist Comment: AN-104 IC2. RCJ

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC2-QC	QC		
2 CCV			@IC2-QC	QC		
3 SAMPLE	S96T004784 0		@IC2-01	LIQUID	96001174	AN-104
	Analytes Requested: ACETATE2, FORMATE2					
4 DUP	S96T004784 0		@IC2-01	LIQUID		
5 SPK	S96T004784 0		@IC2-01	LIQUID		
6 SAMPLE	S96T004783 0		@IC2-01	LIQUID	96001174	AN-104
	Analytes Requested: ACETATE2, FORMATE2					
7 DUP	S96T004783 0		@IC2-01	LIQUID		

Final page for worklist # 13705

Valerie Masse 01-10-97
Analyst Signature Date

Analyst Signature Date

13705ja.csv

Uploaded 1/27/97 JMF

Validated 1/27/97 JMF

Data Entry Comments:

These samples contain glycolic, eluting
right after acetate and an unknown peak after formate.

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

A-0010-IC				DATA FILE/WORKLIST RESOLUTION				27-Jan-97			
Worklist#: 13705				Data File: 13705JA.CSV							
		Seq	Type	Sample #	Seq#		Data File	Sample Name	Dilution		
-	=>	1	CCB		-	6	97011061.d07	S96TOO4783	1111.00		
	=>	2	CCV			7	97011061.d08	S96TOO4783 DUP	1111.00		
	=>	3	SAMPLE	S96T004784		5	97011061.d06	S96TOO4784 SPIKE	1111.00		
	=>	4	DUP	S96T004784	4	97011061.d05	S96TOO4784 DUP	1111.00			
	=>	5	SPK	S96T004784	3	97011061.d04	S96TOO4784	1111.00			
	=>	6	SAMPLE	S96T004783	2	97011061.d10	144N9-B STD	101.00			
	=>	7	DUP	S96T004783		97011961.d03	144N9-B STD	101.00			
					1	97011961.d01	INSTR BLANK	1.00			
+					+						

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

Sample Name: S96T004783

Date: 01/10/1997 13:42:59

Data File : C:\DX\DATA\97011061.D07

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

ACI Address: 1 System: 2 Inject#: 7

Detector: CDM-1

Analyst : *Valery Massey* Column: AG4A-SC, AS4A-SC, SRS

01-10-97

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 1111 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.40	acetate	643.379	457	2463	2	0.42
2	2.56		0.000	301	1817	2	
3	3.13	formate	1061.303	1108	8191	1	1.40
4	3.92		0.000	763	6258	1	
5	5.36		0.000	31916	179629	2	
6	5.68		0.000	83913	1177104	3	
7	6.65		0.000	6361	235447	4	
8	7.20		0.000	63795	1643757	3	
9	8.53		0.000	3152	149185	4	

Totals	1704.682	191766	3403851
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File: 97011061.D07 Sample: S96T004783

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 928 TO 934.

Sample Name: S96T004783 DUP Date: 01/10/1997 14:00:04
 Data File : C:\DX\DATA\97011061.D08
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2, Inject#: 8 Detector: CDM-1
 Analyst : *Valerie Massey* Column: AG4A-SC, AS4A-SC, SRS

01-10-97

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1111	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.40	acetate	622.854	444	2380	2	0.42
2	2.56		0.000	290	1716	2	
3	3.13	formate	1058.832	1090	8171	1	1.40
4	3.92		0.000	732	6095	1	
5	5.37		0.000	31858	181759	2	
6	5.68		0.000	83435	1197725	3	
7	6.71		0.000	5844	169957	4	
8	7.20		0.000	63460	1702575	3	
9	8.53		0.000	2599	131014	4	
Totals			1681.686	189753	3401390		

File: 97011061.D08 Sample: S96T004783 DUP

Sample Name: S96TOO4784 SPIKE Date: 01/10/1997 13:24:31
 Data File : C:\DX\DATA\97011061.D06
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 6 Detector: CDM-1
 Analyst : *Valerie Massie* Column: AG4A-SC, AS4A-SC, SRS

01-10-97

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 1111 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.10	fluoride	429.455	1467	8452	1	0.00
2	2.37	acetate	1517.621	1062	5945	1	-0.70
3	3.09	formate	2306.322	2512	18424	1	0.11
4	3.87		0.000	706	5676	1	
5	5.36		0.000	31168	204745	2	
6	5.68		0.000	79824	1328740	3	
7	7.07		0.000	3896	32570	4	
8	7.20		0.000	63622	1688666	3	
9	8.53		0.000	2547	130697	4	
Totals			4253.398	186805	3423915		

File: 97011061.D06 Sample: S96TOO4784 SPIKE

Sample Name: S96T004784 DUP Date: 01/10/1997 11:54:34
 Data File : C:\DX\DATA\97011061.D05
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 5 Detector: CDM-1
 Analyst : *Valerie M. Mason* Column: AG4A-SC, AS4A-SC, SRS

81-10-97

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1111	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.37	acetate	577.876	416	2198	2	-0.70
2	2.53		0.000	281	1669	2	
3	3.09	formate	971.250	983	7467	1	0.11
4	3.87		0.000	674	5477	1	
5	5.36		0.000	31762	185169	2	
6	5.68		0.000	81698	1210521	3	
7	7.04		0.000	1137	6890	4	
8	7.19		0.000	59151	1321344	2	
9	8.48		0.000	751	12614	1	
Totals			1549.126	176853	2753348		

File: 97011061.D05 Sample: S96T004784 DUP

Sample Name: S96T004784 Date: 01/10/1997 11:26:14
 Data File : C:\DX\DATA\97011061.D04
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 4 Detector: CDM-1
 Analyst : *Valerie M. Masi* Column: AG4A-SC, AS4A-SC, SRS

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 1111 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.37	acetate	598.579	411	2281	2	-0.70
2	2.53		0.000	289	1792	2	
3	3.11	formate	994.574	1034	7654	1	0.54
4	3.88		0.000	700	5662	1	
5	5.37		0.000	32128	195612	2	
6	5.69		0.000	82580	1250584	3	
7	7.01		0.000	4049	31746	4	
8	7.15		0.000	64577	1606183	3	
9	8.32		0.000	2815	188812	4	

Totals 1593.153 188581 3290326

File: 97011061.D04 Sample: S96T004784

Data Reprocessed On 01/27/1997 10:38:25

```

=====
Sample Name: 144N9-B STD                      Date: 01/10/1997 14:40:41
Data File  : E:\DATA\97011061.d10
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 10           Detector: CDM-1
Analyst    :                               Column: AG4A-SC, AS4A-SC, SRS
=====

```

```

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

```

```

External      1      101    4500 5Hz    0.00 15.00      0
=====

```

```

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

```

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.10	fluoride	63.482	1799	14195	2	0.00
2	2.40	acetate	110.026	643	4732	2	0.42
3	3.13	formate	114.468	1332	9789	1	1.40
4	6.01		0.000	4023	241527	2	
5	6.59		0.000	3324	96765	2	
6	7.99		0.000	245	1295	1	
7	8.13		0.000	264	1697	2	
8	8.41		0.000	769	45499	2	
Totals			287.976	12399	415499		

File: 97011061.d10 Sample: 144N9-B STD

Sample Name: INSTR BLANK

Date: 01/10/1997 08:19:50

Data File : C:\DX\DATA\97011961.D01

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

ACI Address: 1 System: 2 Inject#: 1

Detector: CDM-1

Analyst : Column: AG4A-SC, AS4A-SC, SRS

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

External	1	1	3822	5Hz	0.00	12.74		0
----------	---	---	------	-----	------	-------	--	---

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.53		0.000	393	2900	1	
2	6.03		0.000	4306	73536	2	
3	6.43		0.000	6172	190339	2	
4	6.88		0.000	27433	814548	2	
5	8.00		0.000	6614	39952	2	
6	8.15		0.000	6143	48864	2	
7	8.31		0.000	6034	344015	2	
Totals			0.000	57095	1514155		

File: 97011961.D01 Sample: INSTR BLANK

LABCORE Completed Worklist Report for Worklist# 13706

Analyst: pjm

Instrument: IC03

Book# 144N98

Method: 4A-5533-105 Rev/Mod 0-1

Worklist Comment: AN-104 IC2. RCJ

Seq Type	Sample# R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 CCB	0	@IC2-QC ACETATE2 QC		1	6.50e-02	0.065	ug/mL
1 CCB	0	@IC2-QC FORMATE2 QC		1	<2.10e-2		ug/mL
2 CCV	0	@IC2-QC ACETATE2 QC		1.240e2	1.25e+02	100.806	% Recovery
2 CCV	0	@IC2-QC FORMATE2 QC		1.200e2	1.19e+02	99.167	% Recovery
3 SAMPLE	S96T004976 0	@IC2-01 ACETATE2 LIQUID		N/A	4.525e+02	82.820	ug/mL
3 SAMPLE	S96T004976 0	@IC2-01 FORMATE2 LIQUID		N/A	1.003e+03	86.960	ug/mL
4 DUP	S96T004976 0	@IC2-01 ACETATE2 LIQUID		4.52e+02	4.53e+02	0.221	RPD
4 DUP	S96T004976 0	@IC2-01 FORMATE2 LIQUID		1.00e+03	9.72e+02	2.840	RPD
5 SPK	S96T004976 0	@IC2-01 ACETATE2 LIQUID		1.240e2	1.25e+02	127.419	% Recovery
5 SPK	S96T004976 0	@IC2-01 FORMATE2 LIQUID		1.200e2	1.21e+02	100.833	% Recovery
6 SAMELE	S96T004977 0	@IC2-01 ACETATE2 LIQUID		N/A	6.852e+02	82.820	ug/mL
6 SAMPLE	S96T004977 0	@IC2-01 FORMATE2 LIQUID		N/A	1.373e+03	86.960	ug/mL
7 DUP	S96T004977 0	@IC2-01 ACETATE2 LIQUID		6.85e+02	5.06e+02	30.059	RPD
7 DUP	S96T004977 0	@IC2-01 FORMATE2 LIQUID		1.37e+03	1.07e+03	24.590	RPD

Final page for worklist# 13706

Analyst Signature

Date

Analyst Signature

Date

James M. Lutz
Reviewer Signature Date 2/6/97

LABCORE Data Entry Template for Worklist# 13706

Analyst: Bun Instrument: IC0 IC03 Feb-07 Book# 144093 gmf 2/4/97

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

Worklist Comment: AN-104 IC2. RCJ

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC2-QC	QC		
2 CCV			@IC2-QC	QC		
3 SAMPLE	S96T004976 0		@IC2-01	LIQUID	96001174	AN-104
	Analytes Requested: ACETATE2, FORMATE2					
4 DUP	S96T004976 0		@IC2-01	LIQUID		
5 SPK	S96T004976 0		@IC2-01	LIQUID		
6 SAMPLE	S96T004977 0		@IC2-01	LIQUID	96001174	AN-104
	Analytes Requested: ACETATE2, FORMATE2					
7 DUP	S96T004977 0		@IC2-01	LIQUID		

Final page for worklist # 13706

RMcCorm 1/24/97
Analyst Signature Date

Analyst Signature Date

13706-IA. CVS
UPLOADED 2-5-97 Jm
Validated 2/6/97 JmFry

Data Entry Comments:

Sample Name: CCB Date: 01/24/1997 13:40:09
 Data File : C:\DX\DATA\96112461.D12
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 12 Detector: CDM-1
 Analyst : *James Lee* Column: AG4A-SC, AS4A-SC, SRS

Calibration Volume *1.00 ml* Dilution Points *462/97* Rate Start Stop Area Reject
 External 1 1 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.48	acetate	0.065	6	77	1	2.90
2	5.81		0.000	3548	230504	2	
3	6.97		0.000	2148	63872	2	
4	8.13		0.000	263	1560	2	
5	8.40		0.000	616	41340	2	
Totals			0.065	6581	337354		

DIRECT RUN
 File: 96112461.D12 Sample: CCB

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 935 TO 943.

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=====
Sample Name: CCV 144N9B                      Date: 01/24/1997 13:56:00
Data File  : C:\DX\DATA\96112461.D13
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 13          Detector: CDM-1
Analyst    :                               Column: AG4A-SC, AS4A-SC, SRS
=====

```

```

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

```

```

External      1          101    4500  5Hz    0.00  15.00          0
=====

```

```

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

```

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.10	fluoride	69.234	1806	12312	2	-1.41
2	2.40	acetate	125.445	570	4346	2	-0.41
3	3.12	formate	118.900	1047	8214	1	-0.95
4	5.93		0.000	2921	139668	1	
5	7.11		0.000	142	4866	1	
6	7.97		0.000	179	1051	1	
7	8.13		0.000	192	1033	2	
8	8.37		0.000	500	31825	2	

```

Totals          313.579          7357          203316
=====

```

100 mL - 10 mL R Mc Cown 1/24/97

File: 96112461.D13 Sample: CCV 144N9B

Sample Name: S96T004976 Date: 01/24/1997 14:42:19
 Data File : C:\DX\DATA\96112461.D15
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 15 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	4141	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.37	acetate	452.493	56	237	2	-1.52
2	2.52		0.000	52	302	2	
3	3.08	formate	1002.762	187	1413	1	-2.22
4	3.83		0.000	126	1052	1	
5	5.37		0.000	7472	69696	2	
6	5.77		0.000	26692	377765	3	
7	7.09		0.000	1591	47876	4	
8	7.55		0.000	17997	281347	2	

Totals 1455.255 54172 779688

.100ML -10ML - -250ML -10ML Blue

File: 96112461.D15 Sample: S96T004976

```

=====
Sample Name: S96T004976  DUP                      Date: 01/24/1997 14:59:10
Data File  : C:\DX\DATA\96112461.D16
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 16                Detector: CDM-1
Analyst    :                      Column: AG4A-SC,AS4A-SC, SRS
=====

```

```

=====
Calibration Volume  Dilution Points Rate  Start  Stop Area Reject
-----
External           1           4141  4500  5Hz    0.00  15.00          0
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.41	acetate	452.666	54	237	1	0.14
2	3.13	formate	971.868	169	1359	1	-0.53
3	3.89		0.000	113	1016	1	
4	5.39		0.000	6720	51965	2	
5	5.77		0.000	27124	375604	3	
6	7.16		0.000	1841	55336	4	
7	7.53		0.000	18634	295428	2	
Totals			1424.533	54656	780945		

100mL - 10 mL - 250mL - 10 mL *Run*

File: 96112461.D16 Sample: S96T004976 DUP

Sample Name: S96T004976 SPK Date: 01/24/1997 15:16:19
 Data File : C:\DX\DATA\96112461.D17
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 17 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 4141 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.10	fluoride	2692.931	1850	11637	2	-1.41
2	2.40	acetate	6808.056	713	5800	2	-0.41
3	3.12	formate	5880.598	1357	10027	1	-0.95
4	3.89		0.000	115	1032	1	
5	5.39		0.000	6904	50589	2	
6	5.77		0.000	27133	374981	3	
7	7.29		0.000	1419	29503	4	
8	7.53		0.000	18390	280812	2	
9	8.28		0.000	115	22753	1	

Totals 15381.586 57997 787135

.100ML - 10 ML - .250 ML - 100ML 144098 AS SPIKE
 9.9 ML ELUENT

File: 96112461.D17 Sample: S96T004976 SPK

```

=====
Sample Name: S96T004977      Date: 01/24/1997 15:33:27
Data File  : C:\DX\DATA\96112461.D18
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 18      Detector: CDM-1
Analyst    :                  Column: AG4A-SC, AS4A-SC, SRS
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          4141  4500  5Hz   0.00 15.00          0
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.40	acetate	685.251	90	442	2	-0.41
2	2.56		0.000	67	390	2	
3	3.12	formate	1373.051	255	2052	1	-0.95
4	3.88		0.000	165	1452	1	
5	5.37		0.000	9274	61512	2	
6	5.75		0.000	34286	447093	3	
7	7.29		0.000	1430	24372	4	
8	7.47		0.000	22983	381366	2	
Totals			2058.302	68549	918678		

.100ML - 10ML - .250ML - 10ML Replen
File: 96112461.D18 Sample: S96T004977

Sample Name: S96T004977 DUP Date: 01/24/1997 15:49:05
 Data File : C:\DX\DATA\96112461.D19
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 19 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	4141	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.40	acetate	506.063	63	284	1	-0.41
2	3.12	formate	1074.040	183	1535	1	-0.95
3	3.89		0.000	127	1136	1	
4	5.40		0.000	7711	54760	2	
5	5.77		0.000	29694	385269	3	
6	7.31		0.000	1474	28141	4	
7	7.52		0.000	19333	297801	2	
Totals			1580.102	58585	768927		

100 mL - 10 mL - 250 uL - 10 uL *RM*

File: 96112461.D19 Sample: S96T004977 DUP

LABCORE Completed Worklist Report for Worklist# 13707

Analyst: pjm

Instrument: IC03

Book# 144198

Method: 1A-523705 Rev/Mod D-1

Worklist Comment: AN-104 IC2. RCJ

Seq Type	Sample# R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 CCB	0	@IC2-QC ACETATE2 QC		1	<2.00e-2		ug/mL
1 CCB	0	@IC2-QC FORMATE2 QC		1	<2.10e-2		ug/mL
2 CCV	0	@IC2-QC ACETATE2 QC		1.240e2	1.23e+02	99.194 % Recovery	
2 CCV	0	@IC2-QC FORMATE2 QC		1.200e2	1.18e+02	98.333 % Recovery	
3 SAMPLE	S96T004978 0	@IC2-01 ACETATE2 LIQUID		N/A	6.093e+02	82.820 ug/mL	
3 SAMPLE	S96T004978 0	@IC2-01 FORMATE2 LIQUID		N/A	1.103e+03	86.960 ug/mL	
4 DUP	S96T004978 0	@IC2-01 ACETATE2 LIQUID		6.09e+02	6.21e+02	1.951 RPD	
4 DUP	S96T004978 0	@IC2-01 FORMATE2 LIQUID		1.10e+03	1.04e+03	5.607 RPD	
5 SPK	S96T004978 0	@IC2-01 ACETATE2 LIQUID		1.240e2	1.58e+02	127.419 % Recovery	
5 SPK	S96T004978 0	@IC2-01 FORMATE2 LIQUID		1.200e2	1.24e+02	103.333 % Recovery	
6 SAMPLE	S96T004979 0	@IC2-01 ACETATE2 LIQUID		N/A	5.040e+02	82.820 ug/mL	
6 SAMPLE	S96T004979 0	@IC2-01 FORMATE2 LIQUID		N/A	1.067e+03	86.960 ug/mL	
7 DUP	S96T004979 0	@IC2-01 ACETATE2 LIQUID		5.04e+02	5.12e+02	1.575 RPD	
7 DUP	S96T004979 0	@IC2-01 FORMATE2 LIQUID		1.07e+03	1.04e+03	2.844 RPD	

Comments Section:

Comments for sample# S96T004978 and test @IC2-01 .
S96T004978 RPD failure on acetate

SPK
2/12/97

Final page for worklist# 13707

Analyst Signature

Date

SKM Jarred

2-11-97

Reviewer Signature

Date

James M Lyle 2/12/97

13707jy.sch
13707jy.esv

uploaded SKM 2-11-97

Validated 2/12/97 JMF

10/04/96 10:57
A-0004-1

LABCORE Data Entry Template for Worklist# 13707

Analyst: RLM Instrument: IC0 ^{IC03} ~~IC2-02~~ Book# 14429BMethod: LA-533-105 Rev/Mod D-1 _{gmf 2/6/97}

Worklist Comment: AN-104 IC2. RCJ

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC2-QC	QC		
2 CCV			@IC2-QC	QC		
3 SAMPLE	S96T004978 0		@IC2-01	LIQUID	96001174	AN-104
Analytes Requested: ACETATE2, FORMATE2						
4 DUP	S96T004978 0		@IC2-01	LIQUID		
5 SPK	S96T004978 0		@IC2-01	LIQUID		
6 SAMPLE	S96T004979 0		@IC2-01	LIQUID	96001174	AN-104
Analytes Requested: ACETATE2, FORMATE2						
7 DUP	S96T004979 0		@IC2-01	LIQUID		

Final page for worklist # 13707

RLM 1/25/97
Analyst Signature Date

SKM 2-11-97
Analyst Signature Date

13707 j.y. Sch
13707 j.y. CSV uploaded SKM 2-11-97
Validated 2/12/97 gmf

Data Entry Comments:

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

945

A-0010-IC

DATA FILE/WORKLIST RESOLUTION

11-Feb-97

Worklist#: 13707

Data File: 13707JY.CSV

		Seq	Type	Sample #	Seq#	Data File	Dilution
-	= >	1	CCB		-	1 96112571.d01	CCB 1.00
	= >	2	CCV			2 96112571.d02	CCV 144N9B 101.00
	= >	3	SAMPLE	S96T004978		3 96112571.d03	S96T004978 4141.00
	= >	4	DUP	S96T004978		4 96112571.d04	S96T004978 DUP 4141.00
	= >	5	SPK	S96T004978		5 96112571.d05	S96T004978 SPK 4141.00
	= >	6	SAMPLE	S96T004979		6 96112571.d06	S96T004979 4141.00
	= >	7	DUP	S96T004979		7 96112571.d07	S96T004979 DUP 4141.00
+					+		

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

Sample Name: CCV 144N9B Date: 01/25/1997 10:24:56
 Data File : C:\DX\DATA\96112571.D02
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 2 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	101	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.13	fluoride	68.745	2322	12219	2	0.16
2	2.41	acetate	122.621	579	4245	2	0.14
3	3.15	formate	118.040	1077	8151	1	-0.11
4	6.01		0.000	2638	162457	1	
5	8.13		0.000	234	1472	2	
6	8.33		0.000	454	35767	2	

Totals	309.406	7305	224311
--------	---------	------	--------

• 100 mL - 10 mL *R. McCown* 1/25/97

File: 96112571.D02 Sample: CCV 144N9B

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 947 TO 953

Sample Name: CCB Date: 01/25/1997 10:08:41
 Data File : C:\DX\DATA\96112571.D01
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 1 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	6.03		0.000	1437	86115	2	
2	7.99		0.000	2861	128465	2	
3	8.13		0.000	2712	21203	2	
4	8.32		0.000	2925	158070	2	
Totals			0.000	9935	393853		

DIRECT RLM
File: 96112571.D01 Sample: CCB

```

=====
Sample Name: S96T004978      Date: 01/25/1997 11:04:46
Data File  : C:\DX\DATA\96112571.D03
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 3      Detector: CDM-1
Analyst    :      Column: AG4A-SC, AS4A-SC, SRS
=====

```

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 4141 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.40	acetate	609.337	85	375	1	-0.41
2	3.12	formate	1103.163	208	1586	1	-0.95
3	3.89		0.000	148	1332	1	
4	5.41		0.000	8715	82923	2	
5	5.81		0.000	29607	431609	3	
6	6.93		0.000	2875	123733	4	
7	7.59		0.000	21197	568132	2	

Totals 1712.500 62835 1209690

.100ML - 10ML - .250ML - 10ML PLW

File: 96112571.D03 Sample: S96T004978

Sample Name: S96T004978 DUP Date: 01/25/1997 11:26:27
 Data File : C:\DX\DATA\96112571.D04
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 4 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	4141	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.41	acetate	620.583	75	385	2	0.14
2	2.57		0.000	57	347	2	
3	3.13	formate	1040.555	183	1478	1	-0.53
4	3.91		0.000	134	1196	1	
5	5.40		0.000	7882	73388	2	
6	5.80		0.000	29328	442962	3	
7	7.20		0.000	3664	170216	4	
8	7.57		0.000	21628	581387	2	

Totals 1661.138 62952 1271358

.100ML - 10ML - .250ML - 10ML Ref
 File: 96112571.D04 Sample: S96T004978 DUP

Sample Name: S96T004978 SPK Date: 01/25/1997 11:43:20
Data File : C:\DX\DATA\96112571.D05
Method : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 5 Detector: CDM-1
Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	4141	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.10	fluoride	2615.102	1389	11277	2	-1.41
2	2.41	acetate	6961.081	726	5933	2	0.14
3	3.15	formate	6097.402	1372	10420	1	-0.11
4	3.93		0.000	127	1081	1	
5	5.40		0.000	7439	68973	2	
6	5.79		0.000	28916	465026	3	
7	7.41		0.000	3610	92970	4	
8	7.56		0.000	22135	590512	2	

Totals 15673.585 65715 1246192

100ML-10ML-.250ML 1-100ML 144N9 B AS SPIKE
9.9 ML ELUENT
File: 96112571.D05 Sample: S96T004978 SPK

Sample Name: S96T004979 Date: 01/25/1997 11:59:03
 Data File : C:\DX\DATA\96112571.D06
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 6 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	4141	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.41	acetate	504.013	62	282	1	0.14
2	3.16	formate	1066.612	187	1523	1	0.32
3	3.93		0.000	129	1147	1	
4	5.41		0.000	8049	71556	2	
5	5.80		0.000	30257	456612	3	
6	7.41		0.000	3509	83380	4	
7	7.56		0.000	21575	583185	2	
Totals			1570.626	63768	1197685		

• 100ML - 10ML - 250ML - 10ML *PLM*

File: 96112571.D06 Sample: S96T004979

Sample Name: S96T004979 DUP Date: 01/25/1997 12:14:50
 Data File : C:\DX\DATA\96112571.D07
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 7 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	4141	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time	Component Name	Concentration ug/mL	Height	Area	Bl. Code	%Delta
1	2.41	acetate	511.528	64	289	1	0.14
2	3.15	formate	1038.581	182	1474	1	-0.11
3	3.93		0.000	129	1246	1	
4	5.41		0.000	8259	71256	2	
5	5.80		0.000	30155	464567	2	
6	7.57		0.000	21740	677340	2	
Totals			1550.109	60529	1216172		

100ML-10ML-1250ML-10ML Run
File: 96112571.D07 Sample: S96T004979 DUP

LABCORE Completed Worklist Report for Worklist# 14175

Analyst: eal

Instrument: IC01

Book# 36N2D-C

Method: LA533105 Rev/Mod D-1

Worklist Comment: AN-104 IC. RCJ

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 CCB	0	0	01C-QC F	QC	1	<1.20e-2		ug/mL
1 CCB	0	0	01C-QC CL	QC	1	<1.70e-2		ug/mL
1 CCB	0	0	01C-QC NO2	QC	1	<1.08e-1		ug/mL
1 CCB	0	0	01C-QC BR	QC	1	<1.25e-1		ug/mL
1 CCB	0	0	01C-QC NO3	QC	1	<1.39e-1		ug/mL
1 CCB	0	0	01C-QC PO4	QC	1	<1.20e-1		ug/mL
1 CCB	0	0	01C-QC SO4	QC	1	<1.38e-1		ug/mL
1 CCB	0	0	01C-QC OXALATE2	QC	1	<1.05e-1		ug/mL
2 CCV	0	0	01C-QC F	QC	5.90e01	6.27e+01	105.271 % Recovery	
2 CCV	0	0	01C-QC CL	QC	7.90e01	7.04e+01	89.114 % Recovery	
2 CCV	0	0	01C-QC NO2	QC	5.41e02	4.86e+02	89.834 % Recovery	
2 CCV	0	0	01C-QC BR	QC	5.89e02	5.36e+02	91.002 % Recovery	
2 CCV	0	0	01C-QC NO3	QC	5.94e02	5.45e+02	91.919 % Recovery	
2 CCV	0	0	01C-QC PO4	QC	5.44e02	4.55e+02	83.640 % Recovery	
2 CCV	0	0	01C-QC SO4	QC	6.31e02	6.15e+02	97.464 % Recovery	
2 CCV	0	0	01C-QC OXALATE2	QC	5.25e02	5.39e+02	102.667 % Recovery	
3 SAMPLE	S96T005253	0	01C-01 F-02	LIQUID	N/A	< 2.520e-01	0.252	ug/mL
3 SAMPLE	S96T005253	0	01C-01 CL-02	LIQUID	N/A	4.913e+00	0.357	ug/mL
3 SAMPLE	S96T005253	0	01C-01 NO2-02	LIQUID	N/A	< 2.258e+00	2.268	ug/mL
3 SAMPLE	S96T005253	0	01C-01 BR-02	LIQUID	N/A	< 2.625e+00	2.625	ug/mL
3 SAMPLE	S96T005253	0	01C-01 NO3-02	LIQUID	N/A	8.668e+00	2.919	ug/mL
3 SAMPLE	S96T005253	0	01C-01 SO4-02	LIQUID	N/A	1.363e+01	2.898	ug/mL
3 SAMPLE	S96T005253	0	01C-01 OXALATE2	LIQUID	N/A	< 2.205e+00	2.205	ug/mL
4 DUP	S96T005253	0	01C-01 F-02	LIQUID	<2.52e-1	<2.52e-1		RPD
4 DUP	S96T005253	0	01C-01 CL-02	LIQUID	4.91e+00	5.04e+00	2.613	RPD
4 DUP	S96T005253	0	01C-01 NO2-02	LIQUID	<2.27e0	<2.27e0		RPD
4 DUP	S96T005253	0	01C-01 BR-02	LIQUID	<2.62e0	<2.62e0		RPD
4 DUP	S96T005253	0	01C-01 NO3-02	LIQUID	8.67e+00	9.44e+00	8.504	RPD
4 DUP	S96T005253	0	01C-01 PO4-02	LIQUID	<2.52e0	<2.52e0		RPD
4 DUP	S96T005253	0	01C-01 SO4-02	LIQUID	1.36e+01	1.33e+01	2.230	RPD
4 DUP	S96T005253	0	01C-01 OXALATE2	LIQUID	<2.21e0	<2.21e0		RPD
5 SPK	S96T005253	0	01C-01 F-02	LIQUID	5.90e01	7.12e+01	120.678 % Recovery	
5 SPK	S96T005253	0	01C-01 CL-02	LIQUID	7.90e01	7.57e+01	95.823 % Recovery	
5 SPK	S96T005253	0	01C-01 NO2-02	LIQUID	5.41e02	5.03e+02	92.976 % Recovery	
5 SPK	S96T005253	0	01C-01 BR-02	LIQUID	5.89e02	5.58e+02	94.737 % Recovery	
5 SPK	S96T005253	0	01C-01 NO3-02	LIQUID	5.94e02	5.84e+02	98.316 % Recovery	
5 SPK	S96T005253	0	01C-01 PO4-02	LIQUID	5.44e02	4.92e+02	90.441 % Recovery	
5 SPK	S96T005253	0	01C-01 SO4-02	LIQUID	6.31e02	6.32e+02	100.158 % Recovery	
5 SPK	S96T005253	0	01C-01 OXALATE2	LIQUID	5.25e02	5.58e+02	105.905 % Recovery	
6 SAMPLE	S96T005255	0	01C-01 F-02	LIQUID	N/A	< 4.969e+01	49.690	ug/mL
6 SAMPLE	S96T005255	0	01C-01 CL-02	LIQUID	N/A	1.655e+03	70.400	ug/mL

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

LABCORE Completed Worklist Report for Worklist# 14175

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
6 SAMPLE	S96T005255	0	⑥IC-01	NO2-02	LIQUID	N/A	4.930e+04	447.200 ug/mL
6 SAMPLE	S96T005255	0	⑥IC-01	BR-02	LIQUID	N/A	6.549e+02	517.600 ug/mL
6 SAMPLE	S96T005255	0	⑥IC-01	NO3-02	LIQUID	N/A	7.846e+04	575.600 ug/mL
6 SAMPLE	S96T005255	0	⑥IC-01	SO4-02	LIQUID	N/A	1.023e+03	571.500 ug/mL
6 SAMPLE	S96T005255	0	⑥IC-01	OXALATE2	LIQUID	N/A	4.348e+02	434.800 ug/mL
7 DUP	S96T005255	0	⑥IC-01	F-02	LIQUID	<4.97e1	<4.97e1	RPD
7 DUP	S96T005255	0	⑥IC-01	CL-02	LIQUID	3.56e+03	3.63e+03	0.823 RPD
7 DUP	S96T005255	0	⑥IC-01	NO2-02	LIQUID	4.93e+04	4.91e+04	0.407 RPD
7 DUP	S96T005255	0	⑥IC-01	BR-02	LIQUID	6.55e+02	6.50e+02	0.766 RPD
7 DUP	S96T005255	0	⑥IC-01	NO3-02	LIQUID	7.85e+04	8.00e+04	1.893 RPD
7 DUP	S96T005255	0	⑥IC-01	PO4-02	LIQUID	1.35e+03	1.01e+03	28.814 RPD
7 DUP	S96T005255	0	⑥IC-01	SO4-02	LIQUID	1.02e+03	1.47e+03	36.145 RPD
7 DUP	S96T005255	0	⑥IC-01	OXALATE2	LIQUID	<4.35e2	<4.35e2	RPD

Final page for worklist# 14175

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

H Anastro 1-21-97
Reviewer Signature _____ Date _____

LABCORE Data Entry Template for Worklist# 14175

Analyst: Ed Instrument: IC0 IC01 Book# 36W20C

Method: LA-533-105 Rev/Mod DI

Worklist Comment: AN-104 IC. RCJ

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC-QC	QC		
2 CCV			@IC-QC	QC		
3 SAMPLE	S96T005253 0		@IC-01	LIQUID	96001174	AN-104
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
4 DUP	S96T005253 0		@IC-01	LIQUID		
5 SPK	S96T005253 0		@IC-01	LIQUID		
6 SAMPLE	S96T005255 0		@IC-01	LIQUID	96001283	AN-104
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
7 DUP	S96T005255 0		@IC-01	LIQUID		

Final page for worklist # 14175

A. Lambel
Analyst Signature Date 11-2-97

Analyst Signature Date

14175JA.CSV uploaded 1-21-97 Hea

Data Entry Comments:

A-0010-IC				DATA FILE/WORKLIST RESOLUTION				21-Jan-97			
Worklist#: 14175				Data File: 14175JA.CSV							
		Seq	Type	Sample #	Seq#		Data File	Sample Name	Dilution		
-	=v	1	CCB	S96T005253	-	1	97011141.d01	INST. BLANK	1.00		
	=v	2	CCV			2	97011141.d02	36N20-C STD.	101.00		
	=v	3	SAMPLE				97011201.d03	S96T005253	10201.00		
	=v	4	DUP				97011201.d04	S96T005253	2121.00		
	=v	5	SPK				97011201.d05	S96T005253	606.00		
	=v	6	SAMPLE				97011201.d06	S96T005253	101.00		
	=v	7	DUP				97011201.d07	S96T005253	41.00		
						3	97011201.d08	S96T005253	21.00		
						4	97011201.d09	S96T005253 DUP	21.00		
						5	97011201.d10	S96T005253 SPIKE	21.00		
							97011201.d11	S96T005255	10201.00		
						6	97011201.d12	S96T005255	4141.00		
						7	97011201.d13	S96T005255 DUP	4141.00		
+					+						

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

Data Reprocessed On 01/21/1997 14:46:44

=====

Sample Name: INST. BLANK	Date: 01/11/1997 22:39:48
Data File : F:\DATA\97011141.d01	
Method : C:\DX\METHOD\KIT.MET	
ACI Address: 1 System: 1 Inject#: 1	Detector: CDM-1
Analyst : <i>Janis L. [Signature]</i>	Column: AG4A/AS4A anion column

=====

=====

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

=====

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	3.48	nitrate	0.090	107	756	1	-2.79
2	6.45	sulfate	0.089	80	1835	1	-2.42
Totals			0.179	187	2591		

File: 97011141.d01 Sample: INST. BLANK

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 958 TO 964.

Data Reprocessed On 01/21/1997 14:46:46

Sample Name: 36N20-C STD.

Date: 01/11/1997 22:53:06

Data File : F:\DATA\97011141.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		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.94		0.000	20	65	2	
2	1.11	fluoride	62.724	1129	8331	2	2.47
3	1.66	chloride	70.397	1624	8836	1	-0.40
4	1.97	nitrite	486.483	5760	40686	1	-2.95
5	2.97	bromide	535.746	4522	31204	1	0.11
6	3.39	nitrate	546.387	5146	42996	1	-5.40
7	4.88	phosphate	455.106	1238	18055	1	-1.61
8	6.35	sulfate	615.142	4311	65274	1	-4.03
9	8.37	oxalate	539.091	2039	41237	1	-3.68
Totals			3311.076	25789	256684		

File: 97011141.d02 Sample: 36N20-C STD.

Data Reprocessed On 01/21/1997 14:46:53

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=====
Sample Name: S96T005253                      Date: 01/12/1997 02:56:38
Data File  : F:\DATA\97011201.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          21    3000   5Hz   0.00 10.00      50
=====

```

```

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

```

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
2	1.45		0.000	14	114	1	
3	1.67	chloride	4.913	531	2907	1	0.40
4	3.47	nitrate	8.668	433	3292	1	-3.17
5	6.40	sulfate	13.631	418	7659	1	-3.23
Totals			27.213	1396	13972		

File: 97011201.d08 Sample: S96T005253

Data Reprocessed On 01/21/1997 14:46:54

Sample Name: S96T005253 DUP Date: 01/12/1997 03:10:06
Data File : F:\DATA\97011201.d09
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 9 Detector: CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	21	3000	5Hz	0.00	10.00		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
2	1.43		0.000	25	177	1	
3	1.68	chloride	5.039	553	2984	1	0.80
4	3.47	nitrate	9.435	468	3579	1	-3.17
5	6.40	sulfate	13.329	431	7509	1	-3.23
Totals			27.803	1478	14248		

File: 97011201.d09 Sample: S96T005253 DUP

Data Reprocessed On 01/21/1997 14:46:55

```

=====
Sample Name: S96T005253 SPIKE                      Date: 01/12/1997 03:45:36
Data File  : F:\DATA\97011201.d10
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 10                Detector: CDM-1
Analyst    :                      Column: AG4A/AS4A anion column
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          21    3000  5Hz   0.00 10.00          50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.11	fluoride	14.232	1244	9173	1	2.47
2	1.65	chloride	20.045	2227	12174	1	-0.80
3	1.97	nitrite	100.547	5718	40434	1	-2.95
4	2.98	bromide	111.592	4620	31262	1	0.00
5	3.39	nitrate	125.441	5727	47534	1	-5.40
6	4.88	phosphate	98.341	1329	18788	1	-1.61
7	6.35	sulfate	139.982	4925	71477	1	-4.03
8	8.37	oxalate	111.158	2097	40888	1	-3.68
Totals			721.337	27887	271730		

File: 97011201.d10 Sample: S96T005253 SPIKE

Data Reprocessed On 01/21/1997 14:46:58

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=====
Sample Name: S96T005255                      Date: 01/12/1997 04:10:46
Data File  : F:\DATA\97011201.d12
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 12          Detector: CDM-1
Analyst    :                               Column: AG4A/AS4A anion column
=====

```

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=====
Calibration Volume  Dilution Points Rate  Start  Stop Area Reject
-----
External           1           4141   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	0.93		0.000	163	1187	2	
2	1.24		0.000	143	1267	2	
3	1.32		0.000	178	941	2	
4	1.65	chloride	3655.295	1973	11240	1	-0.80
5	1.97	nitrite	49297.642	15110	103979	1	-2.95
6	3.03	bromide	654.863	53	309	1	-2.47
7	3.33	nitrate	78464.289	16891	155699	1	-0.10
8	4.93	phosphate	1350.041	64	966	1	-0.54
9	6.45	sulfate	1023.000	232	3475	1	-2.42
Totals			134445.130	34807	279062		

File: 97011201.d12 Sample: S96T005255

```

=====
Sample Name: S96T005255  DUP                      Date: 01/12/1997 04:23:28
Data File  : F:\DATA\97011201.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          4141    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	0.93		0.000	156	1111	2	
2	1.25		0.000	139	1188	2	
3	1.33		0.000	172	864	2	
4	1.65	chloride	3633.616	1988	11172	1	-0.80
5	1.98	nitrite	49052.935	15210	103443	1	-2.62
6	3.03	bromide	649.957	50	302	1	-2.47
7	3.33	nitrate	80037.719	17043	158981	1	-6.89
8	4.93	phosphate	1005.443	52	630	1	-0.54
9	6.45	sulfate	1465.708	261	4586	1	-2.42
Totals			135845.378	35072	282277		

File: 97011201.d13 Sample: S96T005255 DUP

LABCORE Completed Worklist Report for Worklist# 14177

Analyst: krq

Instrument: IC01

Book# 36N20C

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

Worklist Comment: AN-104 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	<1.39e-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	5.88e+01	99.661 % Recovery	
2 CCV	0	①IC-QC CL	QC	7.90e01	7.44e+01	94.177 % Recovery	
2 CCV	0	①IC-QC NO2	QC	5.41e02	4.99e+02	92.237 % Recovery	
2 CCV	0	①IC-QC BR	QC	5.89e02	5.57e+02	94.567 % Recovery	
2 CCV	0	①IC-QC NO3	QC	5.94e02	5.89e+02	99.158 % Recovery	
2 CCV	0	①IC-QC P04	QC	5.44e02	4.96e+02	91.176 % Recovery	
2 CCV	0	①IC-QC S04	QC	6.31e02	6.36e+02	100.792 % Recovery	
2 CCV	0	①IC-QC OXALATE2	QC	5.25e02	5.51e+02	104.952 % Recovery	
3 SAMPLE	S96T005260	①IC-01 F-02	LIQUID	N/A	4.969e+01	49.690	ug/mL
3 SAMPLE	S96T005260	①IC-01 CL-02	LIQUID	N/A	8.157e+03	70.400	ug/mL
3 SAMPLE	S96T005260	①IC-01 NO2-02	LIQUID	N/A	1.136e+05	447.280	ug/mL
3 SAMPLE	S96T005260	①IC-01 BR-02	LIQUID	N/A	9.169e+02	517.600	ug/mL
3 SAMPLE	S96T005260	①IC-01 NO3-02	LIQUID	N/A	1.731e+05	575.600	ug/mL
3 SAMPLE	S96T005260	①IC-01 P04-02	LIQUID	N/A	2.458e+03	496.900	ug/mL
3 SAMPLE	S96T005260	①IC-01 S04-02	LIQUID	N/A	1.925e+03	571.500	ug/mL
3 SAMPLE	S96T005260	①IC-01 OXALATE2	LIQUID	N/A	5.266e+02	434.800	ug/mL
4 DUP	S96T005260	①IC-01 F-02	LIQUID	<4.97e1	<4.97e1		RPD
4 DUP	S96T005260	①IC-01 CL-02	LIQUID	8.16e+03	8.08e+03	0.985	RPD
4 DUP	S96T005260	①IC-01 NO2-02	LIQUID	1.14e+05	1.12e+05	1.770	RPD
4 DUP	S96T005260	①IC-01 BR-02	LIQUID	9.17e+02	9.50e+02	3.535	RPD
4 DUP	S96T005260	①IC-01 NO3-02	LIQUID	1.73e+05	1.76e+05	1.719	RPD
4 DUP	S96T005260	①IC-01 P04-02	LIQUID	2.46e+03	2.35e+03	4.574	RPD
4 DUP	S96T005260	①IC-01 S04-02	LIQUID	1.92e+03	1.80e+03	6.452	RPD
4 DUP	S96T005260	①IC-01 OXALATE2	LIQUID	5.27e+02	7.69e+02	37.346	RPD
5 SPK	S96T005260	①IC-01 F-02	LIQUID	5.90e01	6.92e+01	117.288 % Recovery	
5 SPK	S96T005260	①IC-01 CL-02	LIQUID	7.90e01	7.53e+01	95.316 % Recovery	
5 SPK	S96T005260	①IC-01 NO2-02	LIQUID	5.41e02	5.46e+02	100.924 % Recovery	
5 SPK	S96T005260	①IC-01 BR-02	LIQUID	5.89e02	4.94e+02	83.871 % Recovery	
5 SPK	S96T005260	①IC-01 NO3-02	LIQUID	5.94e02	5.44e+02	91.582 % Recovery	
5 SPK	S96T005260	①IC-01 P04-02	LIQUID	5.44e02	4.72e+02	86.765 % Recovery	
5 SPK	S96T005260	①IC-01 S04-02	LIQUID	6.31e02	6.20e+02	98.257 % Recovery	
5 SPK	S96T005260	①IC-01 OXALATE2	LIQUID	5.25e02	5.40e+02	102.857 % Recovery	
6 SAMPLE	S96T005258	①IC-01 F-02	LIQUID	N/A	4.969e+01	49.690	ug/mL

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

LABCORE Completed Worklist Report for Worklist# 14177

Seq Type	Sample# R A	Test	Matrix	Actual	Found	DL or Yield	Unit
6 SAMPLE	S96T005258 0	QIC-01 CL-02	LIQUID	N/A	7.611e+03	70.400	ug/mL
6 SAMPLE	S96T005258 0	QIC-01 NO2-02	LIQUID	N/A	1.077e+05	447.200	ug/mL
6 SAMPLE	S96T005258 0	QIC-01 BR-02	LIQUID	N/A	1.194e+05	517.600	ug/mL
6 SAMPLE	S96T005258 0	QIC-01 NO3-02	LIQUID	N/A	1.731e+05	575.600	ug/mL
6 SAMPLE	S96T005258 0	QIC-01 PO4-02	LIQUID	N/A	2.068e+03	496.900	ug/mL
6 SAMPLE	S96T005258 0	QIC-01 SO4-02	LIQUID	N/A	1.484e+03	571.500	ug/mL
6 SAMPLE	S96T005258 0	QIC-01 OXALATE2	LIQUID	N/A	9.059e+02	434.800	ug/mL
7 DUP	S96T005258 0	QIC-01 F-02	LIQUID	<4.97e1	<4.97e1		RPD
7 DUP	S96T005258 0	QIC-01 CL-02	LIQUID	7.611e+03	7.74e+03	1.694	RPD
7 DUP	S96T005258 0	QIC-01 NO2-02	LIQUID	1.06e+05	1.06e+05	1.869	RPD
7 DUP	S96T005258 0	QIC-01 BR-02	LIQUID	1.10e+03	1.05e+03	4.651	RPD
7 DUP	S96T005258 0	QIC-01 NO3-02	LIQUID	1.73e+05	1.75e+05	1.149	RPD
7 DUP	S96T005258 0	QIC-01 PO4-02	LIQUID	2.07e+03	2.04e+03	1.460	RPD
7 DUP	S96T005258 0	QIC-01 SO4-02	LIQUID	1.48e+03	2.08e+03	33.708	RPD
7 DUP	S96T005258 0	QIC-01 OXALATE2	LIQUID	9.06e+02	9.28e+02	52.720	RPD

Final page for worklist# 14177

Analyst Signature

Date

Analyst Signature

Date

Reviewer Signature

Date

LABCORE Data Entry Template for Worklist# 14177

Analyst: ABP Instrument: IC0 IC01 Book# 361020-C

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

Worklist Comment: AN-104 IC. RCJ

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC-QC	QC		
2 CCV			@IC-QC	QC		
3 SAMPLE	S96T005260 0		@IC-01	LIQUID	96001283	AN-104
	Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02					
4 DUP	S96T005260 0		@IC-01	LIQUID		
5 SPK	S96T005260 0		@IC-01	LIQUID		
6 SAMPLE	S96T005258 0		@IC-01	LIQUID	96001283	AN-104
	Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02					
7 DUP	S96T005258 0		@IC-01	LIQUID		

Final page for worklist # 14177

Analyst Signature

Date

Analyst Signature

Date

uploaded 1/22/97 BOR

Validated 1/22/97 BOR

Data Entry Comments:

A-0010-IC

DATA FILE/WORKLIST RESOLUTION

22-Jan-97

Worklist#: 14177

Data File: 14177JA.CSV

	Seq	Type	Sample #		Seq#	Data File	Sample Name	Dilution
-	=>	1	CCB		1	97011211.d05	CCB	1.00
	=>	2	CCV		2	97011211.d06	CCV 36N20-C	101.00
	=>	3	SAMPLE	S96T005260	3	97011211.d07	S96T005260 SAMPL	4141.00
	=>	4	DUP	S96T005260	4	97011211.d08	S96T005260 DUP	4141.00
	=>	5	SPK	S96T005260	5	97011211.d09	S96T005260 SPIKE	4141.00
	=>	6	SAMPLE	S96T005258	6	97011211.d10	S96T005258 SAMPL	4141.00
	=>	7	DUP	S96T005258	7	97011211.d11	S96T005258 DUP	4141.00
+					+			

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

Sample Name: CCB Date: 01/12/1997 10:21:16
 Data File : C:\DX\DATA\97011211.D05
 Method : C:\DX\METHOD\KIT.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 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
2	3.50	nitrate	0.000	12	56	1	-2.23
Totals			0.000	12	56		

File: 97011211.D05 Sample: CCB

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 964 TO 975.

Sample Name: CCV 36N20-C
Data File : C:\DX\DATA\97011211.D06
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 6
Analyst *AB* Column: AG4A/AS4A anion column

Date: 01/12/1997 10:32:23

Detector: CDM-1

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	0.93		0.000	22	68	1	
2	1.11	fluoride	58.815	1163	7758	1	2.47
3	1.67	chloride	74.365	1709	9343	1	0.00
4	1.98	nitrite	499.170	6031	41790	1	-2.62
5	2.99	bromide	556.561	4807	32463	1	-3.97
6	3.40	nitrate	589.154	5521	46404	1	-5.03
7	4.88	phosphate	495.854	1374	19728	1	-1.61
8	6.35	sulfate	636.053	4614	67504	1	-4.03
9	8.37	oxalate	551.288	2162	42190	1	-3.68
Totals			3461.261	27402	267248		

File: 97011211.D06 Sample: CCV 36N20-C

Data Reprocessed On 01/22/1997 10:56:38

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=====
Sample Name: S96T005260 SAMPLE                      Date: 01/12/1997 10:53:03
Data File  : F:\DATA\97011211.D07
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 7                  Detector: CDM-1
Analyst    :                               Column: AG4A/AS4A anion column
=====

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=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
External          1          4141    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	0.93		0.000	330	2367	2	
2	1.23		0.000	326	2780	2	
3	1.31		0.000	424	2363	2	
4	1.64	chloride	8157.286	4372	25645	1	-1.60
5	1.98	nitrite	113597.690	34914	250509	1	-2.62
6	3.02	bromide	916.903	117	683	1	-2.89
7	3.27	nitrate	173102.164	35051	367468	1	-0.10
8	4.91	phosphate	2458.186	134	2046	1	-1.08
9	6.40	sulfate	1925.491	301	5742	1	-3.23
10	8.48	oxalate	526.616	26	516	1	-2.45
Totals			300684.338	75995	660120		

File: 97011211.D07 Sample: S96T005260 SAMPLE

Data Reprocessed On 01/22/1997 10:58:24

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=====
Sample Name: S96T005260 DUP                      Date: 01/12/1997 11:08:10
Data File  : F:\DATA\97011211.D08
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 8                Detector: CDM-1
Analyst    :                               Column: AG4A/AS4A anion column
=====

```

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 4141 3000 5Hz 0.00 10.00 50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.93		0.000	340	2516	2	
2	1.23		0.000	328	2791	2	
3	1.31		0.000	419	2354	2	
4	1.64	chloride	8078.915	4470	25389	1	-1.60
5	1.97	nitrite	111709.458	35024	246034	1	-2.95
6	3.03	bromide	950.115	122	730	1	-2.68
7	3.27	nitrate	175751.923	35260	373886	1	-0.10
8	4.91	phosphate	2352.649	137	1943	1	-1.08
9	6.40	sulfate	1801.778	300	5431	1	-3.23
10	8.43	oxalate	768.931	38	969	1	-3.07
Totals			301413.768	76439	662044		

File: 97011211.D08 Sample: S96T005260 DUP

Data Reprocessed On 01/22/1997 11:00:17

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=====
Sample Name: S96T005260 SPIKE          Date: 01/12/1997 11:31:31
Data File  : F:\DATA\97011211.D09
Method     : C:\DX\METHOD\KIT.MET
ACT 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          4141    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	0.93		0.000	304	1791	2	
2	1.11	fluoride	2790.845	1120	9117	2	3.09
3	1.31		0.000	480	2638	2	
4	1.63	chloride	11194.136	6217	35704	1	+2.00
5	1.97	nitrite	135599.634	41661	303512	1	-2.95
6	2.96	bromide	20836.562	4919	29542	1	0.00
7	3.25	nitrate	195051.750	39850	421602	1	-0.10
8	4.88	phosphate	21495.133	1518	20898	1	-1.61
9	6.35	sulfate	26919.744	4731	69695	1	-4.03
10	8.37	oxalate	22282.105	2137	41579	1	-3.68
Totals			436169.910	102936	936079		

File: 97011211.D09 Sample: S96T005260 SPIKE

Data Reprocessed On 01/22/1997 11:13:46

Sample Name: S96T005258 SAMPLE	Date: 01/12/1997 11:42:23
Data File : F:\DATA\97011211.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
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External	1	4141	3000	5Hz	0.00	10.00		50
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***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.93		0.000	314	2191	2	
2	1.23		0.000	313	2668	2	
3	1.31		0.000	402	2236	2	
4	1.64	chloride	7610.506	4110	23864	1	-1.60
5	1.97	nitrite	107718.408	32831	236612	1	-2.95
6	3.02	bromide	1103.611	159	950	1	-2.89
7	3.27	nitrate	173088.878	35477	367436	1	-0.10
8	4.91	phosphate	2067.514	109	1665	1	-1.08
9	6.40	sulfate	1484.341	277	4633	1	-3.23
10	8.43	oxalate	905.946	34	1225	1	-3.07

Totals	293979.203	74026	643480
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File: 97011211.D10 Sample: S96T005258 SAMPLE

Data Reprocessed On 01/22/1997 11:15:31

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=====
Sample Name: S96T005258 DUP                      Date: 01/12/1997 11:54:24
Data File  : F:\DATA\97011211.D11
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 11              Detector: CDM-1
Analyst    :                               Column: AG4A/AS4A anion column
=====

```

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 4141 3000 5Hz 0.00 10.00 50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.93		0.000	329	2372	2	
2	1.23		0.000	302	2564	2	
3	1.31		0.000	391	2229	2	
4	1.64	chloride	7742.386	4141	24293	1	-1.60
5	1.97	nitrite	106195.139	32940	233029	1	-2.95
6	3.01	bromide	1052.893	150	877	1	-3.11
7	3.27	nitrate	174881.620	35549	371774	1	-0.10
8	4.91	phosphate	2039.834	104	1638	1	-1.08
9	6.40	sulfate	2078.740	285	6127	1	-3.23
10	8.48	oxalate	528.274	29	519	1	-2.45
Totals			294518.887	74220	645422		

File: 97011211.D11 Sample: S96T005258 DUP

LABCORE Completed Worklist Report for Worklist# 14189

Analyst: eal

Instrument: IC02

Book# 36N20B

Method: LA533105 Rev/Mod D-1

Worklist Comment: AN104 IC RCJ

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit	
1 CCB	0	0	0IC-QC	F	QC	1	<1.20e-2	ug/mL	
1 CCB	0	0	0IC-QC	CL	QC	1	<1.70e-2	ug/mL	
1 CCB	0	0	0IC-QC	NO2	QC	1	<1.08e-1	ug/mL	
1 CCB	0	0	0IC-QC	BR	QC	1	<1.25e-1	ug/mL	
1 CCB	0	0	0IC-QC	NO3	QC	1	2.62e-01	0.262 ug/mL	
1 CCB	0	0	0IC-QC	PO4	QC	1	<1.20e-1	ug/mL	
1 CCB	0	0	0IC-QC	SO4	QC	1	1.72e-01	0.172 ug/mL	
1 CCB	0	0	0IC-QC	OXALATE2	QC	1	<1.05e-1	ug/mL	
2 CCV	0	0	0IC-QC	F	QC	5.90e01	6.13e+01	103.898 % Recovery	
2 CCV	0	0	0IC-QC	CL	QC	7.90e01	8.15e+01	103.165 % Recovery	
2 CCV	0	0	0IC-QC	NO2	QC	5.52e02	5.70e+02	103.261 % Recovery	
2 CCV	0	0	0IC-QC	BR	QC	5.89e02	5.94e+02	100.849 % Recovery	
2 CCV	0	0	0IC-QC	NO3	QC	5.94e02	6.12e+02	103.030 % Recovery	
2 CCV	0	0	0IC-QC	PO4	QC	5.44e02	5.45e+02	100.184 % Recovery	
2 CCV	0	0	0IC-QC	SO4	QC	6.11e02	6.52e+02	104.913 % Recovery	
2 CCV	0	0	0IC-QC	OXALATE2	QC	5.52e02	5.94e+02	107.609 % Recovery	
3 BLNK-PREP	0	0	0IC-01	F-02	SOLID	1	<1.20e-2	ug/g	
3 BLNK-PREP	0	0	0IC-01	CL-02	SOLID	1	<1.70e-2	ug/g	
3 BLNK-PREP	0	0	0IC-01	NO2-02	SOLID	1	<1.08e-1	ug/g	
3 BLNK-PREP	0	0	0IC-01	BR-02	SOLID	1	<1.25e-1	ug/g	
3 BLNK-PREP	0	0	0IC-01	NO3-02	SOLID	1	1.71e-01	0.171 ug/g	
3 BLNK-PREP	0	0	0IC-01	PO4-02	SOLID	1	<1.20e-1	ug/g	
3 BLNK-PREP	0	0	0IC-01	SO4-02	SOLID	1	<1.38e-1	ug/g	
3 BLNK-PREP	0	0	0IC-01	OXALATE2	SOLID	1	<1.05e-1	ug/g	
4 SAMPLE	S96T004799	0	W	0IC-01	F-02	SOLID	N/A	8.507e+02	96.640 ug/g
4 SAMPLE	S96T004799	0	W	0IC-01	CL-02	SOLID	N/A	4.824e+03	136.900 ug/g
4 SAMPLE	S96T004799	0	W	0IC-01	NO2-02	SOLID	N/A	6.334e+03	869.600 ug/g
4 SAMPLE	S96T004799	0	W	0IC-01	BR-02	SOLID	N/A	<1.007e+03	1007.000 ug/g
4 SAMPLE	S96T004799	0	W	0IC-01	NO3-02	SOLID	N/A	1.461e+05	1119.000 ug/g
4 SAMPLE	S96T004799	0	W	0IC-01	PO4-02	SOLID	N/A	5.752e+03	966.400 ug/g
4 SAMPLE	S96T004799	0	W	0IC-01	SO4-02	SOLID	N/A	8.357e+03	1132.000 ug/g
4 SAMPLE	S96T004799	0	W	0IC-01	OXALATE2	SOLID	N/A	7.609e+03	845.400 ug/g
5 DUP	S96T004799	0	W	0IC-01	F-02	SOLID	8.51e+02	8.25e+02	3.103 RPD
5 DUP	S96T004799	0	W	0IC-01	CL-02	SOLID	4.82e+03	4.91e+03	1.850 RPD
5 DUP	S96T004799	0	W	0IC-01	NO2-02	SOLID	6.33e+03	6.37e+04	0.630 RPD
5 DUP	S96T004799	0	W	0IC-01	BR-02	SOLID	<1.01e3	<1.02e3	RPD
5 DUP	S96T004799	0	W	0IC-01	NO3-02	SOLID	1.46e+05	1.47e+05	0.683 RPD
5 DUP	S96T004799	0	W	0IC-01	PO4-02	SOLID	5.75e+03	5.83e+03	1.382 RPD
5 DUP	S96T004799	0	W	0IC-01	SO4-02	SOLID	8.36e+03	8.61e+03	2.946 RPD
5 DUP	S96T004799	0	W	0IC-01	OXALATE2	SOLID	7.61e+03	7.81e+03	2.594 RPD
6 SPK	S96T004799	0	W	0IC-01	F-02	SOLID	5.90e01	5.50e+01	93.220 % Recovery

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

LABCORE Completed Worklist Report for Worklist# 14189

Seq Type	Sample# R A	Test	Matrix	Actual	Found	DL or Yield	Unit
6 SPK	S96T004799 0 W	@IC-01 CL-02	SOLID	7.90e01	7.71e+01	97.595 %	Recovery
6 SPK	S96T004799 0 W	@IC-01 NO2-02	SOLID	5.52e02	5.63e+02	101.993 %	Recovery
6 SPK	S96T004799 0 W	@IC-01 BR-02	SOLID	5.89e02	6.11e+02	103.735 %	Recovery
6 SPK	S96T004799 0 W	@IC-01 NO3-02	SOLID	5.94e02	5.73e+02	96.465 %	Recovery
6 SPK	S96T004799 0 W	@IC-01 PO4-02	SOLID	5.44e02	5.33e+02	97.978 %	Recovery
6 SPK	S96T004799 0 W	@IC-01 SO4-02	SOLID	6.31e02	6.38e+02	101.109 %	Recovery
6 SPK	S96T004799 0 W	@IC-01 OXALATE2	SOLID	5.52e02	5.87e+02	106.341 %	Recovery
8 DUP	S96T004800 0 W	@IC-01 F-02	SOLID	1.05e+03	5.52e+02	62.172	RPD
8 DUP	S96T004800 0 W	@IC-01 CL-02	SOLID	4.65e+03	4.93e+03	5.846	RPD
8 DUP	S96T004800 0 W	@IC-01 NO2-02	SOLID	4.50e+05	6.45e+04	149.854	RPD
8 DUP	S96T004800 0 W	@IC-01 BR-02	SOLID	2.28e+03	<1.02e3		RPD
8 DUP	S96T004800 0 W	@IC-01 NO3-02	SOLID	5.58e+05	9.87e+04	139.881	RPD
8 DUP	S96T004800 0 W	@IC-01 PO4-02	SOLID	1.13e+04	2.99e+03	116.305	RPD
8 DUP	S96T004800 0 W	@IC-01 SO4-02	SOLID	2.50e+03	8.96e+03	112.740	RPD
8 DUP	S96T004800 0 W	@IC-01 OXALATE2	SOLID	8.72e2	8.78e+03		RPD
9 SPK	S96T004800 0 W	@IC-01 F-02	SOLID	5.90e01	4.80e+01	81.356 %	Recovery
9 SPK	S96T004800 0 W	@IC-01 CL-02	SOLID	7.90e01	8.74e+01	110.633 %	Recovery
9 SPK	S96T004800 0 W	@IC-01 NO2-02	SOLID	5.52e02	-4.16e3	-753.623 %	Recovery
9 SPK	S96T004800 0 W	@IC-01 BR-02	SOLID	5.89e02	5.66e+02	96.095 %	Recovery
9 SPK	S96T004800 0 W	@IC-01 NO3-02	SOLID	5.94e02	-5.02e3	-845.118 %	Recovery
9 SPK	S96T004800 0 W	@IC-01 PO4-02	SOLID	5.44e02	4.34e+02	79.779 %	Recovery
9 SPK	S96T004800 0 W	@IC-01 SO4-02	SOLID	6.31e02	7.19e+02	113.946 %	Recovery
9 SPK	S96T004800 0 W	@IC-01 OXALATE2	SOLID	5.52e02	6.98e+02	126.449 %	Recovery
10 SAMPLE	S96T005067 0 W	@IC-01 F-02	SOLID	N/A	6.368e+02	98.240	ug/g
10 SAMPLE	S96T005067 0 W	@IC-01 CL-02	SOLID	N/A	5.027e+03	139.200	ug/g
10 SAMPLE	S96T005067 0 W	@IC-01 NO2-02	SOLID	N/A	6.515e+04	884.400	ug/g
10 SAMPLE	S96T005067 0 W	@IC-01 BR-02	SOLID	N/A	1.158e+03	1023.000	ug/g
10 SAMPLE	S96T005067 0 W	@IC-01 NO3-02	SOLID	N/A	1.036e+05	1138.000	ug/g
10 SAMPLE	S96T005067 0 W	@IC-01 PO4-02	SOLID	N/A	2.968e+03	982.400	ug/g
10 SAMPLE	S96T005067 0 W	@IC-01 SO4-02	SOLID	N/A	1.102e+04	1130.000	ug/g
10 SAMPLE	S96T005067 0 W	@IC-01 OXALATE2	SOLID	N/A	1.081e+04	859.800	ug/g
11 DUP	S96T005067 0 W	@IC-01 F-02	SOLID	6.37e+02	6.35e+02	0.314	RPD
11 DUP	S96T005067 0 W	@IC-01 CL-02	SOLID	5.03e+03	5.03e+03	0.000	RPD
11 DUP	S96T005067 0 W	@IC-01 NO2-02	SOLID	6.52e+04	6.48e+04	0.615	RPD
11 DUP	S96T005067 0 W	@IC-01 BR-02	SOLID	1.16e+03	1.16e+03	0.000	RPD
11 DUP	S96T005067 0 W	@IC-01 NO3-02	SOLID	1.04e+05	1.05e+05	0.957	RPD
11 DUP	S96T005067 0 W	@IC-01 PO4-02	SOLID	2.97e+03	2.93e+03	1.356	RPD
11 DUP	S96T005067 0 W	@IC-01 SO4-02	SOLID	1.10e+04	1.10e+04	0.000	RPD
11 DUP	S96T005067 0 W	@IC-01 OXALATE2	SOLID	1.08e+04	1.07e+04	0.930	RPD
12 SPK	S96T005067 0 W	@IC-01 F-02	SOLID	5.90e01	5.35e+01	90.678 %	Recovery
12 SPK	S96T005067 0 W	@IC-01 CL-02	SOLID	7.90e01	7.80e+01	98.734 %	Recovery
12 SPK	S96T005067 0 W	@IC-01 NO2-02	SOLID	5.52e02	5.78e+02	104.710 %	Recovery
12 SPK	S96T005067 0 W	@IC-01 BR-02	SOLID	5.89e02	5.88e+02	99.830 %	Recovery
12 SPK	S96T005067 0 W	@IC-01 NO3-02	SOLID	5.94e02	6.60e+02	111.111 %	Recovery
12 SPK	S96T005067 0 W	@IC-01 PO4-02	SOLID	5.44e02	5.35e+02	98.346 %	Recovery
12 SPK	S96T005067 0 W	@IC-01 SO4-02	SOLID	6.31e02	6.43e+02	101.902 %	Recovery
12 SPK	S96T005067 0 W	@IC-01 OXALATE2	SOLID	5.52e02	5.90e+02	106.884 %	Recovery

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

LABCORE Completed Worklist Report for Worklist# 14189

Seq Type	Sample# R A	Test	Matrix	Actual	Found	DL or Yield	Unit
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Final page for worklist# 14189

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

JH Anasto 12-26-96
Reviewer Signature Date

S96T004800 rejected for rerun due
to multiple spk + dup failures. Use
worklist # 15821 ~~4567~~ 5/12/97

10/21/96 13:55
A-0004-1

Page: 1

LABCORE Data Entry Template for Worklist# 14189

Analyst: ELP Instrument: IC0 2 Book# 36N20-BMethod: LA-533-105 Rev/Mod B.1

Worklist Comment: AN104 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	S96T004799 0 W		@IC-01	SOLID	96001174	AN-104
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
5 DUP	S96T004799 0 W		@IC-01	SOLID		
6 SPK	S96T004799 0 W		@IC-01	SOLID		
7 SAMPLE	S96T004800 0 W		@IC-01	SOLID	96001174	AN-104
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
8 DUP	S96T004800 0 W		@IC-01	SOLID		
9 SPK	S96T004800 0 W		@IC-01	SOLID		
10 SAMPLE	S96T005067 0 W		@IC-01	SOLID	96001174	AN-104
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
11 DUP	S96T005067 0 W		@IC-01	SOLID		
12 SPK	S96T005067 0 W		@IC-01	SOLID		

Final page for worklist # 14189

Analyst Signature

Date

Analyst Signature

Date

Data Entry Comments:

14189DC.CSV - in shell

uploaded 12.26.96 Ha

S96T004800 rejected for rerun (new WL# 15821)

S96T004800 will be rerun. Possible dilution or prep error.

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

A-0010-IC

DATA FILE/WORKLIST RESOLUTION

26-Dec-96

Worklist#: 14189

Data File: 14189DC.CSV

WORMS007 - 11105				Data File: 11105007					
		Seq	Type	Sample #	Seq#	Data File	Sample Name	Dilution	
-	=>	1	CCB		-	1	96122201.d01	INST. BLANK	1.00
	=>	2	CCV			2	96122201.d02	36N20-B STD.	101.00
	=>	3	BLNK-PREP		3	96122201.d03	PREP. BLANK	1.00	
	=>	4	SAMPLE	S96T004799	4	96122201.d04	S96T004799	41.00	
	=>	5	DUP	S96T004799	5	96122201.d05	S96T004799 DUP	41.00	
	=>	6	SPK	S96T004799	6	96122201.d06	S96T004799 SPIKE	41.00	
	=>	7	SAMPLE	S96T004800	7	96122201.d07	S96T004800	41.00	
	=>	8	DUP	S96T004800	8	96122201.d08	S96T004800 DUP	41.00	
	=>	9	SPK	S96T004800	9	96122201.d09	S96T004800 SPIKE	41.00	
	=>	10	SAMPLE	S96T005067	10	96122201.d10	S96T005067	41.00	
	=>	11	DUP	S96T005067	11	96122201.d11	S96T005067 DUP	41.00	
	=>	12	SPK	S96T005067	12	96122201.d12	S96T005067 SPIKE	41.00	
+					+				

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

Sample Name: INST. BLANK

Date: 12/22/1996 08:01:17

Data File : C:\DX\DATA\96122201.D01

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

ACI Address: 1 System: 1 Inject#: 1

Detector: CDM-1

Analyst : *J. J. J.* Column:

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

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	32	164	1	
2	1.40		0.000	38	236	1	
3	1.58	CHLORIDE	0.016	40	133	1	0.21
4	3.35	NITRATE	0.262	153	1001	1	-0.59
5	6.29	SULFATE	0.172	75	1022	1	-4.70

Totals			0.449	338	2555		
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File: 96122201.D01 Sample: INST. BLANK

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 981 TO 989

Sample Name: 36N20-B STD Date: 12/22/1996 08:14:18
 Data File : C:\DX\DATA\96122201.D02
 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 2 Detector: CDM-1
 Analyst : Column:

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

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	102	436	2	
2	1.03	FLUORIDE	61.335	2585	11854	2	-1.90
3	1.40		0.000	25	135	2	
4	1.58	CHLORIDE	81.540	2365	10700	2	-0.21
5	1.90	NITRITE	570.375	10068	53380	2	-0.87
6	2.89	BROMIDE	594.289	5743	36289	2	-1.03
7	3.29	NITRATE	611.802	6320	48431	2	-2.37
8	4.82	PHOSPHATE	544.718	1721	21169	1	-3.92
9	6.28	SULFATE	662.458	4869	67578	1	-4.90
10	8.25	OXALATE	594.021	2334	43866	1	-4.84
Totals			3720.536	36132	293838		

File: 96122201.D02 Sample: 36N20-B STD.

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Sample Name: PREP. BLANK                      Date: 12/22/1996 10:21:48
Data File  : C:\DX\DATA\96122201.D03
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 3           Detector: CDM-1
Analyst    :                               Column:
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=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
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External      1      1      3000 5Hz      0.00 10.00      50
=====

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

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Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.30		0.000	53	577	1	
2	1.60	CHLORIDE	0.012	29	87	1	1.05
3	3.36	NITRATE	0.171	45	273	1	-0.40
Totals			0.183	128	937		

File: 96122201.D03 Sample: PREP. BLANK

Sample Name: S96T004799 Date: 12/22/1996 10:43:57
 Data File : C:\DX\DATA\96122201.D04
 Method : C:\DX\METHOD\ANIONS.MET
 ACT Address: 1 System: 1 Inject#: 4 Detector: CDM-1
 Analyst : Column:

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 41 3000 5Hz 0.00 10.00 50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	221	1202	2	
2	1.03	FLUORIDE	4.331	382	1841	2	-1.90
3	1.15		0.000	171	670	2	
4	1.23		0.000	154	791	2	
5	1.58	CHLORIDE	24.560	1688	7891	1	-0.21
6	1.90	NITRITE	322.474	14362	75054	1	-0.87
7	3.23	NITRATE	743.657	18612	152961	1	-4.15
8	4.84	PHOSPHATE	29.283	198	2337	1	-3.52
9	6.30	SULFATE	42.547	698	9888	1	-4.49
10	8.30	OXALATE	38.736	359	6598	1	-4.23
Totals			1205.588	36846	259233		

File: 96122201.D04 Sample: S96T004799

Sample Name: S96T004799 DUP Date: 12/22/1996 10:55:51
Data File : C:\DX\DATA\96122201.D05
Method : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 5 Detector: CDM-1
Analyst : Column:

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 41 3000 5Hz 0.00 10.00 50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	213	1173	2	
2	1.03	FLUORIDE	4.160	371	1759	2	-1.90
3	1.14		0.000	156	609	2	
4	1.23		0.000	143	691	2	
5	1.58	CHLORIDE	24.733	1699	7948	1	-0.21
6	1.90	NITRITE	321.208	14404	74751	1	-0.87
7	3.22	NITRATE	741.477	18633	152482	1	-4.35
8	4.85	PHOSPHATE	29.404	200	2349	1	-3.39
9	6.30	SULFATE	43.410	719	10104	1	-4.49
10	8.32	OXALATE	39.374	364	6714	1	-4.08
Totals			1203.766	36903	258580		

File: 96122201.D05 Sample: S96T004799 DUP

Sample Name: S96T004799 SPIKE Date: 12/22/1996 11:11:31
 Data File : E:\DATA\96122201.D06
 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 6 Detector: CDM-1
 Analyst : Column:

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	3000	5Hz	0.00	10.00		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	226	994	1	
2	1.03	FLUORIDE	26.315	2761	12550	1	-1.90
3	1.58	CHLORIDE	55.383	3890	18128	2	-0.21
4	1.90	NITRITE	547.733	24214	129537	2	-0.87
5	2.86	BROMIDE	244.356	5901	36777	2	-1.94
6	3.20	NITRATE	972.982	24073	204383	2	-0.10
7	4.83	PHOSPHATE	242.607	1903	23317	1	-3.78
8	6.28	SULFATE	297.617	5405	75042	1	-4.90
9	8.25	OXALATE	273.710	2654	49946	1	-4.84
Totals			2660.702	71026	550673		

File: 96122201.D06 Sample: S96T004799 SPIKE

Sample Name: S96T005067 Date: 12/22/1996 15:59:23
 Data File : C:\DX\DATA\96122201.D10
 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 10 Detector: CDM-1
 Analyst : Column:

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	3000	5Hz	0.00	10.00		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	215	1197	2	
2	1.03	FLUORIDE	3.189	277	1290	2	-1.90
3	1.15		0.000	147	584	2	
4	1.23		0.000	132	595	2	
5	1.58	CHLORIDE	25.176	1734	8093	1	-0.21
6	1.90	NITRITE	326.268	14528	75962	1	-0.87
7	2.88	BROMIDE	5.799	32	169	1	-1.48
8	3.23	NITRATE	518.660	13266	104452	1	-4.15
9	4.86	PHOSPHATE	14.866	82	946	1	-3.25
10	6.30	SULFATE	55.179	911	13054	1	-4.49
11	8.30	OXALATE	54.121	505	9400	1	-4.23
Totals			1003.258	31830	215743		

File: 96122201.D10 Sample: S96T005067

Sample Name: S96T005067 DUP

Date: 12/22/1996 16:10:33

Data File : C:\DX\DATA\96122201.D11

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

ACI Address: 1 System: 1 Inject#: 11

Detector: CDM-1

Analyst : Column:

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
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External	1	41	3000	5Hz	0.00	10.00		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	215	1194	2	
2	1.03	FLUORIDE	3.170	277	1281	2	-1.90
3	1.14		0.000	142	567	2	
4	1.23		0.000	125	550	2	
5	1.58	CHLORIDE	25.117	1754	8074	1	-0.21
6	1.90	NITRITE	323.455	14525	75289	1	-0.87
7	2.88	BROMIDE	5.791	31	167	1	-1.26
8	3.23	NITRATE	522.692	13326	105306	1	-4.15
9	4.85	PHOSPHATE	14.617	84	922	1	-3.39
10	6.30	SULFATE	54.676	907	12928	1	-4.49
11	8.30	OXALATE	53.383	504	9266	1	-4.23
Totals			1002.902	31890	215544		

File: 96122201.D11 Sample: S96T005067 DUP

Sample Name: S96T005067 SPIKE Date: 12/22/1996 16:25:16
 Data File : C:\DX\DATA\96122201.D12
 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 12 Detector: CDM-1
 Analyst : Column:

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 41 3000 5Hz 0.00 10.00 50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	235	1096	1	
2	1.03	FLUORIDE	24.600	2638	11707	1	-1.90
3	1.58	CHLORIDE	56.395	4028	18469	1	-0.21
4	1.90	NITRITE	557.414	24988	131905	1	-0.87
5	2.86	BROMIDE	241.171	5908	36278	2	-2.17
6	3.20	NITRATE	782.728	19592	161574	2	-4.95
7	4.84	PHOSPHATE	228.989	1795	21955	1	-3.65
8	6.28	SULFATE	312.426	5697	78908	1	-4.90
9	8.25	OXALATE	290.202	2839	53033	1	-4.84
Totals			2493.925	67721	514924		

File: 96122201.D12 Sample: S96T005067 SPIKE

LABCORE Completed Worklist Report for Worklist# 14194

Analyst: krq

Instrument: IC02

Book# 36N204

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

Worklist Comment: AN-104 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	2	1.58e-01	0.158	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	5.900e1	5.90e+01	100.000 % Recovery	
2 CCV	0	QIC-QC CL	QC	7.900e1	8.06e+01	102.025 % Recovery	
2 CCV	0	QIC-QC NO2	QC	5.390e2	5.43e+02	100.742 % Recovery	
2 CCV	0	QIC-QC BR	QC	5.890e2	5.93e+02	100.679 % Recovery	
2 CCV	0	QIC-QC NO3	QC	5.240e2	5.05e+02	101.852 % Recovery	
2 CCV	0	QIC-QC P04	QC	5.440e2	5.37e+02	98.713 % Recovery	
2 CCV	0	QIC-QC S04	QC	6.210e2	6.45e+02	102.219 % Recovery	
2 CCV	0	QIC-QC OXALATE2	QC	5.280e2	5.71e+02	108.144 % Recovery	
3 BLNK-PREP	0	QIC-01 F-02	SOLID	1	<1.20e-2		ug/g
3 BLNK-PREP	0	QIC-01 CL-02	SOLID	1	<1.70e-2		ug/g
3 BLNK-PREP	0	QIC-01 NO2-02	SOLID	1	<1.08e-1		ug/g
3 BLNK-PREP	0	QIC-01 BR-02	SOLID	1	<1.25e-1		ug/g
3 BLNK-PREP	0	QIC-01 NO3-02	SOLID	1	1.88e-01	0.188	ug/g
3 BLNK-PREP	0	QIC-01 P04-02	SOLID	1	<1.20e-1		ug/g
3 BLNK-PREP	0	QIC-01 S04-02	SOLID	2	<1.38e-1		ug/g
3 BLNK-PREP	0	QIC-01 OXALATE2	SOLID	1	<1.05e-1		ug/g
4 SAMPLE	S96T005065	Q W QIC-01 F-02	SOLID	N/A	5.62e+02	26.610	ug/g
4 SAMPLE	S96T005065	Q W QIC-01 CL-02	SOLID	N/A	4.980e+03	37.700	ug/g
4 SAMPLE	S96T005065	Q W QIC-01 NO2-02	SOLID	N/A	6.763e+04	239.500	ug/g
4 SAMPLE	S96T005065	Q W QIC-01 BR-02	SOLID	N/A	3.89e+02	277.200	ug/g
4 SAMPLE	S96T005065	Q W QIC-01 NO3-02	SOLID	N/A	9.800e+04	308.200	ug/g
4 SAMPLE	S96T005065	Q W QIC-01 P04-02	SOLID	N/A	2.240e+03	266.100	ug/g
4 SAMPLE	S96T005065	Q W QIC-01 S04-02	SOLID	N/A	8.954e+03	306.000	ug/g
4 SAMPLE	S96T005065	Q W QIC-01 OXALATE2	SOLID	N/A	9.210e+03	232.900	ug/g
5 DUP	S96T005065	Q W QIC-01 F-02	SOLID	5.63e+02	5.45e+02	13.576 RPD	
5 DUP	S96T005065	Q W QIC-01 CL-02	SOLID	4.98e+03	4.99e+03	0.201 RPD	
5 DUP	S96T005065	Q W QIC-01 NO2-02	SOLID	6.78e+04	6.91e+04	0.737 RPD	
5 DUP	S96T005065	Q W QIC-01 BR-02	SOLID	3.90e+02	5.13e+02	27.243 RPD	
5 DUP	S96T005065	Q W QIC-01 NO3-02	SOLID	9.80e+04	1.01e+05	3.015 RPD	
5 DUP	S96T005065	Q W QIC-01 P04-02	SOLID	2.24e+03	3.01e+03	29.333 RPD	
5 DUP	S96T005065	Q W QIC-01 S04-02	SOLID	8.95e+03	8.73e+03	2.489 RPD	
5 DUP	S96T005065	Q W QIC-01 OXALATE2	SOLID	9.21e+03	9.39e+03	1.935 RPD	
6 SPK	S96T005065	Q W QIC-01 F-02	SOLID	5.900e1	2.13e+01	36.102 % Recovery	

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

LABCORE Completed Worklist Report for Worklist# 14194

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
6 SPK	596T005065	0 W	QIC-01	CL-02	SOLID	7.900e1	7.89e+01	99.873 % Recovery
6 SPK	596T005065	0 W	QIC-01	NO2-02	SOLID	5.390e2	5.33e+02	98.887 % Recovery
6 SPK	596T005065	0 W	QIC-01	BR-02	SOLID	5.890e2	5.99e+02	101.698 % Recovery
6 SPK	596T005065	0 W	QIC-01	NO3-02	SOLID	5.940e2	5.14e+02	86.532 % Recovery
6 SPK	596T005065	0 W	QIC-01	PO4-02	SOLID	5.440e2	5.40e+02	99.265 % Recovery
6 SPK	596T005065	0 W	QIC-01	SO4-02	SOLID	6.310e2	6.59e+02	104.437 % Recovery
6 SPK	596T005065	0 W	QIC-01	OXALATE2	SOLID	5.280e2	5.86e+02	110.995 % Recovery
7 SAMPLE	596T005068	0 W	QIC-01	F-02	SOLID	N/A	7.277e+02	26.540 ug/g
7 SAMPLE	596T005068	0 W	QIC-01	CL-02	SOLID	N/A	4.703e+03	37.600 ug/g
7 SAMPLE	596T005068	0 W	QIC-01	NO2-02	SOLID	N/A	6.620e+04	238.900 ug/g
7 SAMPLE	596T005068	0 W	QIC-01	BR-02	SOLID	N/A	3.831e+02	276.500 ug/g
7 SAMPLE	596T005068	0 W	QIC-01	NO3-02	SOLID	N/A	1.063e+05	307.400 ug/g
7 SAMPLE	596T005068	0 W	QIC-01	PO4-02	SOLID	N/A	2.108e+03	265.400 ug/g
7 SAMPLE	596T005068	0 W	QIC-01	SO4-02	SOLID	N/A	1.135e+04	305.200 ug/g
7 SAMPLE	596T005068	0 W	QIC-01	OXALATE2	SOLID	N/A	1.062e+04	232.200 ug/g
8 DUP	596T005068	0 W	QIC-01	F-02	SOLID	7.28e+02	6.85e+02	6.086 RPD
8 DUP	596T005068	0 W	QIC-01	CL-02	SOLID	4.70e+03	4.52e+03	1.717 RPD
8 DUP	596T005068	0 W	QIC-01	NO2-02	SOLID	6.62e+04	6.41e+04	3.223 RPD
8 DUP	596T005068	0 W	QIC-01	BR-02	SOLID	3.89e+02	3.51e+02	10.270 RPD
8 DUP	596T005068	0 W	QIC-01	NO3-02	SOLID	1.06e+05	1.01e+05	4.831 RPD
8 DUP	596T005068	0 W	QIC-01	PO4-02	SOLID	2.11e+03	2.05e+03	2.695 RPD
8 DUP	596T005068	0 W	QIC-01	SO4-02	SOLID	1.14e+04	1.12e+04	1.770 RPD
8 DUP	596T005068	0 W	QIC-01	OXALATE2	SOLID	1.06e+04	1.02e+04	3.846 RPD
9 SPK	596T005068	0 W	QIC-01	F-02	SOLID	5.900e1	1.76e+01	29.831 % Recovery
9 SPK	596T005068	0 W	QIC-01	CL-02	SOLID	7.900e1	8.95e+01	113.291 % Recovery
9 SPK	596T005068	0 W	QIC-01	NO2-02	SOLID	5.390e2	5.38e+02	99.814 % Recovery
9 SPK	596T005068	0 W	QIC-01	BR-02	SOLID	5.890e2	5.89e+02	99.981 % Recovery
9 SPK	596T005068	0 W	QIC-01	NO3-02	SOLID	5.940e2	6.24e+02	105.051 % Recovery
9 SPK	596T005068	0 W	QIC-01	PO4-02	SOLID	5.440e2	5.36e+02	98.523 % Recovery
9 SPK	596T005068	0 W	QIC-01	SO4-02	SOLID	6.310e2	6.82e+02	108.082 % Recovery
9 SPK	596T005068	0 W	QIC-01	OXALATE2	SOLID	5.280e2	5.90e+02	111.742 % Recovery
10 SAMPLE	596T005071	0 W	QIC-01	F-02	SOLID	N/A	6.383e+02	26.180 ug/g
10 SAMPLE	596T005071	0 W	QIC-01	CL-02	SOLID	N/A	5.269e+03	37.080 ug/g
10 SAMPLE	596T005071	0 W	QIC-01	NO2-02	SOLID	N/A	7.067e+04	235.600 ug/g
10 SAMPLE	596T005071	0 W	QIC-01	BR-02	SOLID	N/A	5.249e+02	272.700 ug/g
10 SAMPLE	596T005071	0 W	QIC-01	NO3-02	SOLID	N/A	1.089e+05	303.200 ug/g
10 SAMPLE	596T005071	0 W	QIC-01	PO4-02	SOLID	N/A	2.311e+03	261.900 ug/g
10 SAMPLE	596T005071	0 W	QIC-01	SO4-02	SOLID	N/A	1.050e+04	301.000 ug/g
10 SAMPLE	596T005071	0 W	QIC-01	OXALATE2	SOLID	N/A	1.008e+04	229.000 ug/g
11 DUP	596T005071	0 W	QIC-01	F-02	SOLID	6.38e+02	6.39e+02	0.157 RPD
11 DUP	596T005071	0 W	QIC-01	CL-02	SOLID	5.27e+03	4.88e+03	7.685 RPD
11 DUP	596T005071	0 W	QIC-01	NO2-02	SOLID	7.07e+04	6.69e+04	5.523 RPD
11 DUP	596T005071	0 W	QIC-01	BR-02	SOLID	5.25e+02	4.01e+02	26.782 RPD
11 DUP	596T005071	0 W	QIC-01	NO3-02	SOLID	1.09e+05	1.04e+05	4.695 RPD
11 DUP	596T005071	0 W	QIC-01	PO4-02	SOLID	2.31e+03	2.35e+03	1.717 RPD
11 DUP	596T005071	0 W	QIC-01	SO4-02	SOLID	1.05e+04	1.01e+04	3.883 RPD
11 DUP	596T005071	0 W	QIC-01	OXALATE2	SOLID	1.01e+04	9.70e+03	4.040 RPD
12 SPK	596T005071	0 W	QIC-01	F-02	SOLID	5.900e1	1.56e+01	26.441 % Recovery
12 SPK	596T005071	0 W	QIC-01	CL-02	SOLID	7.900e1	9.02e+01	114.177 % Recovery

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

LABCORE Completed Worklist Report for Worklist# 14194

Seq Type	Sample# R A	Test	Matrix	Actual	Found	DL or Yield	Unit
12 SPK	S96T005071 0 W	QIC-01 NO2-02	SOLID	5.390e2	5.60e+02	103.896 % Recovery	
12 SPK	S96T005071 0 W	QIC-01 BR-02	SOLID	5.890e2	5.80e+02	98.472 % Recovery	
12 SPK	S96T005071 0 W	QIC-01 NO3-02	SOLID	5.340e2	6.30e+02	106.061 % Recovery	
12 SPK	S96T005071 0 W	QIC-01 PO4-02	SOLID	5.440e2	5.33e+02	97.978 % Recovery	
12 SPK	S96T005071 0 W	QIC-01 SO4-02	SOLID	6.310e2	6.69e+02	106.022 % Recovery	
12 SPK	S96T005071 0 W	QIC-01 OXALATE2	SOLID	5.280e2	5.81e+02	110.038 % Recovery	

Final page for worklist# 14194

Analyst Signature

Date

Analyst Signature

Date

Reviewer Signature

Date

James M. Lays 1/7/97

Spike failed for NO2. Sample S96T005068 & S96T005071 rerun on worklist 1/7/97

10/21/96 14:00
A-0004-1

Page: 1

LABCORE Data Entry Template for Worklist# 14194

Analyst: AKO Instrument: IC0 IC02 Book# 361020-AMethod: LA-553-105 Rev/Mod D-1

Worklist Comment: AN-104 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	S96T005065 0 W	@IC-01	SOLID		96001174	AN-104
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
5 DUP	S96T005065 0 W	@IC-01	SOLID			
6 SPK	S96T005065 0 W	@IC-01	SOLID			
7 SAMPLE	S96T005068 0 W	@IC-01	SOLID		96001174	AN-104
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
8 DUP	S96T005068 0 W	@IC-01	SOLID			
9 SPK	S96T005068 0 W	@IC-01	SOLID			
10 SAMPLE	S96T005071 0 W	@IC-01	SOLID		96001174	AN-104
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
11 DUP	S96T005071 0 W	@IC-01	SOLID			
12 SPK	S96T005071 0 W	@IC-01	SOLID			

Final page for worklist # 14194

Analyst Signature

Date

Analyst Signature

Date

Data Entry Comments:

14194 DC. CSV
uploaded 1/7/96Validated 1/7/96

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

A-0010-IC				DATA FILE/WORKLIST RESOLUTION				03-Jan-97			
Worklist#: 14194				Data File: 14194DC.CSV							
		Seq	Type	Sample #	Seq#		Data File	Sample Name		Dilution	
-	=v	1	CCB	S96T005065 S96T005065 S96T005065 S96T005068 S96T005068 S96T005068 S96T005071 S96T005071 S96T005071	-	1	96120811.d03	CCB	1.00		
	=v	2	CCV			2	96120811.d02	CCV 36N20-A	101.00		
	=v	3	BLNK-PREP			3	96120811.d04	BLANK PREP 14194	1.00		
	=v	4	SAMPLE			4	96120861.d12	S96T005065 SAMPL	11.00		
	=v	5	DUP			5	96120861.d04	S96T005065 DUP	11.00		
	=v	6	SPK			6	96120861.d05	S96T005065 SPIKE	11.00		
	=v	7	SAMPLE			7	96120861.d06	S96T005068 SAMPL	11.00		
	=v	8	DUP			8	96120861.d07	S96T005068 DUP	11.00		
	=v	9	SPK			9	96120861.d08	S96T005068 SPIKE	11.00		
	=v	10	SAMPLE			10	96120861.d09	S96T005071 SAMPL	11.00		
	=v	11	DUP			11	96120861.d10	S96T005071 DUP	11.00		
	=v	12	SPK			12	96120861.d11	S96T005071 SPIKE	11.00		
+					+						

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

Data Reprocessed On 01/03/1997 11:18:00

Sample Name: CCB Date: 12/08/1996 00:52:56
 Data File : E:\DATA\96120811.d03
 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 3 Detector: CDM-1
 Analyst : *John R. R. 4/22/97* Column:

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

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	26	154	1	
2	1.40		0.000	31	164	1	
3	1.59	CHLORIDE	0.010	18	54	1	0.63
4	3.38	NITRATE	0.158	28	163	1	0.40
5	6.42	SULFATE	0.091	21	201	1	-2.68
Totals			0.259	124	737		

File: 96120811.d03 Sample: CCB

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 990 TO 1006

Data Reprocessed On 01/03/1997 11:18:01

Sample Name: CCV 36N20-A	Date: 12/08/1996 00:32:59
Data File : E:\DATA\96120811.d02	
Method : C:\DX\METHOD\ANIONS.MET	
ACI Address: 1 System: 1 Inject#: 2	Detector: CDM-1
Analyst :	Column:

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

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	96	416	2	
2	1.03	FLUORIDE	59.017	2597	11392	2	-1.90
3	1.41		0.000	17	90	2	
4	1.59	CHLORIDE	80.576	2380	10571	2	0.63
5	1.92	NITRITE	543.048	9891	50748	1	0.17
6	2.92	BROMIDE	592.540	5636	36178	2	0.11
7	3.33	NITRATE	605.055	6247	47876	2	-1.19
8	4.89	PHOSPHATE	537.444	1667	20875	1	-2.59
9	6.38	SULFATE	644.919	4642	65732	1	-3.28
10	8.41	OXALATE	570.719	2198	42104	1	-3.00
Totals			3633.319	35370	285982		

File: 96120811.d02 Sample: CCV 36N20-A

Data Reprocessed On 01/03/1997 11:18:02

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=====
Sample Name: BLANK PREP 14194          Date: 12/08/1996 02:45:26
Data File  : E:\DATA\96120811.d04
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 4
Analyst    :                          Column:
Detector: CDM-1
=====
```

```
=====
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	1.28		0.000	61	688	1	
2	3.41	NITRATE	0.188	66	410	1	1.19
Totals			0.188	127	1098		

File: 96120811.d04 Sample: BLANK PREP 14194

Data Reprocessed On 01/03/1997 11:18:03

```

=====
Sample Name: S96T005065 SAMPLE                      Date: 12/08/1996 05:52:45
Data File  : E:\DATA\96120861.d12
Method     : C:\DX\METHOD\ANIONSA.MET
ACI Address: 1 System: 1 Inject#: 12
Analyst    :                      Column:
Detector: CDM-1
=====

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=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
=====
External          1          11    3000  5Hz   0.00 10.00          50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	682	3949	2	
2	1.04	FLUORIDE	2.791	1026	4780	2	-0.63
3	1.14		0.000	725	3174	2	
4	1.22		0.000	675	3921	2	
5	1.57	CHLORIDE	24.707	5613	30697	2	-0.63
6	1.92	NITRITE	335.508	50434	307541	2	0.17
7	2.90	BROMIDE	1.933	73	379	1	-0.57
8	3.18	NITRATE	486.202	43130	414606	1	0.10
9	4.90	PHOSPHATE	11.112	285	3511	1	-2.46
10	6.37	SULFATE	44.422	2785	40984	1	-3.48
11	8.40	OXALATE	45.691	1597	30724	1	-3.15
Totals			952.367	107024	844267		

File: 96120861.d12 Sample: S96T005065 SAMPLE

Data Reprocessed On 01/03/1997 11:18:04

Sample Name: S96T005065 DUP
 Data File : E:\DATA\96120861.d04
 Method : C:\DX\METHOD\ANIONSA.MET
 ACI Address: 1 System: 1 Inject#: 4
 Analyst : Column:

Date: 12/08/1996 04:11:35

Detector: CDM-1

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	11	3000	5Hz	0.00	10.00		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	711	4064	2	
2	1.04	FLUORIDE	3.289	1195	5681	2	-1.27
3	1.14		0.000	782	3422	2	
4	1.22		0.000	741	4482	2	
5	1.56	CHLORIDE	25.436	5883	31645	2	-1.48
6	1.92	NITRITE	347.558	51060	319373	3	0.17
7	2.90	BROMIDE	2.615	103	762	4	-0.57
8	3.17	NITRATE	517.017	46147	446879	2	0.00
9	4.90	PHOSPHATE	15.359	407	5045	1	-2.32
10	6.38	SULFATE	44.541	2807	41098	1	-3.28
11	8.40	OXALATE	47.933	1657	32268	1	-3.15

Totals	1003.748	111495	894719
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File: 96120861.d04 Sample: S96T005065 DUP

Data Reprocessed On 01/03/1997 11:18:05

Sample Name: S96T005065 SPIKE	Date: 12/08/1996 04:24:14
Data File : E:\DATA\96120861.d05	
Method : C:\DX\METHOD\ANIONS.MET	
ACI Address: 1 System: 1 Inject#: 5	Detector: CDM-1
Analyst :	Column:

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
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External	1	11	3000	5Hz	0.00	10.00		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	665	3204	1	
2	1.03	FLUORIDE	4.924	2315	8649	1	-1.90
3	1.22		0.000	214	813	1	
4	1.56	CHLORIDE	32.599	7573	41093	2	-1.48
5	1.92	NITRITE	388.834	56687	360357	2	0.17
6	2.89	BROMIDE	61.852	5813	34612	2	-1.03
7	3.16	NITRATE	537.570	47976	469012	2	0.11
8	4.88	PHOSPHATE	65.159	1862	23343	1	-2.72
9	6.36	SULFATE	110.280	7379	104897	1	-3.69
10	8.36	OXALATE	104.286	3697	71601	1	-3.61
Totals			1305.506	134180	1117580		

File: 96120861.d05 Sample: S96T005065 SPIKE

Data Reprocessed On 01/03/1997 11:18:05

Sample Name: S96T005068 SAMPLE	Date: 12/08/1996 04:36:52
Data File : E:\DATA\96120861.d06	
Method : C:\DX\METHOD\ANIONS.MET	
ACI Address: 1 System: 1 Inject#: 6	Detector: CDM-1
Analyst :	Column:

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	11	3000	5Hz	0.00	10.00		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	716	4028	2	
2	1.04	FLUORIDE	3.619	1301	6278	2	-1.27
3	1.14		0.000	777	3377	2	
4	1.22		0.000	699	4188	2	
5	1.56	CHLORIDE	23.386	5386	28985	2	-1.48
6	1.92	NITRITE	329.189	48462	301360	2	0.17
7	2.90	BROMIDE	1.935	64	381	2	-0.80
8	3.17	NITRATE	528.516	47312	459199	2	0.00
9	4.91	PHOSPHATE	10.482	267	3283	1	-2.19
10	6.37	SULFATE	56.419	3589	52437	1	-3.48
11	8.40	OXALATE	52.791	1844	35621	1	-3.15
Totals			1006.336	110415	899138		

File: 96120861.d06 Sample: S96T005068 SAMPLE

Data Reprocessed On 01/03/1997 11:18:06

Sample Name: S96T005068 DUP	Date: 12/08/1996 04:49:31
Data File : E:\DATA\96120861.d07	
Method : C:\DX\METHOD\ANIONSA.MET	
ACI Address: 1 System: 1 Inject#: 7	Detector: CDM-1
Analyst :	Column:

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	11	3000	5Hz	0.00	10.00		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	684	3719	2	
2	1.04	FLUORIDE	3.497	1257	6057	2	-1.27
3	1.14		0.000	740	3024	2	
4	1.22		0.000	682	4061	2	
5	1.56	CHLORIDE	23.567	5385	29219	2	-1.05
6	1.92	NITRITE	327.348	48499	299563	2	0.17
7	2.90	BROMIDE	1.793	57	301	1	-0.80
8	3.17	NITRATE	517.772	46172	447684	1	0.00
9	4.90	PHOSPHATE	10.475	258	3281	1	-2.32
10	6.37	SULFATE	57.399	3642	53376	1	-3.48
11	8.40	OXALATE	52.236	1831	35238	1	-3.15

Totals	994.086	109206	885523
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File: 96120861.d07 Sample: S96T005068 DUP

Data Reprocessed On 01/03/1997 11:18:07

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Sample Name: S96T005068 SPIKE                      Date: 12/08/1996 05:02:11
Data File  : E:\DATA\96120861.d08
Method     : C:\DX\METHOD\ANIONSA.MET
ACI Address: 1 System: 1 Inject#: 8
Analyst    :                      Column:
Detector: CDM-1
=====

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=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
=====
External          1          11    3000  5Hz   0.00 10.00          50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	681	3194	1	
2	1.03	FLUORIDE	5.383	2419	9485	1	-1.90
3	1.22		0.000	170	656	1	
4	1.56	CHLORIDE	32.339	7375	40747	2	-1.48
5	1.93	NITRITE	382.987	56442	354508	2	0.52
6	2.88	BROMIDE	60.278	5720	33694	2	-1.26
7	3.16	NITRATE	590.955	52729	529042	2	-0.11
8	4.88	PHOSPHATE	64.116	1830	22953	1	-2.72
9	6.34	SULFATE	124.578	8318	119123	1	-3.89
10	8.34	OXALATE	111.774	3968	76902	1	-3.77
Totals			1372.410	139651	1190303		

File: 96120861.d08 Sample: S96T005068 SPIKE

Data Reprocessed On 01/03/1997 11:18:08

Sample Name: S96T005071 SAMPLE

Date: 12/08/1996 05:14:49

Data File : E:\DATA\96120861.d09

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

ACI Address: 1 System: 1 Inject#: 9

Detector: CDM-1

Analyst : Column:

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	11	3000	5Hz	0.00	10.00		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	732	4088	2	
2	1.04	FLUORIDE	3.219	1156	5555	2	-0.63
3	1.14		0.000	802	3479	2	
4	1.22		0.000	746	4444	2	
5	1.56	CHLORIDE	26.574	5956	33129	2	-1.48
6	1.92	NITRITE	356.400	52203	328093	2	0.17
7	2.90	BROMIDE	2.647	110	780	2	-0.57
8	3.16	NITRATE	548.601	48462	481103	2	0.11
9	4.89	PHOSPHATE	11.652	293	3705	1	-2.59
10	6.37	SULFATE	52.954	3366	49121	1	-3.48
11	8.40	OXALATE	50.865	1777	34291	1	-3.15

Totals	1052.914	115603	947788
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File: 96120861.d09 Sample: S96T005071 SAMPLE

Data Reprocessed On 01/03/1997 11:18:09

Sample Name: S96T005071 DUP	Date: 12/08/1996 05:27:28
Data File : E:\DATA\96120861.d10	
Method : C:\DX\METHOD\ANIONSA.MET	
ACI Address: 1 System: 1 Inject#: 10	Detector: CDM-1
Analyst :	Column:

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	11	3000	5Hz	0.00	10.00		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	690	3870	2	
2	1.04	FLUORIDE	3.165	1120	5457	2	-1.27
3	1.14		0.000	740	3171	2	
4	1.22		0.000	682	4031	2	
5	1.56	CHLORIDE	24.178	5482	30011	1	-1.05
6	1.92	NITRITE	331.024	49442	303154	1	0.17
7	2.90	BROMIDE	1.986	78	409	1	-0.57
8	3.17	NITRATE	513.277	45708	442906	1	0.00
9	4.90	PHOSPHATE	11.624	293	3695	1	-2.46
10	6.37	SULFATE	50.186	3158	46477	1	-3.48
11	8.40	OXALATE	48.029	1679	32335	1	-3.15
Totals			983.469	109072	875516		

File: 96120861.d10 Sample: S96T005071 DUP

Data Reprocessed On 01/03/1997 11:18:10

Sample Name: S96T005071 SPIKE	Date: 12/08/1996 05:40:07
Data File : E:\DATA\96120861.d11	
Method : C:\DX\METHOD\ANIONSA.MET	
ACI Address: 1 System: 1 Inject#: 11	Detector: CDM-1
Analyst :	Column:

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	11	3000	5Hz	0.00	10.00		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	712	3387	1	
2	1.04	FLUORIDE	4.776	2306	8380	1	-1.27
3	1.22		0.000	198	818	1	
4	1.56	CHLORIDE	35.590	8139	45116	2	-1.48
5	1.93	NITRITE	412.449	60092	384134	2	0.52
6	2.88	BROMIDE	60.654	5747	33913	2	-1.26
7	3.15	NITRATE	611.579	54069	553338	2	0.00
8	4.88	PHOSPHATE	64.935	1850	23259	1	-2.86
9	6.34	SULFATE	119.886	8008	114440	1	-3.89
10	8.34	OXALATE	108.928	3877	74885	1	-3.77
Totals			1418.797	144997	1241670		

File: 96120861.d11 Sample: S96T005071 SPIKE

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12/31/96 11:14

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LABCORE Completed Worklist Report for Worklist# 14195

Analyst: krq

Instrument: IC01

Book# 36 N80BMethod: 6A-533-105 Rev/Mod D-1

Worklist Comment: AN-104 IC. RCJ

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit	
1	CCB	0	QC-CC	F	QC	1	<1.20e-2	ug/mL	
1	CCB	0	QC-CC	CL	QC	1	<1.70e-2	ug/mL	
1	CCB	0	QC-CC	NO2	QC	1	<1.08e-1	ug/mL	
1	CCB	0	QC-CC	BR	QC	1	<1.25e-1	ug/mL	
1	CCB	0	QC-CC	NO3	QC	1	<1.39e-1	ug/mL	
1	CCB	0	QC-CC	PO4	QC	1	<1.20e-1	ug/mL	
1	CCB	0	QC-CC	SO4	QC	1	<1.38e-1	ug/mL	
1	CCB	0	QC-CC	OxALATE2	QC	1	<1.05e-1	ug/mL	
2	CCV	0	QC-CC	F	QC	5.90e01	5.38e+01	91.18% Recovery	
2	CCV	0	QC-CC	CL	QC	7.90e01	7.99e+01	101.13% Recovery	
2	CCV	0	QC-CC	NO2	QC	5.52e02	5.35e+02	96.92% Recovery	
2	CCV	0	QC-CC	BR	QC	5.89e02	5.76e+02	97.79% Recovery	
2	CCV	0	QC-CC	NO3	QC	5.94e02	6.10e+02	102.69% Recovery	
2	CCV	0	QC-CC	PO4	QC	5.44e02	5.43e+02	99.81% Recovery	
2	CCV	0	QC-CC	SO4	QC	6.31e02	6.53e+02	103.48% Recovery	
2	CCV	0	QC-CC	OxALATE2	QC	5.52e02	5.71e+02	103.44% Recovery	
3	BLNK-PREP	0	QC-01	F-02	SOLID	1	<1.20e-2	ug/g	
3	BLNK-PREP	0	QC-01	CL-02	SOLID	1	3.70e-02	0.037 ug/g	
3	BLNK-PREP	0	QC-01	NO2-02	SOLID	1	<1.08e-1	ug/g	
3	BLNK-PREP	0	QC-01	BR-02	SOLID	1	<1.25e-1	ug/g	
3	BLNK-PREP	0	QC-01	NO3-02	SOLID	1	<1.39e-1	ug/g	
3	BLNK-PREP	0	QC-01	PO4-02	SOLID	1	<1.20e-1	ug/g	
3	BLNK-PREP	0	QC-01	SO4-02	SOLID	1	<1.38e-1	ug/g	
3	BLNK-PREP	0	QC-01	OxALATE2	SOLID	1	<1.05e-1	ug/g	
4	SAMPLE	S96T005069	0 W	QC-01	F-02	SOLID	N/A	4.453e+02	52.140 ug/g
4	SAMPLE	S96T005069	0 W	QC-01	CL-02	SOLID	N/A	5.573e+03	73.860 ug/g
4	SAMPLE	S96T005069	0 W	QC-01	NO2-02	SOLID	N/A	7.568e+04	469.400 ug/g
4	SAMPLE	S96T005069	0 W	QC-01	BR-02	SOLID	N/A	5.431e+02	543.100 ug/g
4	SAMPLE	S96T005069	0 W	QC-01	NO3-02	SOLID	N/A	1.114e+05	604.000 ug/g
4	SAMPLE	S96T005069	0 W	QC-01	PO4-02	SOLID	N/A	2.682e+03	521.400 ug/g
4	SAMPLE	S96T005069	0 W	QC-01	SO4-02	SOLID	N/A	1.088e+04	599.600 ug/g
4	SAMPLE	S96T005069	0 W	QC-01	OxALATE2	SOLID	N/A	9.676e+03	456.300 ug/g
5	DUP	S96T005069	0 W	QC-01	F-02	SOLID	4.15e+02	7.14e+02	52.967 RPD
5	DUP	S96T005069	0 W	QC-01	CL-02	SOLID	5.57e+03	4.75e+03	15.891 RPD
5	DUP	S96T005069	0 W	QC-01	NO2-02	SOLID	7.57e+04	6.54e+04	14.600 RPD
5	DUP	S96T005069	0 W	QC-01	BR-02	SOLID	<5.43e2	<5.44e2	RPD
5	DUP	S96T005069	0 W	QC-01	NO3-02	SOLID	1.11e+05	9.96e+04	10.826 RPD
5	DUP	S96T005069	0 W	QC-01	PO4-02	SOLID	2.68e+03	1.84e+03	37.168 RPD
5	DUP	S96T005069	0 W	QC-01	SO4-02	SOLID	1.09e+04	9.91e+03	9.515 RPD
5	DUP	S96T005069	0 W	QC-01	OxALATE2	SOLID	9.68e+03	8.57e+03	12.164 RPD
6	SPK	S96T005069	0 W	QC-01	F-02	SOLID	5.90e01	9.49e+01	140.508 % Recovery

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

LABCORE Completed Worklist Report for Worklist# 14195

Seq Type	Sample# R A	Test	Matrix	Actual	Found	DL or Yield	Unit
6 SPK	S96T005069 0 W	@IC-01 CL-02	SOLID	7.90e01	5.98e+01	75.696 % Recovery	
6 SPK	S96T005069 0 W	@IC-01 NO2-02	SOLID	5.52e02	3.37e+02	61.051 % Recovery	
6 SPK	S96T005069 0 W	@IC-01 BR-02	SOLID	5.89e02	5.52e+02	93.718 % Recovery	
6 SPK	S96T005069 0 W	@IC-01 NO3-02	SOLID	5.94e02	3.57e+02	60.101 % Recovery	
6 SPK	S96T005069 0 W	@IC-01 PO4-02	SOLID	5.44e02	5.21e+02	95.772 % Recovery	
6 SPK	S96T005069 0 W	@IC-01 SO4-02	SOLID	6.31e02	6.00e+02	95.087 % Recovery	
6 SPK	S96T005069 0 W	@IC-01 OXALATE2	SOLID	5.52e02	5.33e+02	96.558 % Recovery	
7 SAMPLE	S96T005072 0 W	@IC-01 F-02	SOLID	N/A	4.055e+02	49.880 ug/g	
7 SAMPLE	S96T005072 0 W	@IC-01 CL-02	SOLID	N/A	4.760e+03	70.640 ug/g	
7 SAMPLE	S96T005072 0 W	@IC-01 NO2-02	SOLID	N/A	6.469e+04	448.800 ug/g	
7 SAMPLE	S96T005072 0 W	@IC-01 BR-02	SOLID	N/A	5.195e+02	519.500 ug/g	
7 SAMPLE	S96T005072 0 W	@IC-01 NO3-02	SOLID	N/A	1.004e+05	577.700 ug/g	
7 SAMPLE	S96T005072 0 W	@IC-01 PO4-02	SOLID	N/A	2.689e+03	498.800 ug/g	
7 SAMPLE	S96T005072 0 W	@IC-01 SO4-02	SOLID	N/A	9.477e+03	573.500 ug/g	
7 SAMPLE	S96T005072 0 W	@IC-01 OXALATE2	SOLID	N/A	8.017e+03	426.400 ug/g	
8 DUP	S96T005072 0 W	@IC-01 F-02	SOLID	4.06e+02	4.22e+02	3.865 RPD	
8 DUP	S96T005072 0 W	@IC-01 CL-02	SOLID	4.76e+03	4.63e+03	2.769 RPD	
8 DUP	S96T005072 0 W	@IC-01 NO2-02	SOLID	6.47e+04	6.24e+04	3.619 RPD	
8 DUP	S96T005072 0 W	@IC-01 BR-02	SOLID	<5.20e2	<5.07e2	RPD	
8 DUP	S96T005072 0 W	@IC-01 NO3-02	SOLID	1.00e+05	1.01e+05	0.995 RPD	
8 DUP	S96T005072 0 W	@IC-01 PO4-02	SOLID	2.69e+03	1.00e+03	35.449 RPD	
8 DUP	S96T005072 0 W	@IC-01 SO4-02	SOLID	9.48e+03	1.20e+04	23.464 RPD	
8 DUP	S96T005072 0 W	@IC-01 OXALATE2	SOLID	8.02e+03	1.02e+04	23.930 RPD	
9 SPK	S96T005072 0 W	@IC-01 F-02	SOLID	5.90e01	4.82e+01	81.695 % Recovery	
9 SPK	S96T005072 0 W	@IC-01 CL-02	SOLID	7.90e01	7.88e+01	99.747 % Recovery	
9 SPK	S96T005072 0 W	@IC-01 NO2-02	SOLID	5.52e02	6.18e+02	111.957 % Recovery	
9 SPK	S96T005072 0 W	@IC-01 BR-02	SOLID	5.89e02	5.60e+02	95.076 % Recovery	
9 SPK	S96T005072 0 W	@IC-01 NO3-02	SOLID	5.94e02	6.61e+02	111.279 % Recovery	
9 SPK	S96T005072 0 W	@IC-01 PO4-02	SOLID	5.44e02	5.36e+02	98.529 % Recovery	
9 SPK	S96T005072 0 W	@IC-01 SO4-02	SOLID	6.31e02	6.40e+02	101.426 % Recovery	
9 SPK	S96T005072 0 W	@IC-01 OXALATE2	SOLID	5.52e02	5.60e+02	101.449 % Recovery	
10 SAMPLE	S96T005073 0 W	@IC-01 F-02	SOLID	N/A	4.495e+02	55.420 ug/g	
10 SAMPLE	S96T005073 0 W	@IC-01 CL-02	SOLID	N/A	4.440e+03	78.520 ug/g	
10 SAMPLE	S96T005073 0 W	@IC-01 NO2-02	SOLID	N/A	6.052e+04	498.800 ug/g	
10 SAMPLE	S96T005073 0 W	@IC-01 BR-02	SOLID	N/A	5.773e+02	577.300 ug/g	
10 SAMPLE	S96T005073 0 W	@IC-01 NO3-02	SOLID	N/A	1.098e+05	642.000 ug/g	
10 SAMPLE	S96T005073 0 W	@IC-01 PO4-02	SOLID	N/A	3.195e+03	554.200 ug/g	
10 SAMPLE	S96T005073 0 W	@IC-01 SO4-02	SOLID	N/A	1.023e+04	637.400 ug/g	
10 SAMPLE	S96T005073 0 W	@IC-01 OXALATE2	SOLID	N/A	9.419e+03	484.300 ug/g	
11 DUP	S96T005073 0 W	@IC-01 F-02	SOLID	4.50e+02	4.26e+02	5.479 RPD	
11 DUP	S96T005073 0 W	@IC-01 CL-02	SOLID	4.44e+03	4.72e+03	6.114 RPD	
11 DUP	S96T005073 0 W	@IC-01 NO2-02	SOLID	6.05e+04	6.34e+04	4.681 RPD	
11 DUP	S96T005073 0 W	@IC-01 BR-02	SOLID	<5.77e2	<5.79e2	RPD	
11 DUP	S96T005073 0 W	@IC-01 NO3-02	SOLID	1.10e+05	1.02e+05	7.547 RPD	
11 DUP	S96T005073 0 W	@IC-01 PO4-02	SOLID	3.20e+03	2.80e+03	13.333 RPD	
11 DUP	S96T005073 0 W	@IC-01 SO4-02	SOLID	1.02e+04	9.98e+03	2.180 RPD	
11 DUP	S96T005073 0 W	@IC-01 OXALATE2	SOLID	9.42e+03	8.59e+03	9.217 RPD	
12 SPK	S96T005073 0 W	@IC-01 F-02	SOLID	5.90e01	6.10e+01	137.288 % Recovery	
12 SPK	S96T005073 0 W	@IC-01 CL-02	SOLID	7.90e01	7.71e+01	97.595 % Recovery	

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

LABCORE Completed Worklist Report for Worklist# 14195

Seq Type	Sample# R A	Test	Matrix	Actual	Found	DL or Yield	Unit
12 SPK	S96T005073 0 W @IC-01	NO2-02	SOLID	5.52e02	5.48e+02	99.275 %	Recovery
12 SPK	S96T005073 0 W @IC-01	BR-02	SOLID	5.89e02	5.68e+02	96.435 %	Recovery
12 SPK	S96T005073 0 W @IC-01	NO3-02	SOLID	5.94e02	5.21e+02	87.710 %	Recovery
12 SPK	S96T005073 0 W @IC-01	PO4-02	SOLID	5.44e02	5.25e+02	96.507 %	Recovery
12 SPK	S96T005073 0 W @IC-01	SO4-02	SOLID	6.31e02	6.24e+02	98.891 %	Recovery
12 SPK	S96T005073 0 W @IC-01	OXALATE2	SOLID	5.52e02	5.51e+02	99.819 %	Recovery

Final page for worklist# 14195

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

John M. Lyle 12/31/96
 Reviewer Signature _____ Date _____

10/21/96 14:01
A-0004-1

Page: 1

LABCORE Data Entry Template for Worklist# 14195

Analyst: SRQ Instrument: IC0 IC01 Book# 36W20-B

Method: LA-535-105 Rev/Mod D-1

Worklist Comment: AN-104 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	S96T005069 0 W			@IC-01	SOLID	96001174	AN-104
		Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
5	DUP	S96T005069 0 W			@IC-01	SOLID		
6	SPK	S96T005069 0 W			@IC-01	SOLID		
7	SAMPLE	S96T005072 0 W			@IC-01	SOLID	96001174	AN-104
		Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
8	DUP	S96T005072 0 W			@IC-01	SOLID		
9	SPK	S96T005072 0 W			@IC-01	SOLID		
10	SAMPLE	S96T005073 0 W			@IC-01	SOLID	96001174	AN-104
		Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
11	DUP	S96T005073 0 W			@IC-01	SOLID		
12	SPK	S96T005073 0 W			@IC-01	SOLID		

Final page for worklist # 14195

Analyst Signature

Date

12/23/96

Analyst Signature

Date

Data Entry Comments:

14195 DC. CSV

Uploaded 12/31/96 JMF
Validated 12/31/96 JMF

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

1010

A-0010-IC				DATA FILE/WORKLIST RESOLUTION				31-Dec-96			
Worklist#: 14195				Data File: 14195DC.CSV							
	Seq	Type	Sample #	Seq#	Data File	Sample Name	Dilution				
-	=>	1	CCB	-	1	96122301.d06	CCB	1.00			
	=>	2	CCV		2	96122301.d07	CCV 36N20-B	101.00			
	=>	3	BLNK-PREP		3	96122301.d08	BLANK PREP 14195	1.00			
	=>	4	SAMPLE		4	96122301.d10	S96T005069 SAMPL	21.00			
	=>	5	DUP		5	96122301.d11	S96T005069 DUP	21.00			
	=>	6	SPK		6	96122301.d12	S96T005069 SPIKE	21.00			
	=>	7	SAMPLE		7	96122301.d13	S96T005072 SAMPL	21.00			
	=>	8	DUP		8	96122301.d14	S96T005072 DUP	21.00			
	=>	9	SPK		9	96122301.d15	S96T005072 SPIKE	21.00			
	=>	10	SAMPLE		10	96122301.d16	S96T005073 SAMPL	21.00			
	=>	11	DUP		11	96122301.d17	S96T005073 DUP	21.00			
	=>	12	SPK		12	96122301.d18	S96T005073 SPIKE	21.00			
+				+							

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

Sample Name: CCV 36N20-B Date: 12/23/1996 14:08:06
 Data File : C:\DX\DATA\96122301.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 1 101 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	0.93		0.000	25	85	1	
2	1.11	fluoride	53.789	1048	7024	1	2.47
3	1.67	chloride	79.946	1841	10058	1	0.00
4	1.99	nitrite	535.376	6584	44944	1	-2.30
5	2.99	bromide	575.678	5037	33620	1	-3.75
6	3.41	nitrate	610.079	5841	48074	1	-4.66
7	4.93	phosphate	542.618	1650	21655	1	-0.54
8	6.45	sulfate	652.694	4638	69280	1	-2.42
9	8.53	oxalate	571.172	2249	43744	1	-1.84
Totals			3621.352	28914	278485		

File: 96122301.D07 Sample: CCV 36N20-B

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1012 TO 1023.

Sample Name: CCB Date: 12/23/1996 13:53:30
Data File : C:\DX\DATA\96122301.D06
Method : C:\DX\METHOD\KIT.MET
ACT Address: 1 System: 1 Inject#: 6 Detector: CDM-1
Analyst *JB* 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	1.43		0.000	83	645	1	
Totals			0.000	83	645		

File: 96122301.D06 Sample: CCB

Sample Name: BLANK PREP 14195 Date: 12/23/1996 14:38:07
 Data File : C:\DX\DATA\96122301.D08
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 8 Detector: CDM-1
 Analyst *[Signature]* Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	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	1.34		0.000	27	186	1	
2	1.72	chloride	0.037	28	411	1	3.20
3	3.52	nitrate	0.053	68	468	1	-1.68
Totals			0.090	123	1065		

File: 96122301.D08 Sample: BLANK PREP 14195

Data Reprocessed On 12/31/1996 10:12:08

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=====
Sample Name: S96T005069 SAMPLE                      Date: 12/23/1996 15:02:26
Data File  : F:\DATA\96122301.D10
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 10                 Detector: CDM-1
Analyst    :                      Column: AG4A/AS4A anion column
=====

```

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 21 3000 5Hz 0.00 10.00 50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.92		0.000	215	1239	1	
2	1.13	fluoride	2.007	161	680	1	4.32
3	1.32		0.000	103	466	1	
4	1.65	chloride	26.936	2881	16473	1	-1.20
5	1.98	nitrite	365.790	22385	154696	1	-2.62
6	3.33	nitrate	538.166	22827	214452	1	-0.10
7	4.96	phosphate	12.963	163	2142	1	0.00
8	6.51	sulfate	52.560	1791	27077	1	-1.61
9	8.59	oxalate	46.762	854	16835	1	-1.23
Totals			1045.184	51380	434060		

File: 96122301.D10 Sample: S96T005069 SAMPLE

Sample Name: S96T005069 DUP Date: 12/23/1996 15:15:42
 Data File : C:\DX\DATA\96122301.D11
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 11 Detector: CDM-1
 Analyst Column: AG4A/AS4A anion column

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 21 3000 5Hz 0.00 10.00 50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.92		0.000	220	1459	2	
2	1.13	fluoride	3.442	276	1660	2	4.32
3	1.23		0.000	249	1171	2	
4	1.33		0.000	241	1269	2	
5	1.65	chloride	22.905	2534	13952	1	-0.80
6	1.98	nitrite	315.634	19812	132560	1	-2.62
7	3.33	nitrate	480.238	20386	189908	1	-6.89
8	4.96	phosphate	8.866	103	1354	1	0.00
9	6.51	sulfate	47.803	1654	24693	1	-1.61
10	8.59	oxalate	41.312	748	14811	1	-1.23
Totals			920.199	46223	382837		

File: 96122301.D11 Sample: S96T005069 DUP

Data Reprocessed On 12/31/1996 10:14:06

Sample Name: S96T005069 SPIKE	Date: 12/23/1996 15:27:49
Data File : F:\DATA\96122301.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		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.92		0.000	191	1058	2	
2	1.11	fluoride	18.590	1321	12285	2	2.47
3	1.64	chloride	38.890	4393	24053	1	-1.60
4	1.98	nitrite	433.285	27284	184904	1	-2.62
5	2.98	bromide	110.363	4821	30905	1	0.00
6	3.31	nitrate	609.602	25627	245292	1	0.10
7	4.93	phosphate	117.140	1730	22512	1	-0.54
8	6.45	sulfate	172.467	6246	88268	1	-2.42
9	8.48	oxalate	153.351	2757	56792	1	-2.45
Totals			1653.687	74369	666069		

File: 96122301.D12 Sample: S96T005069 SPIKE

Data Reprocessed On 12/31/1996 10:19:42

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=====
Sample Name: S96T005072 SAMPLE          Date: 12/23/1996 16:42:29
Data File  : F:\DATA\96122301.D13
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 13      Detector: CDM-1
Analyst    :                          Column: AG4A/AS4A anion column
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          21    3000  5Hz   0.00 10.00      50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.92		0.000	176	1002	1	
2	1.13	fluoride	2.049	163	709	1	4.32
3	1.65	chloride	24.053	2617	14668	1	-1.20
4	1.97	nitrite	326.869	20069	137496	1	-2.95
5	3.33	nitrate	507.366	21710	201352	1	-0.10
6	4.96	phosphate	13.588	154	2262	1	0.00
7	6.51	sulfate	47.885	1641	24734	1	-1.61
8	8.59	oxalate	40.512	737	14514	1	-1.23
Totals			962.322	47268	396738		

File: 96122301.D13 Sample: S96T005072 SAMPLE

Data Reprocessed On 12/31/1996 10:21:26

Sample Name: S96T005072 DUP	Date: 12/23/1996 16:53:34
Data File : F:\DATA\96122301.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	21	3000	5Hz	0.00	10.00		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.92		0.000	193	1096	1	
2	1.13	fluoride	2.186	189	802	1	4.32
3	1.65	chloride	23.949	2591	14603	1	-1.20
4	1.97	nitrite	322.854	19962	135731	1	-2.95
5	3.31	nitrate	522.077	22218	207595	1	0.10
6	4.96	phosphate	9.747	112	1523	1	0.00
7	6.45	sulfate	62.225	1818	31931	1	-2.42
8	8.53	oxalate	52.850	908	19098	1	-1.84
Totals			995.888	47992	412379		

File: 96122301.D14 Sample: S96T005072 DUP

Data Reprocessed On 12/31/1996 10:25:26

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=====
Sample Name: S96T005072 SPIKE                      Date: 12/23/1996 17:04:52
Data File  : F:\DATA\96122301.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          21    3000   5Hz   0.00 10.00          50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.92		0.000	184	886	1	
2	1.11	fluoride	11.696	1183	7384	1	2.47
3	1.63	chloride	39.807	4489	24642	1	-2.00
4	1.97	nitrite	450.564	28214	192718	1	-2.95
5	2.97	bromide	111.987	4895	31377	1	-0.11
6	3.29	nitrate	639.512	27225	258400	1	-0.10
7	4.93	phosphate	120.712	1746	23222	1	-0.54
8	6.45	sulfate	175.924	6347	90064	1	-2.42
9	8.48	oxalate	152.585	2794	56503	1	-2.45
Totals			1702.788	77078	685195		

File: 96122301.D15 Sample: S96T005072 SPIKE

Data Reprocessed On 12/31/1996 10:26:31

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=====
Sample Name: S96T005073 SAMPLE          Date: 12/23/1996 17:15:51
Data File  : F:\DATA\96122301.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          21    3000   5Hz   0.00 10.00          50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.92		0.000	152	875	1	
2	1.13	fluoride	2.044	166	706	1	4.32
3	1.65	chloride	20.189	2217	12264	1	-1.20
4	1.97	nitrite	275.173	17146	114891	1	-2.95
5	3.31	nitrate	499.229	21298	197910	1	-0.10
6	4.96	phosphate	14.529	184	2443	1	0.00
7	6.51	sulfate	46.504	1593	24043	1	-1.61
8	8.59	oxalate	42.828	781	15374	1	-1.23
Totals			900.498	43538	368506		

File: 96122301.D16 Sample: S96T005073 SAMPLE

Data Reprocessed On 12/31/1996 10:28:16

```

=====
Sample Name: S96T005073 DUP                      Date: 12/23/1996 17:26:40
Data File  : F:\DATA\96122301.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          21  3000  5Hz  0.00 10.00          50
=====

```

```

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

```

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.92		0.000	166	980	1	
2	1.13	fluoride	1.932	146	629	1	4.94
3	1.33		0.000	101	429	1	
4	1.65	chloride	21.417	2317	13026	1	-1.20
5	1.97	nitrite	287.369	17841	120199	1	-2.95
6	3.31	nitrate	463.789	20127	183011	1	-0.10
7	4.96	phosphate	12.698	142	2091	1	0.00
8	6.51	sulfate	45.283	1559	23432	1	-1.61
9	8.59	oxalate	38.969	727	13942	1	-1.23
Totals			871.456	43126	357738		

File: 96122301.D17 Sample: S96T005073 DUP

Data Reprocessed On 12/31/1996 10:32:01

```

=====
Sample Name: S96T005073 SPIKE                      Date: 12/23/1996 17:39:00
Data File  : F:\DATA\96122301.D18
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 18                 Detector: CDM-1
Analyst    :                      Column: AG4A/AS4A anion column
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External      1      21      3000      5Hz      0.00 10.00      50
=====

```

```

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

```

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.92		0.000	163	856	2	
2	1.11	fluoride	18.239	1366	12032	2	2.47
3	1.63	chloride	35.601	4016	21952	1	-2.00
4	1.97	nitrite	384.857	24078	163180	1	-3.28
5	2.95	bromide	113.621	4934	31852	1	0.11
6	3.29	nitrate	603.377	25992	242578	1	-0.10
7	4.93	phosphate	119.453	1749	22972	1	-0.54
8	6.45	sulfate	171.333	6153	87679	1	-2.42
9	8.48	oxalate	152.999	2787	56659	1	-2.45
Totals			1599.480	71238	639760		

File: 96122301.D18 Sample: S96T005073 SPIKE

LABCORE Completed Worklist Report for Worklist# 14196

Analyst: eal

Instrument: IC01

Book# 36 N208

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

Worklist Comment: AN-104 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	1.84e-01	0.184	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 PO4	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	6.56e+01	111.186 % Recovery	
2 CCV	0	QIC-QC CL	QC	7.90e01	7.71e+01	97.595 % Recovery	
2 CCV	0	QIC-QC NO2	QC	5.52e02	5.31e+02	96.196 % Recovery	
2 CCV	0	QIC-QC BR	QC	5.89e02	5.95e+02	101.019 % Recovery	
2 CCV	0	QIC-QC NO3	QC	5.94e02	5.96e+02	100.337 % Recovery	
2 CCV	0	QIC-QC PO4	QC	5.44e02	5.59e+02	102.757 % Recovery	
2 CCV	0	QIC-QC S04	QC	6.31e02	6.58e+02	104.279 % Recovery	
2 CCV	0	QIC-QC OXALATE2	QC	5.52e02	5.88e+02	106.522 % Recovery	
3 BLNK-PREP	0	QIC-01 F-02	SOLID	1	<1.20e-2		ug/g
3 BLNK-PREP	0	QIC-01 CL-02	SOLID	1	2.90e-02	0.029	ug/g
3 BLNK-PREP	0	QIC-01 NO2-02	SOLID	1	<1.08e-1		ug/g
3 BLNK-PREP	0	QIC-01 BR-02	SOLID	1	<1.25e-1		ug/g
3 BLNK-PREP	0	QIC-01 NO3-02	SOLID	1	<1.39e-1		ug/g
3 BLNK-PREP	0	QIC-01 PO4-02	SOLID	1	<1.20e-1		ug/g
3 BLNK-PREP	0	QIC-01 S04-02	SOLID	1	<1.38e-1		ug/g
3 BLNK-PREP	0	QIC-01 OXALATE2	SOLID	1	<1.05e-1		ug/g
4 SAMPLE	S96T005066 0 W	QIC-01 F-02	SOLID	N/A	6.822e+02	91.060	ug/g
4 SAMPLE	S96T005066 0 W	QIC-01 CL-02	SOLID	N/A	4.585e+03	129.000	ug/g
4 SAMPLE	S96T005066 0 W	QIC-01 NO2-02	SOLID	N/A	5.930e+04	819.600	ug/g
4 SAMPLE	S96T005066 0 W	QIC-01 BR-02	SOLID	N/A	9.487e+02	948.700	ug/g
4 SAMPLE	S96T005066 0 W	QIC-01 NO3-02	SOLID	N/A	1.029e+05	1055.000	ug/g
4 SAMPLE	S96T005066 0 W	QIC-01 PO4-02	SOLID	N/A	4.484e+03	910.600	ug/g
4 SAMPLE	S96T005066 0 W	QIC-01 S04-02	SOLID	N/A	1.240e+04	1048.000	ug/g
4 SAMPLE	S96T005066 0 W	QIC-01 OXALATE2	SOLID	N/A	1.216e+04	797.000	ug/g
5 DUP	S96T005066 0 W	QIC-01 F-02	SOLID	6.92e+02	6.74e+02	2.635 RFD	
5 DUP	S96T005066 0 W	QIC-01 CL-02	SOLID	4.58e+03	4.43e+03	3.330 RFD	
5 DUP	S96T005066 0 W	QIC-01 NO2-02	SOLID	5.93e+04	5.90e+04	0.507 RFD	
5 DUP	S96T005066 0 W	QIC-01 BR-02	SOLID	<9.49e2	<9.54e2	RFD	
5 DUP	S96T005066 0 W	QIC-01 NO3-02	SOLID	1.02e+05	1.02e+05	0.976 RFD	
5 DUP	S96T005066 0 W	QIC-01 PO4-02	SOLID	4.48e+03	4.84e+03	7.725 RFD	
5 DUP	S96T005066 0 W	QIC-01 S04-02	SOLID	1.25e+04	1.26e+04	0.797 RFD	
5 DUP	S96T005066 0 W	QIC-01 OXALATE2	SOLID	1.22e+04	1.19e+04	2.490 RFD	
6 BFK	S96T005066 0 W	QIC-01 F-02	SOLID	5.90e01	7.33e+01	124.237 % Recovery	

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

LABCORE Completed Worklist Report for Worklist# 14196

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
6 SPK	S96T005066	0 W	@IC-01	CL-02	SOLID	7.90e01	7.48e+01	94.684 % Recovery
6 SPK	S96T005066	0 W	@IC-01	NO2-02	SOLID	5.52e02	5.65e+02	102.355 % Recovery
6 SPK	S96T005066	0 W	@IC-01	BR-02	SOLID	5.89e02	5.71e+02	96.944 % Recovery
6 SPK	S96T005066	0 W	@IC-01	NO3-02	SOLID	5.94e02	6.57e+02	110.606 % Recovery
6 SPK	S96T005066	0 W	@IC-01	FO4-02	SOLID	5.44e02	5.43e+02	99.816 % Recovery
6 SPK	S96T005066	0 W	@IC-01	SO4-02	SOLID	6.31e02	6.52e+02	103.328 % Recovery
6 SPK	S96T005066	0 W	@IC-01	OXALATE2	SOLID	5.52e02	5.89e+02	106.703 % Recovery
7 SAMPLE	S96T005070	0 W	@IC-01	F-02	SOLID	N/A	6.511e+02	90.280 ug/g
7 SAMPLE	S96T005070	0 W	@IC-01	CL-02	SOLID	N/A	4.627e+03	127.909 ug/g
7 SAMPLE	S96T005070	0 W	@IC-01	NO2-02	SOLID	N/A	6.201e+04	812.600 ug/g
7 SAMPLE	S96T005070	0 W	@IC-01	BR-02	SOLID	N/A	9.565e+02	940.500 ug/g
7 SAMPLE	S96T005070	0 W	@IC-01	NO3-02	SOLID	N/A	1.035e+05	1046.000 ug/g
7 SAMPLE	S96T005070	0 W	@IC-01	FO4-02	SOLID	N/A	3.961e+03	902.800 ug/g
7 SAMPLE	S96T005070	0 W	@IC-01	SO4-02	SOLID	N/A	1.264e+04	1039.000 ug/g
7 SAMPLE	S96T005070	0 W	@IC-01	OXALATE2	SOLID	N/A	3.839e+03	790.100 ug/g
8 DUP	S96T005070	0 W	@IC-01	F-02	SOLID	6.51e+02	6.44e+02	1.081 RPD
8 DUP	S96T005070	0 W	@IC-01	CL-02	SOLID	4.63e+03	4.59e+03	1.086 RPD
8 DUP	S96T005070	0 W	@IC-01	NO2-02	SOLID	6.20e+04	6.18e+04	0.323 RPD
8 DUP	S96T005070	0 W	@IC-01	BR-02	SOLID	9.56e+02	9.39e+02	RPD
8 DUP	S96T005070	0 W	@IC-01	NO3-02	SOLID	1.04e+05	1.05e+05	0.957 RPD
8 DUP	S96T005070	0 W	@IC-01	FO4-02	SOLID	3.96e+03	4.30e+03	8.232 RPD
8 DUP	S96T005070	0 W	@IC-01	SO4-02	SOLID	1.26e+04	1.28e+04	1.575 RPD
8 DUP	S96T005070	0 W	@IC-01	OXALATE2	SOLID	9.84e+03	1.05e+04	6.490 RPD
9 SPK	S96T005070	0 W	@IC-01	F-02	SOLID	5.90e01	7.40e+01	125.424 % Recovery
9 SPK	S96T005070	0 W	@IC-01	CL-02	SOLID	7.90e01	7.78e+01	98.481 % Recovery
9 SPK	S96T005070	0 W	@IC-01	NO2-02	SOLID	5.52e02	5.71e+02	103.442 % Recovery
9 SPK	S96T005070	0 W	@IC-01	BR-02	SOLID	5.89e02	5.65e+02	95.945 % Recovery
9 SPK	S96T005070	0 W	@IC-01	NO3-02	SOLID	5.94e02	6.58e+02	110.774 % Recovery
9 SPK	S96T005070	0 W	@IC-01	FO4-02	SOLID	5.44e02	5.47e+02	100.551 % Recovery
9 SPK	S96T005070	0 W	@IC-01	SO4-02	SOLID	6.31e02	6.43e+02	101.902 % Recovery
9 SPK	S96T005070	0 W	@IC-01	OXALATE2	SOLID	5.52e02	5.83e+02	105.616 % Recovery
10 SAMPLE	S96T005074	0 W	@IC-01	F-02	SOLID	N/A	6.807e+02	95.610 ug/g
10 SAMPLE	S96T005074	0 W	@IC-01	CL-02	SOLID	N/A	4.483e+03	135.500 ug/g
10 SAMPLE	S96T005074	0 W	@IC-01	NO2-02	SOLID	N/A	5.876e+04	860.600 ug/g
10 SAMPLE	S96T005074	0 W	@IC-01	BR-02	SOLID	N/A	1.165e+03	996.300 ug/g
10 SAMPLE	S96T005074	0 W	@IC-01	NO3-02	SOLID	N/A	1.111e+05	1108.000 ug/g
10 SAMPLE	S96T005074	0 W	@IC-01	FO4-02	SOLID	N/A	4.189e+03	956.100 ug/g
10 SAMPLE	S96T005074	0 W	@IC-01	SO4-02	SOLID	N/A	1.196e+04	1100.000 ug/g
10 SAMPLE	S96T005074	0 W	@IC-01	OXALATE2	SOLID	N/A	1.121e+04	836.800 ug/g
11 DUP	S96T005074	0 W	@IC-01	F-02	SOLID	6.81e+02	7.01e+02	2.894 RPD
11 DUP	S96T005074	0 W	@IC-01	CL-02	SOLID	4.48e+03	4.48e+03	0.000 RPD
11 DUP	S96T005074	0 W	@IC-01	NO2-02	SOLID	5.88e+04	6.01e+04	2.187 RPD
11 DUP	S96T005074	0 W	@IC-01	BR-02	SOLID	1.16e+03	1.16e+03	0.000 RPD
11 DUP	S96T005074	0 W	@IC-01	NO3-02	SOLID	1.11e+05	1.12e+05	0.897 RPD
11 DUP	S96T005074	0 W	@IC-01	FO4-02	SOLID	4.19e+03	4.41e+03	5.116 RPD
11 DUP	S96T005074	0 W	@IC-01	SO4-02	SOLID	1.20e+04	1.31e+04	8.765 RPD
11 DUP	S96T005074	0 W	@IC-01	OXALATE2	SOLID	1.13e+04	1.03e+04	3.604 RPD
12 SPK	S96T005074	0 W	@IC-01	F-02	SOLID	5.90e01	7.21e+01	122.203 % Recovery
12 SPK	S96T005074	0 W	@IC-01	CL-02	SOLID	7.90e01	7.79e+01	98.608 % Recovery

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

worklistdata Version 1.0 05/15/96
12/31/96 13:09

Page: 3

LABCORE Completed Worklist Report for Worklist# 14196

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
12 SPK	S96T005074	0 W	@IC-01	NO2-02	SOLID	5.52e02	5.79e+02	104.891 % Recovery
12 SPK	S96T005074	0 W	@IC-01	BR-02	SOLID	5.89e02	5.59e+02	94.907 % Recovery
12 SPK	S96T005074	0 W	@IC-01	NO3-02	SOLID	5.94e02	6.34e+02	106.734 % Recovery
12 SPK	S96T005074	0 W	@IC-01	PO4-02	SOLID	5.44e02	5.51e+02	101.287 % Recovery
12 SPK	S96T005074	0 W	@IC-01	SO4-02	SOLID	6.21e02	6.62e+02	104.913 % Recovery
12 SPK	S96T005074	0 W	@IC-01	OXALATE2	SOLID	5.52e02	5.77e+02	104.529 % Recovery

Final page for worklist# 14196

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Jan M. Lyle 12/31/96
Reviewer Signature Date

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

LABCORE Data Entry Template for Worklist# 14196

Analyst: ELM Instrument: IC0 IC01 Book# 36N20-B

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

Worklist Comment: AN-104 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	S96T005066 0 W	@IC-01	SOLID		96001174	AN-104
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
5 DUP	S96T005066 0 W	@IC-01	SOLID			
6 SPK	S96T005066 0 W	@IC-01	SOLID			
7 SAMPLE	S96T005070 0 W	@IC-01	SOLID		96001174	AN-104
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
8 DUP	S96T005070 0 W	@IC-01	SOLID			
9 SPK	S96T005070 0 W	@IC-01	SOLID			
10 SAMPLE	S96T005074 0 W	@IC-01	SOLID		96001174	AN-104
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
11 DUP	S96T005074 0 W	@IC-01	SOLID			
12 SPK	S96T005074 0 W	@IC-01	SOLID			

Final page for worklist # 14196

A. Lambel 12-25-96
Analyst Signature Date

Analyst Signature Date

Data Entry Comments:

14196 DC. CSV
uploaded 12/31/96

Validated 12/31/96 Jm. Faye

A-0010-IC

DATA FILE/WORKLIST RESOLUTION

31-Dec-96

Worklist#: 14196

Data File: 14196DC.CSV

Seq				Type	Sample #	Seq#	Data File	Sample Name	Dilution
-	=>	1	CCB			1	96122501.d01	INST. BLANK	1.00
	=>	2	CCV			2	96122501.d02	36N20-B STD	101.00
	=>	3	BLNK-PREP			3	96122501.d03	PREP. BLANK	1.00
	=>	4	SAMPLE	S96T005066		4	96122501.d04	S96T005066	41.00
	=>	5	DUP	S96T005066		5	96122501.d05	S96T005066 DUP	41.00
	=>	6	SPK	S96T005066		6	96122501.d06	S96T005066 SPIKE	41.00
	=>	7	SAMPLE	S96T005070		7	96122501.d07	S96T005070	41.00
	=>	8	DUP	S96T005070		8	96122501.d08	S96T005070 DUP	41.00
	=>	9	SPK	S96T005070		9	96122501.d09	S96T005070 SPIKE	41.00
	=>	10	SAMPLE	S96T005074		10	96122601.d11	S96T005074	41.00
	=>	11	DUP	S96T005074		11	96122601.d12	S96T005074 DUP	41.00
	=>	12	SPK	S96T005074		12	96122601.d13	S96T005074 SPIKE	41.00
+						+			

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

Sample Name: INST. BLANK Date: 12/25/1996 22:51:34
 Data File : C:\DX\DATA\96122501.D01
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 1 Detector: CDM-1
 Analyst : *Janet Ayers for EAL* Column: AG4A/AS4A anion column

Calibration Volume 12/31/96 Dilution Points Rate Start Stop Area Reject
 External 1 1 3000 5Hz 0.00 10.00 50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.89		0.000	36	367	1	
2	1.69	chloride	0.184	107	2274	1	1.20
3	3.53	nitrate	0.091	101	768	1	-1.30
4	6.56	sulfate	0.045	96	1379	1	-0.81
Totals			0.320	339	4788		

File: 96122501.D01 Sample: INST. BLANK

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1029 TO 1040

Sample Name: 36N20-B STD Date: 12/25/1996 23:02:46
 Data File : C:\DX\DATA\96122501.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 50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.93		0.000	20	70	2	
2	1.11	fluoride	65.641	1153	8760	2	2.47
3	1.67	chloride	77.061	1836	9688	1	0.00
4	1.99	nitrite	530.952	6596	44559	1	-2.30
5	3.01	bromide	595.012	5059	34792	1	-3.32
6	3.43	nitrate	595.525	5708	46913	1	-4.28
7	4.93	phosphate	559.263	1695	22342	1	-0.54
8	6.45	sulfate	658.492	4744	69900	1	-2.42
9	8.53	oxalate	587.684	2297	45036	1	-1.84

Totals 3669.631 29108 282058

File: 96122501.D02 Sample: 36N20-B STD

Sample Name: PREP. BLANK Date: 12/25/1996 23:24:14
Data File : C:\DX\DATA\96122501.D03
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 3 Detector: CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 1 3000 5Hz 0.00 10.00 50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.33		0.000	24	155	1	
2	1.71	chloride	0.029	27	308	1	2.80
3	3.53	nitrate	0.048	63	434	1	-1.30
Totals			0.077	114	897		

File: 96122501.D03 Sample: PREP. BLANK

Sample Name: S96T005066 Date: 12/25/1996 23:41:23
 Data File : C:\DX\DATA\96122501.D04
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 4 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	3000	5Hz	0.00	10.00		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.93		0.000	79	409	1	
2	1.13	fluoride	3.740	132	618	1	4.94
3	1.67	chloride	24.769	1318	7639	1	0.40
4	1.99	nitrite	320.351	9619	67196	1	-2.30
5	3.39	nitrate	556.080	12259	109909	1	-5.40
6	4.96	phosphate	24.225	148	2035	1	0.00
7	6.51	sulfate	67.442	1152	18064	1	-1.61
8	8.59	oxalate	65.683	589	11966	1	-1.23
Totals			1062.289	25296	217836		

File: 96122501.D04 Sample: S96T005066

Sample Name: S96T005066 DUP Date: 12/25/1996 23:55:39
 Data File : C:\DX\DATA\96122501.D05
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 5 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	3000	5Hz	0.00	10.00		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.93		0.000	83	438	1	
2	1.13	fluoride	3.623	130	577	1	4.32
3	1.67	chloride	23.807	1316	7337	1	0.40
4	1.99	nitrite	317.224	9636	66517	1	-2.30
5	3.39	nitrate	549.703	12250	108606	1	-5.40
6	4.96	phosphate	26.008	147	2211	1	0.00
7	6.51	sulfate	67.715	1163	18134	1	-1.61
8	8.59	oxalate	63.797	587	11608	1	-1.23

Totals 1051.878 25310 215429

File: 96122501.D05 Sample: S96T005066 DUP

Sample Name: S96T005066 SPIKE Date: 12/26/1996 00:07:03
 Data File : C:\DX\DATA\96122501.D06
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 6 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	3000	5Hz	0.00	10.00		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.92		0.000	96	480	2	
2	1.11	fluoride	33.055	1356	11095	2	2.47
3	1.66	chloride	54.691	3133	17149	1	-0.40
4	1.99	nitrite	546.166	17414	116878	1	-2.30
5	3.00	bromide	228.497	4940	32845	1	-3.54
6	3.36	nitrate	818.868	17842	164563	1	-6.15
7	4.93	phosphate	241.327	1823	23798	1	-0.54
8	6.45	sulfate	328.386	5912	86052	1	-2.42
9	8.48	oxalate	301.368	2772	57174	1	-2.45
Totals			2552.358	55289	510033		

File: 96122501.D06 Sample: S96T005066 SPIKE

Sample Name: S96T005070 Date: 12/26/1996 00:18:22
Data File : C:\DX\DATA\96122501.D07
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 7 Detector: CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	3000	5Hz	0.00	10.00		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.93		0.000	85	459	1	
2	1.13	fluoride	3.548	127	551	1	4.32
3	1.67	chloride	25.210	1378	7778	1	0.00
4	1.99	nitrite	337.909	10355	71014	1	-2.30
5	3.07	bromide	5.212	20	126	1	-1.39
6	3.39	nitrate	564.013	12706	111531	1	-5.40
7	4.96	phosphate	21.583	127	1775	1	0.00
8	6.51	sulfate	68.878	1197	18431	1	-1.61
9	8.59	oxalate	53.615	491	9676	1	-1.23
Totals			1079.967	26486	221340		

File: 96122501.D07 Sample: S96T005070

Sample Name: S96T005070 DUP Date: 12/26/1996 00:29:08
 Data File : C:\DX\DATA\96122501.D08
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 8 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	3000	5Hz	0.00	10.00		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.93		0.000	85	458	1	
2	1.13	fluoride	3.515	122	540	1	4.94
3	1.67	chloride	24.979	1392	7705	1	0.40
4	1.99	nitrite	337.417	10358	70906	1	-2.30
5	3.39	nitrate	574.064	12753	113589	1	-5.40
6	4.96	phosphate	23.476	141	1961	1	0.00
7	6.51	sulfate	69.689	1203	18638	1	-1.61
8	8.59	oxalate	57.218	508	10360	1	-1.23
Totals			1090.357	26562	224157		

File: 96122501.D08 Sample: S96T005070 DUP

```

=====
Sample Name: S96T005070 SPIKE      Date: 12/26/1996 00:40:51
Data File  : C:\DX\DATA\96122501.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           41    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	0.93		0.000	102	496	2	
2	1.11	fluoride	33.147	1350	11128	2	2.47
3	1.65	chloride	56.340	3203	17680	1	-0.80
4	1.99	nitrite	566.230	17974	121355	1	-2.30
5	3.00	bromide	231.365	4938	33273	1	-3.54
6	3.36	nitrate	827.135	18173	166314	1	-6.15
7	4.93	phosphate	240.248	1814	23688	1	-0.54
8	6.45	sulfate	325.904	5913	85393	1	-2.42
9	8.48	oxalate	286.973	2663	54386	1	-2.45
Totals			2567.343	56131	513713		

File: 96122501.D09 Sample: S96T005070 SPIKE

Sample Name: S96T005074 Date: 12/26/1996 02:38:21
 Data File : C:\DX\DATA\96122601.D11
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 11 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	3000	5Hz	0.00	10.00		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.93		0.000	86	461	1	
2	1.13	fluoride	3.502	118	535	1	4.32
3	1.67	chloride	23.063	1271	7104	1	0.40
4	1.99	nitrite	302.337	9277	63287	1	-2.30
5	3.07	bromide	5.992	38	238	1	-1.39
6	3.39	nitrate	571.763	12662	113118	1	-5.40
7	4.96	phosphate	21.554	141	1772	1	0.00
8	6.51	sulfate	61.546	1124	16558	1	-1.61
9	8.59	oxalate	58.202	507	10547	1	-1.23

Totals 1047.959 25224 213619

File: 96122601.D11 Sample: S96T005074

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=====
Sample Name: S96T005074 DUP                      Date: 12/26/1996 02:49:04
Data File  : C:\DX\DATA\96122601.D12
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 12              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      50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.93		0.000	81	425	1	
2	1.13	fluoride	3.530	118	545	1	4.32
3	1.67	chloride	22.546	1260	6942	1	0.40
4	1.99	nitrite	302.664	9286	63358	1	-2.30
5	3.07	bromide	5.862	38	220	1	-1.39
6	3.39	nitrate	563.018	12657	111328	1	-5.40
7	4.96	phosphate	22.190	144	1834	1	0.00
8	6.51	sulfate	66.103	1140	17722	1	-1.61
9	8.59	oxalate	54.841	503	9909	1	-1.23
Totals			1040.754	25226	212283		

File: 96122601.D12 Sample: S96T005074 DUP

Sample Name: S96T005074 SPIKE Date: 12/26/1996 03:10:17
 Data File : C:\DX\DATA\96122601.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	41	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	0.92		0.000	90	427	2	
2	1.11	fluoride	32.357	1339	10839	2	3.09
3	1.66	chloride	54.217	3086	16997	1	-0.40
4	1.99	nitrite	534.092	17097	114189	1	-2.30
5	3.01	bromide	229.745	5070	33031	1	-3.32
6	3.36	nitrate	825.324	18209	165930	1	-6.15
7	4.93	phosphate	241.853	1837	23852	1	-0.54
8	6.40	sulfate	326.256	4889	85486	1	-3.23
9	8.48	oxalate	289.111	2709	54800	1	-2.45
Totals			2532.956	54327	505550		

File: 96122601.D13 Sample: S96T005074 SPIKE

LABCORE Completed Worklist Report for Worklist# 14203

Analyst: pjm

Instrument: IC03

Book# 144N98

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

Worklist Comment: AN-104 IC2. RCJ

Seq Type	Sample# R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 CCB	0	@IC2-QC ACETATE2 QC		1	<2.00e-2		ug/mL
1 CCB	0	@IC2-QC FORMATE2 QC		1	<2.10e-2		ug/mL
2 CCV	0	@IC2-QC ACETATE2 QC		1.240e2	1.20e+02	96.774 % Recovery	
2 CCV	0	@IC2-QC FORMATE2 QC		1.200e2	1.16e+02	96.667 % Recovery	
3 BLNK-PRFP	0	@IC2-01 ACETATE2 SOLID		1	<2.00e-2		ug/g
3 BLNK-PRFP	0	@IC2-01 FORMATE2 SOLID		1	<2.10e-2		ug/g
4 SAMPLE	S96T005065	0 W @IC2-01 ACETATE2 SOLID		N/A	8.247e+02	84.650	ug/g
4 SAMPLE	S96T005065	0 W @IC2-01 FORMATE2 SOLID		N/A	7.420e+02	88.890	ug/g
5 DUP	S96T005065	0 W @IC2-01 ACETATE2 SOLID		5.25e+02	4.90e+02	6.897 RPD	
5 DUP	S96T005065	0 W @IC2-01 FORMATE2 SOLID		7.42e+02	7.47e+02	0.672 RPD	
6 SPK	S96T005065	0 W @IC2-01 ACETATE2 SOLID		1.240e2	1.42e+02	114.516 % Recovery	
6 SPK	S96T005065	0 W @IC2-01 FORMATE2 SOLID		1.200e2	1.23e+02	102.500 % Recovery	
7 SAMPLE	S96T005068	0 W @IC2-01 ACETATE2 SOLID		N/A	5.089e+02	84.460	ug/g
7 SAMPLE	S96T005068	0 W @IC2-01 FORMATE2 SOLID		N/A	7.412e+02	88.680	ug/g
8 DUP	S96T005068	0 W @IC2-01 ACETATE2 SOLID		5.09e+02	4.70e+02	7.967 RPD	
8 DUP	S96T005068	0 W @IC2-01 FORMATE2 SOLID		7.41e+02	6.94e+02	6.551 RPD	
9 SPK	S96T005068	0 W @IC2-01 ACETATE2 SOLID		1.240e2	1.37e+02	110.484 % Recovery	
9 SPK	S96T005068	0 W @IC2-01 FORMATE2 SOLID		1.200e2	1.16e+02	96.667 % Recovery	
10 SAMPLE	S96T005071	0 W @IC2-01 ACETATE2 SOLID		N/A	5.175e+02	83.290	ug/g
10 SAMPLE	S96T005071	0 W @IC2-01 FORMATE2 SOLID		N/A	7.242e+02	87.440	ug/g
11 DUP	S96T005071	0 W @IC2-01 ACETATE2 SOLID		5.18e+02	5.16e+02	0.287 RPD	
11 DUP	S96T005071	0 W @IC2-01 FORMATE2 SOLID		7.24e+02	6.95e+02	4.087 RPD	
12 SPK	S96T005071	0 W @IC2-01 ACETATE2 SOLID		1.240e2	1.38e+02	111.290 % Recovery	
12 SPK	S96T005071	0 W @IC2-01 FORMATE2 SOLID		1.200e2	1.19e+02	99.167 % Recovery	

Final page for worklist# 14203

Analyst Signature Date

Analyst Signature Date

Reviewer Signature Date

10/21/96 14:27

A-0004-1

LABCORE Data Entry Template for Worklist# 14203

Analyst: RLM Instrument: IC0 IC03
@IC2-01 Book# 144N9BMethod: LA-533-105 Rev/Mod D-1

Worklist Comment: AN-104 IC2. RCJ

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC2-QC	QC		
2 CCV			@IC2-QC	QC		
3 BLNK-PREP			@IC2-01	SOLID		
4 SAMPLE	S96T005065	0 W	@IC2-01	SOLID	96001174	AN-104
Analytes Requested: ACETATE2, FORMATE2						
5 DUP	S96T005065	0 W	@IC2-01	SOLID		
6 SPK	S96T005065	0 W	@IC2-01	SOLID		
7 SAMPLE	S96T005068	0 W	@IC2-01	SOLID	96001174	AN-104
Analytes Requested: ACETATE2, FORMATE2						
8 DUP	S96T005068	0 W	@IC2-01	SOLID		
9 SPK	S96T005068	0 W	@IC2-01	SOLID		
10 SAMPLE	S96T005071	0 W	@IC2-01	SOLID	96001174	AN-104
Analytes Requested: ACETATE2, FORMATE2						
11 DUP	S96T005071	0 W	@IC2-01	SOLID		
12 SPK	S96T005071	0 W	@IC2-01	SOLID		

Final page for worklist # 14203

Analyst Signature RLM Date 1/25/97

Analyst Signature _____ Date _____

14203ja.csv

Inshell

uploaded 1-29-97 Hla

Validated 1-29-97 Hla

Data Entry Comments:

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

A-0010-IC				DATA FILE/WORKLIST RESOLUTION				29-Jan-97			
Worklist#: 14203					Data File: 14203JA.CSV						
		Seq	Type	Sample #			Seq#	Data File	Sample Name		Dilution
-	=v	1	CCB	S96T005065 S96T005065 S96T005065 S96T005068 S96T005068 S96T005068 S96T005068 S96T005071 S96T005071 S96T005071	-	1	96112571.d08	CCB		1.00	
	=v	2	CCV		2	96112571.d09	CCV 144N9B		101.00		
	=v	3	BLNK-PREP		3	96112571.d19	PREP BLNK		1.00		
	=v	4	SAMPLE		4	96112571.d10	S96T005065		21.00		
	=v	5	DUP		5	96112571.d11	S96T005065	DUP	21.00		
	=v	6	SPK		6	96112571.d12	S96T005065	SPK	21.00		
	=v	7	SAMPLE		7	96112571.d13	S96T005068		21.00		
	=v	8	DUP		8	96112571.d14	S96T005068	DUP	21.00		
	=v	9	SPK		9	96112571.d15	S96T005068	SPK	21.00		
	=v	10	SAMPLE		10	96112571.d16	S96T005071		21.00		
	=v	11	DUP		11	96112571.d17	S96T005071	DUP	21.00		
	=v	12	SPK		12	96112571.d18	S96T005071	SPK	21.00		
+					+						

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

Sample Name: CCB Date: 01/25/1997 13:17:54
 Data File : C:\DX\DATA\96112571.D08
 Method : C:\DX\METHOD\ACE.MET
 ACTI Address: 1 System: 2 Inject#: 8 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 1 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.25		0.000	3	49	1	
2	6.21		0.000	2386	197850	1	
3	8.13		0.000	238	1361	2	
4	8.39		0.000	567	41036	2	
Totals			0.000	3194	240296		

DIRECT *QJM* *John Lye* 4/22/97
 File: 96112571.D08 Sample: CCB

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1044 TO 1055

Sample Name: CCV 144N9B Date: 01/25/1997 13:34:54
 Data File : C:\DX\DATA\96112571.D09
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 9 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 101 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.13	fluoride	67.135	2282	11913	2	0.16
2	2.41	acetate	120.106	559	4155	2	0.14
3	3.15	formate	116.086	1055	8008	1	-0.11
4	6.21		0.000	2038	154105	2	
5	7.01		0.000	418	4993	2	
6	8.12		0.000	96	442	1	

Totals 303.327 6449 183615

.100 mL - 10 mL R. McCown 1/25/97

File: 96112571.D09 Sample: CCV 144N9B

Sample Name: PREP BLNK Date: 01/25/1997 16:21:12
 Data File : C:\DX\DATA\96112571.D19
 Method : C:\DX\METHOD\ACE.MET
 ACT Address: 1 System: 2 Inject#: 19 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

alibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
xternal	1	1	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.50	0.000	3	108	1	
2	6.13	0.000	4325	301175	2	
3	7.31	0.000	4701	181750	2	
4	7.99	0.000	2532	22268	2	
5	8.13	0.000	2431	19099	2	
6	8.33	0.000	2457	156597	2	
Totals		0.000	16449	680997		

DIRECT RUN
 File: 96112571.D19 Sample: PREP BLNK

Sample Name: S96T005065 Date: 01/25/1997 13:52:39
 Data File : C:\DX\DATA\96112571.D10
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 10 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	21	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.13	fluoride	2.547	288	1662	1	0.16
2	2.40	acetate	2.603	52	291	1	-0.41
3	3.15	formate	3.681	114	936	1	-0.11
4	3.93		0.000	74	617	1	
5	5.43		0.000	5133	45116	2	
6	5.84		0.000	19508	302804	3	
7	7.36		0.000	1361	34760	4	
8	7.68		0.000	12258	170933	2	

Totals 8.831 38789 557119

.500ml - 10ml RSM

File: 96112571.D10 Sample: S96T005065

Sample Name: S96T005065 DUP Date: 01/25/1997 14:13:22
 Data File : C:\DX\DATA\96112571.D11
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 11 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 21 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.10	fluoride	2.845	244	1926	1	-1.41
2	2.41	acetate	2.502	52	273	1	0.14
3	3.13	formate	3.813	116	981	1	-0.53
4	3.91		0.000	80	690	1	
5	5.41		0.000	5265	47121	2	
6	5.83		0.000	20231	312584	3	
7	7.28		0.000	2518	55402	4	
8	7.65		0.000	12946	184823	2	

Totals 9.160 41452 603799

• 500 mL - 10 mL B/W

File: 96112571.D11 Sample: S96T005065 DUP

=====

Sample Name: S96T005065 SPK Date: 01/25/1997 14:29:01

Data File : C:\DX\DATA\96112571.D12

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

ACI Address: 1 System: 2 Inject#: 12 Detector: CDM-1

Analyst : Column: AG4A-SC, AS4A-SC, SRS

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Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 21 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.10	fluoride	15.902	1828	13694	2	-1.41
2	2.40	acetate	30.954	627	5185	2	-0.41
3	3.13	formate	28.303	1178	9485	1	-0.53
4	3.93		0.000	77	672	1	
5	5.44		0.000	5104	57687	2	
6	5.85		0.000	20263	374242	2	
7	7.40		0.000	4653	147786	2	
8	7.69		0.000	14385	419783	2	

Totals 75.160 48116 1028533

.500ml - 100ml 144N98 AS SPIKE
9.9ml ELUENT
File: 96112571.D12 Sample: S96T005065 SPK

Sample Name: S96T005068 Date: 01/25/1997 14:45:46
 Data File : C:\DX\DATA\96112571.D13
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 13 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 21 4500 5Hz 0.00 15.00 0

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

Pk. Num.	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.13	fluoride	3.111	391	2161	1	0.16
2	2.41	acetate	2.531	56	278	1	0.14
3	3.15	formate	3.686	115	938	1	-0.11
4	3.93		0.000	77	680	1	
5	5.43		0.000	4762	44535	2	
6	5.83		0.000	19023	306197	3	
7	7.40		0.000	2410	43539	4	
8	7.64		0.000	13515	196981	2	
Totals			9.328	40349	595309		

.500mL - 10mL RSM

File: 96112571.D13 Sample: S96T005068

=====

Sample Name: S96T005068 DUP Date: 01/25/1997 15:02:21

Data File : C:\DX\DATA\96112571.D14

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

ACI Address: 1 System: 2 Inject#: 14 Detector: CDM-1

Analyst : Column: AG4A-SC, AS4A-SC, SRS

=====

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 21 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.13	fluoride	3.025	372	2086	1	0.16
2	2.41	acetate	2.398	51	255	1	0.14
3	3.15	formate	3.544	107	890	1	-0.11
4	3.92		0.000	74	691	1	
5	5.41		0.000	4508	44580	2	
6	5.83		0.000	18997	293909	2	
7	7.35		0.000	2997	63952	2	
8	7.65		0.000	13101	187186	2	

Totals 8.967 40207 593548

• 500ML - 10ML Rha

File: 96112571.D14 Sample: S96T005068 DUP

=====

Sample Name: S96T005068 SPK Date: 01/25/1997 15:18:08

Data File : C:\DX\DATA\96112571.D15

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

ACI Address: 1 System: 2 Inject#: 15 Detector: CDM-1

Analyst : Column: AG4A-SC, AS4A-SC, SRS

=====

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 21 4500 5Hz 0:00 15:00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.10	fluoride	16.834	2059	14552	2	-1.41
2	2.40	acetate	29.988	635	5019	2	-0.41
3	3.13	formate	26.926	1165	8995	1	-0.53
4	3.92		0.000	69	591	1	
5	5.41		0.000	4393	44273	2	
6	5.83		0.000	18931	292946	2	
7	7.35		0.000	2987	65033	2	
8	7.65		0.000	13303	190661	2	

1125/97
 RM
 500 ML
 Totals 73.748 43542 622069
 100 ML 144 N 98 AS SPIKE
 9.9 ML ELUENT RM
 File: 96112571.D15 Sample: S96T005068 SPK

Sample Name: S96T005071 Date: 01/25/1997 15:33:52
 Data File : C:\DX\DATA\96112571.D16
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 16 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
external	1	21	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.13	fluoride	2.606	303	1715	1	0.16
2	2.41	acetate	2.610	54	292	1	0.14
3	3.15	formate	3.652	111	927	1	-0.11
4	3.93		0.000	74	613	1	
5	5.41		0.000	4544	44862	2	
6	5.81		0.000	19074	297217	2	
7	7.35		0.000	2916	60383	2	
8	7.65		0.000	13129	188161	2	

Totals 8.868 40206 594169

• 500mL - 10mL DM

File: 96112571.D16 Sample: S96T005071

Sample Name: S96T005071 DUP Date: 01/25/1997 15:49:35
 Data File : C:\DX\DATA\96112571.D17
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 17 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	21	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.13	fluoride	2.744	312	1837	1	0.16
2	2.41	acetate	2.554	52	282	1	0.14
3	3.16	formate	3.440	108	855	1	0.32
4	3.93		0.000	72	611	1	
5	5.41		0.000	4694	44462	2	
6	5.81		0.000	18711	294982	2	
7	7.35		0.000	2793	59589	2	
8	7.64		0.000	12699	181220	2	

Totals 8.738 39441 583838

.500 mL - 10 mL *Blm*

File: 96112571.D17 Sample: S96T005071 DUP

=====

Sample Name: S96T005071 SPK	Date: 01/25/1997 16:05:29
Data File : C:\DX\DATA\96112571.D18	
Method : C:\DX\METHOD\ACE.MET	
ACI Address: 1 System: 2 Inject#: 18	Detector: CDM-1
Analyst :	Column: AG4A-SC, AS4A-SC, SRS

=====

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

external 1 21 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.10	fluoride	16.159	1956	13930	2	-1.41
2	2.40	acetate	30.300	639	5073	2	-0.41
3	3.13	formate	27.400	1184	9164	1	-0.53
4	3.92		0.000	74	661	1	
5	5.43		0.000	5301	58440	2	
6	5.83		0.000	20275	382559	2	
7	7.35		0.000	4669	134273	2	
8	7.65		0.000	15239	444938	2	

Totals 73.859 49336 1049038

500ML ← 100ML 144N98 AS 6PIKE
9.9ML ELUENT

File: 96112571.D18 Sample: S96T005071 SPK

LABCORE Completed Worklist Report for Worklist# 14204

Analyst: pjm

Instrument: IC03

Book# 1442295

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

Worklist Comment: AN-104 IC2. RCJ

Seq Type	Sample# R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 CCB	0	@IC2-QC ACETATE2 QC		1	<2.00e-2		ug/mL
1 CCB	0	@IC2-QC FORMATE2 QC		1	<2.10e-2		ug/mL
2 CCV	0	@IC2-QC ACETATE2 QC		1.240e2	1.30e+02	104.833 % Recovery	
2 CCV	0	@IC2-QC FORMATE2 QC		1.200e2	1.23e+02	102.500 % Recovery	
3 BLNK-PREP	0	@IC2-01 ACETATE2 SOLID		1	<2.00e-2		ug/g
3 BLNK-PREP	0	@IC2-01 FORMATE2 SOLID		1	<2.10e-2		ug/g
4 SAMPLE	S96T005066 0 W	@IC2-01 ACETATE2 SOLID		N/A	5.298e+02	77.740	ug/g
4 SAMPLE	S96T005066 0 W	@IC2-01 FORMATE2 SOLID		N/A	7.425e+02	81.630	ug/g
5 DUP	S96T005066 0 W	@IC2-01 ACETATE2 SOLID		5.30e+02	5.11e+02	3.650 RPD	
5 DUP	S96T005066 0 W	@IC2-01 FORMATE2 SOLID		7.42e+02	7.37e+02	0.676 RPD	
6 SPK	S96T005066 0 W	@IC2-01 ACETATE2 SOLID		1.240e2	1.39e+02	112.057 % Recovery	
6 SPK	S96T005066 0 W	@IC2-01 FORMATE2 SOLID		1.200e2	1.17e+02	97.500 % Recovery	
7 SAMPLE	S96T005070 0 W	@IC2-01 ACETATE2 SOLID		N/A	6.198e+02	77.070	ug/g
7 SAMPLE	S96T005070 0 W	@IC2-01 FORMATE2 SOLID		N/A	7.825e+02	80.930	ug/g
8 DUP	S96T005070 0 W	@IC2-01 ACETATE2 SOLID		6.19e+02	5.62e+02	9.653 RPD	
8 DUP	S96T005070 0 W	@IC2-01 FORMATE2 SOLID		7.82e+02	7.62e+02	2.591 RPD	
9 SPK	S96T005070 0 W	@IC2-01 ACETATE2 SOLID		1.240e2	1.35e+02	108.871 % Recovery	
9 SPK	S96T005070 0 W	@IC2-01 FORMATE2 SOLID		1.200e2	1.19e+02	99.167 % Recovery	
10 SAMPLE	S96T005074 0 W	@IC2-01 ACETATE2 SOLID		N/A	5.022e+02	81.630	ug/g
10 SAMPLE	S96T005074 0 W	@IC2-01 FORMATE2 SOLID		N/A	7.495e+02	85.720	ug/g
11 DUP	S96T005074 0 W	@IC2-01 ACETATE2 SOLID		5.02e+02	4.95e+02	1.404 RPD	
11 DUP	S96T005074 0 W	@IC2-01 FORMATE2 SOLID		7.50e+02	7.16e+02	4.638 RPD	
12 SPK	S96T005074 0 W	@IC2-01 ACETATE2 SOLID		1.240e2	1.38e+02	111.290 % Recovery	
12 SPK	S96T005074 0 W	@IC2-01 FORMATE2 SOLID		1.200e2	1.20e+02	100.000 % Recovery	

Final page for worklist# 14204

Analyst Signature Date

Daniel K M Leland 2-11-97
Analyst Signature Date

[Signature] 2/13/97
Reviewer Signature Date

14204.jy.sch
14204.jy.csv

uploaded 2-11-97 DKML

10/21/96 14:32
A-0004-I

LABCORE Data Entry Template for Worklist# 14204

Analyst: RLM Instrument: IC0 IC03 Book# 14409B
IC2-01
2/6/97
 Method: LA-533-105 Rev/Mod D-1
 Worklist Comment: AN-104 IC2. RCJ

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC2-QC	QC		
2 CCV			@IC2-QC	QC		
3 BLNK-PREP			@IC2-01	SOLID		
4 SAMPLE	S96T005066 0 W	@IC2-01	SOLID		96001174	AN-104
	Analytes Requested: ACETATE2, FORMATE2					
5 DUP	S96T005066 0 W	@IC2-01	SOLID			
6 SPK	S96T005066 0 W	@IC2-01	SOLID			
7 SAMPLE	S96T005070 0 W	@IC2-01	SOLID		96001174	AN-104
	Analytes Requested: ACETATE2, FORMATE2					
8 DUP	S96T005070 0 W	@IC2-01	SOLID			
9 SPK	S96T005070 0 W	@IC2-01	SOLID			
10 SAMPLE	S96T005074 0 W	@IC2-01	SOLID		96001174	AN-104
	Analytes Requested: ACETATE2, FORMATE2					
11 DUP	S96T005074 0 W	@IC2-01	SOLID			
12 SPK	S96T005074 0 W	@IC2-01	SOLID			

Final page for worklist # 14204

RLM 1/20/97
 Analyst Signature Date

AKM 2-11-97
 Analyst Signature Date

14204 jig. 3ch
 14204 jig. 3ch uploaded 2-11-97 AKM

Validated 2/13/97 JMF

Data Entry Comments:

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

A-0010-IC				DATA FILE/WORKLIST RESOLUTION				11-Feb-97			
Worklist#: 14204				Data File: 14204JY.CSV							
		Seq	Type	Sample #	Seq#		Data File	Sample Name		Dilution	
-	=v	1	CCB	S96T005066 S96T005066 S96T005066 S96T005070 S96T005070 S96T005070 S96T005070 S96T005074 S96T005074 S96T005074	-	1	97012671.d01	CCB			1.00
	=v	2	CCV			2	97012671.d02	CCV 144N9B			101.00
	=v	3	BLNK-PREP			3	97012671.d06	PREP BLNK			1.00
	=v	4	SAMPLE			4	97012671.d07	S96T005066			21.00
	=v	5	DUP			5	97012671.d08	S96T005066	DUP		21.00
	=v	6	SPK			6	97012671.d09	S96T005066	SPK		21.00
	=v	7	SAMPLE			7	97012671.d10	S96T005070			21.00
	=v	8	DUP			8	97012671.d11	S96T005070	DUP		21.00
	=v	9	SPK			9	97012671.d17	S96T005070	SPK		21.00
	=v	10	SAMPLE			10	97012671.d12	S96T005074			21.00
	=v	11	DUP			11	97012671.d13	S96T005074	DUP		21.00
	=v	12	SPK			12	97012671.d16	S96T005074	SPK		21.00
+					+						

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

Sample Name: CCB Date: 01/26/1997 07:55:01
 Data File : C:\DX\DATA\97012671.D01
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 1 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 1 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	3.73		0.000	4	6	1	
2	6.00		0.000	3746	304107	2	
3	7.19		0.000	7375	316610	2	
4	7.99		0.000	4161	26086	2	
5	8.13		0.000	3918	33709	2	
6	8.35		0.000	3997	230287	2	

Totals 0.000 23201 910805

File: 97012671.D01 Sample: CCB

John Faye
4/22/97

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1059 TO 1070.

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Sample Name: CCV 144N9B Date: 01/26/1997 08:10:52

Data File : C:\DX\DATA\97012671.D02

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

ACI Address: 1 System: 2 Inject#: 2 Detector: CDM-1

Analyst : Column: AG4A-SC, AS4A-SC, SRS

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Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 101 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.10	fluoride	72.948	2152	13019	2	-1.41
2	2.39	acetate	130.363	606	4523	2	-0.97
3	3.12	formate	122.528	1121	8481	1	-0.95
4	6.00		0.000	3123	171398	1	
5	8.12		0.000	198	1352	2	
6	8.37		0.000	512	36089	2	

Totals 325.839 7712 234862

100mL - 10mL *RLM*
 File: 97012671.D02 Sample: CCV 144N9B

Sample Name: PREP BLNK Date: 01/26/1997 11:15:00
 Data File : C:\DX\DATA\97012671.D06
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 6 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	6.00		0.000	22	47	1	
2	6.68		0.000	1886	30475	2	
3	7.13		0.000	2345	39503	2	
4	8.13		0.000	223	1220	2	
5	8.43		0.000	579	36748	2	
Totals			0.000	5055	107993		

DIRECT RSM
File: 97012671.D06 Sample: PREP BLNK

Sample Name: S96T005066 Date: 01/26/1997 11:32:54
 Data File : C:\DX\DATA\97012671.D07
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 7 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 21 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.10	fluoride	4.518	628	3409	1	-1.41
2	2.37	acetate	2.862	62	335	1	-1.52
3	3.09	formate	4.011	134	1048	1	-1.80
4	3.85		0.000	86	729	1	
5	5.40		0.000	5850	57859	2	
6	5.81		0.000	20027	322850	3	
7	7.19		0.000	1561	50473	4	
8	7.64		0.000	13499	196344	2	

Totals 11.392 41846 633048

500 mL - 10 mL RSM
 File: 97012671.D07 Sample: S96T005066

Sample Name: S96T005066 DUP Date: 01/26/1997 11:50:00
 Data File : C:\DX\DATA\97012671.D08
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 8 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	21	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.10	fluoride	4.223	587	3146	1	-1.41
2	2.37	acetate	2.748	60	316	1	-1.52
3	3.09	formate	3.959	128	1031	1	-1.80
4	3.87		0.000	85	750	1	
5	5.40		0.000	4743	43680	2	
6	5.81		0.000	19729	273033	2	
7	7.28		0.000	3525	85358	2	
8	7.61		0.000	13512	200126	2	

Totals 10.930 42369 607439

500 mL - 10 mL BLM
 File: 97012671.D08 Sample: S96T005066 DUP

Sample Name: S96T005066 SPK Date: 01/26/1997 12:06:48
Data File : C:\DX\DATA\97012671.D09
Method : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 9 Detector: CDM-1
Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
external	1	21	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.07	fluoride	18.555	1899	16142	2	-2.97
2	2.37	acetate	30.583	668	5121	2	-1.52
3	3.09	formate	27.321	1232	9135	1	-1.80
4	3.87		0.000	79	686	1	
5	5.40		0.000	4678	41847	2	
6	5.81		0.000	19295	291375	2	
7	7.23		0.000	3451	80033	2	
8	7.61		0.000	13334	196666	2	

Totals 76.458 44636 641004

.506 mL ← 100 mL 144 N 9 B 45 SPK
9.9 mL FLUIDIT
File: 97012671.D09 Sample: S96T005066 SPK

Sample Name: S96T005070

Date: 01/26/1997 14:25:30

Data File : C:\DX\DATA\97012671.D10

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

ACI Address: 1 System: 2 Inject#: 10

Detector: CDM-1

Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 21 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.07	fluoride	4.565	515	3450	1	-2.97
2	2.36	acetate	3.372	80	424	1	-2.07
3	2.80		0.000	17	113	2	
4	3.07	formate	4.264	155	1134	2	-2.65
5	3.83		0.000	99	870	1	
6	5.40		0.000	5990	70690	2	
7	5.81		0.000	21361	375871	3	
8	7.29		0.000	3101	91353	4	
9	7.61		0.000	16336	310200	2	
10	8.55		0.000	3867	223981	2	

Totals 12.200 51519 1078086

500mL - 10mL *RLM*
 File: 97012671.D10 Sample: S96T005070

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Sample Name: S96T005070 DUP Date: 01/26/1997 14:41:13

Data File : C:\DX\DATA\97012671.D11

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

ACI Address: 1 System: 2 Inject#: 11 Detector: CDM-1

Analyst : Column: AG4A-SC, AS4A-SC, SRS

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Calibration Volume Dilution Points Rate Start Stop Area Reject

external 1 21 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.07	fluoride	4.594	460	3477	1	-2.97
2	2.36	acetate	3.064	69	370	1	-2.07
3	2.83		0.000	15	99	1	
4	3.08	formate	4.159	143	1098	1	-2.22
5	3.85		0.000	90	800	1	
6	5.40		0.000	6207	61154	2	
7	5.81		0.000	21823	388226	3	
8	7.16		0.000	3387	82163	4	
9	7.61		0.000	14123	208312	2	
Totals			11.817	46318	745699		

• 500mL - 10mL *RLM*

File: 97012671.D11 Sample: S96T005070 DUP

=====

Sample Name: S96T005070 SPK Date: 01/26/1997 16:17:47

Data File : C:\DX\DATA\97012671.D17

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

ACI Address: 1 System: 2 Inject#: 17 Detector: CDM-1

Analyst : Column: AG4A-SC, AS4A-SC, SRS

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Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 21 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.07	fluoride	18.323	2121	15927	2	-2.97
2	2.36	acetate	30.467	654	5101	2	-2.07
3	3.08	formate	28.088	1238	9408	1	-2.22
4	3.85		0.000	89	786	1	
5	5.39		0.000	4803	44725	2	
6	5.80		0.000	22315	330695	2	
7	7.23		0.000	3346	74148	2	
8	7.60		0.000	14253	212874	2	

Totals 76.877 48819 693665

500 ML ← 100 ML 144 N9B AS SPIKE
9.9 ML ELUENT
File: 97012671.D17 Sample: S96T005070 SPK

=====

Sample Name: S96T005074	Date: 01/26/1997 14:58:02
Data File : C:\DX\DATA\97012671.D12	
Method : C:\DX\METHOD\ACE.MET	
ACI Address: 1 System: 2 Inject#: 12	Detector: CDM-1
Analyst :	Column: AG4A-SC, AS4A-SC, SRS

=====

alibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
-----	-----	-----	-----	-----	-----	-----	-----	-----
external	1	21	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
-----	-----	-----	-----	-----	-----	-----	-----
1	2.07	fluoride	4.372	377	3279	1	-2.97
2	2.37	acetate	2.584	55	287	1	-1.52
3	3.09	formate	3.856	123	996	1	-1.80
4	3.87		0.000	79	678	1	
5	5.40		0.000	4582	41254	2	
6	5.80		0.000	18316	285534	2	
7	7.19		0.000	3680	86005	2	
8	7.60		0.000	13958	208470	2	
Totals			10.813	41170	626502		

500 mL - 10 mL *MSM*

File: 97012671.D12 Sample: S96T005074

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Sample Name: S96T005074 DUP Date: 01/26/1997 15:14:36

Data File : C:\DX\DATA\97012671.D13

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

ACI Address: 1 System: 2 Inject#: 13 Detector: CDM-1

Analyst : Column: AG4A-SC, AS4A-SC, SRS

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Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 21 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.10	fluoride	3.834	499	2802	1	-1.41
2	2.37	acetate	2.492	52	271	1	-1.52
3	3.09	formate	3.606	112	911	1	-1.80
4	3.85		0.000	70	620	1	
5	5.40		0.000	4855	54259	2	
6	5.80		0.000	18560	350261	2	
7	7.20		0.000	5221	157756	2	
8	7.61		0.000	15540	328296	3	
9	8.31		0.000	1058	121981	4	

Totals 9.932 45968 1017157

.500 mL - 10 mL *RM*

File: 97012671.D13 Sample: S96T005074 DUP

Sample Name: S96T005074 SPK Date: 01/26/1997 16:02:03
 Data File : C:\DX\DATA\97012671.D16
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 16 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 21 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.07	fluoride	18.668	2296	16247	2	-2.97
2	2.36	acetate	30.266	652	5067	2	-2.07
3	3.08	formate	27.793	1224	9303	1	-2.22
4	3.85		0.000	80	702	1	
5	5.40		0.000	4377	42452	2	
6	5.81		0.000	18931	286584	2	
7	7.16		0.000	6328	121660	2	
8	7.61		0.000	14298	213023	2	

Totals 76.728 48186 695037
 .500 ML 1100 ML 144 N9B AS SPK
 9.9 ML ELUENT *ADM*
 File: 97012671.D16 Sample: S96T005074 SPK

LABCORE Completed Worklist Report for Worklist# 14851

Analyst: eal

Instrument: IC01

Book# 36N20D

Method: LA533105 Rev/Mod D-1

Worklist Comment: AN-104 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	5.9000e1	5.34e+01	90.508 % Recovery	
2 CCV	0	⊖IC-QC CL	QC	7.9000e1	7.80e+01	98.734 % Recovery	
2 CCV	0	⊖IC-QC NO2	QC	5.4200e2	5.92e+02	109.225 % Recovery	
2 CCV	0	⊖IC-QC BR	QC	5.8900e2	5.78e+02	98.132 % Recovery	
2 CCV	0	⊖IC-QC NO3	QC	5.9400e2	6.14e+02	103.367 % Recovery	
2 CCV	0	⊖IC-QC PO4	QC	5.4400e2	5.62e+02	103.309 % Recovery	
2 CCV	0	⊖IC-QC SO4	QC	6.3100e2	6.41e+02	101.585 % Recovery	
2 CCV	0	⊖IC-QC OXALATE2	QC	5.3300e2	5.38e+02	100.938 % Recovery	
3 SAMPLE	S96T005527	⊖IC-01 F-02	LIQUID	N/A	6.181e+01	61.810	ug/mL
3 SAMPLE	S96T005527	⊖IC-01 CL-02	LIQUID	N/A	7.596e+03	87.570	ug/mL
3 SAMPLE	S96T005527	⊖IC-01 BR-02	LIQUID	N/A	8.158e+02	649.900	ug/mL
3 SAMPLE	S96T005527	⊖IC-01 NO3-02	LIQUID	N/A	1.575e+05	716.000	ug/mL
3 SAMPLE	S96T005527	⊖IC-01 PO4-02	LIQUID	N/A	2.169e+03	618.100	ug/mL
3 SAMPLE	S96T005527	⊖IC-01 SO4-02	LIQUID	N/A	1.036e+03	710.800	ug/mL
3 SAMPLE	S96T005527	⊖IC-01 OXALATE2	LIQUID	N/A	5.409e+02	540.900	ug/mL
4 DUP	S96T005527	⊖IC-01 F-02	LIQUID	<6.18e1	<6.18e1		RPD
4 DUP	S96T005527	⊖IC-01 CL-02	LIQUID	7.60e+03	7.52e+03	1.058	RPD
4 DUP	S96T005527	⊖IC-01 NO2-02	LIQUID	1.15e+05	1.15e+05	0.000	RPD
4 DUP	S96T005527	⊖IC-01 BR-02	LIQUID	8.16e+02	8.93e+02	9.011	RPD
4 DUP	S96T005527	⊖IC-01 NO3-02	LIQUID	1.58e+05	1.59e+05	0.631	RPD
4 DUP	S96T005527	⊖IC-01 PO4-02	LIQUID	2.17e+03	2.08e+03	4.235	RPD
4 DUP	S96T005527	⊖IC-01 SO4-02	LIQUID	1.04e+03	1.09e+03	4.695	RPD
4 DUP	S96T005527	⊖IC-01 OXALATE2	LIQUID	<5.41e2	<5.41e2		RPD
5 SPK	S96T005527	⊖IC-01 F-02	LIQUID	5.9000e1	6.09e+01	103.220 % Recovery	
5 SPK	S96T005527	⊖IC-01 CL-02	LIQUID	7.9000e1	7.95e+01	100.633 % Recovery	
5 SPK	S96T005527	⊖IC-01 NO2-02	LIQUID	5.4200e2	6.22e+02	114.760 % Recovery	
5 SPK	S96T005527	⊖IC-01 BR-02	LIQUID	5.8900e2	5.51e+02	93.548 % Recovery	
5 SPK	S96T005527	⊖IC-01 NO3-02	LIQUID	5.9400e2	6.36e+02	107.071 % Recovery	
5 SPK	S96T005527	⊖IC-01 PO4-02	LIQUID	5.4400e2	5.51e+02	101.287 % Recovery	
5 SPK	S96T005527	⊖IC-01 SO4-02	LIQUID	6.3100e2	6.57e+02	104.120 % Recovery	
5 SPK	S96T005527	⊖IC-01 OXALATE2	LIQUID	5.3300e2	5.53e+02	103.752 % Recovery	
6 SAMPLE	S96T005528	⊖IC-01 F-02	LIQUID	N/A	6.181e+01	61.810	ug/mL
6 SAMPLE	S96T005528	⊖IC-01 CL-02	LIQUID	N/A	7.809e+03	87.570	ug/mL

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

LABCORE Completed Worklist Report for Worklist# 14851

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
6 SAMPLE	S96T005528	0	QIC-01	BR-02	LIQUID	N/A	1.107e+03	643.900 ug/mL
6 SAMPLE	S96T005528	0	QIC-01	NO3-02	LIQUID	N/A	1.783e+05	716.000 ug/mL
6 SAMPLE	S96T005528	0	QIC-01	PO4-02	LIQUID	N/A	1.839e+03	618.100 ug/mL
6 SAMPLE	S96T005528	0	QIC-01	SO4-02	LIQUID	N/A	1.452e+03	710.800 ug/mL
6 SAMPLE	S96T005528	0	QIC-01	OXALATE2	LIQUID	N/A	5.409e+02	540.900 ug/mL
7 DUP	S96T005528	0	QIC-01	F-02	LIQUID	<6.18e1	<6.18e1	RPD
7 DUP	S96T005528	0	QIC-01	CL-02	LIQUID	7.81e+03	7.84e+03	0.383 RPD
7 DUP	S96T005528	0	QIC-01	NO2-02	LIQUID	1.20e+05	1.21e+05	0.830 RPD
7 DUP	S96T005528	0	QIC-01	BR-02	LIQUID	1.11e+03	1.08e+03	2.740 RPD
7 DUP	S96T005528	0	QIC-01	NO3-02	LIQUID	1.78e+05	1.79e+05	0.560 RPD
7 DUP	S96T005528	0	QIC-01	PO4-02	LIQUID	1.84e+03	1.87e+03	1.617 RPD
7 DUP	S96T005528	0	QIC-01	SO4-02	LIQUID	1.45e+03	1.71e+03	16.456 RPD
7 DUP	S96T005528	0	QIC-01	OXALATE2	LIQUID	<5.41e2	<5.41e2	RPD
8 SAMPLE	S96T005554	0	QIC-01	F-02	LIQUID	N/A	6.181e+01	61.810 ug/mL
8 SAMPLE	S96T005554	0	QIC-01	CL-02	LIQUID	N/A	8.00e+03	87.570 ug/mL
8 SAMPLE	S96T005554	0	QIC-01	BR-02	LIQUID	N/A	7.363e+02	643.900 ug/mL
8 SAMPLE	S96T005554	0	QIC-01	NO3-02	LIQUID	N/A	1.597e+05	716.000 ug/mL
8 SAMPLE	S96T005554	0	QIC-01	PO4-02	LIQUID	N/A	2.672e+03	618.100 ug/mL
8 SAMPLE	S96T005554	0	QIC-01	SO4-02	LIQUID	N/A	7.108e+02	710.800 ug/mL
8 SAMPLE	S96T005554	0	QIC-01	OXALATE2	LIQUID	N/A	5.409e+02	540.900 ug/mL
9 DUP	S96T005554	0	QIC-01	F-02	LIQUID	<6.18e1	<6.18e1	RPD
9 DUP	S96T005554	0	QIC-01	CL-02	LIQUID	8.00e+03	7.97e+03	0.376 RPD
9 DUP	S96T005554	0	QIC-01	NO2-02	LIQUID	1.22e+05	1.22e+05	0.000 RPD
9 DUP	S96T005554	0	QIC-01	BR-02	LIQUID	7.36e+02	7.48e+02	1.617 RPD
9 DUP	S96T005554	0	QIC-01	NO3-02	LIQUID	1.60e+05	1.63e+05	1.858 RPD
9 DUP	S96T005554	0	QIC-01	PO4-02	LIQUID	2.67e+03	2.28e+03	15.758 RPD
9 DUP	S96T005554	0	QIC-01	SO4-02	LIQUID	<7.11e2	7.54e+02	RPD
9 DUP	S96T005554	0	QIC-01	OXALATE2	LIQUID	<5.41e2	<5.41e2	RPD

Final page for worklist# 14851

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

H Anastor
Reviewer Signature _____ Date *1-29-97*

*NO2 rejected due to CCV failure.
Samples will be rerun for NO2.
Rest Validated 1-29-97 HLA
New WL# 16408*

1/96 10:34
#04-1

Page: 1

LABCORE Data Entry Template for Worklist# 14851

Analyst: SPV Instrument: ICO ECOL Book# 36N20-DMethod: LA-533-105 Rev/Mod D1

Worklist Comment: AN-104 IC. RCJ

Type	Sample#	R	A	Test	Matrix	Group#	Project
CB				@IC-QC	QC		
CV				@IC-QC	QC		
SAMPLE	S96T005527 0			@IC-01	LIQUID	96001283	AN-104
	Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
JP	S96T005527 0			@IC-01	LIQUID		
PK	S96T005527 0			@IC-01	LIQUID		
SAMPLE	S96T005528 0			@IC-01	LIQUID	96001283	AN-104
	Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
JP	S96T005528 0			@IC-01	LIQUID		
SAMPLE	S96T005554 0			@IC-01	LIQUID	96001283	AN-104
	Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
JP	S96T005554 0			@IC-01	LIQUID		

Final page for worklist # 14851

Analyst Signature

Date

Analyst Signature

Date

14851JA.CSV uploaded 1-29-97 HLA

Entry Comments:

NO2 CCV failed. Samples will be rerun
for NO2.

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

A-0010-IC

DATA FILE/WORKLIST RESOLUTION

29-Jan-97

Worklist#: 14851

Data File: 14851JA.CSV

Seq	Type	Sample #	Seq#	Data File	Sample Name	Dilution
=>	1	CCB	-	1 97012201.d14	INST. BLANK	1.00
=>	2	CCV		2 97012201.d15	36N20-D STD.	101.00
=>	3	SAMPLE	S96T005527	3 97012201.d16	S96T005527	5151.00
=>	4	DUP	S96T005527	4 97012201.d17	S96T005527 DUP	5151.00
=>	5	SPK	S96T005527	5 97012201.d18	S96T005527SPIKE	5151.00
=>	6	SAMPLE	S96T005528	6 97012201.d19	S96T005528	5151.00
=>	7	DUP	S96T005528	7 97012201.d20	S96T005528 DUP	5151.00
=>	8	SAMPLE	S96T005554	8 97012201.d21	S96T005554	5151.00
=>	9	DUP	S96T005554	9 97012201.d22	S96T005554 DUP	5151.00

+

+

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

Data Reprocessed On 01/29/1997 10:51:56

Sample Name: INST. BLANK Date: 01/22/1997 02:30:18
 Data File : F:\DATA\97012201.d14
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 14 Detector: CDM-1
 Analyst : *James L. Jones* 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	1.69	chloride	-0.007	16	63	1	4.12
2	3.42	nitrate	0.090	128	953	1	0.00
3	6.40	sulfate	0.035	105	2214	1	5.26
Totals			0.118	248	3230		

File: 97012201.d14 Sample: INST. BLANK

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1071 TO 1083.

Data Reprocessed On 01/29/1997 10:51:57

Sample Name: 36N20-D STD.	Date: 01/22/1997 02:41:54
Data File : F:\DATA\97012201.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	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	0.93		0.000	17	56	1	
2	1.11	fluoride	53.419	1207	7922	1	3.09
3	1.65	chloride	77.992	1802	9569	1	2.06
4	1.96	nitrite	591.859	6253	43211	1	0.00
5	2.92	bromide	578.175	5108	33292	1	2.82
6	3.32	nitrate	613.885	5973	47788	1	5.06
7	4.85	phosphate	561.560	1568	21566	1	2.82
8	6.29	sulfate	641.096	4833	69358	1	3.51
9	8.27	oxalate	537.852	2233	43399	1	4.03
Totals			3655.837	28995	276161		

File: 97012201.d15 Sample: 36N20-D STD.

Sample Name: S96T005527 Date: 01/22/1997 02:53:08
 Data File : F:\DATA\97012201.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 5151 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	0.93		0.000	224	1656	2	
2	1.23		0.000	247	2235	2	
3	1.32		0.000	329	1859	2	
4	1.63	chloride	7595.866	3204	18450	1	0.82
5	1.95	nitrite	115419.707	25210	175925	1	-0.34
6	2.97	bromide	815.803	85	486	1	-0.11
7	3.23	nitrate	157483.480	27616	260197	1	2.11
8	4.88	phosphate	2168.966	114	1567	1	3.39
9	6.35	sulfate	1036.208	212	3947	1	4.39
10	8.37	oxalate	281.160	20	408	1	5.37
Totals			284801.190	57262	466729		

File: 97012201.d16 Sample: S96T005527

Data Reprocessed On 01/29/1997 10:51:59

Sample Name: S96T005527 DUP	Date: 01/22/1997 03:06:26
Data File : F:\DATA\97012201.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	5151	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	0.94		0.000	225	1596	2	
2	1.24		0.000	237	2161	2	
3	1.32		0.000	316	1744	2	
4	1.63	chloride	7522.165	3244	18266	1	0.82
5	1.95	nitrite	115177.129	25473	175526	1	-0.34
6	2.97	bromide	893.052	93	572	1	-0.11
7	3.23	nitrate	159079.028	27783	263150	1	2.11
8	4.88	phosphate	2084.309	110	1504	1	3.39
9	6.35	sulfate	1089.302	216	4054	1	4.39
10	8.43	oxalate	269.676	22	390	1	6.04
Totals			286114.661	57719	468963		

File: 97012201.d17 Sample: S96T005527 DUP

Data Reprocessed On 01/29/1997 10:52:00

Sample Name: S96T005527SPIKE	Date: 01/22/1997 03:19:16
Data File : F:\DATA\97012201.d18	
Method : C:\DX\METHOD\KIT.MET	
ACI Address: 1 System: 1 Inject#: 18	Detector: CDM-1
Analyst :	Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	5151	3000	5Hz	0.00	10.00		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.94		0.000	199	1133	2	
2	1.11	fluoride	3073.691	1175	9015	2	3.09
3	1.32		0.000	387	2145	2	
4	1.62	chloride	11612.223	5139	28688	1	0.00
5	1.95	nitrite	146859.171	32883	228781	1	-0.34
6	2.91	bromide	28647.652	5296	32313	1	2.35
7	3.21	nitrate	189598.675	33341	321268	1	1.48
8	4.85	phosphate	30014.771	1702	22626	1	2.82
9	6.24	sulfate	34230.319	4239	72598	1	2.63
10	8.27	oxalate	27949.398	2288	44229	1	4.03
Totals			471985.899	86647	762797		

File: 97012201.d18 Sample: S96T005527SPIKE

Data Reprocessed On 01/29/1997 10:52:00

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Sample Name: S96T005528                      Date: 01/22/1997 03:30:32
Data File  : F:\DATA\97012201.d19
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 19          Detector: CDM-1
Analyst    :                               Column: AG4A/AS4A anion column
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Calibration Volume Dilution Points Rate Start Stop Area Reject
External          1          5151   3000   5Hz   0.00 10.00          50
=====

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.93		0.000	244	1781	2	
2	1.32		0.000	328	4035	2	
3	1.63	chloride	7809.294	3334	18983	1	0.41
4	1.95	nitrite	120312.821	26585	183996	1	-0.34
5	2.97	bromide	1106.937	133	812	1	-0.11
6	3.22	nitrate	178276.006	30879	299330	1	1.90
7	4.88	phosphate	1839.043	100	1322	1	3.39
8	6.35	sulfate	1452.376	281	4790	1	4.39
9	8.37	oxalate	358.224	25	529	1	5.37
Totals			311154.701	61909	515578		

File: 97012201.d19 Sample: S96T005528

Data Reprocessed On 01/29/1997 10:52:01

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Sample Name: S96T005528 DUP                      Date: 01/22/1997 03:42:25
Data File  : F:\DATA\97012201.d20
Method     : C:\DX\METHOD\KIT.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
External          1          5151   3000  5Hz   0.00 10.00          50
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***** Peak Report: All Peaks *****

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Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.93		0.000	240	1722	2	
2	1.32		0.000	329	3987	2	
3	1.63	chloride	7844.209	3361	19071	1	0.41
4	1.95	nitrite	121129.588	26745	185348	1	-0.34
5	2.97	bromide	1082.264	131	785	1	-0.11
6	3.22	nitrate	179272.311	30987	301242	1	1.90
7	4.88	phosphate	1868.307	96	1344	1	3.39
8	6.35	sulfate	1714.172	286	5320	1	4.39
9	8.37	oxalate	257.746	26	371	1	5.37
Totals			313168.598	62199	519190		

File: 97012201.d20 Sample: S96T005528 DUP

Data Reprocessed On 01/29/1997 10:52:02

Sample Name: S96T005554	Date: 01/22/1997 03:53:56
Data File : F:\DATA\97012201.d21	
Method : C:\DX\METHOD\KIT.MET	
ACI Address: 1 System: 1 Inject#: 21	Detector: CDM-1
Analyst :	Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	5151	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	0.93		0.000	233	1695	2	
2	1.32		0.000	341	4239	2	
3	1.63	chloride	8000.379	3357	19462	1	0.41
4	1.95	nitrite	122527.740	26888	187667	1	-0.34
5	2.97	bromide	736.319	70	396	1	-0.11
6	3.23	nitrate	159736.934	28126	264370	1	2.11
7	4.88	phosphate	2672.400	127	1941	1	3.39
8	6.35	sulfate	348.477	142	2555	1	4.39
9	8.37	oxalate	328.432	23	482	1	5.37
Totals			294350.681	59307	482808		

File: 97012201.d21 Sample: S96T005554

Data Reprocessed On 01/29/1997 10:52:03

Sample Name: S96T005554 DUP	Date: 01/22/1997 04:05:36
Data File : F:\DATA\97012201.d22	
Method : C:\DX\METHOD\KIT.MET	
ACI Address: 1 System: 1 Inject#: 22	Detector: CDM-1
Analyst :	Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	5151	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	0.93		0.000	242	1756	2	
2	1.32		0.000	337	4063	2	
3	1.63	chloride	7973.816	3418	19395	1	0.41
4	1.95	nitrite	122066.334	27011	186902	1	-0.34
5	2.98	bromide	747.725	72	409	1	0.00
6	3.23	nitrate	162548.374	28232	269599	1	2.11
7	4.88	phosphate	2283.131	116	1652	1	3.39
8	6.35	sulfate	754.130	148	3376	1	4.39
9	8.43	oxalate	339.979	24	500	1	6.04
Totals			296713.490	59600	487651		

File: 97012201.d22 Sample: S96T005554 DUP

LABCORE Completed Worklist Report for Worklist# 14852

Analyst: dpb

Instrument: IC01

Book# 56N207

Method: 4-533-105 Rev/Mod D-1

Worklist Comment: AN-104 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	5.9000e1	6.02e+01	102.034 % Recovery
2 CCV	0		QIC-QC	CL	QC	7.9000e1	8.16e+01	103.291 % Recovery
2 CCV	0		QIC-QC	NO2	QC	5.4200e2	6.19e+02	114.207 % Recovery
2 CCV	0		QIC-QC	BR	QC	5.8900e2	6.03e+02	102.377 % Recovery
2 CCV	0		QIC-QC	NO3	QC	5.9400e2	6.38e+02	107.407 % Recovery
2 CCV	0		QIC-QC	P04	QC	5.4400e2	5.80e+02	106.618 % Recovery
2 CCV	0		QIC-QC	S04	QC	6.3100e2	6.76e+02	107.132 % Recovery
2 CCV	0		QIC-QC	OXALATE2	QC	5.3300e2	5.62e+02	105.441 % Recovery
3 SAMPLE	S96T005739	0	QIC-01	F-02	LIQUID	N/A	< 6.181e+01	61.810 ug/mL
3 SAMPLE	S96T005739	0	QIC-01	CL-02	LIQUID	N/A	< 7.647e+03	87.570 ug/mL
3 SAMPLE	S96T005739	0	QIC-01	BR-02	LIQUID	N/A	< 5.439e+02	643.900 ug/mL
3 SAMPLE	S96T005739	0	QIC-01	NO3-02	LIQUID	N/A	< 1.522e+05	716.000 ug/mL
3 SAMPLE	S96T005739	0	QIC-01	P04-02	LIQUID	N/A	< 1.252e+03	618.100 ug/mL
3 SAMPLE	S96T005739	0	QIC-01	S04-02	LIQUID	N/A	< 7.108e+02	710.800 ug/mL
3 SAMPLE	S96T005739	0	QIC-01	OXALATE2	LIQUID	N/A	< 5.409e+02	540.900 ug/mL
4 DUP	S96T005739	0	QIC-01	F-02	LIQUID	<6.18e1	<6.18e1	RPD
4 DUP	S96T005739	0	QIC-01	CL-02	LIQUID	7.65e+03	7.51e+03	1.847 RPD
4 DUP	S96T005739	0	QIC-01	NO2-02	LIQUID	1.17e+05	1.15e+05	1.724 RPD
4 DUP	S96T005739	0	QIC-01	BR-02	LIQUID	<6.44e2	<6.44e2	RPD
4 DUP	S96T005739	0	QIC-01	NO3-02	LIQUID	1.52e+05	1.53e+05	0.656 RPD
4 DUP	S96T005739	0	QIC-01	P04-02	LIQUID	1.25e+03	1.58e+03	23.322 RPD
4 DUP	S96T005739	0	QIC-01	S04-02	LIQUID	<7.11e2	<7.11e2	RPD
4 DUP	S96T005739	0	QIC-01	OXALATE2	LIQUID	<5.41e2	<5.41e2	RPD
5 SPK	S96T005739	0	QIC-01	F-02	LIQUID	5.9000e1	6.04e+01	102.373 % Recovery
5 SPK	S96T005739	0	QIC-01	CL-02	LIQUID	7.9000e1	7.53e+01	95.316 % Recovery
5 SPK	S96T005739	0	QIC-01	NO2-02	LIQUID	5.4200e2	5.82e+02	107.380 % Recovery
5 SPK	S96T005739	0	QIC-01	BR-02	LIQUID	5.8900e2	5.53e+02	93.888 % Recovery
5 SPK	S96T005739	0	QIC-01	NO3-02	LIQUID	5.9400e2	6.06e+02	102.020 % Recovery
5 SPK	S96T005739	0	QIC-01	P04-02	LIQUID	5.4400e2	5.25e+02	96.507 % Recovery
5 SPK	S96T005739	0	QIC-01	S04-02	LIQUID	6.3100e2	6.36e+02	100.792 % Recovery
5 SPK	S96T005739	0	QIC-01	OXALATE2	LIQUID	5.3300e2	5.36e+02	100.563 % Recovery
6 SAMPLE	S96T005741	0	QIC-01	F-02	LIQUID	N/A	< 6.181e+01	61.810 ug/mL
6 SAMPLE	S96T005741	0	QIC-01	CL-02	LIQUID	N/A	< 8.152e+03	87.570 ug/mL

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

LABCORE Completed Worklist Report for Worklist# 14852

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
6 SAMPLE	S96T005741	0	②IC-01	BR-02	LIQUID	N/A	7.572e+02	643.900 ug/mL
6 SAMPLE	S96T005741	0	②IC-01	NO3-02	LIQUID	N/A	1.661e+05	716.000 ug/mL
6 SAMPLE	S96T005741	0	②IC-01	PO4-02	LIQUID	N/A	1.027e+03	618.100 ug/mL
6 SAMPLE	S96T005741	0	②IC-01	SO4-02	LIQUID	N/A	1.670e+03	710.800 ug/mL
6 SAMPLE	S96T005741	0	②IC-01	OXALATE2	LIQUID	N/A	5.409e+02	540.900 ug/mL
7 DUP	S96T005741	0	②IC-01	F-02	LIQUID	<6.18e1	<6.18e1	RPD
7 DUP	S96T005741	0	②IC-01	CL-02	LIQUID	8.15e+03	8.12e+03	0.369 RPD
7 DUP	S96T005741	0	②IC-01	NO2-02	LIQUID	1.24e+05	1.24e+05	0.000 RPD
7 DUP	S96T005741	0	②IC-01	BR-02	LIQUID	7.57e+02	7.59e+02	0.264 RPD
7 DUP	S96T005741	0	②IC-01	NO3-02	LIQUID	1.66e+05	1.64e+05	1.212 RPD
7 DUP	S96T005741	0	②IC-01	PO4-02	LIQUID	1.03e+03	9.97e+02	3.256 RPD
7 DUP	S96T005741	0	②IC-01	SO4-02	LIQUID	1.67e+03	1.33e+03	22.667 RPD
7 DUP	S96T005741	0	②IC-01	OXALATE2	LIQUID	<5.41e2	<5.41e2	RPD
8 SAMPLE	S96T005766	0	②IC-01	F-02	LIQUID	N/A	6.181e+01	61.810 ug/mL
8 SAMPLE	S96T005766	0	②IC-01	CL-02	LIQUID	N/A	7.595e+03	67.570 ug/mL
8 SAMPLE	S96T005766	0	②IC-01	BR-02	LIQUID	N/A	1.128e+03	643.900 ug/mL
8 SAMPLE	S96T005766	0	②IC-01	NO3-02	LIQUID	N/A	1.619e+05	716.000 ug/mL
8 SAMPLE	S96T005766	0	②IC-01	PO4-02	LIQUID	N/A	1.039e+03	618.100 ug/mL
8 SAMPLE	S96T005766	0	②IC-01	SO4-02	LIQUID	N/A	9.113e+02	710.800 ug/mL
8 SAMPLE	S96T005766	0	②IC-01	OXALATE2	LIQUID	N/A	5.409e+02	540.900 ug/mL
9 DUP	S96T005766	0	②IC-01	F-02	LIQUID	<6.18e1	<6.18e1	RPD
9 DUP	S96T005766	0	②IC-01	CL-02	LIQUID	7.60e+03	7.55e+03	0.660 RPD
9 DUP	S96T005766	0	②IC-01	NO2-02	LIQUID	1.18e+05	1.17e+05	0.851 RPD
9 DUP	S96T005766	0	②IC-01	BR-02	LIQUID	1.13e+03	1.15e+03	1.754 RPD
9 DUP	S96T005766	0	②IC-01	NO3-02	LIQUID	1.42e+05	1.42e+05	0.000 RPD
9 DUP	S96T005766	0	②IC-01	PO4-02	LIQUID	1.04e+03	8.93e+02	15.210 RPD
9 DUP	S96T005766	0	②IC-01	SO4-02	LIQUID	9.11e+02	<7.11e2	RPD
9 DUP	S96T005766	0	②IC-01	OXALATE2	LIQUID	<5.41e2	<5.41e2	RPD

Final page for worklist# 14852

Analyst Signature

Date

Analyst Signature

Date

[Signature]
Reviewer Signature Date

LABCORE Data Entry Template for Worklist# 14852

Analyst: DPB Instrument: IC0 1001 Book# 36N20-D

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

Worklist Comment: AN-104 IC. RCJ

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC-QC	QC		
2 CCV			@IC-QC	QC		
3 SAMPLE	S96T005739 0		@IC-01	LIQUID	96001283 AN-104	
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
4 DUP	S96T005739 0		@IC-01	LIQUID		
5 SPK	S96T005739 0		@IC-01	LIQUID		
6 SAMPLE	S96T005741 0		@IC-01	LIQUID	96001283 AN-104	
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
7 DUP	S96T005741 0		@IC-01	LIQUID		
8 SAMPLE	S96T005766 0		@IC-01	LIQUID	96001283 AN-104	
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
9 DUP	S96T005766 0		@IC-01	LIQUID		

Final page for worklist # 14852

Daniel P. Brimley / 22/97 1710
Analyst Signature Date

Analyst Signature Date

NO2 STD
FAILED

SO4 STD
FAILED

14852 J.A.C.S.V.
Reviewed 2-5-97 JS

uploaded 2/6/97 mdy
Validated 2/6/97 mdy

rerun
on worklist
16590
6/3/97 JS

Data Entry Comments:

Sample Name: ELUENT BLANK

Date: 01/22/1997 07:20:49

Data File : C:\DX\DATA\97012201.D01

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

ACI Address: 1 System: 1 Inject#: 1

Detector: CDM-1

Analyst : *James Lee* Column: AG4A/AS4A anion column

Calibration Volume Dilution Points Rate Start Stop Area Reject

External	1	1	3000	5Hz	0.00	10.00	50
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***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
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Totals			0.000	0	0		
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File: 97012201.D01 Sample: ELUENT BLANK

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1087 TO 1095.

Sample Name: STD 36N20-D Date: 01/22/1997 10:07:07
 Data File : C:\DX\DATA\97012201.D05
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 5 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

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

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.94		0.000	17	51	2	
2	1.11	fluoride	60.181	1279	9001	2	3.09
3	1.65	chloride	81.606	1860	10014	1	2.06
4	1.96	nitrite	619.194	6483	45274	1	0.00
5	2.92	bromide	603.020	5328	34772	1	2.82
6	3.32	nitrate	637.728	6224	49669	1	5.06
7	4.85	phosphate	579.779	1636	22282	1	2.82
8	6.29	sulfate	676.460	5127	73167	1	3.51
9	8.27	oxalate	561.798	2297	45354	1	4.03
Totals			3819.766	30252	289584		

File: 97012201.D05 Sample: STD 36N20-D

Data Reprocessed On 02/04/1997 11:51:58

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Sample Name: S96T005739 SAM                      Date: 01/22/1997 10:32:18
Data File  : F:\DATA\97012201.D06
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 6                Detector: CDM-1
Analyst    :                      Column: AG4A/AS4A anion column
=====

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=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
External          1          5151  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	0.93		0.000	234	1674	2	
2	1.32		0.000	324	4042	2	
3	1.63	chloride	7647.264	3233	18578	1	0.82
4	1.95	nitrite	116833.281	25509	178251	1	-0.34
5	2.97	bromide	589.536	43	232	1	0.11
6	3.23	nitrate	152171.855	26784	250425	1	2.11
7	4.88	phosphate	1251.778	72	887	1	3.39
8	6.40	sulfate	340.024	161	2538	1	5.26
9	8.43	oxalate	333.536	20	490	1	6.04
Totals			279167.274	56379	457117		

File: 97012201.D06 Sample: S96T005739 SAM

Data Reprocessed On 02/05/1997 10:05:37

Sample Name: S96T005739 DUP	Date: 01/22/1997 10:47:06
Data File : F:\DATA\97012201.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 5151 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	0.93		0.000	225	1610	2	
2	1.32		0.000	316	3917	2	
3	1.63	chloride	7507.900	3245	18230	1	0.82
4	1.95	nitrite	115444.891	25521	175966	1	-0.34
5	2.97	bromide	642.656	50	291	1	-0.11
6	3.23	nitrate	153359.441	26823	252602	1	2.11
7	4.88	phosphate	1582.635	80	1132	1	3.39
8	6.40	sulfate	329.840	161	2517	1	5.26
9	8.32	oxalate	316.885	24	464	1	4.70
Totals			279184.249	56446	456730		

File: 97012201.D07 Sample: S96T005739 DUP

Sample Name: S96T005739 SPK Date: 01/22/1997 11:01:16
 Data File : C:\DX\DATA\97012201.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	5151	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	0.93		0.000	187	1034	2	
2	1.11	fluoride	3052.586	1170	8949	2	3.09
3	1.31		0.000	384	2260	2	
4	1.62	chloride	11450.118	5049	28266	1	0.00
5	1.95	nitrite	146209.656	32771	227664	1	-0.34
6	2.90	bromide	27913.788	5113	31458	1	2.11
7	3.21	nitrate	182791.714	32228	308024	1	1.48
8	4.85	phosphate	27753.584	1595	20885	1	2.82
9	6.29	sulfate	32106.563	4730	68115	1	3.51
10	8.27	oxalate	27069.187	2177	42821	1	4.03
Totals			458347.195	85403	739477		

File: 97012201.D08 Sample: S96T005739 SPK

Data Reprocessed On 02/04/1997 12:06:18

Sample Name: S96T005741 SAM	Date: 01/22/1997 14:06:03
Data File : F:\DATA\97012201.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	5151	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	0.93		0.000	247	1766	2	
2	1.32		0.000	354	4465	2	
3	1.63	chloride	8152.484	3550	19844	1	0.82
4	1.95	nitrite	124220.280	27658	190481	1	-0.34
5	2.96	bromide	757.171	72	420	1	0.00
6	3.22	nitrate	166149.467	29086	276333	1	1.90
7	4.88	phosphate	1027.165	56	721	1	3.39
8	6.40	sulfate	1670.447	316	5231	1	5.26
Totals			301977.013	61339	499260		

File: 97012201.D09 Sample: S96T005741 SAM

Data Reprocessed On 02/04/1997 12:12:46

Sample Name: S96T005741 DUP	Date: 01/22/1997 14:19:26
Data File : F:\DATA\97012201.D10	
Method : C:\DX\METHOD\KIT.MET	
ACT Address: 1 System: 1 Inject#: 10	Detector: CDM-1
Analyst :	Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	5151	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	0.94		0.000	234	1618	2	
2	1.32		0.000	340	4244	2	
3	1.63	chloride	8120.066	3508	19762	1	0.82
4	1.95	nitrite	123906.010	27344	189958	1	-0.34
5	2.97	bromide	759.220	72	422	1	0.11
6	3.23	nitrate	164358.617	28568	272979	1	2.11
7	4.88	phosphate	996.653	55	698	1	3.39
8	6.40	sulfate	1331.024	302	4544	1	5.26
Totals			299471.590	60422	494225		

File: 97012201.D10 Sample: S96T005741 DUP

Sample Name: S96T005766 SAM Date: 01/22/1997 14:40:04
 Data File : F:\DATA\97012211.D11
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 11 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	5151	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	0.93		0.000	223	1670	2	
2	1.32		0.000	328	4133	2	
3	1.63	chloride	7594.585	3266	18446	1	0.82
4	1.95	nitrite	118061.009	26189	180275	1	-0.34
5	2.96	bromide	1127.957	139	836	1	0.00
6	3.23	nitrate	141855.264	24900	231689	1	2.11
7	4.91	phosphate	1038.775	54	729	1	3.95
8	6.40	sulfate	911.335	221	3694	1	5.26
Totals			270588.925	55319	441472		

File: 97012211.D11 Sample: S96T005766 SAM

Data Reprocessed On 02/04/1997 15:22:48

Sample Name: S96T005766 DUP	Date: 01/22/1997 14:51:38
Data File : F:\DATA\97012211.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	5151	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	0.94		0.000	229	1699	2	
2	1.32		0.000	324	4009	2	
3	1.63	chloride	7546.805	3264	18327	1	0.82
4	1.95	nitrite	117314.515	26052	179044	1	-0.34
5	2.96	bromide	1146.928	141	857	1	0.00
6	3.23	nitrate	141640.439	24905	231302	1	2.32
7	4.91	phosphate	892.688	49	621	1	3.95
8	6.40	sulfate	638.702	211	3142	1	5.26
9	8.37	oxalate	312.739	19	457	1	5.37
Totals			269492.816	55193	439458		

File: 97012211.D12 Sample: S96T005766 DUP

HNF-SD-WM-DP-226, REV. 0

LABCORE Completed Worklist Report for Worklist# 14854

Analyst: kgh

Instrument: IC03

Book# 144W9C

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

Worklist Comment: AN-104 IC2. RCJ

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 CCB	0		0IC2-QC ACETATE2 QC		1	<2.00e-2		ug/mL
1 CCB	0		0IC2-QC FORMATE2 QC		1	<2.10e-2		ug/mL
2 CCV	0		0IC2-QC ACETATE2 QC		1.22e+02	1.22e+02	100.000 % Recovery	
2 CCV	0		0IC2-QC FORMATE2 QC		1.20e+02	1.18e+02	98.333 % Recovery	
3 SAMPLE	S96T005527	0	0IC2-01 ACETATE2 LIQUID	N/A	1.809e+02	42.420	ug/mL	
3 SAMPLE	S96T005527	0	0IC2-01 FORMATE2 LIQUID	N/A	4.595e+02	44.540	ug/mL	
4 DUP	S96T005527	0	0IC2-01 ACETATE2 LIQUID		1.81e+02	1.44e+02	22.759 RPD	
4 DUP	S96T005527	0	0IC2-01 FORMATE2 LIQUID		4.60e+02	4.80e+02	4.255 RPD	
5 SPK	S96T005527	0	0IC2-01 ACETATE2 LIQUID		1.22e+02	1.71e+02	140.164 % Recovery	
5 SPK	S96T005527	0	0IC2-01 FORMATE2 LIQUID		1.20e+02	1.27e+02	105.833 % Recovery	
6 SAMPLE	S96T005528	0	0IC2-01 ACETATE2 LIQUID	N/A	2.896e+02	42.420	ug/mL	
6 SAMPLE	S96T005528	0	0IC2-01 FORMATE2 LIQUID	N/A	4.186e+02	44.540	ug/mL	
7 DUP	S96T005528	0	0IC2-01 ACETATE2 LIQUID		2.90e+02	2.93e+02	1.029 RPD	
7 DUP	S96T005528	0	0IC2-01 FORMATE2 LIQUID		4.19e+02	4.35e+02	3.747 RPD	
8 SAMPLE	S96T005554	0	0IC2-01 ACETATE2 LIQUID	N/A	1.895e+02	42.420	ug/mL	
8 SAMPLE	S96T005554	0	0IC2-01 FORMATE2 LIQUID	N/A	4.910e+02	44.540	ug/mL	
9 DUP	S96T005554	0	0IC2-01 ACETATE2 LIQUID		1.90e+02	3.39e+02	56.393 RPD	
9 DUP	S96T005554	0	0IC2-01 FORMATE2 LIQUID		4.91e+02	4.89e+02	0.408 RPD	

Final page for worklist# 14854

Analyst Signature

Date

Analyst Signature

Date

Reviewer Signature

Date

03/12/97 09:14
A-0004-1

LABCORE Data Entry Template for Worklist# 14854

Analyst:

KCH

Instrument: IC0

3

Book#

KCH/C

Method: LA-533-105

Rev/Mod

D-1

Worklist Comment: AN-104 IC2. RCJ

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC2-QC	QC		
2 CCV			@IC2-QC	QC		
3 SAMPLE	S96T005527 0		@IC2-01	LIQUID	96001283	AN-104
Analytes Requested: ACETATE2, FORMATE2						
4 DUP	S96T005527 0		@IC2-01	LIQUID		
5 SPK	S96T005527 0		@IC2-01	LIQUID		
6 SAMPLE	S96T005528 0		@IC2-01	LIQUID	96001283	AN-104
Analytes Requested: ACETATE2, FORMATE2						
7 DUP	S96T005528 0		@IC2-01	LIQUID		
8 SAMPLE	S96T005554 0		@IC2-01	LIQUID	96001283	AN-104
Analytes Requested: ACETATE2, FORMATE2						
9 DUP	S96T005554 0		@IC2-01	LIQUID		

Final page for worklist # 14854

Analyst Signature

Date

Analyst Signature

Date

Data Entry Comments:

These samples also contain glycolate which interferes with the acetate spike. JmFrye

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

A-0010-IC

DATA FILE/WORKLIST RESOLUTION

09-Apr-97

Worklist#: 14854

Data File: 14854APR.CSV

	Seq	Type	Sample #		Seq#	Data File	Sample Name	Dilution
-	=>	1	CCB		1	97040541.d01	BLANK	1.00
	=>	2	CCV		2	97040841.d02	144N9-C STD	101.00
	=>	3	SAMPLE	S96T005527	3	97040851.d05	S96T005527 SAM	2121.00
	=>	4	DUP	S96T005527	4	97040851.d06	S96T005527 DUP	2121.00
	=>	5	SPK	S96T005527	5	97040851.d07	S96T005527 SPK	2121.00
	=>	6	SAMPLE	S96T005528	6	97040851.d08	S96T005528SAM	2121.00
	=>	7	DUP	S96T005528	7	97040851.d09	S96T005528DUP	2121.00
	=>	8	SAMPLE	S96T005554	8	97040851.d10	S96T005554SAM	2121.00
	=>	9	DUP	S96T005554	9	97040851.d11	S96T005554DUP	2121.00
+					+			

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

Sample Name: BLANK

Date: 04/08/1997 11:06:02

Data File : C:\DX\DATA\97040541.D01

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

ACI Address: 1 System: 2 Inject#: 1

Detector: CDM-1

Analyst : *Janet* Column: AG4A-SC, AS4A-SC, SRS

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 1 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.73		0.000	273	12800	1	
2	5.52		0.000	3615	145092	1	
3	6.63		0.000	639	26413	1	
4	8.17		0.000	114	531	1	
5	8.40		0.000	235	12151	1	
Totals			0.000	4876	196988		

File: 97040541.D01 Sample: BLANK

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1099 TO 1107.

Sample Name: 144N9-C STD Date: 04/08/1997 11:23:47
 Data File : C:\DX\DATA\97040841.D02
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 2 Detector: CDM-1
 Analyst : *[Signature]* Column: AG4A-SC, AS4A-SC, SRS

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 101 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.13	fluoride	74.340	2071	11451	1	-3.03
2	2.41	acetate	121.822	521	3682	1	-2.69
3	3.15	formate	118.365	1068	7739	1	-2.48
4	6.03		0.000	1973	104801	1	
5	6.77		0.000	905	16312	1	
6	7.41		0.000	865	18579	1	
7	8.17		0.000	130	622	1	
8	8.44		0.000	343	24404	1	
9	14.85		0.000	21	125	1	

Totals 314.527 7898 187715

File: 97040841.D02 Sample: 144N9-C STD

```

=====
Sample Name: S96T005527 SAM                      Date: 04/08/1997 15:28:56
Data File  : C:\DX\DATA\97040851.D05
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 5                Detector: CDM-1
Analyst    :                      Column: AG4A-SC,AS4A-SC, SRS
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          2121   4500   5Hz   0.00 15.00          0
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.41	acetate	180.934	58	268	1	-2.69
2	2.56		0.000	30	123	1	
3	3.13	formate	459.496	167	1271	1	-2.89
4	3.89		0.000	114	1005	1	
5	5.41		0.000	4099	14024	1	
6	5.80		0.000	22845	223289	1	
7	6.99		0.000	924	19806	1	
8	7.57		0.000	15196	220168	1	
9	8.16		0.000	101	424	1	
10	8.33		0.000	154	23733	1	
Totals			640.430	43687	504112		

File: 97040851.D05 Sample: S96T005527 SAM

```

=====
Sample Name: S96T005527 DUP                      Date: 04/08/1997 15:46:43
Data File  : C:\DX\DATA\97040851.D06
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 6                Detector: CDM-1
Analyst    :                      Column: AG4A-SC, AS4A-SC, SRS
=====

```

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 2121 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.70		0.000	0	34	1	
2	2.41	acetate	144.320	50	216	1	-2.69
3	2.56		0.000	26	148	1	
4	3.13	formate	480.383	172	1336	1	-2.89
5	3.89		0.000	115	978	1	
6	5.41		0.000	4128	14567	1	
7	5.80		0.000	22873	221422	1	
8	7.00		0.000	1131	23622	1	
9	7.57		0.000	15343	221041	1	
10	8.15		0.000	90	427	1	
11	8.32		0.000	118	23905	1	
Totals			624.703	44047	507694		

File: 97040851.D06 Sample: S96T005527 DUP

```

=====
Sample Name: S96T005527 SPK                      Date: 04/08/1997 16:02:32
Data File  : C:\DX\DATA\97040851.D07
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 7                Detector: CDM-1
Analyst    :                      Column: AG4A-SC, AS4A-SC, SRS
=====

```

```

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

```

```

External      1      2121   4500  5Hz   0.00  15.00      0
=====

```

```

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

```

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.13	fluoride	1510.476	2147	11058	1	-3.03
2	2.41	acetate	3632.506	681	5215	1	-2.69
3	3.13	formate	3022.250	1333	9486	1	-2.89
4	3.89		0.000	110	984	1	
5	5.41		0.000	4365	18691	1	
6	5.80		0.000	23261	228828	1	
7	7.04		0.000	1167	24081	1	
8	7.57		0.000	15436	224610	1	
9	8.16		0.000	106	477	1	
10	8.36		0.000	194	22258	1	
Totals			8165.232	48799	545689		

File: 97040851.D07 Sample: S96T005527 SPK

```

=====
Sample Name: S96T005528SAM                      Date: 04/08/1997 16:18:25
Data File  : C:\DX\DATA\97040851.D08
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 8              Detector: CDM-1
Analyst    :                               Column: AG4A-SC, AS4A-SC, SRS
=====

```

```

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

```

```

External      1      2121   4500   5Hz   0.00  15.00      0
=====

```

```

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

```

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.20	fluoride	48.241	4	13	1	0.00
2	2.41	acetate	289.558	76	425	1	-2.69
3	2.57		0.000	23	84	1	
4	3.13	formate	418.593	146	1142	1	-2.89
5	3.91		0.000	111	1059	1	
6	5.43		0.000	4172	16817	1	
7	5.81		0.000	21881	211973	1	
8	7.05		0.000	1136	22120	1	
9	7.59		0.000	15261	216824	1	
10	8.16		0.000	76	308	1	
11	8.35		0.000	177	23694	1	
Totals			756.392	43063	494459		

File: 97040851.D08 Sample: S96T005528SAM

```

=====
Sample Name: S96T005528DUP      Date: 04/08/1997 16:34:30
Data File  : C:\DX\DATA\97040851.D09
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 9      Detector: CDM-1
Analyst    :                      Column: AG4A-SC, AS4A-SC, SRS
=====

```

```

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

```

```

External      1      2121    4500    5Hz    0.00  15.00      0
=====

```

```

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

```

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.19	fluoride	49.217	4	20	1	-0.61
2	2.41	acetate	292.610	79	429	1	-2.69
3	3.15	formate	435.072	154	1194	1	-2.48
4	3.91		0.000	104	878	1	
5	5.41		0.000	4092	16555	1	
6	5.80		0.000	22043	217629	1	
7	7.03		0.000	1141	22355	1	
8	7.57		0.000	15410	222614	1	
9	8.16		0.000	86	389	1	
10	8.35		0.000	179	23428	1	
Totals			776.899	43291	505492		

File: 97040851.D09 Sample: S96T005528DUP

```

=====
Sample Name: S96T005554SAM                      Date: 04/08/1997 16:50:25
Data File  : C:\DX\DATA\97040851.D10
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 10             Detector: CDM-1
Analyst    :                               Column: AG4A-SC, AS4A-SC, SRS
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          2121   4500   5Hz   0.00 15.00          0
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.53		0.000	1	11	1	
2	2.41	acetate	189.465	61	281	1	-2.69
3	2.56		0.000	28	169	1	
4	3.13	formate	490.999	175	1370	1	-2.89
5	3.91		0.000	121	1037	1	
6	5.41		0.000	4500	17752	1	
7	5.80		0.000	24401	234675	1	
8	6.99		0.000	1154	22194	1	
9	7.56		0.000	15793	228459	1	
10	8.16		0.000	96	408	1	
11	8.36		0.000	200	24186	1	
Totals			680.464	46530	530542		

File: 97040851.D10 Sample: S96T005554SAM

```

=====
Sample Name: S96T005554DUP                      Date: 04/08/1997 17:06:12
Data File  : C:\DX\DATA\97040851.D11
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 11              Detector: CDM-1
Analyst    :                      Column: AG4A-SC, AS4A-SC, SRS
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          2121   4500   5Hz   0.00 15.00          0
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.19	fluoride	49.786	5	25	1	-0.61
2	2.41	acetate	338.889	89	496	1	-2.69
3	2.56		0.000	29	155	1	
4	3.13	formate	488.997	178	1364	1	-2.89
5	3.89		0.000	118	1050	1	
6	5.41		0.000	4880	19515	1	
7	5.79		0.000	23923	236692	1	
8	6.97		0.000	1162	22122	1	
9	7.56		0.000	15890	232277	1	
10	8.16		0.000	99	459	1	
11	8.33		0.000	137	22204	1	
Totals			877.672	46510	536359		

File: 97040851.D11 Sample: S96T005554DUP

LABCORE Completed Worklist Report for Worklist# 14855

Analyst: smf

Instrument: IC03

Book# 1441998

Method: 14-533-105 Rev/Mod D-1

Worklist Comment: AN-104 IC2. RCJ

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 CCB	0		@IC2-QC ACETATE2 QC		1	<2.00e-2		ug/mL
1 CCB	0		@IC2-QC FORMATE2 QC		1	<2.10e-2		ug/mL
2 CCV	0		@IC2-QC ACETATE2 QC		1.240e2	1.207e2	97.333 % Recovery	
2 CCV	0		@IC2-QC FORMATE2 QC		1.200e2	1.12e+02	93.333 % Recovery	
3 SAMPLE	S96T005739	0	@IC2-01 ACETATE2 LIQUID		N/A	8.204e+02	204.000	ug/mL
3 SAMPLE	S96T005739	0	@IC2-01 FORMATE2 LIQUID		N/A	1.024e+03	214.200	ug/mL
4 DUP	S96T005739	0	@IC2-01 ACETATE2 LIQUID		8.20e+02	7.77e+02	5.365 RPD	
4 DUP	S96T005739	0	@IC2-01 FORMATE2 LIQUID		1.02e+03	1.07e+03	4.785 RPD	
5 SPK	S96T005739	0	@IC2-01 ACETATE2 LIQUID		1.240e2	1.05e+02	84.677 % Recovery	
5 SPK	S96T005739	0	@IC2-01 FORMATE2 LIQUID		1.200e2	1.12e+02	93.333 % Recovery	
6 SAMPLE	S96T005741	0	@IC2-01 ACETATE2 LIQUID		N/A	8.260e+02	204.000	ug/mL
6 SAMPLE	S96T005741	0	@IC2-01 FORMATE2 LIQUID		N/A	1.089e+03	214.200	ug/mL
7 DUP	S96T005741	0	@IC2-01 ACETATE2 LIQUID		8.26e+02	8.64e+02	4.497 RPD	
7 DUP	S96T005741	0	@IC2-01 FORMATE2 LIQUID		1.09e+03	1.12e+03	2.715 RPD	
8 SAMPLE	S96T005766	0	@IC2-01 ACETATE2 LIQUID		N/A	7.884e+02	204.000	ug/mL
8 SAMPLE	S96T005766	0	@IC2-01 FORMATE2 LIQUID		N/A	1.168e+03	214.200	ug/mL
9 DUP	S96T005766	0	@IC2-01 ACETATE2 LIQUID		7.88e+02	7.88e+02	0.000 RPD	
9 DUP	S96T005766	0	@IC2-01 FORMATE2 LIQUID		1.17e+03	1.13e+03	3.478 RPD	

Final page for worklist# 14855

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

John M. Lee 2/10/97
Reviewer Signature Date

11/11/96 10:36

A-0004-1

Page: 1

LABCORE Data Entry Template for Worklist# 14855

Analyst: SME Instrument: IC0 IC03 Book# 144098Method: LA-533-105 Rev/Mod D-1

Worklist Comment: AN-104 IC2, RCJ

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC2-QC	QC		
2 CCV			@IC2-QC	QC		
3 SAMPLE	S96T005739 0		@IC2-01	LIQUID	96001283	AN-104
	Analytes Requested: ACETATE2, FORMATE2					
4 DUP	S96T005739 0		@IC2-01	LIQUID		
5 SPK	S96T005739 0		@IC2-01	LIQUID		
6 SAMPLE	S96T005741 0		@IC2-01	LIQUID	96001283	AN-104
	Analytes Requested: ACETATE2, FORMATE2					
7 DUP	S96T005741 0		@IC2-01	LIQUID		
8 SAMPLE	S96T005766 0		@IC2-01	LIQUID	96001283	AN-104
	Analytes Requested: ACETATE2, FORMATE2					
9 DUP	S96T005766 0		@IC2-01	LIQUID		

Final page for worklist # 14855

Analyst Signature Luis M. Dalton Date 2-4-97

Analyst Signature _____ Date _____

J. L. Womell
UPLOADED 2-7-97

14855 Pb.CSV

Validated 2/10/97 gmf

Data Entry Comments:

A-0010-IC

DATA FILE/WORKLIST RESOLUTION

07-Feb-97

Worklist#: 14855				Data File: 14855FB.CSV			
	Seq	Type	Sample #	Seq#	Data File	Sample Name	Dilution
-	=>	1	CCB	1	97020361.d01	CCB ELUENT BLANK	1.00
	=>	2	CCV	2	97020361.d03	CCV STD 144N9-B	101.00
	=>	3	SAMPLE	6	97020361.d05	S96T005741	10201.00
	=>	4	DUP	8	97020361.d08	S96T005766	10201.00
	=>	5	SPK	7	97020371.d09	S96T005741	10201.00
	=>	6	SAMPLE	9	97020371.d10	S96T005766 DUP	10201.00
	=>	7	DUP	3	97020371.d11	S96T005739	10201.00
	=>	8	SAMPLE	4	97020371.d12	S96T005739 DUP	10201.00
	=>	9	DUP	5	97020371.d13	S96T005739 SPK	10201.00
+				+			

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

Sample Name: CCB ELUENT BLANK

Date: 02/03/1997 19:10:14

Data File : C:\DX\DATA\97020361.D01

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

ACI Address: 1 System: 2 Inject#: 1

Detector: CDM-1

Analyst *James J. Fox* Column: AG4A-SC, AS4A-SC, SRS

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 1 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	6.03		0.000	4698	149882	1	
2	7.87		0.000	222	3878	2	
3	8.13		0.000	393	2770	2	
4	8.65		0.000	1636	70196	2	
Totals			0.000	6950	226726		

File: 97020361.D01 Sample: CCB ELUENT BLANK

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1108 TO 1119.

Data Reprocessed On 02/10/1997 11:34:30

```

=====
Sample Name: CCV STD 144N9-B                      Date: 02/03/1997 19:54:50
Data File  : E:\DATA\97020361.D03
Method     : C:\DX\METHOD\ACE.MET
ACT Address: 1 System: 2 Inject#: 3                Detector: CDM-1
Analyst    :                      Column: AG4A-SC, AS4A-SC, SRS
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          101    4500    5Hz    0.00  15.00          0
=====

```

```

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

```

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.03	fluoride	72.414	2024	12918	2	-4.54
2	2.31	acetate	120.685	581	4176	2	-0.14
3	2.99	formate	112.087	1025	7714	1	-5.19
4	5.12		0.000	869	7283	2	
5	5.93		0.000	4931	284566	2	
6	6.65		0.000	4048	250110	2	
7	7.85		0.000	2687	49081	2	
8	8.13		0.000	2561	18591	2	
9	8.55		0.000	2670	175666	2	
Totals			305.186	21397	810104		

File: 97020361.D03 Sample: CCV STD 144N9-B

Sample Name: S96T005766 Date: 02/04/1997 00:13:24
 Data File : C:\DX\DATA\97020361.D08
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 8 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 10201 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.32	acetate	788.392	29	121	1	-3.73
2	3.03	formate	1168.071	64	505	1	-3.92
3	3.76		0.000	56	431	1	
4	5.36		0.000	5499	61885	2	
5	5.75		0.000	18267	642936	2	
6	7.59		0.000	10978	195049	2	
7	8.13		0.000	2644	19059	2	
8	8.55		0.000	2686	174672	2	
Totals			1956.463	40222	1094658		

File: 97020361.D08 Sample: S96T005766

```

=====
Sample Name: S96T005741          Date: 02/04/1997 02:05:24
Data File  : E:\DATA\97020371.D09
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 9      Detector: CDM-1
Analyst    :                      Column: AG4A-SC, AS4A-SC, SRS
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1         10201    4500   5Hz   0.00 15.00         0
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.29	acetate	863.545	35	148	1	0.15
2	2.97	formate	1117.742	65	470	1	-5.61
3	3.68		0.000	57	469	1	
4	5.35		0.000	4082	46140	2	
5	5.76		0.000	14540	245557	2	
6	7.59		0.000	8738	118999	3	
7	8.15		0.000	762	5039	4	
8	8.68		0.000	2503	114071	2	
Totals			1981.287	30781	530893		

File: 97020371.D09 Sample: S96T005741

```

=====
Sample Name: S96T005766 DUP                      Date: 02/04/1997 02:21:24
Data File  : C:\DX\DATA\97020371.D10
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 10              Detector: CDM-1
Analyst    :                      Column: AG4A-SC, AS4A-SC, SRS
=====

```

```

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

```

```

External      1      10201      4500      5Hz      0.00      15.00      0

```

```

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

```

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.32	acetate	787.551	29	121	1	-3.73
2	3.01	formate	1125.796	66	475	1	-4.34
3	3.75		0.000	61	494	1	
4	5.35		0.000	5446	62272	2	
5	5.75		0.000	18647	631504	2	
6	7.57		0.000	10958	203674	2	
7	8.13		0.000	2662	19408	2	
8	8.53		0.000	2714	175295	2	
Totals			1913.346	40582	1093244		

File: 97020371.D10 Sample: S96T005766 DUP

```

=====
Sample Name: S96T005739                      Date: 02/04/1997 02:38:40
Data File  : C:\DX\DATA\97020371.D11
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 11          Detector: CDM-1
Analyst    :                               Column: AG4A-SC, AS4A-SC, SRS
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1      10201    4500  5Hz   0.00 15.00          0
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.33	acetate	820.360	30	132	1	-3.18
2	3.01	formate	1023.961	55	404	1	-4.34
3	3.75		0.000	52	447	1	
4	5.15		0.000	939	8230	1	
5	5.35		0.000	2813	19733	2	
6	5.76		0.000	14275	282451	2	
7	6.89		0.000	3279	132043	2	
8	7.57		0.000	10116	176545	2	
9	8.13		0.000	2197	15534	2	
10	8.56		0.000	2325	144032	2	
Totals			1844.320	36081	779553		

File: 97020371.D11 Sample: S96T005739

```

=====
Sample Name: S96T005739   DUP                      Date: 02/04/1997 02:55:54
Data File  : C:\DX\DATA\97020371.D12
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 12                Detector: CDM-1
Analyst    :                      Column: AG4A-SC, AS4A-SC, SRS
=====

```

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 10201 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.32	acetate	777.175	27	117	1	-3.73
2	3.01	formate	1066.972	56	434	1	-4.34
3	3.75		0.000	53	432	1	
4	5.35		0.000	3864	45727	2	
5	5.75		0.000	14938	343639	2	
6	6.89		0.000	3919	166812	2	
7	7.57		0.000	10799	195481	2	
8	8.13		0.000	2660	19371	2	
9	8.55		0.000	2717	176352	2	
Totals			1844.147	39032	948365		

File: 97020371.D12 Sample: S96T005739 DUP

```

=====
Sample Name: S96T005739   SPK                      Date: 02/04/1997 03:11:44
Data File  : C:\DX\DATA\97020371.D13
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 13                Detector: CDM-1
Analyst    :                      Column: AG4A-SC,AS4A-SC, SRS
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          10201  4500  5Hz  0.00 15.00      0
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.03	fluoride	6602.197	1590	11578	2	-4.54
2	2.32	acetate	11408.203	612	3899	2	-3.73
3	3.01	formate	12374.383	1171	8480	1	-4.34
4	3.76		0.000	54	453	1	
5	5.36		0.000	3988	47062	2	
6	5.76		0.000	15600	329389	2	
7	6.88		0.000	3917	171817	2	
8	7.57		0.000	11178	202532	2	
9	8.13		0.000	2648	19073	2	
10	8.57		0.000	2690	173632	2	
Totals			30384.784	43448	967914		

File: 97020371.D13 Sample: S96T005739 SPK

LABCORE Completed Worklist Report for Worklist# 15045

Analyst: smf

Instrument: IC02

Book# 144N98

Method: 14-533-105 Rev/Mod D-7

Worklist Comment: AN-104, @IC2-01 skm

Seq Type	Sample# R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 CCB	0	@IC2-QC	ACETATE2 QC	1	<2.00e-2		ug/mL
1 CCB	0	@IC2-QC	FORMATE2 QC	1	<2.10e-2		ug/mL
2 CCV	0	@IC2-QC	ACETATE2 QC	1.240e2	1.53e+02	107.258 % Recovery	
2 CCV	0	@IC2-QC	FORMATE2 QC	1.200e2	1.15e+02	95.833 % Recovery	
3 BLNK-PREP	0	@IC2-01	ACETATE2 SOLID	1	<2.00e-2		ug/g
3 BLNK-PREP	0	@IC2-01	FORMATE2 SOLID	1	<2.10e-2		ug/g
4 SAMPLE	S96T005779 0 W	@IC2-01	ACETATE2 SOLID	N/A	6.386e+02	173.800	ug/g
4 SAMPLE	S96T005779 0 W	@IC2-01	FORMATE2 SOLID	N/A	8.251e+02	182.500	ug/g
5 DUP	S96T005779 0 W	@IC2-01	ACETATE2 SOLID	6.39e+02	5.49e+02	15.152 RPD	
5 DUP	S96T005779 0 W	@IC2-01	FORMATE2 SOLID	8.25e+02	7.92e+02	4.082 RPD	
6 SPK	S96T005779 0 W	@IC2-01	ACETATE2 SOLID	1.240e2	9.60e+01	77.413 % Recovery	
6 SPK	S96T005779 0 W	@IC2-01	FORMATE2 SOLID	1.200e2	4.73e+02	394.167 % Recovery	
7 SAMPLE	S96T005785 0 W	@IC2-01	ACETATE2 SOLID	N/A	8.366e+02	173.900	ug/g
7 SAMPLE	S96T005785 0 W	@IC2-01	FORMATE2 SOLID	N/A	7.662e+02	184.700	ug/g
8 DUP	S96T005785 0 W	@IC2-01	ACETATE2 SOLID	8.37e+02	2.28e+04	185.836 RPD	
8 DUP	S96T005785 0 W	@IC2-01	FORMATE2 SOLID	7.66e+02	<1.71e2	RPD	
9 SPK	S96T005785 0 W	@IC2-01	ACETATE2 SOLID	1.240e2	1.33e+02	107.258 % Recovery	
9 SPK	S96T005785 0 W	@IC2-01	FORMATE2 SOLID	1.200e2	1.17e+02	97.500 % Recovery	

Comments Section:

Comments for sample# S96T005779 and test @IC2-01 .
Acetate and formate spike failure. skm

Comments for sample# S96T005785 and test @IC2-01 .
Acetate duplicate failure. skm

DATA
NOT USED

Data rejected & put out for review on WKL #16779.
JMF

Final page for worklist# 15045

Analyst Signature _____ Date _____

Sarah M. L... 2-21-97
Analyst Signature _____ Date _____

Sarah M. L... 2/25/97
Reviewer Signature _____ Date _____

LABCORE Data Entry Template for Worklist# 15045

Analyst: SMT Instrument: IC0 _____ Book# 144N9-B

Method: LA-533-105 Rev/Mod _____

Worklist Comment: AN-104, @IC2-01 skm

S Type	Sample#	R A Test	Matrix	Group#	Project
1 CCB		@IC2-QC	QC		
2 CCV		@IC2-QC	QC		
3 BLNK-PREP		@IC2-01	SOLID		
4 SAMPLE	S96T005779 0 W	@IC2-01	SOLID	96001283	AN-104
	Analytes Requested: ACETATE2, FORMATE2				
5 DUP	S96T005779 0 W	@IC2-01	SOLID		
6 SPK	S96T005779 0 W	@IC2-01	SOLID		
7 SAMPLE	S96T005785 0 W	@IC2-01	SOLID	96001283	AN-104
	Analytes Requested: ACETATE2, FORMATE2				
8 DUP	S96T005785 0 W	@IC2-01	SOLID		
9 SPK	S96T005785 0 W	@IC2-01	SOLID		

Final page for worklist # 15045

Laurie M. Dutton 2-7-97
Analyst Signature Date

Daniel M. Garland 2-21-97
Analyst Signature Date

15045 FB. SDH
15045 FB. CSV uploaded 2-21-97

Rejected - program problems on instrument. SMT

**DATA
NOT USED**

Data Entry Comments:

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

A-0010-IC

DATA FILE/WORKLIST RESOLUTION

21-Feb-97

Worklist#: 15045				Data File: 15045FB.CSV					
		Seq	Type	Sample #	Seq#	Data File	Sample Name	Dilution	
-	=>	1	CCB		-	3	97020691.d12	PREP BLANK	1.00
	=>	2	CCV			2	97020691.d10	CCV STD 144N9-B	101.00
	=>	3	BLNK-PREP			4	97020691.d13	S96T005779	41.00
	=>	4	SAMPLE	S96T005779		5	97020691.d14	S96T005779 DUP	41.00
	=>	5	DUP	S96T005779		6	97020691.d18	S96T005779 SPK	41.00
	=>	6	SPK	S96T005779		7	97020691.d15	S96T005785	41.00
	=>	7	SAMPLE	S96T005785		8	97020691.d16	S96T005785 DUP	41.00
	=>	8	DUP	S96T005785		9	97020691.d17	S96T005785 SPK	41.00
	=>	9	SPK	S96T005785		1	97020691.d09	CCB ELUENT BLANK	1.00
+					+				

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

DATA
NOT USED

Sample Name: CCB ELUENT BLANK Date: 02/07/1997 10:53:06
 Data File : C:\DX\DATA\97020691.D09
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 9 Detector: CDM-1
 Analyst : *Signature* Column: AG4A-SC, AS4A-SC, SRS

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 1 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.03	fluoride	0.032	5	2	1	0.16
2	5.56		0.000	4621	210080	2	
3	6.41		0.000	5046	109601	2	
4	7.93		0.000	176	2279	2	
5	8.16		0.000	336	2197	2	
6	8.39		0.000	651	46762	2	

Totals 0.032 10835 370920

File: 97020691.D09 Sample: CCB ELUENT BLANK

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1123 TO 1132

Data Reprocessed On 02/21/1997 10:26:53

Sample Name: CCV STD 144N9-B	Date: 02/07/1997 11:13:07
Data File : E:\DATA\97020691.D10	
Method : C:\DX\METHOD\ACE.MET	
ACI Address: 1 System: 2 Inject#: 10	Detector: CDM-1
Analyst :	Column: AG4A-SC, AS4A-SC, SRS

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

External	1	101	4500	5Hz	0.00	15.00		0
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***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.03	fluoride	72.427	2090	12920	2	0.16
2	2.31	acetate	133.480	625	4634	2	-0.14
3	3.00	formate	114.566	1075	7896	1	0.33
4	6.05		0.000	3029	170542	2	
5	6.48		0.000	2588	103666	2	
6	8.13		0.000	214	1206	2	
7	8.39		0.000	555	39195	2	
Totals			320.472	10175	340060		

File: 97020691.D10 Sample: CCV STD 144N9-B

Sample Name: PREP BLANK Date: 02/07/1997 14:02:51
 Data File : C:\DX\DATA\97020691.D12
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 12 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.53		0.000	80	2860	1	
2	1.43		0.000	11	353	1	
3	6.07		0.000	2567	102349	1	
4	8.13		0.000	207	1186	2	
5	8.37		0.000	550	41628	2	
Totals			0.000	3415	148376		

File: 97020691.D12 Sample: PREP BLANK

Sample Name: S96T005779 Date: 02/07/1997 14:28:27
 Data File : C:\DX\DATA\97020691.D13
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 13 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 41 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.03	fluoride	4.549	264	1471	1	0.16
2	2.29	acetate	3.013	24	107	1	-0.72
3	2.69		0.000	18	95	1	
4	2.99	formate	3.893	51	366	1	-0.11
5	3.72		0.000	36	304	1	
6	5.36		0.000	3850	48859	2	
7	5.79		0.000	9883	327704	2	
8	7.61		0.000	7907	104868	3	
10	8.37		0.000	2	1	4	

Totals 11.455 22035 483775

File: 97020691.D13 Sample: S96T005779

Data Reprocessed On 02/07/1997 16:16:52

```

=====
Sample Name: S96T005779  DUP                      Date: 02/07/1997 14:47:57
Data File  : C:\DX\DATA\97020691.D14
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 14                Detector: CDM-1
Analyst    :                      Column: AG4A-SC,AS4A-SC, SRS
=====

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=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          41    4500  5Hz   0.00 15.00          0
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.03	fluoride	4.469	212	1435	1	0.16
2	2.32	acetate	2.736	18	82	1	0.43
3	3.00	formate	3.947	44	375	1	0.33
4	3.75		0.000	33	284	1	
5	5.37		0.000	2943	30639	2	
6	5.79		0.000	9044	199211	2	
7	6.72		0.000	3328	123618	2	
8	7.56		0.000	10155	141996	3	
10	8.39		0.000	10	57	4	
Totals			11.151	25787	497697		

File: 97020691.D14 Sample: S96T005779 DUP

Sample Name: S96T005779 SPK Date: 02/07/1997 17:33:23
 Data File : C:\DX\DATA\97020691.D18
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 18 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.03	fluoride	31.170	2794	13751	1	0.16
2	2.28	acetate	41.418	582	3507	1	-1.30
3	2.96	formate	192.896	2000	36846	1	-1.00
4	6.37		0.000	379	4948	1	
5	8.92		0.000	2342	50771	1	
Totals			265.484	8096	109824		

File: 97020691.D18 Sample: S96T005779 SPK

Sample Name: S96T005785 Date: 02/07/1997 16:34:59
 Data File : C:\DX\DATA\97020691.D15
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 15 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 41 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.03	fluoride	4.604	247	1496	2	0.16
2	2.31	acetate	3.900	28	186	2	-0.14
3	2.99	formate	3.572	44	310	1	-0.11
4	3.71		0.000	54	408	1	
5	6.37		0.000	387	13031	1	
6	8.89		0.000	2291	48707	1	
7	11.16		0.000	19	510	1	

Totals 12.076 3071 64648

File: 97020691.D15 Sample: S96T005785

Sample Name: S96T005785 DUP Date: 02/07/1997 16:54:01
 Data File : C:\DX\DATA\97020691.D16
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 16 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 41 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.27	acetate	114.760	384	9960	1	-1.88
2	6.39		0.000	380	5077	1	
3	8.91		0.000	2468	54230	1	
Totals			114.760	3231	69266		

File: 97020691.D16 Sample: S96T005785 DUP

Data Reprocessed On 02/21/1997 11:01:33

Sample Name: S96T005785 SPK Date: 02/07/1997 17:14:56
Data File : E:\DATA\97020691.D17
Method : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 17 Detector: CDM-1
Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.23		0.000	579	19277	1	
2	0.97		0.000	111	624	1	
3	2.03	fluoride	36.161	3064	16111	2	0.16
4	2.28	acetate	56.988	693	4882	2	-1.30
5	2.97	formate	50.459	1195	8612	1	-0.56
6	3.72		0.000	32	259	1	
7	6.39		0.000	370	4867	1	
8	8.92		0.000	2269	48968	1	
Totals			143.607	8313	103598		

File: 97020691.D17 Sample: S96T005785 SPK

LABCORE Completed Worklist Report for Worklist# 15051

Analyst: smf

Instrument: IC03

Book# 144098

Method: 4-533-105 Rev/Mod D-1

Worklist Comment: AN-104, @IC2-01 skm

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 CCB	0		@IC2-QC ACETATE2 QC		1	<2.00e-2		ug/mL
1 CCB	0		@IC2-QC FORMATE2 QC		1	<2.10e-2		ug/mL
2 CCV	0		@IC2-QC ACETATE2 QC		1.240e2	1.20e+02	96.774 % Recovery	
2 CCV	0		@IC2-QC FORMATE2 QC		1.200e2	1.18e+02	98.333 % Recovery	
3 BLNK-PREP	0		@IC2-01 ACETATE2 SOLID		1	4.50e-02	0.045	ug/g
3 BLNK-PREP	0		@IC2-01 FORMATE2 SOLID		1	7.70e-02	0.077	ug/g
4 SAMPLE	S96T005751	0 W	@IC2-01 ACETATE2 SOLID		N/A	4.295e+02	43.950	ug/g
4 SAMPLE	S96T005751	0 W	@IC2-01 FORMATE2 SOLID		N/A	6.332e+02	46.150	ug/g
5 DUP	S96T005751	0 W	@IC2-01 ACETATE2 SOLID		4.30e+02	4.38e+02	1.843 RPD	
5 DUP	S96T005751	0 W	@IC2-01 FORMATE2 SOLID		6.33e+02	6.20e+02	2.075 RPD	
6 SPK	S96T005751	0 W	@IC2-01 ACETATE2 SOLID		1.240e2	1.64e+02	132.258 % Recovery	
6 SPK	S96T005751	0 W	@IC2-01 FORMATE2 SOLID		1.200e2	1.22e+02	101.667 % Recovery	
7 SAMPLE	S96T005752	0 W	@IC2-01 ACETATE2 SOLID		N/A	4.425e+02	47.540	ug/g
7 SAMPLE	S96T005752	0 W	@IC2-01 FORMATE2 SOLID		N/A	6.249e+02	49.320	ug/g
8 DUP	S96T005752	0 W	@IC2-01 ACETATE2 SOLID		4.42e+02	4.69e+02	5.928 RPD	
8 DUP	S96T005752	0 W	@IC2-01 FORMATE2 SOLID		6.25e+02	6.30e+02	0.797 RPD	
9 SPK	S96T005752	0 W	@IC2-01 ACETATE2 SOLID		1.240e2	1.61e+02	129.839 % Recovery	
9 SPK	S96T005752	0 W	@IC2-01 FORMATE2 SOLID		1.200e2	1.26e+02	105.000 % Recovery	
10 SAMPLE	S96T005784	0 W	@IC2-01 ACETATE2 SOLID		N/A	4.953e+02	43.420	ug/g
10 SAMPLE	S96T005784	0 W	@IC2-01 FORMATE2 SOLID		N/A	6.509e+02	45.280	ug/g
11 DUP	S96T005784	0 W	@IC2-01 ACETATE2 SOLID		4.96e+02	4.43e+02	11.289 RPD	
11 DUP	S96T005784	0 W	@IC2-01 FORMATE2 SOLID		6.51e+02	6.35e+02	2.488 RPD	
12 SPK	S96T005784	0 W	@IC2-01 ACETATE2 SOLID		1.240e2	1.49e+02	120.161 % Recovery	
12 SPK	S96T005784	0 W	@IC2-01 FORMATE2 SOLID		1.200e2	1.13e+02	94.167 % Recovery	

Final page for worklist# 15051

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

John L. Lyle 2/12/97
Reviewer Signature Date

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

LABCORE Data Entry Template for Worklist# 15051

Analyst: SMF Instrument: IC0 IC03 Book# 144N9-B

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

Worklist Comment: AN-104, @IC2-01 skm

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC2-QC	QC		
2 CCV			@IC2-QC	QC		
3 BLNK-PREP			@IC2-01	SOLID		
4 SAMPLE	S96T005751 0 W		@IC2-01	SOLID	96001283	AN-104
	Analytes Requested: ACETATE2, FORMATE2					
5 DUP	S96T005751 0 W		@IC2-01	SOLID		
6 SPK	S96T005751 0 W		@IC2-01	SOLID		
7 SAMPLE	S96T005752 0 W		@IC2-01	SOLID	96001283	AN-104
	Analytes Requested: ACETATE2, FORMATE2					
8 DUP	S96T005752 0 W		@IC2-01	SOLID		
9 SPK	S96T005752 0 W		@IC2-01	SOLID		
10 SAMPLE	S96T005784 0 W		@IC2-01	SOLID	96001283	AN-104
	Analytes Requested: ACETATE2, FORMATE2					
11 DUP	S96T005784 0 W		@IC2-01	SOLID		
12 SPK	S96T005784 0 W		@IC2-01	SOLID		

Final page for worklist # 15051

Susie M. Dufon 02-01-97
Analyst Signature Date

15051.FB.CSV

UPLOADED 2-12-97

R. J. Jones

Analyst Signature Date

Validated 2/12/97 Jm Feige

Data Entry Comments:

DF 3467.6 = .100ml - 10ml - 320ml - 10ml SMF 02-01-97

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

A-0010-IC				DATA FILE/WORKLIST RESOLUTION				12-Feb-97	
Worklist#: 15051				Data File: 15051FB.CSV					
	Seq	Type	Sample #	Seq#	Data File	Sample Name	Dilution		
-	=>	1	CCB	-	1	97013111.d01	CCB ELUENT BLANK		1.00
	=>	2	CCV		2	97013131.d06	CCV STD 144N9-B		101.00
	=>	3	BLNK-PREP		3	97013131.d03	PREP BLANK		1.00
	=>	4	SAMPLE		4	97013131.d09	S96T005751		11.00
	=>	5	DUP		5	97013131.d08	S96T005751 DUP		11.00
	=>	6	SPK		6	97013131.d14	S96T005751 SPK		11.00
	=>	7	SAMPLE		7	97013131.d10	S96T005752		11.00
	=>	8	DUP		8	97013131.d11	S96T005752		11.00
	=>	9	SPK		9	97013131.d16	S96T005752 SPK		11.00
	=>	10	SAMPLE		10	97013131.d12	S96T005784		11.00
	=>	11	DUP		11	97013131.d13	S96T005784 DUP		11.00
	=>	12	SPK		12	97013131.d17	S96T005784 SPK		11.00
+				+					

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

Sample Name: CCB ELUENT BLANK

Date: 01/31/1997 22:13:53

Data File : C:\DX\DATA\97013111.D01

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

ACT Address: 1 System: 2 Inject#: 1

Detector: CDM-1

Analyst : *James Lee* Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. %Delta Code
1	2.29		0.000	5	74	1
2	5.64		0.000	5264	256374	2
3	6.95		0.000	1407	45159	2
4	8.13		0.000	214	1365	2
5	8.41		0.000	597	40298	2
Totals			0.000	7487	343270	

File: 97013111.D01 Sample: CCB ELUENT BLANK

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1135 TO 1146.

Sample Name: CCV STD 144N9-B Date: 01/31/1997 23:43:59
 Data File : C:\DX\DATA\97013131.D06
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 6 Detector: CDM-1
 Analyst : *Smith* Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	101	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.10	fluoride	67.277	2332	11940	2	-1.41
2	2.37	acetate	120.203	580	4159	2	-1.52
3	3.09	formate	117.935	1081	8143	1	-1.80
4	5.99		0.000	2799	173351	2	
5	6.95		0.000	1398	46010	2	
6	7.97		0.000	196	1465	2	
7	8.13		0.000	243	1631	2	
8	8.39		0.000	555	39113	2	
Totals			305.415	9185	285812		

File: 97013131.D06 Sample: CCV STD 144N9-B

```

=====
Sample Name: PREP BLANK                      Date: 01/31/1997 22:47:56
Data File  : C:\DX\DATA\97013131.D03
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 3          Detector: CDM-1
Analyst    :                               Column: AG4A-SC, AS4A-SC, SRS
=====

```

```

=====
Calibration Volume  Dilution Points Rate  Start  Stop Area Reject
-----
External           1           1  4500  5Hz   0.00  15.00      0
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.40	acetate	0.045	2	5	1	-0.41
2	3.13	formate	0.077	30	239	1	-0.53
3	6.04		0.000	3737	250468	2	
4	7.08		0.000	3155	161100	2	
5	7.96		0.000	2365	28306	2	
6	8.13		0.000	2279	18218	2	
7	8.43		0.000	2328	149899	2	
Totals			0.122	13898	608234		

File: 97013131.D03 Sample: PREP BLANK

```

=====
Sample Name: S96T005751      Date: 02/01/1997 02:23:45
Data File  : C:\DX\DATA\97013131.D09
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 9      Detector: CDM-1
Analyst    :                  Column: AG4A-SC, AS4A-SC, SRS
=====

```

```

=====
Calibration Volume  Dilution Points Rate  Start  Stop Area Reject
-----
External           1           11  4500  5Hz   0.00  15.00           0
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.07	fluoride	2.007	398	2800	1	-2.97
2	2.36	acetate	2.150	108	551	1	-2.07
3	3.07	formate	3.170	218	1741	1	-2.65
4	3.83		0.000	144	1256	1	
5	5.39		0.000	8410	64453	2	
6	5.77		0.000	29574	397098	3	
7	6.92		0.000	3042	63000	4	
8	7.51		0.000	18116	295173	2	
Totals			7.327	60009	826072		

File: 97013131.D09 Sample: S96T005751

```

=====
Sample Name: S96T005751 DUP      Date: 02/01/1997 02:01:09
Data File  : C:\DX\DATA\97013131.D08
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 8
Analyst    :                      Column: AG4A-SC,AS4A-SC, SRS
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          11    4500  5Hz    0.00 15.00      0
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.10	fluoride	1.651	410	2198	1	-1.41
2	2.36	acetate	2.176	106	559	1	-2.07
3	3.08	formate	3.076	216	1680	1	-2.22
4	3.85		0.000	143	1322	1	
5	5.37		0.000	7596	56125	2	
6	5.76		0.000	28917	390375	3	
7	6.99		0.000	1659	53847	4	
8	7.49		0.000	18067	295711	2	
Totals			6.903	57114	801817		

File: 97013131.D08 Sample: S96T005751 DUP

```

=====
Sample Name: S96T005751 SPK                      Date: 02/01/1997 04:47:31
Data File  : C:\DX\DATA\97013131.D14
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 14              Detector: CDM-1
Analyst    :                      Column: AG4A-SC, AS4A-SC, SRS
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          11    4500   5Hz   0.00 15.00          0
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.07	fluoride	9.031	1772	14927	2	-2.97
2	2.36	acetate	18.535	729	5948	2	-2.07
3	3.08	formate	15.386	1330	9866	1	-2.22
4	3.87		0.000	142	1259	1	
5	5.39		0.000	7743	57294	2	
6	5.76		0.000	31177	420180	3	
7	7.05		0.000	3434	81198	4	
8	7.48		0.000	19522	339592	3	
9	8.28		0.000	49	288	4	
Totals			42.952	65899	930552		

File: 97013131.D14 Sample: S96T005751 SPK

Sample Name: S96T005752 Date: 02/01/1997 02:45:11
 Data File : C:\DX\DATA\97013131.D10
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 10 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	11	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.07	fluoride	2.011	372	2806	1	-2.97
2	2.36	acetate	2.048	99	517	1	-2.07
3	3.08	formate	2.892	199	1560	1	-2.22
4	3.84		0.000	133	1208	1	
5	5.37		0.000	7894	69214	2	
6	5.77		0.000	27865	395097	3	
7	6.93		0.000	3727	94156	4	
8	7.52		0.000	17339	292162	3	
9	8.29		0.000	54	124	4	
Totals			6.950	57681	856844		

File: 97013131.D10 Sample: S96T005752

```

=====
Sample Name: S96T005752      Date: 02/01/1997 03:03:59
Data File  : C:\DX\DATA\97013131.D11
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 11      Detector: CDM-1
Analyst    :                  Column: AG4A-SC, AS4A-SC, SRS
=====

```

```

=====
Calibration Volume  Dilution Points Rate  Start  Stop Area Reject
-----
External           1           11  4500  5Hz   0.00  15.00           0
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.07	fluoride	2.103	364	2961	1	-2.97
2	2.36	acetate	2.189	108	564	1	-2.07
3	3.08	formate	2.941	201	1592	1	-2.22
4	3.85		0.000	137	1202	1	
5	5.37		0.000	7675	52870	2	
6	5.76		0.000	28733	408704	3	
7	6.95		0.000	3375	79092	4	
8	7.51		0.000	18027	300082	2	
Totals			7.233	58619	847068		

File: 97013131.D11 Sample: S96T005752 DuP SMF 2-1-97

```

=====
Sample Name: S96T005752 SPK          Date: 02/01/1997 05:20:10
Data File  : C:\DX\DATA\97013131.D16
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 16 Detector: CDM-1
Analyst    :                      Column: AG4A-SC, AS4A-SC, SRS
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          11    4500  5Hz   0.00 15.00          0
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.07	fluoride	9.229	1842	15276	2	-2.97
2	2.36	acetate	18.159	722	5824	2	-2.07
3	3.08	formate	15.473	1340	9926	1	-2.22
4	3.87		0.000	133	1196	1	
5	5.39		0.000	7210	50265	2	
6	5.76		0.000	29323	386969	2	
7	7.05		0.000	3439	72923	2	
8	7.51		0.000	17552	280932	2	
Totals			42.862	61561	823312		

File: 97013131.D16 Sample: S96T005752 SPK

```

=====
Sample Name: S96T005784                      Date: 02/01/1997 04:11:59
Data File  : C:\DX\DATA\97013131.D12
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 12          Detector: CDM-1
Analyst    :                               Column: AG4A-SC, AS4A-SC, SRS
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          11    4500    5Hz    0.00 15.00          0
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.07	fluoride	2.138	500	3021	1	-2.97
2	2.35	acetate	2.530	128	676	1	-2.63
3	3.05	formate	3.321	244	1840	1	-3.07
4	3.81		0.000	165	1464	1	
5	5.37		0.000	8120	69718	2	
6	5.76		0.000	30485	457342	3	
7	7.15		0.000	290	4211	4	
8	7.45		0.000	21275	369621	2	
9	8.73		0.000	1653	39126	1	
Totals			7.990	62860	947019		

File: 97013131.D12 Sample: S96T005784

```

=====
Sample Name: S96T005784  DUP                      Date: 02/01/1997 04:31:44
Data File  : C:\DX\DATA\97013131.D13
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1  System: 2  Inject#: 13              Detector: CDM-1
Analyst    :                      Column: AG4A-SC,AS4A-SC, SRS
=====

```

```

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

```

```

External          1          1.1    4500  5Hz    0.00  15.00          0
=====

```

```

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

```

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.07	fluoride	1.991	361	2773	1	-2.97
2	2.36	acetate	2.265	111	589	1	-2.07
3	3.08	formate	3.244	229	1789	1	-2.22
4	3.84		0.000	149	1347	1	
5	5.37		0.000	8045	55782	2	
6	5.75		0.000	30091	461596	3	
7	6.97		0.000	2778	60654	4	
8	7.44		0.000	21956	379335	2	
9	8.75		0.000	461	7475	1	
Totals			7.500	64181	971340		

File: 97013131.D13 Sample: S96T005784 DUP

```

=====
Sample Name: S96T005784 SPK                      Date: 02/01/1997 05:36:10
Data File  : C:\DX\DATA\97013131.D17
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 17              Detector: CDM-1
Analyst    :                      Column: AG4A-SC, AS4A-SC, SRS
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          11    4500  5Hz    0.00 15.00          0
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.07	fluoride	8.473	1759	13945	2	-2.97
2	2.36	acetate	17.387	695	5571	2	-2.07
3	3.08	formate	14.630	1263	9352	1	-2.22
4	3.87		0.000	145	1277	1	
5	5.39		0.000	7808	53114	2	
6	5.76		0.000	31349	398073	2	
7	7.07		0.000	3554	71760	2	
8	7.45		0.000	21466	367525	2	
9	8.76		0.000	428	6608	1	
Totals			40.489	68468	927223		

File: 97013131.D17 Sample: S96T005784 SPK

LABCORE Completed Worklist Report for Worklist# 15088

Analyst: eal

Instrument: IC01

Book# 36N20D

Method: 14533105 Rev/Mod 0-1

Worklist Comment: AN-104 IC. RCJ

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 CCB	0	0	01C-QC F	QC	1	<1.20e-2		ug/mL
1 CCB	0	0	01C-QC CL	QC	1	<1.70e-2		ug/mL
1 CCB	0	0	01C-QC NO2	QC	1	<1.08e-1		ug/mL
1 CCB	0	0	01C-QC BR	QC	1	<1.25e-1		ug/mL
1 CCB	0	0	01C-QC NO3	QC	1	<1.39e-1		ug/mL
1 CCB	0	0	01C-QC P04	QC	1	<1.20e-1		ug/mL
1 CCB	0	0	01C-QC S04	QC	1	<1.38e-1		ug/mL
1 CCB	0	0	01C-QC OXALATE2	QC	1	<1.05e-1		ug/mL
2 CCV	0	0	01C-QC F	QC	5.3000e1	6.85e+01	116.102 % Recovery	
2 CCV	0	0	01C-QC CL	QC	7.9000e1	7.63e+01	96.582 % Recovery	
2 CCV	0	0	01C-QC NO2	QC	5.4200e2	5.34e+02	98.524 % Recovery	
2 CCV	0	0	01C-QC BR	QC	5.8900e2	6.00e+02	101.868 % Recovery	
2 CCV	0	0	01C-QC NO3	QC	5.9400e2	6.02e+02	101.347 % Recovery	
2 CCV	0	0	01C-QC P04	QC	5.4400e2	5.46e+02	100.368 % Recovery	
2 CCV	0	0	01C-QC S04	QC	6.3100e2	6.64e+02	105.230 % Recovery	
2 CCV	0	0	01C-QC OXALATE2	QC	5.3300e2	5.79e+02	108.630 % Recovery	
3 BLNK-PREP	0	0	01C-01 F-02	SOLID	1	<1.20e-2		ug/g
3 BLNK-PREP	0	0	01C-01 CL-02	SOLID	1	<1.70e-2		ug/g
3 BLNK-PREP	0	0	01C-01 NO2-02	SOLID	1	<1.08e-1		ug/g
3 BLNK-PREP	0	0	01C-01 BR-02	SOLID	1	<1.25e-1		ug/g
3 BLNK-PREP	0	0	01C-01 NO3-02	SOLID	1	<1.39e-1		ug/g
3 BLNK-PREP	0	0	01C-01 P04-02	SOLID	1	<1.20e-1		ug/g
3 BLNK-PREP	0	0	01C-01 S04-02	SOLID	1	<1.38e-1		ug/g
3 BLNK-PREP	0	0	01C-01 OXALATE2	SOLID	1	<1.05e-1		ug/g
4 SAMPLE	896T005751	0 W	01C-01 F-02	SOLID	N/A	6.189e+02	98.280	ug/g
4 SAMPLE	896T005751	0 W	01C-01 CL-02	SOLID	N/A	4.688e+03	139.200	ug/g
4 SAMPLE	896T005751	0 W	01C-01 NO2-02	SOLID	N/A	6.446e+04	884.400	ug/g
4 SAMPLE	896T005751	0 W	01C-01 BR-02	SOLID	N/A	< 1.024e+03	1024.000	ug/g
4 SAMPLE	896T005751	0 W	01C-01 NO3-02	SOLID	N/A	9.621e+04	1139.000	ug/g
4 SAMPLE	896T005751	0 W	01C-01 P04-02	SOLID	N/A	2.284e+03	982.800	ug/g
4 SAMPLE	896T005751	0 W	01C-01 S04-02	SOLID	N/A	2.571e+03	1130.000	ug/g
4 SAMPLE	896T005751	0 W	01C-01 OXALATE2	SOLID	N/A	9.914e+03	859.800	ug/g
5 DUP	896T005751	0 W	01C-01 F-02	SOLID	6.19e+02	6.16e+02	0.486	RPD
5 DUP	896T005751	0 W	01C-01 CL-02	SOLID	4.69e+03	4.81e+03	2.526	RPD
5 DUP	896T005751	0 W	01C-01 NO2-02	SOLID	6.45e+04	6.53e+04	1.233	RPD
5 DUP	896T005751	0 W	01C-01 BR-02	SOLID	<1.02e3	<1.03e3		RPD
5 DUP	896T005751	0 W	01C-01 NO3-02	SOLID	9.62e+04	9.75e+04	1.342	RPD
5 DUP	896T005751	0 W	01C-01 P04-02	SOLID	2.28e+03	2.13e+03	6.803	RPD
5 DUP	896T005751	0 W	01C-01 S04-02	SOLID	9.97e+03	9.42e+03	1.580	RPD
5 DUP	896T005751	0 W	01C-01 OXALATE2	SOLID	9.91e+03	1.01e+04	1.899	RPD
6 SPK	896T005751	0 W	01C-01 F-02	SOLID	5.3000e1	5.25e+01	88.983 % Recovery	

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

LABCORE Completed Worklist Report for Worklist# 15088

Seq Type	Sample#	K A	Test	Matrix	Actual	Found	DL or Yield	Unit
6 SPK	S96T005751	0 W	@IC-01	CL-02	SOLID	7.9000e1	7.73e+01	97.848 % Recovery
6 SPK	S96T005751	0 W	@IC-01	NO2-02	SOLID	5.4200e2	5.49e+02	101.292 % Recovery
6 SPK	S96T005751	0 W	@IC-01	BR-02	SOLID	5.8900e2	5.83e+02	98.981 % Recovery
6 SPK	S96T005751	0 W	@IC-01	NO3-02	SOLID	5.9400e2	6.52e+02	109.764 % Recovery
6 SPK	S96T005751	0 W	@IC-01	PO4-02	SOLID	5.4400e2	5.39e+02	99.081 % Recovery
6 SPK	S96T005751	0 W	@IC-01	SO4-02	SOLID	6.3100e2	6.58e+02	104.279 % Recovery
6 SPK	S96T005751	0 W	@IC-01	OxALATE2	SOLID	5.3300e2	5.81e+02	109.006 % Recovery
7 SAMPLE	S96T005752	0 W	@IC-01	F-02	SOLID	N/A	6.770e+02	106.300 ug/g
7 SAMPLE	S96T005752	0 W	@IC-01	CL-02	SOLID	N/A	4.849e+03	150.600 ug/g
7 SAMPLE	S96T005752	0 W	@IC-01	NO2-02	SOLID	N/A	6.583e+04	956.900 ug/g
7 SAMPLE	S96T005752	0 W	@IC-01	BR-02	SOLID	N/A	1.107e+03	1107.000 ug/g
7 SAMPLE	S96T005752	0 W	@IC-01	NO3-02	SOLID	N/A	9.772e+04	1231.000 ug/g
7 SAMPLE	S96T005752	0 W	@IC-01	PO4-02	SOLID	N/A	2.603e+03	1063.000 ug/g
7 SAMPLE	S96T005752	0 W	@IC-01	SO4-02	SOLID	N/A	1.041e+04	1223.000 ug/g
7 SAMPLE	S96T005752	0 W	@IC-01	OxALATE2	SOLID	N/A	1.018e+04	930.300 ug/g
8 DUP	S96T005752	0 W	@IC-01	F-02	SOLID	6.77e+02	6.38e+02	5.932 RPD
8 DUP	S96T005752	0 W	@IC-01	CL-02	SOLID	4.85e+03	5.11e+03	5.221 RPD
8 DUP	S96T005752	0 W	@IC-01	NO2-02	SOLID	6.58e+04	6.63e+04	0.757 RPD
8 DUP	S96T005752	0 W	@IC-01	BR-02	SOLID	<1.11e3	<1.10e3	RPD
8 DUP	S96T005752	0 W	@IC-01	NO3-02	SOLID	9.77e+04	9.58e+04	1.964 RPD
8 DUP	S96T005752	0 W	@IC-01	PO4-02	SOLID	2.60e+03	2.62e+03	0.766 RPD
8 DUP	S96T005752	0 W	@IC-01	SO4-02	SOLID	1.04e+04	1.02e+04	1.942 RPD
8 DUP	S96T005752	0 W	@IC-01	OxALATE2	SOLID	1.02e+04	9.24e+03	9.877 RPD
9 SPK	S96T005753	0 W	@IC-01	F-02	SOLID	5.9000e1	4.98e+01	84.407 % Recovery
9 SPK	S96T005753	0 W	@IC-01	CL-02	SOLID	7.9000e1	7.87e+01	99.620 % Recovery
9 SPK	S96T005753	0 W	@IC-01	NO2-02	SOLID	5.4200e2	5.73e+02	105.720 % Recovery
9 SPK	S96T005753	0 W	@IC-01	BR-02	SOLID	5.8900e2	5.68e+02	96.435 % Recovery
9 SPK	S96T005753	0 W	@IC-01	NO3-02	SOLID	5.9400e2	6.12e+02	103.030 % Recovery
9 SPK	S96T005753	0 W	@IC-01	PO4-02	SOLID	5.4400e2	5.46e+02	100.368 % Recovery
9 SPK	S96T005753	0 W	@IC-01	SO4-02	SOLID	6.3100e2	6.53e+02	103.487 % Recovery
9 SPK	S96T005753	0 W	@IC-01	OxALATE2	SOLID	5.3300e2	5.57e+02	104.503 % Recovery
10 SAMPLE	S96T005784	0 W	@IC-01	F-02	SOLID	N/A	5.831e+02	96.430 ug/g
10 SAMPLE	S96T005784	0 W	@IC-01	CL-02	SOLID	N/A	4.688e+03	135.600 ug/g
10 SAMPLE	S96T005784	0 W	@IC-01	NO2-02	SOLID	N/A	6.381e+04	868.000 ug/g
10 SAMPLE	S96T005784	0 W	@IC-01	BR-02	SOLID	N/A	1.038e+03	1004.000 ug/g
10 SAMPLE	S96T005784	0 W	@IC-01	NO3-02	SOLID	N/A	1.114e+05	1117.000 ug/g
10 SAMPLE	S96T005784	0 W	@IC-01	PO4-02	SOLID	N/A	4.823e+03	964.300 ug/g
10 SAMPLE	S96T005784	0 W	@IC-01	SO4-02	SOLID	N/A	7.544e+03	1109.000 ug/g
10 SAMPLE	S96T005784	0 W	@IC-01	OxALATE2	SOLID	N/A	7.379e+03	843.600 ug/g
11 DUP	S96T005784	0 W	@IC-01	F-02	SOLID	5.83e+02	5.93e+02	1.701 RPD
11 DUP	S96T005784	0 W	@IC-01	CL-02	SOLID	4.69e+03	4.82e+03	2.941 RPD
11 DUP	S96T005784	0 W	@IC-01	NO2-02	SOLID	6.38e+04	6.44e+04	0.936 RPD
11 DUP	S96T005784	0 W	@IC-01	BR-02	SOLID	1.04e+03	1.02e+03	1.942 RPD
11 DUP	S96T005784	0 W	@IC-01	NO3-02	SOLID	1.11e+05	1.12e+05	0.897 RPD
11 DUP	S96T005784	0 W	@IC-01	PO4-02	SOLID	4.82e+03	4.30e+03	11.404 RPD
11 DUP	S96T005784	0 W	@IC-01	SO4-02	SOLID	7.54e+03	7.27e+03	3.646 RPD
11 DUP	S96T005784	0 W	@IC-01	OxALATE2	SOLID	7.38e+03	7.73e+03	4.633 RPD
12 SPK	S96T005784	0 W	@IC-01	F-02	SOLID	5.9000e1	4.41e+01	74.746 % Recovery
12 SPK	S96T005784	0 W	@IC-01	CL-02	SOLID	7.9000e1	8.01e+01	101.392 % Recovery

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

LABCORE Completed Worklist Report for Worklist# 15088

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
12 SPK	S96T005784	0 W	@IC-01	NO2-02	SOLID	5.4200e2	5.88e+02	108.487 % Recovery
12 SPK	S96T005784	0 W	@IC-01	BR-02	SOLID	5.8900e2	5.47e+02	92.869 % Recovery
12 SPK	S96T005784	0 W	@IC-01	NO3-02	SOLID	5.9400e2	6.29e+02	105.892 % Recovery
12 SPK	S96T005784	0 W	@IC-01	PO4-02	SOLID	5.4400e2	5.29e+02	97.243 % Recovery
12 SPK	S96T005784	0 W	@IC-01	SO4-02	SOLID	6.3100e2	6.48e+02	102.694 % Recovery
12 SPK	S96T005784	0 W	@IC-01	OXALATE2	SOLID	5.3300e2	5.59e+02	104.878 % Recovery

Final page for worklist# 15088

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

H. Anastas 1-28-97
Reviewer Signature Date

May be organic acid interference
with F.
Validated 1-28-97 Hla

LABCORE Data Entry Template for Worklist# 15088

Analyst: EMZ Instrument: IC0 IC01 Book# 36N20.D

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

Worklist Comment: AN-104 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	S96T005751 0 W	@IC-01	SOLID		96001283	AN-104
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
5 DUP	S96T005751 0 W	@IC-01	SOLID			
6 SPK	S96T005751 0 W	@IC-01	SOLID			
7 SAMPLE	S96T005752 0 W	@IC-01	SOLID		96001283	AN-104
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
8 DUP	S96T005752 0 W	@IC-01	SOLID			
9 SPK	S96T005752 0 W	@IC-01	SOLID			
10 SAMPLE	S96T005784 0 W	@IC-01	SOLID		96001283	AN-104
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
11 DUP	S96T005784 0 W	@IC-01	SOLID			
12 SPK	S96T005784 0 W	@IC-01	SOLID			

Final page for worklist # 15088

A. Lambel 01-18-97
Analyst Signature Date

Analyst Signature Date

Data Entry Comments:

15088JA.CSV uploaded 1-28-97 Hla
validated 1-28-97 Hla
maybe organic acid interference
with F.

A-0010-IC

DATA FILE/WORKLIST RESOLUTION

28-Jan-97

Worklist#: 15088

Data File: 15088JA.CSV

	Seq	Type	Sample #		Seq#	Data File	Sample Name	Dilution
-	=>	1	CCB		1	97011801.d08	INST. BLANK	1.00
	=>	2	CCV		2	97011801.d09	36N20-D STD.	101.00
	=>	3	BLNK-PREP		3	97011801.d10	PREP. BLANK	1.00
	=>	4	SAMPLE	S96T005751	4	97011801.d11	S96T005751	41.00
	=>	5	DUP	S96T005751	5	97011801.d12	S96T005751 DUP	41.00
	=>	6	SPK	S96T005751	6	97011801.d13	S96T005751 SPIKE	41.00
	=>	7	SAMPLE	S96T005752	7	97011801.d14	S96T005752	41.00
	=>	8	DUP	S96T005752	8	97011801.d15	S96T005752 DUP	41.00
	=>	9	SPK	S96T005752	9	97011801.d16	S96T005752 SPIK	41.00
	=>	10	SAMPLE	S96T005784	10	97011801.d17	S96T005784	41.00
	=>	11	DUP	S96T005784	11	97011801.d18	S96T005784 DUP	41.00
	=>	12	SPK	S96T005784	12	97011801.d19	S96T005784 SPIKE	41.00
+					+			

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

Data Reprocessed On 01/28/1997 12:29:31

Sample Name: INST. BLANK Date: 01/18/1997 10:58:05
 Data File : F:\DATA\97011801.d08
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 8 Detector: CDM-1
 Analyst : *John Taylor* 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	1.70	chloride	0.009	15	62	1	2.00
2	3.49	nitrate	0.101	120	847	1	-2.61
3	6.51	sulfate	0.007	64	984	1	-1.61
Totals			0.117	199	1892		

File: 97011801.d08 Sample: INST. BLANK

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1152 TO 1163.

Data Reprocessed On 01/28/1997 12:29:32

Sample Name: 36N20-D STD.	Date: 01/18/1997 11:13:48
Data File : F:\DATA\97011801.d09	
Method : C:\DX\METHOD\KIT.MET	
ACI Address: 1 System: 1 Inject#: 9	Detector: CDM-1
Analyst :	Column: AG4A/AS4A anion column

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

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.95		0.000	20	70	2	
2	1.12	fluoride	68.504	1265	9181	2	3.70
3	1.67	chloride	76.304	1799	9591	1	0.40
4	1.99	nitrite	534.152	6431	44838	1	-2.30
5	2.98	bromide	600.258	5180	35110	1	0.00
6	3.39	nitrate	601.697	5915	47405	1	-5.21
7	4.91	phosphate	545.503	1601	21774	1	-1.08
8	6.40	sulfate	664.003	4820	70489	1	-3.23
9	8.43	oxalate	579.151	2218	44368	1	-3.07
Totals			3669.573	29249	282826		

File: 97011801.d09 Sample: 36N20-D STD.

Data Reprocessed On 01/28/1997 12:29:33

```

=====
Sample Name: PREP. BLANK                      Date: 01/18/1997 11:29:36
Data File  : F:\DATA\97011801.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	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	1.31		0.000	44	329	1	
2	3.50	nitrate	0.048	62	433	1	-2.23
Totals			0.048	106	762		

File: 97011801.d10 Sample: PREP. BLANK

Data Reprocessed On 01/28/1997 12:29:34

```

=====
Sample Name: S96T005751                      Date: 01/18/1997 11:41:56
Data File  : F:\DATA\97011801.d11
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 11          Detector: CDM-1
Analyst    :                               Column: AG4A/AS4A anion column
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          41    3000  5Hz   0.00 10.00      50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.95		0.000	72	381	1	
2	1.15	fluoride	3.098	84	394	1	6.79
3	1.67	chloride	23.468	1286	7231	1	0.40
4	1.99	nitrite	322.694	9648	67705	1	-2.30
5	3.35	nitrate	481.648	11092	94768	1	-6.33
6	4.96	phosphate	11.433	57	775	1	0.00
7	6.45	sulfate	47.914	754	13080	1	-2.42
8	8.48	oxalate	49.629	415	8921	1	-2.45
Totals			939.884	23409	193255		

File: 97011801.d11 Sample: S96T005751

Data Reprocessed On 01/28/1997 12:29:35

```

=====
Sample Name: S96T005751 DUP                      Date: 01/18/1997 11:52:46
Data File  : F:\DATA\97011801.d12
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 12              Detector: CDM-1
Analyst    :                      Column: AG4A/AS4A anion column
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          41    3000  5Hz   0.00 10.00      50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.95		0.000	77	424	1	
2	1.15	fluoride	3.058	85	380	1	6.17
3	1.67	chloride	23.883	1315	7361	1	0.40
4	1.98	nitrite	324.368	9639	68069	1	-2.62
5	3.35	nitrate	484.121	11187	95268	1	-6.33
6	4.93	phosphate	10.587	53	692	1	-0.54
7	6.45	sulfate	46.738	807	12780	1	-2.42
8	8.48	oxalate	50.048	443	9000	1	-2.45
Totals			942.803	23605	193975		

File: 97011801.d12 Sample: S96T005751 DUP

Data Reprocessed On 01/28/1997 12:43:00

Sample Name: S96T005751 SPIKE		Date: 01/18/1997 12:05:08
Data File :	F:\DATA\97011801.D13	
Method :	C:\DX\METHOD\KIT.MET	
ACI Address: 1	System: 1	Inject#: 13
Analyst :	Column: AG4A/AS4A anion column	Detector: CDM-1

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	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	0.95		0.000	68	277	1	
2	1.12	fluoride	24.101	1318	7839	1	3.70
3	1.66	chloride	54.392	3159	17053	1	-0.40
4	1.98	nitrite	542.483	17328	116058	1	-2.62
5	2.96	bromide	233.340	5178	33568	1	0.00
6	3.31	nitrate	742.542	16791	148490	1	0.10
7	4.91	phosphate	227.222	1677	22361	1	-1.08
8	6.40	sulfate	311.036	5681	81448	1	-3.23
9	8.43	oxalate	282.222	2777	53466	1	-3.07
Totals			2417.337	53978	480560		

File: 97011801.D13 Sample: S96T005751 SPIKE

Data Reprocessed On 01/28/1997 12:29:37

```

=====
Sample Name: S96T005752                      Date: 01/18/1997 13:49:27
Data File  : F:\DATA\97011801.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           41    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	0.93		0.000	84	465	1	
2	1.13	fluoride	3.133	92	406	1	4.94
3	1.67	chloride	22.443	1264	6910	1	0.00
4	1.97	nitrite	304.679	9168	63794	1	-2.95
5	3.35	nitrate	452.250	10549	88827	1	-6.33
6	4.93	phosphate	12.046	61	835	1	-0.54
7	6.45	sulfate	48.187	817	13149	1	-2.42
8	8.48	oxalate	47.134	390	8448	1	-2.45
Totals			889.871	22426	182835		

File: 97011801.d14 Sample: S96T005752

Data Reprocessed On 01/28/1997 12:29:38

```

=====
Sample Name: S96T005752  DUP                      Date: 01/18/1997 14:00:38
Data File  : F:\DATA\97011801.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           41  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	0.94		0.000	70	371	1	
2	1.15	fluoride	2.979	81	353	1	6.17
3	1.67	chloride	23.849	1313	7350	1	0.40
4	1.98	nitrite	309.499	9182	64840	1	-2.62
5	3.35	nitrate	447.077	10456	87784	1	-6.33
6	4.96	phosphate	12.218	65	852	1	0.00
7	6.45	sulfate	47.777	820	13045	1	-2.42
8	8.48	oxalate	43.113	385	7686	1	-2.45
Totals			886.513	22372	182281		

File: 97011801.d15 Sample: S96T005752 DUP

Data Reprocessed On 01/28/1997 12:47:48

```

=====
Sample Name: S96T005752 SPIKE           Date: 01/18/1997 14:14:03
Data File  : F:\DATA\97011801.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          41 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	0.94		0.000	69	263	1	
2	1.12	fluoride	23.041	1263	7458	1	3.70
3	1.65	chloride	53.914	3047	16899	1	-0.80
4	1.97	nitrite	534.039	16706	114177	1	-2.95
5	2.96	bromide	227.344	5130	32673	1	0.00
6	3.31	nitrate	696.912	16187	138960	1	0.10
7	4.91	phosphate	230.345	1683	22679	1	-1.08
8	6.35	sulfate	309.470	4813	81033	1	-4.03
9	8.37	oxalate	269.900	2479	51084	1	-3.68
Totals			2344.967	51377	465226		

File: 97011801.D16 Sample: S96T005752 SPIKE

Sample Name: S96T005784 Date: 01/18/1997 14:25:05
 Data File : F:\DATA\97011801.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	41	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	0.94		0.000	77	423	1	
2	1.15	fluoride	2.975	76	351	1	6.79
3	1.34		0.000	60	268	1	
4	1.67	chloride	23.920	1337	7373	1	0.40
5	1.98	nitrite	325.572	9890	68330	1	-2.62
6	3.03	bromide	5.298	25	138	1	-2.68
7	3.33	nitrate	568.371	13203	112423	1	-6.89
8	4.93	phosphate	24.607	147	2073	1	-0.54
9	6.45	sulfate	38.491	658	10680	1	-2.42
10	8.48	oxalate	37.650	333	6650	1	-2.45
Totals			1026.884	25806	208710		

File: 97011801.d17 Sample: S96T005784

Data Reprocessed On 01/28/1997 12:29:41

Sample Name: S96T005784 DUP	Date: 01/18/1997 14:36:43
Data File : F:\DATA\97011801.d18	
Method : C:\DX\METHOD\KIT.MET	
ACI Address: 1 System: 1 Inject#: 18	Detector: CDM-1
Analyst :	Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	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	0.95		0.000	79	438	1	
2	1.15	fluoride	3.033	86	372	1	6.17
3	1.34		0.000	59	268	1	
4	1.67	chloride	24.708	1356	7620	1	0.40
5	1.98	nitrite	329.192	9909	69117	1	-2.62
6	3.03	bromide	5.223	24	128	1	-2.68
7	3.33	nitrate	573.057	13262	113383	1	-6.89
8	4.96	phosphate	21.999	146	1816	1	0.00
9	6.45	sulfate	37.145	657	10337	1	-2.42
10	8.48	oxalate	39.541	336	7009	1	-2.45
Totals			1033.899	25912	210487		

File: 97011801.d18 Sample: S96T005784 DUP

Data Reprocessed On 01/28/1997 12:49:59

Sample Name: S96T005784 SPIKE	Date: 01/18/1997 14:48:34
Data File : F:\DATA\97011801.D19	
Method : C:\DX\METHOD\KIT.MET	
ACI Address: 1 System: 1 Inject#: 19	Detector: CDM-1
Analyst :	Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	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	0.94		0.000	59	215	1	
2	1.11	fluoride	20.601	1209	6581	1	3.09
3	1.65	chloride	55.953	3175	17556	1	-1.20
4	1.97	nitrite	560.886	17480	120162	1	-3.28
5	2.94	bromide	224.262	5119	32214	1	0.00
6	3.29	nitrate	820.168	18950	164838	1	-0.10
7	4.88	phosphate	236.076	1764	23263	1	-1.61
8	6.35	sulfate	297.812	5459	77948	1	-4.03
9	8.32	oxalate	261.285	2488	49419	1	-4.29
Totals			2477.042	55704	492194		

File: 97011801.D19 Sample: S96T005784 SPIKE

LABCORE Completed Worklist Report for Worklist# 15090

Analyst: krq

Instrument: IC02

Book# 360201

Method: 4-533-105 Rev/Mod D-1

Worklist Comment: AN-104 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 S04	QC	1	<1.38e-1		ug/mL
1 CCB	0	@IC-QC OXALATE2	QC	1	<1.05e-1		ug/mL
2 CCV	0	@IC-QC F	QC	5.9000e1	6.05e+01	102.542 % Recovery	
2 CCV	0	@IC-QC CL	QC	7.9000e1	8.16e+01	103.291 % Recovery	
2 CCV	0	@IC-QC NO2	QC	5.4200e2	5.87e+02	108.303 % Recovery	
2 CCV	0	@IC-QC BR	QC	5.8900e2	5.57e+02	94.567 % Recovery	
2 CCV	0	@IC-QC NO3	QC	5.9400e2	5.87e+02	98.622 % Recovery	
2 CCV	0	@IC-QC PO4	QC	5.4400e2	5.33e+02	97.978 % Recovery	
2 CCV	0	@IC-QC S04	QC	6.2100e2	6.62e+02	104.913 % Recovery	
2 CCV	0	@IC-QC OXALATE2	QC	5.3300e2	5.26e+02	98.687 % Recovery	
3 BLNK-PREP	0	@IC-01 F-02	SOLID	1	<1.20e-2		ug/g
3 BLNK-PREP	0	@IC-01 CL-02	SOLID	1	<1.70e-2		ug/g
3 BLNK-PREP	0	@IC-01 NO2-02	SOLID	1	<1.08e-1		ug/g
3 BLNK-PREP	0	@IC-01 BR-02	SOLID	1	<1.25e-1		ug/g
3 BLNK-PREP	0	@IC-01 NO3-02	SOLID	1	1.94e-01	0.194	ug/g
3 BLNK-PREP	0	@IC-01 PO4-02	SOLID	1	<1.20e-1		ug/g
3 BLNK-PREP	0	@IC-01 S04-02	SOLID	1	<1.38e-1		ug/g
3 BLNK-PREP	0	@IC-01 OXALATE2	SOLID	1	<1.05e-1		ug/g
4 SAMPLE	S96T005779 0 W	@IC-01 F-02	SOLID	N/A	6.518e+02	53.400	ug/g
4 SAMPLE	S96T005779 0 W	@IC-01 CL-02	SOLID	N/A	3.864e+03	75.660	ug/g
4 SAMPLE	S96T005779 0 W	@IC-01 NO2-02	SOLID	N/A	6.174e+04	490.700	ug/g
4 SAMPLE	S96T005779 0 W	@IC-01 BR-02	SOLID	N/A	6.679e+02	556.300	ug/g
4 SAMPLE	S96T005779 0 W	@IC-01 NO3-02	SOLID	N/A	1.156e+05	618.700	ug/g
4 SAMPLE	S96T005779 0 W	@IC-01 PO4-02	SOLID	N/A	3.379e+03	534.000	ug/g
4 SAMPLE	S96T005779 0 W	@IC-01 S04-02	SOLID	N/A	1.648e+04	614.200	ug/g
4 SAMPLE	S96T005779 0 W	@IC-01 OXALATE2	SOLID	N/A	6.127e+03	467.500	ug/g
5 DUP	S96T005779 0 W	@IC-01 F-02	SOLID	6.52e+02	6.69e+02	2.574	RPD
5 DUP	S96T005779 0 W	@IC-01 CL-02	SOLID	3.86e+03	4.24e+03	9.383	RPD
5 DUP	S96T005779 0 W	@IC-01 NO2-02	SOLID	6.17e+04	5.94e+04	3.799	RPD
5 DUP	S96T005779 0 W	@IC-01 BR-02	SOLID	6.68e+02	6.35e+02	5.065	RPD
5 DUP	S96T005779 0 W	@IC-01 NO3-02	SOLID	1.16e+05	1.52e+05	26.866	RPD
5 DUP	S96T005779 0 W	@IC-01 PO4-02	SOLID	3.38e+03	3.22e+03	4.848	RPD
5 DUP	S96T005779 0 W	@IC-01 S04-02	SOLID	1.65e+04	1.66e+04	0.604	RPD
5 DUP	S96T005779 0 W	@IC-01 OXALATE2	SOLID	6.13e+03	6.14e+03	0.163	RPD
6 SPK	S96T005779 0 W	@IC-01 F-02	SOLID	5.9000e1	6.39e+01	108.305 % Recovery	

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

HNF-SD-WM-DP-226, REV. 0

LABCORE Completed Worklist Report for Worklist# 15090

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
6 SPK	S96T005779	0 W	@IC-01	CL-02	SOLID	7.9000e1	8.46e+01	107.089 % Recovery
6 SPK	S96T005779	0 W	@IC-01	NO2-02	SOLID	5.4200e2	6.52e+02	120.295 % Recovery
6 SPK	S96T005779	0 W	@IC-01	BR-02	SOLID	5.8900e2	5.69e+02	96.604 % Recovery
6 SPK	S96T005779	0 W	@IC-01	NO3-02	SOLID	5.9400e2	6.73e+02	113.300 % Recovery
6 SPK	S96T005779	0 W	@IC-01	PO4-02	SOLID	5.4400e2	5.48e+02	100.735 % Recovery
6 SPK	S96T005779	0 W	@IC-01	SO4-02	SOLID	6.3100e2	6.54e+02	103.645 % Recovery
6 SPK	S96T005779	0 W	@IC-01	OxALATE2	SOLID	5.3300e2	5.36e+02	100.553 % Recovery
7 SAMPLE	S96T005785	0 W	@IC-01	F-02	SOLID	N/A	6.750e+02	54.050 ug/g
7 SAMPLE	S96T005785	0 W	@IC-01	CL-02	SOLID	N/A	3.829e+03	76.590 ug/g
7 SAMPLE	S96T005785	0 W	@IC-01	NO2-02	SOLID	N/A	6.024e+04	486.600 ug/g
7 SAMPLE	S96T005785	0 W	@IC-01	BR-02	SOLID	N/A	5.631e+02	563.000 ug/g
7 SAMPLE	S96T005785	0 W	@IC-01	NO3-02	SOLID	N/A	1.042e+05	626.200 ug/g
7 SAMPLE	S96T005785	0 W	@IC-01	PO4-02	SOLID	N/A	2.496e+03	540.500 ug/g
7 SAMPLE	S96T005785	0 W	@IC-01	SO4-02	SOLID	N/A	1.649e+04	621.600 ug/g
7 SAMPLE	S96T005785	0 W	@IC-01	OxALATE2	SOLID	N/A	5.326e+03	472.900 ug/g
8 DUP	S96T005785	0 W	@IC-01	F-02	SOLID	6.75e+02	6.26e+02	7.533 RPD
8 DUP	S96T005785	0 W	@IC-01	CL-02	SOLID	1.63e+03	4.17e+03	8.500 RPD
8 DUP	S96T005785	0 W	@IC-01	NO2-02	SOLID	6.02e+04	6.39e+04	5.963 RPD
8 DUP	S96T005785	0 W	@IC-01	BR-02	SOLID	<5.63e2	<5.21e2	RPD
8 DUP	S96T005785	0 W	@IC-01	NO3-02	SOLID	1.04e+05	1.02e+05	1.942 RPD
8 DUP	S96T005785	0 W	@IC-01	PO4-02	SOLID	3.50e+03	3.43e+03	2.020 RPD
8 DUP	S96T005785	0 W	@IC-01	SO4-02	SOLID	1.65e+04	1.63e+04	1.220 RPD
8 DUP	S96T005785	0 W	@IC-01	OxALATE2	SOLID	5.34e+03	5.56e+03	6.609 RPD
9 SPK	S96T005785	0 W	@IC-01	F-02	SOLID	5.9000e1	6.84e+01	115.932 % Recovery
9 SPK	S96T005785	0 W	@IC-01	CL-02	SOLID	7.9000e1	8.19e+01	103.544 % Recovery
9 SPK	S96T005785	0 W	@IC-01	NO2-02	SOLID	5.4200e2	6.53e+02	120.480 % Recovery
9 SPK	S96T005785	0 W	@IC-01	BR-02	SOLID	5.8900e2	5.74e+02	97.455 % Recovery
9 SPK	S96T005785	0 W	@IC-01	NO3-02	SOLID	5.9400e2	6.86e+02	115.488 % Recovery
9 SPK	S96T005785	0 W	@IC-01	PO4-02	SOLID	5.4400e2	5.35e+02	98.346 % Recovery
9 SPK	S96T005785	0 W	@IC-01	SO4-02	SOLID	6.3100e2	6.57e+02	104.120 % Recovery
9 SPK	S96T005785	0 W	@IC-01	OxALATE2	SOLID	5.3300e2	5.28e+02	99.062 % Recovery

Final page for worklist# 15090

Analyst Signature	Date	Analyst Signature	Date

Reviewer Signature		Date	

LABCORE Data Entry Template for Worklist# 15090

Analyst: HRQ Instrument: IC0 IC02 Book# 36N20-D

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

Worklist Comment: AN-104 IC. RCJ

Type	Sample#	R	A	Test	Matrix	Group#	Project
CB				@IC-QC	QC		
CV				@IC-QC	QC		
LNK-PREP				@IC-01	SOLID		
AMPLE	S96T005779 0 W			@IC-01	SOLID	96001283	AN-104
	Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
UP	S96T005779 0 W			@IC-01	SOLID		
PK	S96T005779 0 W			@IC-01	SOLID		
AMPLE	S96T005785 0 W			@IC-01	SOLID	96001283	AN-104
	Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
UP	S96T005785 0 W			@IC-01	SOLID		
PK	S96T005785 0 W			@IC-01	SOLID		

Final page for worklist # 15090

Analyst Signature [Signature] Date 1/21/97

Analyst Signature _____ Date _____

15090ja.osv

Uploaded 1/28/97 gm [Signature]
Validated 1/28/97 gm [Signature]

Entry Comments:

A-0010-IC

DATA FILE/WORKLIST RESOLUTION

28-Jan-97

Worklist#: 15090

Data File: 15090JA.CSV

		Seq	Type	Sample #	Seq#		Data File	Sample Name	Dilution
-	=>	1	CCB	S96T005779	-	2	97012111.d02	CCV 36N20-D	101.00
	=>	2	CCV		1	97012111.d03	CCB	1.00	
	=>	3	BLNK-PREP		3	97012111.d04	BLANK PREP 15090	1.00	
	=>	4	SAMPLE			97012111.d05	S96T005779 SAMPL	1.00	
	=>	5	DUP		5	97012111.d07	S96T005779 DUP	21.00	
	=>	6	SPK		7	97012111.d06	S96T005785 SAMPL	21.00	
	=>	7	SAMPLE		8	97012111.d09	S96T005785 DUP	21.00	
	=>	8	DUP		9	97012111.d10	S96T005785 SPIKE	21.00	
	=>	9	SPK		6	97012121.d08	S96T005779 SPIKE	21.00	
				4	97012121.d05	S96T005779 SAMPL	21.00		
+					+				

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

Sample Name: CCV 36N20-D Date: 01/21/1997 16:49:23
 Data File : C:\DX\DATA\97012111.D02
 Method : C:\DX\METHOD\ANIONSA.MET
 CI Address: 1 System: 1 Inject#: 2 Detector: CDM-1
 Analyst : Column:

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

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

Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
0.87		0.000	38	147	2	
1.02	FLUORIDE	60.516	2749	11798	2	-0.33
1.54	CHLORIDE	81.620	2373	10683	2	-1.28
1.85	NITRITE	586.601	10078	50868	2	-2.80
2.76	BROMIDE	556.639	5806	34787	2	-0.48
3.14	NITRATE	586.709	6557	47522	2	1.73
4.56	PHOSPHATE	532.634	1664	19725	1	-1.65
5.97	SULFATE	661.766	5091	68306	1	-2.61
7.81	OXALATE	525.683	2287	41219	1	-2.50
Totals		3592.169	36643	285055		

File: 97012111.D02 Sample: CCV 36N20-D

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1163 TO 1176

=====

Sample Name: CCB	Date: 01/21/1997 17:02:03
ata File : C:\DX\DATA\97012111.D03	
ethod : C:\DX\METHOD\ANIONSA.MET	
CI Address: 1 System: 1 Inject#: 3	Detector: CDM-1
alyst	Column:

=====

=====

ibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
ernal	1	1	3000	5Hz	0.00	10.00		50

=====

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

Ret Component	Concentration	Height	Area	Bl. %Delta
Time Name	ug/ml			Code

=====

Totals	0.000	0	0	
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=====

File: 97012111.D03 Sample: CCB

Sample Name: BLANK PREP 15090 Date: 01/21/1997 17:14:42
 Data File : C:\DX\DATA\97012111.D04
 Method : C:\DX\METHOD\ANIONSA.MET
 Cell Address: 1 System: 1 Inject#: 4 Detector: CDM-1
 Analyst: *Handwritten Signature* Column:

Integration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	3000	5Hz	0.00	10.00		50

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

Time	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.28		0.000	54	504	1	
2	1.55	CHLORIDE	0.002	38	109	1	-0.85
3	3.21	NITRATE	0.194	32	185	1	3.88
Totals			0.196	124	798		

File: 97012111.D04 Sample: BLANK PREP 15090

Sample Name: S96T005779 SAMPLE
 Data File : C:\DX\DATA\97012121.D05
 Method : C:\DX\METHOD\ANIONSA.MET
 CI Address: 1 System: 1 Inject#: 5
 Analyst Column:

Date: 01/21/1997 17:50:47

Detector: CDM-1

Libration Volume Dilution Points Rate Start Stop Area Reject
 ernal 1 21 3000 5Hz 0.00 10.00 50

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

Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
0.87		0.000	249	1122	1	
1.02	FLUORIDE	3.075	724	2795	2	-0.33
1.12		0.000	125	340	2	
1.53	CHLORIDE	18.231	2379	11482	1	-2.13
1.85	NITRITE	291.308	23088	123306	1	-2.80
2.76	BROMIDE	3.151	24	120	1	-0.48
3.07	NITRATE	545.517	27615	229903	1	-0.65
4.56	PHOSPHATE	15.942	209	2391	1	-1.65
5.96	SULFATE	77.730	2797	37911	1	-2.83
7.84	OXALATE	28.906	585	10485	1	-2.16
Totals		983.860	57796	419854		

File: 97012121.D05 Sample: S96T005779 SAMPLE

Sample Name: S96T005779 DUP
 Data File : C:\DX\DATA\97012111.D07
 Method : C:\DX\METHOD\ANIONSA.MET
 CI Address: 1 System: 1 Inject#: 7
 Analyst : *[Signature]* Column:

Date: 01/21/1997 18:16:05

Detector: CDM-1

Libration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
ernal	1	21	3000	5Hz	0.00	10.00		50

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

Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
0.87		0.000	277	1296	1	
1.02	FLUORIDE	3.337	782	3042	3	-0.33
1.12		0.000	113	282	4	
1.54	CHLORIDE	21.133	2791	13329	2	-1.71
1.85	NITRITE	296.055	23718	125352	2	-2.80
2.77	BROMIDE	3.167	25	125	1	-0.24
3.04	NITRATE	758.718	38457	330741	1	-1.51
4.56	PHOSPHATE	16.072	205	2414	1	-1.65
5.96	SULFATE	82.938	2994	40535	1	-2.83
7.84	OXALATE	30.602	622	11131	1	-2.16
Totals		1212.020	69985	528247		

File: 97012111.D07 Sample: S96T005779 DUP

Sample Name: S96T005779 SPIKE
 Data File : C:\DX\DATA\97012121.D08
 Method : C:\DX\METHOD\ANIONSA.MET
 CI Address: 1 System: 1 Inject#: 8
 Analyst : Column:

Date: 01/21/1997 18:28:44

Detector: CDM-1

 Calibration Volume Dilution Points Rate Start Stop Area Reject

 Internal 1 21 3000 5Hz 0.00 10.00 50

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

Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
0.87		0.000	300	1247	1	
1.01	FLUORIDE	15.849	3333	14915	1	-0.98
1.54	CHLORIDE	35.157	4659	22389	2	-1.71
1.85	NITRITE	421.703	32946	179845	2	-2.80
2.76	BROMIDE	116.968	5981	35174	2	-0.72
3.06	NITRATE	680.132	34204	292743	2	-1.08
4.54	PHOSPHATE	125.474	1858	22467	1	-2.08
5.93	SULFATE	208.470	7870	104980	1	-3.26
7.78	OXALATE	136.009	2856	51488	1	-2.83
Totals		1739.762	94008	725248		

File: 97012121.D08 Sample: S96T005779 SPIKE

Sample Name: S96T005785 SAMPLE
 Data File : C:\DX\DATA\97012111.D06
 Method : C:\DX\METHOD\ANIONSA.MET
 Address: 1 System: 1 Inject#: 6
 Analyst *J. B. J.* Column:

Date: 01/21/1997 18:03:26

Detector: CDM-1

Libration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
ernal	1	21	3000	5Hz	0.00	10.00		50

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

Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
0.87		0.000	230	1011	1	
1.02	FLUORIDE	3.147	758	2863	2	-0.33
1.13		0.000	131	355	2	
1.53	CHLORIDE	17.853	2335	11242	2	-2.13
1.85	NITRITE	280.821	22583	118788	2	-2.80
3.08	NITRATE	485.767	24818	202844	1	-0.43
4.57	PHOSPHATE	16.300	205	2455	1	-1.51
5.96	SULFATE	76.865	2767	37475	1	-2.83
7.84	OXALATE	27.674	556	10016	1	-2.16
Totals		908.426	54384	387049		

File: 97012111.D06 Sample: S96T005785 SAMPLE

Sample Name: S96T005785 DUP
Data File : C:\DX\DATA\97012111.D09
Method : C:\DX\METHOD\ANIONSA.MET
ACI Address: 1 System: 1 Inject#: 9
Analyst: J. B. [Signature] Column:

Date: 01/21/1997 18:41:24

Detector: CDM-1

Libration Volume Dilution Points Rate Start Stop Area Reject
ternal 1 21 3000 5Hz 0.00 10.00 50

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

Peak num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.87		0.000	268	1215	1	
2	1.02	FLUORIDE	3.158	774	2873	2	-0.33
3	1.12		0.000	134	356	2	
4	1.53	CHLORIDE	21.032	2650	13265	2	-2.13
5	1.85	NITRITE	322.238	25048	136656	2	-2.80
6	3.08	NITRATE	513.951	26699	215547	1	-0.43
7	4.56	PHOSPHATE	17.303	230	2636	1	-1.65
8	5.96	SULFATE	82.272	2947	40199	1	-2.83
9	7.84	OXALATE	28.042	574	10156	1	-2.16
Totals			987.995	59323	422903		

File: 97012111.D09 Sample: S96T005785 DUP

Sample Name: S96T005785 SPIKE
 Data File : C:\DX\DATA\97012111.D10
 Method : C:\DX\METHOD\ANIONSA.MET
 ACI Address: 1 System: 1 Inject#: 10
 Analyst : *[Signature]* Column:

Date: 01/21/1997 18:54:04

Detector: CDM-1

Libration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
Internal	1	21	3000	5Hz	0.00	10.00		50

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

Peak Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.87		0.000	279	1148	2	
2	1.01	FLUORIDE	16.819	3357	15844	2	-0.98
3	1.54	CHLORIDE	34.203	4575	21765	2	-1.71
4	1.86	NITRITE	411.445	32836	175373	2	-2.45
5	2.76	BROMIDE	114.848	5840	34508	2	-0.48
6	3.06	NITRATE	622.883	31503	265686	2	-0.86
7	4.54	PHOSPHATE	123.223	1833	22047	1	-2.08
8	5.93	SULFATE	208.278	7856	104880	1	-3.26
9	7.78	OXALATE	133.297	2804	50444	1	-2.83
Totals			1664.996	90884	691695		

File: 97012111.D10 Sample: S96T005785 SPIKE

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

Document number: SD-WM-DP-226

Section 4 of 6

Title: Tank 241-AN-104 Cores 163 and 164
Analytical Results for the Final Report

Date: 6/5/97 Revision: A000

Originator: Steven LLL

Co: RFLH

Recipient: _____

Co: _____

References: EDT-620405

LABCORE Completed Worklist Report for Worklist# 15212

Analyst: eal

Instrument: IC01

Book# 36N20D

Method: 6A-533-105 Rev/Mod D-1

Worklist Comment: AN-104 IC. RCJ

Seq Type	Sample# R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 CCB	0	③IC-QC F	QC	1	<1.20e-2		ug/mL
1 CCB	0	③IC-QC CL	QC	1	<1.70e-2		ug/mL
1 CCB	0	③IC-QC NO2	QC	1	<1.08e-1		ug/mL
1 CCB	0	③IC-QC BR	QC	1	<1.25e-1		ug/mL
1 CCB	0	③IC-QC NO3	QC	1	<1.39e-1		ug/mL
1 CCB	0	③IC-QC P04	QC	1	<1.20e-1		ug/mL
1 CCB	0	③IC-QC S04	QC	1	<1.38e-1		ug/mL
1 CCB	0	③IC-QC OXALATE2	QC	1	<1.05e-1		ug/mL
2 CCV	0	③IC-QC F	QC	5.9000e1	6.15e+01	104.237 % Recovery	
2 CCV	0	③IC-QC CL	QC	7.9000e1	7.60e+01	96.203 % Recovery	
2 CCV	0	③IC-QC NO2	QC	5.4200e2	5.80e+02	107.011 % Recovery	
2 CCV	0	③IC-QC BR	QC	5.8900e2	5.74e+02	97.453 % Recovery	
2 CCV	0	③IC-QC NO3	QC	5.9400e2	5.89e+02	99.158 % Recovery	
2 CCV	0	③IC-QC P04	QC	5.4400e2	5.47e+02	100.551 % Recovery	
2 CCV	0	③IC-QC S04	QC	6.3100e2	6.21e+02	98.415 % Recovery	
2 CCV	0	③IC-QC OXALATE2	QC	5.3300e2	5.36e+02	100.563 % Recovery	
3 BLNK-PREP	0	③IC-01 F-02	SOLID	1	<1.20e-2		ug/g
3 BLNK-PREP	0	③IC-01 CL-02	SOLID	1	4.10e-02	0.041	ug/g
3 BLNK-PREP	0	③IC-01 NO2-02	SOLID	1	<1.08e-1		ug/g
3 BLNK-PREP	0	③IC-01 BR-02	SOLID	1	<1.25e-1		ug/g
3 BLNK-PREP	0	③IC-01 NO3-02	SOLID	1	<1.39e-1		ug/g
3 BLNK-PREP	0	③IC-01 P04-02	SOLID	1	<1.20e-1		ug/g
3 BLNK-PREP	0	③IC-01 S04-02	SOLID	1	<1.38e-1		ug/g
3 BLNK-PREP	0	③IC-01 OXALATE2	SOLID	1	<1.05e-1		ug/g
4 SAMPLE	S96T005280	0 W ③IC-01 F-02	SOLID	N/A	2.109e+03	48.530	ug/g
4 SAMPLE	S96T005280	0 W ③IC-01 CL-02	SOLID	N/A	4.345e+03	68.840	ug/g
4 SAMPLE	S96T005280	0 W ③IC-01 NO2-02	SOLID	N/A	6.417e+04	437.400	ug/g
4 SAMPLE	S96T005280	0 W ③IC-01 BR-02	SOLID	N/A	5.062e+02	506.100	ug/g
4 SAMPLE	S96T005280	0 W ③IC-01 NO3-02	SOLID	N/A	9.559e+04	562.800	ug/g
4 SAMPLE	S96T005280	0 W ③IC-01 P04-02	SOLID	N/A	3.384e+03	485.900	ug/g
4 SAMPLE	S96T005280	0 W ③IC-01 S04-02	SOLID	N/A	1.659e+04	558.800	ug/g
4 SAMPLE	S96T005280	0 W ③IC-01 OXALATE2	SOLID	N/A	8.172e+03	425.200	ug/g
5 DUP	S96T005280	0 W ③IC-01 F-02	SOLID	2.11e+03	2.05e+03	2.885 RPD	
5 DUP	S96T005280	0 W ③IC-01 CL-02	SOLID	4.34e+03	4.36e+03	0.460 RPD	
5 DUP	S96T005280	0 W ③IC-01 NO2-02	SOLID	6.42e+04	6.41e+04	0.156 RPD	
5 DUP	S96T005280	0 W ③IC-01 BR-02	SOLID	<5.06e2	<5.10e2	RPD	
5 DUP	S96T005280	0 W ③IC-01 NO3-02	SOLID	9.55e+04	9.67e+04	1.144 RPD	
5 DUP	S96T005280	0 W ③IC-01 P04-02	SOLID	3.38e+03	3.20e+03	5.471 RPD	
5 DUP	S96T005280	0 W ③IC-01 S04-02	SOLID	1.66e+04	1.71e+04	2.967 RPD	
5 DUP	S96T005280	0 W ③IC-01 OXALATE2	SOLID	8.17e+03	8.22e+03	0.610 RPD	
6 SPK	S96T005280	0 W ③IC-01 F-02	SOLID	5.9000e1	5.14e+01	87.119 % Recovery	

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

LABCORE Completed Worklist Report for Worklist# 15212

Seq Type	Sample#	RA	Test	Matrix	Actual	Found	DL or Yield	Unit
6 SPK	S96T005280	0 W	@IC-01	CL-02	SOLID	7.9000e1	7.54e+01	95.443 % Recovery
6 SPK	S96T005280	0 W	@IC-01	NO2-02	SOLID	5.4200e2	6.44e+02	118.819 % Recovery
6 SPK	S96T005280	0 W	@IC-01	BR-02	SOLID	5.8300e2	5.72e+02	97.114 % Recovery
6 SPK	S96T005280	0 W	@IC-01	NO3-02	SOLID	5.9400e2	6.23e+02	104.882 % Recovery
6 SPK	S96T005280	0 W	@IC-01	PO4-02	SOLID	5.4400e2	5.45e+02	100.184 % Recovery
6 SPK	S96T005280	0 W	@IC-01	SO4-02	SOLID	6.3100e2	6.59e+02	104.437 % Recovery
6 SPK	S96T005280	0 W	@IC-01	OXALATE2	SOLID	5.3300e2	5.34e+02	100.188 % Recovery
7 SAMPLE	S96T005283	0 W	@IC-01	F-02	SOLID	N/A	8.367e+02	49.520 ug/g
7 SAMPLE	S96T005283	0 W	@IC-01	CL-02	SOLID	N/A	4.453e+03	70.160 ug/g
7 SAMPLE	S96T005283	0 W	@IC-01	NO2-02	SOLID	N/A	6.859e+04	445.800 ug/g
7 SAMPLE	S96T005283	0 W	@IC-01	BR-02	SOLID	N/A	5.159e+02	516.000 ug/g
7 SAMPLE	S96T005283	0 W	@IC-01	NO3-02	SOLID	N/A	1.046e+05	573.700 ug/g
7 SAMPLE	S96T005283	0 W	@IC-01	PO4-02	SOLID	N/A	3.622e+03	495.200 ug/g
7 SAMPLE	S96T005283	0 W	@IC-01	SO4-02	SOLID	N/A	1.319e+04	569.500 ug/g
7 SAMPLE	S96T005283	0 W	@IC-01	OXALATE2	SOLID	N/A	9.832e+03	433.400 ug/g
8 DUP	S96T005283	0 W	@IC-01	F-02	SOLID	8.37e+02	8.54e+02	2.011 RPD
8 DUP	S96T005283	0 W	@IC-01	CL-02	SOLID	4.45e+03	4.49e+03	0.995 RPD
8 DUP	S96T005283	0 W	@IC-01	NO2-02	SOLID	6.86e+04	6.93e+04	1.015 RPD
8 DUP	S96T005283	0 W	@IC-01	BR-02	SOLID	5.16e+02	5.20e+02	RPD
8 DUP	S96T005283	0 W	@IC-01	NO3-02	SOLID	1.05e+05	1.04e+05	0.957 RPD
8 DUP	S96T005283	0 W	@IC-01	PO4-02	SOLID	3.62e+03	3.45e+03	4.809 RPD
8 DUP	S96T005283	0 W	@IC-01	SO4-02	SOLID	1.32e+04	1.35e+04	2.247 RPD
8 DUP	S96T005283	0 W	@IC-01	OXALATE2	SOLID	9.83e+03	9.65e+03	1.948 RPD
9 SPK	S96T005283	0 W	@IC-01	F-02	SOLID	5.9000e1	8.14e+01	137.966 % Recovery
9 SPK	S96T005283	0 W	@IC-01	CL-02	SOLID	7.9000e1	7.90e+01	100.000 % Recovery
9 SPK	S96T005283	0 W	@IC-01	NO2-02	SOLID	5.4200e2	6.36e+02	117.343 % Recovery
9 SPK	S96T005283	0 W	@IC-01	BR-02	SOLID	5.8300e2	5.62e+02	95.416 % Recovery
9 SPK	S96T005283	0 W	@IC-01	NO3-02	SOLID	5.9400e2	5.98e+02	100.673 % Recovery
9 SPK	S96T005283	0 W	@IC-01	PO4-02	SOLID	5.4400e2	5.44e+02	100.000 % Recovery
9 SPK	S96T005283	0 W	@IC-01	SO4-02	SOLID	6.3100e2	6.52e+02	103.328 % Recovery
9 SPK	S96T005283	0 W	@IC-01	OXALATE2	SOLID	5.3300e2	5.24e+02	98.311 % Recovery

Final page for worklist# 15212

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

John M. Lyle
Reviewer Signature _____ Date 2/5/97

LABCORE Data Entry Template for Worklist# 15212

Analyst: EAL Instrument: IC0 IC01 Book# 36N20.D

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

Worklist Comment: AN-104 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	S96T005280 0 W	@IC-01	SOLID	96001174	AN-104
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
5	DUP	S96T005280 0 W	@IC-01	SOLID		
6	SPK	S96T005280 0 W	@IC-01	SOLID		
7	SAMPLE	S96T005283 0 W	@IC-01	SOLID	96001174	AN-104
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
8	DUP	S96T005283 0 W	@IC-01	SOLID		
9	SPK	S96T005283 0 W	@IC-01	SOLID		

Final page for worklist # 15212

A. Lambert 01.23.97
Analyst Signature Date

Analyst Signature Date

15212ja.csv

Inshell

Uploaded 2/5/97 JMF

Validated 2/5/97 JMF

Data Entry Comments:

A-0010-IC				DATA FILE/WORKLIST RESOLUTION				05-Feb-97			
Worklist#: 15212				Data File: 15212JA.CSV							
		Seq	Type	Sample #	Seq#		Data File	Sample Name		Dilution	
- = 											

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

Sample Name: INST. BLANK

Date: 01/22/1997 23:25:10

Data File : C:\DX\DATA\97012211.D10

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

ACI Address: 1 System: 1 Inject#: 10

Detector: CDM-1

Analyst: *John F. Lee* 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	3.39		0.000	47	298	1	
2	5.97	sulfate	-0.138	17	413	1	-1.75
Totals			-0.138	64	711		

File: 97012211.D10 Sample: INST. BLANK

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1181 TO 1189.

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Sample Name: 36N20-D STD.                      Date: 01/22/1997 23:36:06
Data File  : C:\DX\DATA\97012221.D11
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 11            Detector: CDM-1
Analyst    :                               Column: AG4A/AS4A anion column
=====
  
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=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          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
2	1.11	fluoride	61.534	1289	9217	2	2.47
3	1.65	chloride	76.004	1752	9325	1	1.65
4	1.95	nitrite	579.540	6101	42282	1	-0.68
5	2.90	bromide	574.218	5100	33057	1	2.11
6	3.30	nitrate	588.980	5766	45826	1	4.43
7	4.83	phosphate	546.728	1526	20984	1	2.26
8	6.24	sulfate	620.550	4666	67149	1	2.63
9	8.21	oxalate	536.092	2272	43255	1	3.36
Totals			3583.646	28471	271095		

File: 97012221.D11 Sample: 36N20-D STD.

Sample Name: PREP. BLANK

Date: 01/23/1997 01:39:13

Data File : C:\DX\DATA\97012301.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
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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	1.35		0.000	27	172	1	
2	1.68	chloride	0.041	99	630	1	3.70
3	3.41		0.000	120	882	1	
Totals			0.041	246	1685		

File: 97012301.D12 Sample: PREP. BLANK

Sample Name: S96T005280 Date: 01/23/1997 01:51:29
 Data File : C:\DX\DATA\97012301.D13
 Method : C:\DX\METHOD\KIT.MET HNF-SD-WM-DP-226, REV. 0
 ACI Address: 1 System: 1 Inject#: 13 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 41 3000 5Hz 0.00 10.00 50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.94		0.000	69	316	1	
2	1.13	fluoride	5.613	267	1697	1	4.32
3	1.65	chloride	21.514	1173	6512	1	1.65
4	1.95	nitrite	321.588	8436	58409	1	-0.68
5	3.27	nitrate	489.443	11149	95311	1	3.59
6	4.85	phosphate	17.002	111	1543	1	2.82
7	6.29	sulfate	83.009	1514	23075	1	3.51
8	8.27	oxalate	41.807	409	8215	1	4.03
Totals			979.977	23127	195078		

File: 97012301.D13 Sample: S96T005280

Sample Name: S96T005280 Date: 01/23/1997 02:03:01
 Data File : C:\DX\DATA\97012301.D14 HNF-SD-WM-DP-226, REV. 0
 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 21 3000 5Hz 0.00 10.00 50

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

Pk. Num	Ret. Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.93		0.000	166	954	2	
2	1.13	fluoride	10.939	671	7793	2	4.32
3	1.63	chloride	22.533	2365	13335	1	0.82
4	1.94	nitrite	332.774	17700	121610	1	-1.02
5	3.23	nitrate	495.735	21666	195785	1	2.32
6	4.85	phosphate	17.552	218	3154	1	2.82
7	6.24	sulfate	86.053	2953	45103	1	2.63
8	8.27	oxalate	42.381	835	16322	1	4.03
Totals			1007.966	46574	404055		

File: 97012301.D14 Sample: S96T005280

Sample Name: S96T005280 DUP	Date: 01/23/1997 02:15:06
Data File : F:\DATA\97012301.D15	
Method : C:\DX\METHOD\KIT.MET	HNF-SD-WM-DP-226, REV. 0
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	21	3000	5Hz	0.00	10.00		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.93		0.000	160	896	2	
2	1.12	fluoride	10.563	656	7506	2	3.70
3	1.63	chloride	22.452	2387	13286	1	0.82
4	1.95	nitrite	329.861	17798	120487	1	-0.68
5	2.96	bromide	1.895	18	92	1	0.00
6	3.23	nitrate	497.276	21581	196444	1	2.11
7	4.85	phosphate	16.464	219	2956	1	2.82
8	6.24	sulfate	87.710	3001	45947	1	2.63
9	8.27	oxalate	42.298	844	16289	1	4.03
Totals			1008.520	46662	403904		

File: 97012301.D15 Sample: S96T005280 DUP

Sample Name: S96T005280 SPIKE Date: 01/23/1997 02:27:18
 Data File : C:\DX\DATA\97012301.D16 HNF-SD-WM-DP-226, REV. 0
 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	21	3000	5Hz	0.00	10.00		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.93		0.000	153	743	2	
2	1.11	fluoride	21.217	1887	15787	2	2.47
3	1.63	chloride	37.607	4124	22551	1	0.41
4	1.95	nitrite	461.498	25146	172280	1	-0.68
5	2.89	bromide	114.405	4978	31631	1	1.88
6	3.21	nitrate	620.334	27188	250401	1	1.69
7	4.83	phosphate	126.516	1778	23411	1	2.26
8	6.19	sulfate	217.784	7397	113697	1	1.75
9	8.16	oxalate	149.211	2996	58120	1	2.68
Totals			1748.572	75647	688620		

File: 97012301.D16 Sample: S96T005280 SPIKE

Sample Name: S96T005283 Date: 01/23/1997 02:39:38
 Data File : C:\DX\DATA\97012301.D17 HNF-SD-WM-DP-226, REV.0
 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	21	3000	5Hz	0.00	10.00		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.93		0.000	143	707	1	
2	1.13	fluoride	4.257	447	2732	1	4.32
3	1.63	chloride	22.655	2382	13408	1	0.82
4	1.95	nitrite	349.006	18734	127885	1	-0.68
5	3.22	nitrate	532.252	22973	211519	1	1.90
6	4.85	phosphate	18.429	226	3314	1	2.82
7	6.24	sulfate	67.126	2239	35489	1	2.63
8	8.21	oxalate	50.025	921	19285	1	3.36
Totals			1043.750	48065	414339		

File: 97012301.D17 Sample: S96T005283

Sample Name: S96T005283 DUP Date: 01/23/1997 02:51:31
 Data File : C:\DX\DATA\97012301.D18
 Method : C:\DX\METHOD\KIT.MET HNF-SD-WM-DP-226, REV. 0
 ACI Address: 1 System: 1 Inject#: 18 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	21	3000	5Hz	0.00	10.00		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.93		0.000	143	728	1	
2	1.13	fluoride	4.315	451	2775	1	4.32
3	1.63	chloride	22.671	2394	13417	1	0.82
4	1.95	nitrite	350.030	18795	128282	1	-0.68
5	2.95	bromide	1.931	20	102	1	3.99
6	3.23	nitrate	524.352	23091	208097	1	2.11
7	4.85	phosphate	17.431	233	3132	1	2.82
8	6.24	sulfate	67.979	2264	35921	1	2.63
9	8.21	oxalate	48.737	911	18785	1	3.36
Totals			1037.445	48302	411239		

File: 97012301.D18 Sample: S96T005283 DUP

Sample Name: S96T005283 SPIKE Date: 01/23/1997 03:02:28
 Data File : C:\DX\DATA\97012301.D19
 Method : C:\DX\METHOD\KIT.MET HNF-SD-WM-DP-226, REV. 0
 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	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	0.93		0.000	145	691	2	
2	1.11	fluoride	20.528	1789	15243	2	2.47
3	1.62	chloride	38.448	4145	23075	1	0.00
4	1.94	nitrite	476.202	25778	178205	1	-1.02
5	2.89	bromide	112.452	4977	31073	1	1.88
6	3.21	nitrate	651.822	28314	264641	1	1.48
7	4.83	phosphate	127.287	1777	23558	1	2.26
8	6.19	sulfate	197.550	6433	102961	1	1.75
9	8.16	oxalate	154.876	3176	60360	1	2.68
Totals			1779.166	76533	699806		

File: 97012301.D19 Sample: S96T005283 SPIKE

LABCORE Completed Worklist Report for Worklist# 15213

Analyst: kgh

Instrument: IC01

Book# 36120D

Method: 1A-533-205 Rev/Mod D-7

Worklist Comment: AN-104 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	5.9000e1	6.02e+01	102.034 % Recovery	
2 CCV	0	QIC-QC CL	QC	7.9000e1	7.88e+01	99.747 % Recovery	
2 CCV	0	QIC-QC NO2	QC	5.4200e2	5.91e+02	109.041 % Recovery	
2 CCV	0	QIC-QC BR	QC	5.8900e2	5.72e+02	97.114 % Recovery	
2 CCV	0	QIC-QC NO3	QC	5.9400e2	5.82e+02	97.980 % Recovery	
2 CCV	0	QIC-QC P04	QC	5.4400e2	5.49e+02	100.919 % Recovery	
2 CCV	0	QIC-QC S04	QC	6.3100e2	6.25e+02	99.048 % Recovery	
2 CCV	0	QIC-QC OXALATE2	QC	5.3300e2	5.34e+02	100.188 % Recovery	
3 BLNK-PREP	0	QIC-01 F-02	SOLID	1	<1.20e-2		ug/g
3 BLNK-PREP	0	QIC-01 CL-02	SOLID	1	<1.70e-2		ug/g
3 BLNK-PREP	0	QIC-01 NO2-02	SOLID	1	<1.08e-1		ug/g
3 BLNK-PREP	0	QIC-01 BR-02	SOLID	1	<1.25e-1		ug/g
3 BLNK-PREP	0	QIC-01 NO3-02	SOLID	1	<1.39e-1		ug/g
3 BLNK-PREP	0	QIC-01 P04-02	SOLID	1	<1.20e-1		ug/g
3 BLNK-PREP	0	QIC-01 S04-02	SOLID	1	<1.38e-1		ug/g
3 BLNK-PREP	0	QIC-01 OXALATE2	SOLID	1	<1.05e-1		ug/g
5 DUP	396T005290	0 W QIC-01 F-02	SOLID	3.65e+02	3.92e+02	7.133 RPD	
5 DUP	396T005290	0 W QIC-01 CL-02	SOLID	4.43e+03	2.88e+03	42.408 RPD	
5 DUP	396T005290	0 W QIC-01 NO2-02	SOLID	6.91e+04	4.44e+04	43.524 RPD	
5 DUP	396T005290	0 W QIC-01 BR-02	SOLID	<4.98e2	<4.76e2	RPD	
5 DUP	396T005290	0 W QIC-01 NO3-02	SOLID	1.43e+05	1.04e+05	51.579 RPD	
5 DUP	396T005290	0 W QIC-01 P04-02	SOLID	3.16e+03	2.13e+03	38.941 RPD	
5 DUP	396T005290	0 W QIC-01 S04-02	SOLID	9.99e+03	6.27e+03	45.756 RPD	
5 DUP	396T005290	0 W QIC-01 OXALATE2	SOLID	9.44e+03	6.37e+03	38.836 RPD	
6 SPK	396T005290	0 W QIC-01 F-02	SOLID	5.9000e1	8.19e+01	138.814 % Recovery	
6 SPK	396T005290	0 W QIC-01 CL-02	SOLID	7.9000e1	8.51e+01	107.722 % Recovery	
6 SPK	396T005290	0 W QIC-01 NO2-02	SOLID	5.4200e2	6.50e+02	119.926 % Recovery	
6 SPK	396T005290	0 W QIC-01 BR-02	SOLID	5.8900e2	5.41e+02	91.851 % Recovery	
6 SPK	396T005290	0 W QIC-01 NO3-02	SOLID	5.9400e2	5.61e+02	94.444 % Recovery	
6 SPK	396T005290	0 W QIC-01 P04-02	SOLID	5.4400e2	5.66e+02	104.044 % Recovery	
6 SPK	396T005290	0 W QIC-01 S04-02	SOLID	6.3100e2	6.73e+02	106.656 % Recovery	
6 SPK	396T005290	0 W QIC-01 OXALATE2	SOLID	5.3300e2	5.52e+02	103.565 % Recovery	
7 SAMPLE	396T005291	0 W QIC-01 F-02	SOLID	N/A	4.112e+02		89.670 ug/g

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

11/25/96 10:41
A-0004-1

Page: 1

LABCORE Data Entry Template for Worklist# 15213

Analyst: KPN Instrument: IC0 IC01 Book# 30120-DMethod: LA-533-105 Rev/Mod D-1

Worklist Comment: AN-104 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	S96T005290 0 W		@IC-01	SOLID	96001283	AN-104
	Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02					
5 DUP	S96T005290 0 W		@IC-01	SOLID		
6 SPK	S96T005290 0 W		@IC-01	SOLID		
7 SAMPLE	S96T005291 0 W		@IC-01	SOLID	96001283	AN-104
	Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02					
8 DUP	S96T005291 0 W		@IC-01	SOLID		
9 SPK	S96T005291 0 W		@IC-01	SOLID		

Final page for worklist # 15213

Analyst Signature [Signature] Date 12-6-97Analyst Signature [Signature] Date 12-6-9715213jy..sch
15213jy.csv reviewed. SKM/Jan 2-10-97Revised S96T005290 & NO₂ from S96T005291
re-run will be on WKL. 1/6/98

Data Entry Comments:

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

1193

A-0010-IC				DATA FILE/WORKLIST RESOLUTION				10-Feb-97			
Worklist#: 15213				Data File: 15213JY.CSV							
		Seq	Type	Sample #	Seq#		Data File	Sample Name	Dilution		
-	=>	1	CCB	S96T005290 S96T005290 S96T005290 S96T005291 S96T005291 S96T005291 S96T005291 S96T005291	-	1	97012351.d01	BLANK	1.00		
	=>	2	CCV			2	97012351.d02	36N20-D STD	101.00		
	=>	3	BLNK-PREP			3	97012351.d03	BLANK-PREP	1.00		
	=>	4	SAMPLE			4	97012351.d04	S96T005290 SAM	21.00		
	=>	5	DUP			5	97012351.d05	S96T005290 DUP	21.00		
	=>	6	SPK			6	97012351.d06	S96T005290 SPK	21.00		
	=>	7	SAMPLE			7	97012351.d08	S96T005291 SAM	41.00		
	=>	8	DUP			8	97012351.d09	S96T005291 DUP	41.00		
	=>	9	SPK			9	97012351.d10	S96T005291 SPK	41.00		
+					+						

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

Data Reprocessed On 02/10/1997 13:41:29

Sample Name: BLANK

Date: 01/26/1997 19:01:01

Data File : F:\DATA\97012351.d01

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

ACI Address: 1 System: 1 Inject#: 1

Detector: CDM-1

Analyst : *John F. J.* 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	1.68	chloride	-0.003	28	112	1	3.70
2	3.40		0.000	63	430	1	
Totals			-0.003	91	542		

File: 97012351.d01 Sample: BLANK

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1195 TO 1200

Data Reprocessed On 02/10/1997 13:41:30

```

=====
Sample Name: 36N20-D STD                      Date: 01/26/1997 19:12:12
Data File  : F:\DATA\97012351.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      50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.11	fluoride	60.186	1225	9002	1	3.09
2	1.65	chloride	78.784	1748	9667	1	1.65
3	1.95	nitrite	590.566	5998	43113	1	-0.34
4	2.92	bromide	572.224	5040	32938	1	2.82
5	3.31	nitrate	582.445	5696	45311	1	4.85
6	4.83	phosphate	549.089	1495	21077	1	2.26
7	6.24	sulfate	624.881	4209	67615	1	2.63
8	8.21	oxalate	533.929	2081	43079	1	3.36
Totals			3592.105	27492	271802		

File: 97012351.d02 Sample: 36N20-D STD

Data Reprocessed On 02/10/1997 13:41:30

Sample Name: BLANK-PREP

Date: 01/26/1997 19:26:09

Data File : F:\DATA\97012351.d03

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

ACI Address: 1 System: 1 Inject#: 3

Detector: CDM-1

Analyst : Column: AG4A/AS4A anion column

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

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.69	chloride	0.014	69	315	1	4.53
2	2.03	nitrite	0.105	12	73	1	3.40
3	3.42	nitrate	0.029	68	489	1	8.23
Totals			0.149	149	877		

File: 97012351.d03 Sample: BLANK-PREP

```

=====
Sample Name: S96T005291 SAM                      Date: 01/26/1997 21:03:10
Data File  : F:\DATA\97012351.d08
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 8                Detector: CDM-1
Analyst    :                      Column: AG4A/AS4A anion column
=====

```

```

=====
Calibration Volume  Dilution Points Rate  Start  Stop Area Reject
-----
External           1           41  3000  5Hz   0.00  10.00      50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.94		0.000	74	394	1	
2	1.14	fluoride	2.256	92	415	1	5.56
3	1.65	chloride	24.528	1301	7416	1	2.06
4	1.95	nitrite	371.867	9539	67894	1	-0.34
5	2.96	bromide	4.030	25	138	1	4.23
6	3.22	nitrate	1216.912	26913	251733	1	1.90
7	4.85	phosphate	17.672	118	1605	1	2.82
8	6.35	sulfate	20.042	430	6950	1	4.39
9	8.32	oxalate	31.570	304	6192	1	4.70
Totals			1688.877	38795	342738		

File: 97012351.d08 Sample: S96T005291 SAM

Data Reprocessed On 02/10/1997 13:41:34

```

=====
Sample Name: S96T005291 DUP                      Date: 01/26/1997 21:17:51
Data File  : F:\DATA\97012351.d09
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 9                Detector: CDM-1
Analyst    :                      Column: AG4A/AS4A anion column
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
=====
External          1          41    3000  5Hz   0.00 10.00      50
=====

```

```

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

```

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.94		0.000	73	380	1	-
2	1.13	fluoride	3.127	126	747	1	4.94
3	1.65	chloride	20.895	1155	6326	1	2.06
4	1.95	nitrite	324.915	8295	59035	1	-0.68
5	2.97	bromide	3.893	23	119	1	4.69
6	3.20	nitrate	1564.807	33906	335058	1	1.27
7	4.85	phosphate	21.355	143	1948	1	2.82
8	6.35	sulfate	22.079	476	7469	1	4.39
9	8.32	oxalate	31.471	311	6173	1	4.70
Totals			1992.542	44508	417255		

File: 97012351.d09 Sample: S96T005291 DUP

Data Reprocessed On 02/10/1997 13:41:35

Sample Name: S96T005291 SPK	Date: 01/26/1997 23:30:36
Data File : F:\DATA\97012351.d10	
Method : C:\DX\METHOD\KIT.MET	
ACI Address: 1 System: 1 Inject#: 10	Detector: CDM-1
Analyst :	Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	3000	5Hz	0.00	10.00		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.93		0.000	76	356	2	
2	1.11	fluoride	30.378	1467	11355	2	2.47
3	1.63	chloride	55.910	3143	17026	1	0.82
4	1.95	nitrite	614.932	16910	114761	1	-0.68
5	2.91	bromide	223.843	5258	31701	1	2.35
6	3.21	nitrate	1453.347	32463	307634	1	1.48
7	4.83	phosphate	241.779	1727	22904	1	2.26
8	6.24	sulfate	279.266	5194	74406	1	2.63
9	8.21	oxalate	245.792	2620	48925	1	3.36
Totals			3145.247	68856	629069		

File: 97012351.d10 Sample: S96T005291 SPK

LABCORE Completed Worklist Report for Worklist# 15214

Analyst: eal

Instrument: IC02

Book# 36N20A

Method: 14-53310 Rev/Mod D-1

Worklist Comment: AN-104 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	1.88e-01	0.188	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	5.300e1	5.89e+01	99.831 % Recovery	
2 CCV	0	@IC-QC CL	QC	7.900e1	8.27e+01	104.684 % Recovery	
2 CCV	0	@IC-QC NO2	QC	5.390e2	5.45e+02	101.113 % Recovery	
2 CCV	0	@IC-QC BR	QC	5.890e2	5.74e+02	97.453 % Recovery	
2 CCV	0	@IC-QC NO3	QC	5.340e2	5.99e+02	100.842 % Recovery	
2 CCV	0	@IC-QC PO4	QC	5.440e2	5.36e+02	98.529 % Recovery	
2 CCV	0	@IC-QC SO4	QC	6.310e2	6.23e+02	98.732 % Recovery	
2 CCV	0	@IC-QC OXALATE2	QC	5.280e2	5.58e+02	105.682 % 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	<1.70e-2		ug/g
3 BLNK-PREP	0	@IC-01 NO2-02	SOLID	1	<1.08e-1		ug/g
3 BLNK-PREP	0	@IC-01 BR-02	SOLID	1	<1.25e-1		ug/g
3 BLNK-PREP	0	@IC-01 NO3-02	SOLID	1	1.46e-01	0.146	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	S96T005292	0 W @IC-01 F-02	SOLID	N/A	1.021e+03	84.620	ug/g
4 SAMPLE	S96T005292	0 W @IC-01 CL-02	SOLID	N/A	4.754e+03	119.800	ug/g
4 SAMPLE	S96T005292	0 W @IC-01 NO2-02	SOLID	N/A	6.262e+04	761.400	ug/g
4 SAMPLE	S96T005292	0 W @IC-01 BR-02	SOLID	N/A	8.813e+02	881.500	ug/g
4 SAMPLE	S96T005292	0 W @IC-01 NO3-02	SOLID	N/A	1.041e+05	979.900	ug/g
4 SAMPLE	S96T005292	0 W @IC-01 PO4-02	SOLID	N/A	3.500e+03	846.200	ug/g
4 SAMPLE	S96T005292	0 W @IC-01 SO4-02	SOLID	N/A	1.294e+04	972.900	ug/g
4 SAMPLE	S96T005292	0 W @IC-01 OXALATE2	SOLID	N/A	1.040e+04	740.500	ug/g
5 DUP	S96T005292	0 W @IC-01 F-02	SOLID	1.02e+03	1.13e+03	10.233	RPD
5 DUP	S96T005292	0 W @IC-01 CL-02	SOLID	4.75e+03	4.76e+03	0.210	RPD
5 DUP	S96T005292	0 W @IC-01 NO2-02	SOLID	6.26e+04	6.51e+04	3.915	RPD
5 DUP	S96T005292	0 W @IC-01 BR-02	SOLID	<8.81e2	<9.41e2		RPD
5 DUP	S96T005292	0 W @IC-01 NO3-02	SOLID	1.04e+05	1.02e+05	1.342	RPD
5 DUP	S96T005292	0 W @IC-01 PO4-02	SOLID	3.50e+03	4.17e+03	17.471	RPD
5 DUP	S96T005292	0 W @IC-01 SO4-02	SOLID	1.29e+04	1.29e+04	0.000	RPD
5 DUP	S96T005292	0 W @IC-01 OXALATE2	SOLID	1.04e+04	9.77e+03	6.247	RPD
6 SPK	S96T005292	0 W @IC-01 F-02	SOLID	5.900e1	5.46e+01	92.542 % Recovery	

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

LABCORE Completed Worklist Report for Worklist# 15214

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
6 SPK	S96T005292	0 W	@IC-01 CL-02	SOLID	7.900e1	8.21e+01	103.924	% Recovery
6 SPK	S96T005292	0 W	@IC-01 NO2-02	SOLID	5.390e2	5.93e+02	110.019	% Recovery
6 SPK	S96T005292	0 W	@IC-01 BR-02	SOLID	5.890e2	5.74e+02	97.453	% Recovery
6 SPK	S96T005292	0 W	@IC-01 NO3-02	SOLID	5.940e2	6.46e+02	108.754	% Recovery
6 SPK	S96T005292	0 W	@IC-01 PO4-02	SOLID	5.440e2	5.39e+02	99.081	% Recovery
6 SPK	S96T005292	0 W	@IC-01 SO4-02	SOLID	6.310e2	6.26e+02	99.208	% Recovery
6 SPK	S96T005292	0 W	@IC-01 OXALATE2	SOLID	5.280e2	5.62e+02	106.439	% Recovery

Final page for worklist# 15214

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

12/16/96
Reviewer Signature _____ Date _____

11/25/96 10:42

A-0004-1

Page: 1

LABCORE Data Entry Template for Worklist# 15214

Analyst: ELL Instrument: IC0 IC02 Book# 36N20-AMethod: LA-533-105 Rev/Mod D-1

Worklist Comment: AN-104 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	S96T005292 0 W			@IC-01	SOLID	96001283	AN-104
	Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02							
5	DUP	S96T005292 0 W			@IC-01	SOLID		
6	SPK	S96T005292 0 W			@IC-01	SOLID		

Final page for worklist # 15214

A. Lombel 12-5-96

Analyst Signature

Date

Analyst Signature

Date

Exported
Shell

Uploaded 12/16/96 JmLye

Validated 12/16/96 JmLye

Data Entry Comments:

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

A-0010-IC				DATA FILE/WORKLIST RESOLUTION				16-Dec-96			
Worklist#: 15214				Data File: 15214DEC.CSV							
		Seq	Type	Sample #	Seq#		Data File	Sample Name	Dilution		
-	=>	1	CCB	S96T005292 S96T005292 S96T005292	-	1	96120501.d12	PREP. BLANK	1.00		
	=>	2	CCV			2	96120501.d14	36N20-A STD.	101.00		
	=>	3	BLNK-PREP			3	96120501.d16	PREP. BLANK	1.00		
	=>	4	SAMPLE			4	96120501.d17	S96T005292	41.00		
	=>	5	DUP			5	96120501.d18	S96T005292 DUP	41.00		
	=>	6	SPK			6	96120501.d20	S96T005292 SPIKE	41.00		
+					+						

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

Sample Name: **PREP. BLANK** Date: 12/05/1996 14:43:37
 Data File : C:\DX\DATA\96120501.D12
 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 12
 Analyst : *James J. Jay* Column: Detector: CDM-1

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

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.87		0.000	67	396	1	
2	1.39		0.000	46	296	1	
3	3.43	NITRATE	0.188	60	405	1	1.78
Totals			0.188	173	1098		

INSTRUMENT at 12596
 File: 96120501.D12 Sample: **PREP. BLANK**

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1205 TO 1210

Sample Name: 36N20-A STD.

Date: 12/05/1996 15:13:13

Data File : C:\DX\DATA\96120501.D14

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

ACI Address: 1 System: 1 Inject#: 14

Detector: CDM-1

Analyst : Column:

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

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	127	577	2	
2	1.03	FLUORIDE	58.916	2485	11372	2	-1.90
3	1.40		0.000	33	177	2	
4	1.60	CHLORIDE	82.726	2369	10859	2	1.48
5	1.94	NITRITE	544.707	9883	50908	1	0.87
6	2.94	BROMIDE	573.955	5496	34996	2	0.80
7	3.36	NITRATE	599.467	6015	47415	2	-0.40
8	4.96	PHOSPHATE	536.429	1684	20834	1	-1.13
9	6.52	SULFATE	622.758	4404	63402	1	-1.26
10	8.60	OXALATE	558.011	2112	41145	1	-0.85
Totals			3576.969	34608	281684		

File: 96120501.D14 Sample: 36N20-A STD.

Sample Name: PREP. BLANK

Date: 12/05/1996 15:39:53

Data File : C:\DX\DATA\96120501.D16

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

ACI Address: 1 System: 1 Inject#: 16

Detector: CDM-1

Analyst : Column:

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

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.27		0.000	52	520	1	
2	3.43	NITRATE	0.146	15	71	1	1.78
Totals			0.146	67	590		

File: 96120501.D16 Sample: PREP. BLANK

Sample Name: S96T005292

Date: 12/05/1996 15:54:44

Data File : C:\DX\DATA\96120501.D17

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

ACI Address: 1 System: 1 Inject#: 17

Detector: CDM-1

Analyst : Column:

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	3000	5Hz	0.00	10.00		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	261	1397	2	
2	1.03	FLUORIDE	5.940	542	2618	2	-1.90
3	1.15		0.000	243	1018	2	
4	1.24		0.000	205	1128	2	
5	1.60	CHLORIDE	27.646	1809	8904	1	1.05
6	1.93	NITRITE	364.210	16109	85063	1	0.52
7	3.31	NITRATE	605.322	15131	122922	1	-1.78
8	4.98	PHOSPHATE	20.354	126	1475	1	-0.86
9	6.53	SULFATE	75.249	1244	18096	1	-1.06
10	8.64	OXALATE	60.456	551	10556	1	-0.38
Totals			1159.176	36221	253177		

File: 96120501.D17 Sample: S96T005292

```

=====
Sample Name: S96T005292 DUP                               Date: 12/05/1996 16:05:51
Data File  : C:\DX\DATA\96120501.D18
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 18
Analyst    :                               Column:
Detector: CDM-1
=====
  
```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          41    3000   5Hz   0.00 10.00          50
  
```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	248	1336	2	
2	1.03	FLUORIDE	6.155	557	2722	2	-1.90
3	1.15		0.000	228	956	2	
4	1.24		0.000	189	1010	2	
5	1.59	CHLORIDE	25.923	1726	8338	1	0.63
6	1.94	NITRITE	354.177	15126	82653	1	0.87
7	3.31	NITRATE	553.588	13840	111865	1	-1.78
8	4.97	PHOSPHATE	22.681	143	1699	1	-1.00
9	6.53	SULFATE	70.258	1146	16841	1	-1.06
10	8.64	OXALATE	53.173	477	9227	1	-0.38
Totals			1085.954	33679	236648		

File: 96120501.D18 Sample: S96T005292 DUP

```

=====
Sample Name: S96T005292 SPIKE                      Date: 12/05/1996 16:20:12
Data File  : C:\DX\DATA\96120501.D20
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 20
Analyst    :                      Column:
Detector: CDM-1
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External      1      41    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	0.50		0.000	176	774	1	
2	0.84		0.000	1520	6984	2	
3	1.03	FLUORIDE	27.796	2829	13279	2	-1.90
4	1.59	CHLORIDE	60.503	3985	19855	1	0.63
5	1.94	NITRITE	601.483	26456	142711	2	0.87
6	2.30		0.000	1118	7132	2	
7	2.93	BROMIDE	229.744	5571	34487	2	0.34
8	3.28	NITRATE	863.681	21115	179609	2	-2.77
9	4.96	PHOSPHATE	235.783	1803	22634	3	-1.26
10	5.44		0.000	108	1441	4	
11	6.50	SULFATE	325.692	5733	82379	1	-1.46
12	7.57		0.000	30	384	1	
13	8.57	OXALATE	285.375	2654	52129	1	-1.15
Totals			2630.057	73098	563798		

File: 96120501.D20 Sample: S96T005292 SPIKE

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12/18/96 15:46

Page: 1

LABCORE Completed Worklist Report for Worklist# 15215

Analyst: eal

Instrument: IC01

Book# 32NZ0D

Method: LA533105 Rev/Mod D-1

Worklist Comment: AN-104 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	1.52e-01	0.152	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	4.91e+01	83.220 % Recovery	
2 CCV	0	⊖IC-QC CL	QC	7.90e01	7.44e+01	94.177 % Recovery	
2 CCV	0	⊖IC-QC NO2	QC	5.39e02	4.78e+02	88.683 % Recovery	
2 CCV	0	⊖IC-QC BR	QC	5.89e02	5.33e+02	90.492 % Recovery	
2 CCV	0	⊖IC-QC NO3	QC	5.94e02	5.45e+02	91.751 % Recovery	
2 CCV	0	⊖IC-QC PO4	QC	5.45e02	4.84e+02	88.807 % Recovery	
2 CCV	0	⊖IC-QC SO4	QC	6.11e02	5.80e+02	91.918 % Recovery	
2 CCV	0	⊖IC-QC OXALATE2	QC	5.25e02	4.75e+02	90.494 % Recovery	
3 BLNK-PREP	0	⊖IC-01 F-02	SOLID	1	<1.20e-2		ug/g
3 BLNK-PREP	0	⊖IC-01 CL-02	SOLID	1	<1.70e-2		ug/g
3 BLNK-PREP	0	⊖IC-01 NO2-02	SOLID	1	<1.08e-1		ug/g
3 BLNK-PREP	0	⊖IC-01 BR-02	SOLID	1	<1.25e-1		ug/g
3 BLNK-PREP	0	⊖IC-01 NO3-02	SOLID	1	<1.39e-1		ug/g
3 BLNK-PREP	0	⊖IC-01 PO4-02	SOLID	1	<1.20e-1		ug/g
3 BLNK-PREP	0	⊖IC-01 SO4-02	SOLID	1	<1.38e-1		ug/g
3 BLNK-PREP	0	⊖IC-01 OXALATE2	SOLID	1	<1.05e-1		ug/g
4 SAMPLE	S96T005295	0 W ⊖IC-01 CL-02	SOLID	N/A	4.329e+03	80.780	ug/g
4 SAMPLE	S96T005295	0 W ⊖IC-01 NO2-02	SOLID	N/A	5.669e+04	513.200	ug/g
4 SAMPLE	S96T005295	0 W ⊖IC-01 BR-02	SOLID	N/A	5.940e+02	594.100	ug/g
4 SAMPLE	S96T005295	0 W ⊖IC-01 NO3-02	SOLID	N/A	1.003e+05	660.700	ug/g
4 SAMPLE	S96T005295	0 W ⊖IC-01 PO4-02	SOLID	N/A	2.692e+03	570.200	ug/g
4 SAMPLE	S96T005295	0 W ⊖IC-01 SO4-02	SOLID	N/A	1.260e+04	655.700	ug/g
4 SAMPLE	S96T005295	0 W ⊖IC-01 OXALATE2	SOLID	N/A	9.188e+03	498.900	ug/g
5 DUP	S96T005295	0 W ⊖IC-01 F-02	SOLID	3.00e+02	3.03e+02	0.995	RPD
5 DUP	S96T005295	0 W ⊖IC-01 CL-02	SOLID	4.33e+03	4.17e+03	3.765	RPD
5 DUP	S96T005295	0 W ⊖IC-01 NO2-02	SOLID	5.67e+04	5.48e+04	3.408	RPD
5 DUP	S96T005295	0 W ⊖IC-01 BR-02	SOLID	<5.94e2	<5.79e2		RPD
5 DUP	S96T005295	0 W ⊖IC-01 NO3-02	SOLID	1.00e+05	9.69e+04	3.149	RPD
5 DUP	S96T005295	0 W ⊖IC-01 PO4-02	SOLID	2.69e+03	2.41e+03	10.980	RPD
5 DUP	S96T005295	0 W ⊖IC-01 SO4-02	SOLID	1.26e+04	1.24e+04	1.600	RPD
5 DUP	S96T005295	0 W ⊖IC-01 OXALATE2	SOLID	9.19e+03	9.38e+03	2.045	RPD
6 SPK	S96T005295	0 W ⊖IC-01 F-02	SOLID	5.90e01	7.40e+01	125.424 % Recovery	
6 SPK	S96T005295	0 W ⊖IC-01 CL-02	SOLID	7.90e01	7.67e+01	97.089 % Recovery	

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

1211

LABCORE Completed Worklist Report for Worklist# 15215

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
6 SPK	S96T005295	0 W	@IC-01	N02-02	SOLID	5.39e02	5.32e+02	98.701 % Recovery
6 SPK	S96T005295	0 W	@IC-01	BR-02	SOLID	5.89e02	5.19e+02	88.115 % Recovery
6 SPK	S96T005295	0 W	@IC-01	N03-02	SOLID	5.94e02	5.44e+02	91.582 % Recovery
6 SPK	S96T005295	0 W	@IC-01	P04-02	SOLID	5.45e02	5.08e+02	93.211 % Recovery
6 SPK	S96T005295	0 W	@IC-01	S04-02	SOLID	6.31e02	6.13e+02	97.147 % Recovery
6 SPK	S96T005295	0 W	@IC-01	OXALATE2	SOLID	5.26e02	4.98e+02	94.677 % Recovery

Comments Section:

Comments for sample# S96T005295 and test @IC-01
All spikes failed skm

*Hea 12-18-96 Incorrect comment, all spks
passed QC, except F which was
rejected.*

Final page for worklist# 15215

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

H. Anastro 12-18-96
Reviewer Signature Date

*F rejected due to CCV failure.
Will be rerun on WL # 15722*

LABCORE Data Entry Template for Worklist# 15215

Analyst: EM Instrument: IC0 IC01 Book# 32N20-1

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

Worklist Comment: AN-104 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	S96T005295 0 W	@IC-01	SOLID		96001283	AN-104
	Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02					
5 DUP	S96T005295 0 W	@IC-01	SOLID			
6 SPK	S96T005295 0 W	@IC-01	SOLID			

Final page for worklist # 15215

A. Lambel

Analyst Signature

11-28-96

Date

15215 NV. CSV

Daniel K M. Lambel 12-6-96

Analyst Signature

Date

uploaded 12-6-96

uploaded 12-18-96 Hea

F-CCV failed. F's will be rejected + rerun.

Data Entry Comments:

Sample Name: PREP BLANK
 Data File : C:\DX\DATA\96112701.D12
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 12
 Analyst : *John L. Lyle* Column: AG4A/AS4A anion column
 Date: 11/27/1996 22:42:16
 Detector: CDM-1

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

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.91		0.000	14	77	1	
2	1.47		0.000	16	115	1	
3	1.65	chloride	-0.017	14	68	1	4.22
4	3.25	nitrate	0.152	46	321	1	6.67
5	6.13	sulfate	0.130	24	717	1	3.60
Totals			0.265	114	1298		

File: 96112701.D12 Sample: PREP BLANK

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1214 TO 1219

Sample Name: 32N20-D STD. Date: 11/28/1996 02:21:59
 Data File : C:\DX\DATA\96112801.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		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.91		0.000	21	65	2	
2	1.09	fluoride	49.061	882	6993	2	-1.21
3	1.59	chloride	74.354	1584	8516	1	0.84
4	1.89	nitrite	477.943	5867	38746	1	-1.22
5	2.79	bromide	533.396	4632	31131	1	1.70
6	3.17	nitrate	545.412	5088	41624	1	3.83
7	4.61	phosphate	483.879	1251	18059	1	0.51
8	5.97	sulfate	580.031	4066	61420	1	0.90
9	7.79	oxalate	475.705	1724	36891	1	1.39
Totals			3219.781	25115	243445		

File: 96112801.D02 Sample: 32N20-D STD.

```
=====
Sample Name: PREP. BLANK                      Date: 11/28/1996 03:49:45
Data File  : C:\DX\DATA\96112801.D03
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1   System: 1   Inject#: 3       Detector: CDM-1
Analyst    :                      Column: AG4A/AS4A anion column
=====
```

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

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

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

Totals			0.000	0	0		
--------	--	--	-------	---	---	--	--

File: 96112801.D03 Sample: PREP. BLANK

```

=====
Sample Name: S96T005295                      Date: 11/28/1996 04:09:38
Data File  : C:\DX\DATA\96112801.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          26 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	0.91		0.000	191	949	1	
2	1.11	fluoride	1.640	130	568	1	0.61
3	1.59	chloride	23.684	1849	10515	1	0.84
4	1.89	nitrite	310.161	15347	100897	1	-1.22
5	3.11	nitrate	548.695	19444	173304	1	2.08
6	4.64	phosphate	14.727	134	1858	1	1.09
7	5.97	sulfate	68.920	1714	27729	1	0.90
8	7.84	oxalate	50.267	743	14781	1	2.08
Totals			1018.094	39552	330601		

File: 96112801.D04 Sample: S96T005295

```

=====
Sample Name: S96T005295  DUP                      Date: 11/28/1996 04:20:43
Data File  : C:\DX\DATA\96112801.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          26    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	0.91		0.000	184	922	1	
2	1.10	fluoride	1.698	140	602	1	0.00
3	1.59	chloride	23.388	1849	10384	1	0.84
4	1.89	nitrite	307.282	15187	99922	1	-1.22
5	3.11	nitrate	544.053	19345	171729	1	2.08
6	4.64	phosphate	13.532	127	1684	1	1.09
7	5.97	sulfate	69.798	1703	28094	1	0.90
8	7.84	oxalate	52.646	737	15507	1	2.08
Totals			1012.398	39272	328844		

File: 96112801.D05 Sample: S96T005295 DUP

```

=====
Sample Name: S96T005295 SPIKE          Date: 11/28/1996 04:31:46
Data File  : C:\DX\DATA\96112801.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          26 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	0.91		0.000	208	1037	2	
2	1.09	fluoride	20.129	1191	11503	2	-1.21
3	1.58	chloride	42.855	3464	19126	1	0.00
4	1.89	nitrite	443.046	22419	146542	1	-1.22
5	2.79	bromide	129.673	4690	29348	1	1.95
6	3.10	nitrate	684.662	24803	220341	1	1.64
7	4.61	phosphate	141.812	1455	20645	1	0.51
8	5.92	sulfate	222.231	5747	92533	1	0.00
9	7.79	oxalate	174.700	2608	53023	1	1.39
Totals			1859.109	66585	594099		

File: 96112801.D06 Sample: S96T005295 SPIKE

LABCORE Completed Worklist Report for Worklist# 15216

Analyst: srm

Instrument: IC01

Book# 36N208

Method: LA-533-105 Rev/Mod D-7

Worklist Comment: AN-104 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	5.3000e1	6.12e+01	103.729 % Recovery	
2 CCV	0	QIC-QC CL	QC	7.9000e1	7.49e+01	94.810 % Recovery	
2 CCV	0	QIC-QC NO2	QC	5.4200e2	5.72e+02	105.535 % Recovery	
2 CCV	0	QIC-QC BR	QC	5.8900e2	5.77e+02	97.963 % Recovery	
2 CCV	0	QIC-QC NO3	QC	5.9400e2	5.73e+02	96.128 % Recovery	
2 CCV	0	QIC-QC P04	QC	5.4400e2	5.35e+02	98.346 % Recovery	
2 CCV	0	QIC-QC S04	QC	6.3100e2	6.11e+02	96.830 % Recovery	
2 CCV	0	QIC-QC OXALATE2	QC	5.3300e2	5.24e+02	98.311 % Recovery	
3 BLNK-PREP	0	QIC-01 F-02	SOLID	1	<1.20e-2		ug/g
3 BLNK-PREP	0	QIC-01 CL-02	SOLID	1	<1.70e-2		ug/g
3 BLNK-PREP	0	QIC-01 NO2-02	SOLID	1	<1.08e-1		ug/g
3 BLNK-PREP	0	QIC-01 BR-02	SOLID	1	<1.25e-1		ug/g
3 BLNK-PREP	0	QIC-01 NO3-02	SOLID	1	<1.39e-1		ug/g
3 BLNK-PREP	0	QIC-01 P04-02	SOLID	1	<1.20e-1		ug/g
3 BLNK-PREP	0	QIC-01 S04-02	SOLID	1	<1.38e-1		ug/g
3 BLNK-PREP	0	QIC-01 OXALATE2	SOLID	1	<1.05e-1		ug/g
4 SAMPLE	S96T005558 0 W	QIC-01 F-02	SOLID	N/A	8.932e+02	49.200	ug/g
4 SAMPLE	S96T005558 0 W	QIC-01 CL-02	SOLID	N/A	3.848e+03	69.720	ug/g
4 SAMPLE	S96T005558 0 W	QIC-01 NO2-02	SOLID	N/A	6.023e+04	442.900	ug/g
4 SAMPLE	S96T005558 0 W	QIC-01 BR-02	SOLID	N/A	5.126e+02	512.600	ug/g
4 SAMPLE	S96T005558 0 W	QIC-01 NO3-02	SOLID	N/A	1.395e+05	569.900	ug/g
4 SAMPLE	S96T005558 0 W	QIC-01 P04-02	SOLID	N/A	3.704e+03	492.000	ug/g
4 SAMPLE	S96T005558 0 W	QIC-01 S04-02	SOLID	N/A	1.440e+04	565.900	ug/g
4 SAMPLE	S96T005558 0 W	QIC-01 OXALATE2	SOLID	N/A	6.205e+03	430.500	ug/g
5 DUP	S96T005558 0 W	QIC-01 F-02	SOLID	8.93e+02	9.85e+02	9.798 RPD	
5 DUP	S96T005558 0 W	QIC-01 CL-02	SOLID	3.85e+03	4.00e+03	3.822 RPD	
5 DUP	S96T005558 0 W	QIC-01 NO2-02	SOLID	6.02e+04	6.22e+04	3.268 RPD	
5 DUP	S96T005558 0 W	QIC-01 BR-02	SOLID	<5.13e2	<4.94e2		RPD
5 DUP	S96T005558 0 W	QIC-01 NO3-02	SOLID	1.40e+05	1.22e+05	13.740 RPD	
5 DUP	S96T005558 0 W	QIC-01 P04-02	SOLID	3.70e+03	4.07e+03	9.524 RPD	
5 DUP	S96T005558 0 W	QIC-01 S04-02	SOLID	1.44e+04	1.49e+04	2.413 RPD	
5 DUP	S96T005558 0 W	QIC-01 OXALATE2	SOLID	6.20e+03	6.80e+03	9.231 RPD	
6 SPX	S96T005558 0 W	QIC-01 F-02	SOLID	5.3000e1	8.07e+01	136.780 % Recovery	

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

LABCORE Completed Worklist Report for Worklist# 15216

Seq Type	Sample# R A	Test	Matrix	Actual	Found	DL or Yield	Unit
6 SPK	S96T005558 0 W	QIC-01	CL-02	SOLID	7.9000e1	7.93e+01	100.380 % Recovery
6 SPK	S96T005558 0 W	QIC-01	N02-02	SOLID	5.4200e2	6.11e+02	112.731 % Recovery
6 SPK	S96T005558 0 W	QIC-01	BR-02	SOLID	5.8900e2	5.48e+02	93.039 % Recovery
6 SPK	S96T005558 0 W	QIC-01	N03-02	SOLID	5.9400e2	5.52e+02	92.929 % Recovery
6 SPK	S96T005558 0 W	QIC-01	P04-02	SOLID	5.4400e2	5.47e+02	100.551 % Recovery
6 SPK	S96T005558 0 W	QIC-01	S04-02	SOLID	6.3100e2	6.48e+02	102.694 % Recovery
6 SPK	S96T005558 0 W	QIC-01	OXALATE2	SOLID	5.3300e2	5.48e+02	102.814 % Recovery
7 SAMPLE	S96T005561 0 W	QIC-01	F-02	SOLID	N/A	3.301e+03	45.820 ug/g
7 SAMPLE	S96T005561 0 W	QIC-01	CL-02	SOLID	N/A	3.711e+03	64.310 ug/g
7 SAMPLE	S96T005561 0 W	QIC-01	N02-02	SOLID	N/A	5.688e+04	412.400 ug/g
7 SAMPLE	S96T005561 0 W	QIC-01	BR-02	SOLID	N/A	4.774e+02	477.300 ug/g
7 SAMPLE	S96T005561 0 W	QIC-01	N03-02	SOLID	N/A	1.611e+05	530.900 ug/g
7 SAMPLE	S96T005561 0 W	QIC-01	P04-02	SOLID	N/A	1.592e+04	458.200 ug/g
7 SAMPLE	S96T005561 0 W	QIC-01	S04-02	SOLID	N/A	1.037e+04	527.100 ug/g
7 SAMPLE	S96T005561 0 W	QIC-01	OXALATE2	SOLID	N/A	8.438e+03	400.900 ug/g
8 DUP	S96T005561 0 W	QIC-01	F-02	SOLID	3.30e+03	3.14e+03	4.969 RPD
8 DUP	S96T005561 0 W	QIC-01	CL-02	SOLID	3.71e+03	3.61e+03	2.732 RPD
8 DUP	S96T005561 0 W	QIC-01	N02-02	SOLID	5.69e+04	5.61e+04	1.416 RPD
8 DUP	S96T005561 0 W	QIC-01	BR-02	SOLID	<4.77e2	<4.31e2	RPD
8 DUP	S96T005561 0 W	QIC-01	N03-02	SOLID	1.61e+05	1.73e+05	7.186 RPD
8 DUP	S96T005561 0 W	QIC-01	P04-02	SOLID	1.59e+04	1.53e+04	3.846 RPD
8 DUP	S96T005561 0 W	QIC-01	S04-02	SOLID	1.04e+04	1.05e+04	0.957 RPD
8 DUP	S96T005561 0 W	QIC-01	OXALATE2	SOLID	8.44e+03	7.78e+03	8.138 RPD
9 SPK	S96T005561 0 W	QIC-01	F-02	SOLID	5.9000e1	5.53e+01	93.729 % Recovery
9 SPK	S96T005561 0 W	QIC-01	CL-02	SOLID	7.9000e1	8.08e+01	102.278 % Recovery
9 SPK	S96T005561 0 W	QIC-01	N02-02	SOLID	5.4200e2	6.24e+02	115.129 % Recovery
9 SPK	S96T005561 0 W	QIC-01	BR-02	SOLID	5.8900e2	5.31e+02	90.153 % Recovery
9 SPK	S96T005561 0 W	QIC-01	N03-02	SOLID	5.9400e2	4.22e+02	71.044 % Recovery
9 SPK	S96T005561 0 W	QIC-01	P04-02	SOLID	5.4400e2	5.60e+02	102.941 % Recovery
9 SPK	S96T005561 0 W	QIC-01	S04-02	SOLID	6.3100e2	6.42e+02	101.743 % Recovery
9 SPK	S96T005561 0 W	QIC-01	OXALATE2	SOLID	5.3300e2	5.22e+02	97.936 % Recovery

Final page for worklist# 15216

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Jenny M. Lipp
Reviewer Signature _____ Date 2/5/97

11/25/96 10:43

A-0004-1

LABCORE Data Entry Template for Worklist# 15216

Analyst: SRM Instrument: IC0 ✓IC01 Book# 36N20-DMethod: LA-533-105 Rev/Mod D-1

Worklist Comment: AN-104 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	S96T005558 0 W	@IC-01	SOLID	96001283	AN-104	
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
5 DUP	S96T005558 0 W	@IC-01	SOLID			
6 SPK	S96T005558 0 W	@IC-01	SOLID			
7 SAMPLE	S96T005561 0 W	@IC-01	SOLID	96001283	AN-104	
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
8 DUP	S96T005561 0 W	@IC-01	SOLID			
9 SPK	S96T005561 0 W	@IC-01	SOLID			

Final page for worklist # 15216

Analyst Signature

Date

Analyst Signature

Date

15216jy.sch

15216jy.csv reviewed OK M. J. 1-29-97

Uploaded 2/5/97 gmF

Validated 2/5/97 gmF

Data Entry Comments:

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

A-0010-IC

DATA FILE/WORKLIST RESOLUTION

29-Jan-97

Worklist#: 15216

Data File: 15216JY.CSV

Seq Type Sample #				Seq# Data File Sample Name Dilution			
-	=>	1	CCB	-	1	97012341.d02	BLANK 1.00
	=>	2	CCV		2	97012341.d03	STANDARD 101.00
	=>	3	BLNK-PREP		3	97012341.d05	PREP BLANK 1.00
	=>	4	SAMPLE		4	97012341.d06	SAMPLE S96T00555 21.00
	=>	5	DUP		5	97012341.d07	SAMPLE S96T00555 21.00
	=>	6	SPK		6	97012341.d08	SAMPLE S96T00555 21.00
	=>	7	SAMPLE		7	97012341.d10	SAMPLE S96T00556 21.00
	=>	8	DUP		8	97012341.d11	SAMPLE S96T00556 21.00
	=>	9	SPK		9	97012351.d12	SAMPLE S96T00556 21.00
+				+			

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

```

=====
Sample Name: BLANK                      Date: 01/26/1997 07:32:58
Data File  : C:\DX\DATA\97012341.D02
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 2      Detector: CDM-1
Analyst    : Shous                   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	3.42		0.000	21	127		1
Totals			0.000	21	127		

File: 97012341.D02 Sample: BLANK

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1224 TO 1232.

=====

Sample Name: STANDARD	Date: 01/26/1997 07:45:56
Data File : C:\DX\DATA\97012341.D03	
Method : C:\DX\METHOD\KIT.MET	
ACI Address: 1 System: 1 Inject#: 3	Detector: CDM-1
Analyst : <i>SNOW</i>	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	1.11	fluoride	61.248	<i>109.8</i> 1239	9172	1	2.47
2	1.65	chloride	74.870	<i>94.7</i> 1710	9185	1	1.65
3	1.95	nitrite	572.114	<i>105.6</i> 6013	41722	1	-0.34
4	2.91	bromide	576.636	<i>91.9</i> 5018	33201	1	2.58
5	3.31	nitrate	571.001	<i>96.1</i> 5673	44411	1	4.85
6	4.83	phosphate	534.650	<i>98.2</i> 1498	20511	1	2.26
7	6.24	sulfate	610.617	<i>96.7</i> 4251	66083	1	2.63
8	8.21	oxalate	523.599	<i>98.2</i> 2130	42236	1	3.36
Totals			3524.736	27530	266521		

File: 97012341.D03 Sample: STANDARD

Sample Name: PREP BLANK Date: 01/26/1997 08:14:58
 Data File : C:\DX\DATA\97012341.D05
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 5 Detector: CDM-1
 Analyst : *Smaw* 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	1.35		0.000	20	118	1	
2	3.41		0.000	54	366	1	
Totals			0.000	74	484		

File: 97012341.D05 Sample: PREP BLANK

=====

Sample Name: SAMPLE S96T005558	Date: 01/26/1997 09:56:39
Data File : C:\DX\DATA\97012341.D06	
Method : C:\DX\METHOD\KIT.MET	
ACI Address: 1	System: 1
Inject#: 6	Detector: CDM-1
Analyst : <i>Shaw</i>	Column: AG4A/AS4A anion column

=====

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
external	1	21	3000	5Hz	0.00	10.00		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.94		0.000	136	692	1	
2	1.12	fluoride	4.574	478	2970	1	3.70
3	1.63	chloride	19.708	2061	11644	1	0.82
4	1.94	nitrite	308.417	16310	112253	1	-1.02
5	3.21	nitrate	714.258	30864	293444	1	1.48
6	4.85	phosphate	18.970	232	3413	1	2.82
7	6.24	sulfate	73.740	2194	38842	1	2.63
8	8.27	oxalate	31.776	619	12217	1	4.03
Totals			1171.444	52893	475475		

File: 97012341.D06 Sample: SAMPLE S96T005558

=====

Sample Name: SAMPLE S96T005558 DUP Date: 01/26/1997 10:09:18

Data File : C:\DX\DATA\97012341.D07

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

ACI Address: 1 System: 1 Inject#: 7 Detector: CDM-1

Analyst : *Shaw* Column: AG4A/AS4A anion column

=====

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 21 3000 5Hz 0.00 10.00 50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.93		0.000	135	636	1	
2	1.12	fluoride	5.233	565	3464	1	3.70
3	1.64	chloride	21.266	2163	12575	1	1.23
4	1.94	nitrite	330.458	17045	120717	1	-1.02
5	3.21	nitrate	645.597	28197	261811	1	1.69
6	4.85	phosphate	21.599	296	3893	1	2.82
7	6.24	sulfate	79.115	2422	41572	1	2.63
8	8.27	oxalate	36.146	693	13907	1	4.03

Totals 1139.413 51516 458575

File: 97012341.D07 Sample: SAMPLE S96T005558 DUP

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=====
Sample Name: SAMPLE S96T005558   SPK           Date: 01/26/1997 10:22:10
Data File  : C:\DX\DATA\97012341.D08
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 8           Detector: CDM-1
Analyst    : SNOW                Column: AG4A/AS4A anion column
=====
  
```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
external          1          21    3000  5Hz    0.00 10.00          50
=====
  
```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.93		0.000	138	664	2	
2	1.11	fluoride	20.712	1861	15388	2	2.47
3	1.63	chloride	35.577	3876	21289	1	0.41
4	1.95	nitrite	430.715	23463	159969	1	-0.68
5	2.89	bromide	109.654	5060	30274	1	1.88
6	3.19	nitrate	824.710	35664	346430	1	0.84
7	4.83	phosphate	128.377	1775	23764	1	2.26
8	6.24	sulfate	203.396	7564	106055	1	2.63
9	8.21	oxalate	141.358	2893	55019	1	3.36
Totals			1894.499	82295	758852		

File: 97012341.D08 Sample: SAMPLE S96T005558 SPK

=====

Sample Name :	SAMPLE S96T005561	Date :	01/26/1997 10:51:40
Data File :	C:\DX\DATA\97012341.D10		
Method :	C:\DX\METHOD\KIT.MET		
ACI Address :	1	System :	1
Inject# :	10	Detector :	CDM-1
Analyst :	<i>Shaw</i>	Column :	AG4A/AS4A anion column

=====

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
external	1	21	3000	5Hz	0.00	10.00		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.93		0.000	132	649	2	
2	1.11	fluoride	18.151	1489	13375	2	2.47
3	1.63	chloride	20.406	2109	12060	1	0.82
4	1.94	nitrite	312.758	16366	113915	1	-1.02
5	3.19	nitrate	886.011	37893	377087	1	0.84
6	4.83	phosphate	87.544	1197	16079	1	2.26
7	6.29	sulfate	57.032	2062	30386	1	3.51
8	8.27	oxalate	46.402	880	17880	1	4.03

Totals	1428.305	62127	581431
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File: 97012341.D10 Sample: SAMPLE S96T005561

=====

Sample Name: SAMPLE S96T005561 DUP Date: 01/26/1997 11:06:00

Data File : C:\DX\DATA\97012341.D11

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

ACI Address: 1 System: 1 Inject#: 11 Detector: CDM-1

Analyst : *S. Hous* Column: AG4A/AS4A anion column

=====

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 21 3000 5Hz 0.00 10.00 50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.93		0.000	139	729	2	
2	1.11	fluoride	16.797	1407	12318	2	2.47
3	1.63	chloride	19.283	2026	11390	1	0.82
4	1.95	nitrite	299.642	15710	108899	1	-0.68
5	3.18	nitrate	924.352	39920	396764	1	0.63
6	4.83	phosphate	81.538	1092	14957	1	2.26
7	6.29	sulfate	55.901	1991	29815	1	3.51
8	8.27	oxalate	41.570	811	16007	1	4.03
Totals			1439.084	63096	590880		

File: 97012341.D11 Sample: SAMPLE S96T005561 DUP

Sample Name: SAMPLE S96T005561 SPK Date: 01/26/1997 11:18:23
 Data File : C:\DX\DATA\97012351.D12
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 12 Detector: CDM-1
 Analyst : *Smow* Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	21	3000	5Hz	0.00	10.00		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.93		0.000	140	641	2	
2	1.10	fluoride	29.210	2929	22189	2	1.85
3	1.62	chloride	36.561	3886	21900	1	0.00
4	1.94	nitrite	437.505	23287	162674	1	-1.02
5	2.89	bromide	106.146	5012	29275	1	1.88
6	3.17	nitrate	970.376	42473	420938	1	0.42
7	4.80	phosphate	199.465	2810	37417	1	1.69
8	6.24	sulfate	185.335	6939	96516	1	2.63
9	8.21	oxalate	150.845	3139	58766	1	3.36
Totals			2115.444	90617	850316		

File: 97012351.D12 Sample: SAMPLE S96T005561 SPK

LABCORE Completed Worklist Report for Worklist# 15217

Analyst: rdm

Instrument: IC03

Book# 144299

Method: 14-533-105 Rev/Mod D-1

Worklist Comment: AN-104 IC2. RCJ

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 CCB	0		@IC2-QC ACETATE2 QC		1	<2.00e-2		ug/mL
1 CCB	0		@IC2-QC FORMATE2 QC		1	<2.10e-2		ug/mL
2 CCV	0		@IC2-QC ACETATE2 QC		1.240e2	1.22e+02	98.387 % Recovery	
2 CCV	0		@IC2-QC FORMATE2 QC		1.200e2	1.16e+02	96.667 % Recovery	
3 BLNK-PREP	0		@IC2-01 ACETATE2 SOLID		1	<2.02e0		ug/g
3 BLNK-PREP	0		@IC2-01 FORMATE2 SOLID		1	<2.12e0		ug/g
4 SAMPLE	S96T005280	0 W	@IC2-01 ACETATE2 SOLID		N/A	6.610e+02	158.100	ug/g
4 SAMPLE	S96T005280	0 W	@IC2-01 FORMATE2 SOLID		N/A	7.904e+02	166.000	ug/g
5 DUP	S96T005280	0 W	@IC2-01 ACETATE2 SOLID		6.61e+02	6.88e+02	4.003 RPD	
5 DUP	S96T005280	0 W	@IC2-01 FORMATE2 SOLID		7.90e+02	8.75e+02	10.210 RPD	
6 SPK	S96T005280	0 W	@IC2-01 ACETATE2 SOLID		1.240e2	1.24e+02	100.000 % Recovery	
6 SPK	S96T005280	0 W	@IC2-01 FORMATE2 SOLID		1.200e2	1.13e+02	94.167 % Recovery	
7 SAMPLE	S96T005283	0 W	@IC2-01 ACETATE2 SOLID		N/A	6.130e+02	161.200	ug/g
7 SAMPLE	S96T005283	0 W	@IC2-01 FORMATE2 SOLID		N/A	7.771e+02	169.200	ug/g
8 DUP	S96T005283	0 W	@IC2-01 ACETATE2 SOLID		6.13e+02	6.61e+02	7.532 RPD	
8 DUP	S96T005283	0 W	@IC2-01 FORMATE2 SOLID		7.77e+02	8.33e+02	6.957 RPD	
9 SPK	S96T005283	0 W	@IC2-01 ACETATE2 SOLID		1.240e2	9.69e+01	78.145 % Recovery	
9 SPK	S96T005283	0 W	@IC2-01 FORMATE2 SOLID		1.200e2	1.07e+02	89.167 % Recovery	

Final page for worklist# 15217

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

John M. Luge 3/3/97
Reviewer Signature Date

11/25/96 10:54

A-0004-1

Page: 1

LABCORE Data Entry Template for Worklist# 15217Analyst: RPMInstrument: IC0 3Book# 144N9BMethod: LA-533-105 Rev/Mod D-1

Worklist Comment: AN-104 IC2. RCJ

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC2-QC	QC		
2 CCV			@IC2-QC	QC		
3 BLNK-PREP			@IC2-01	SOLID		
4 SAMPLE	S96T005280 0 W		@IC2-01	SOLID	96001174	AN-104
Analytes Requested: IC1, IC2, IC3, IC4, IC5, IC6, IC7, IC8, IC9, IC10, IC11, IC12, IC13, IC14, IC15, IC16, IC17, IC18, IC19, IC20, IC21, IC22, IC23, IC24, IC25, IC26, IC27, IC28, IC29, IC30, IC31, IC32, IC33, IC34, IC35, IC36, IC37, IC38, IC39, IC40, IC41, IC42, IC43, IC44, IC45, IC46, IC47, IC48, IC49, IC50, IC51, IC52, IC53, IC54, IC55, IC56, IC57, IC58, IC59, IC60, IC61, IC62, IC63, IC64, IC65, IC66, IC67, IC68, IC69, IC70, IC71, IC72, IC73, IC74, IC75, IC76, IC77, IC78, IC79, IC80, IC81, IC82, IC83, IC84, IC85, IC86, IC87, IC88, IC89, IC90, IC91, IC92, IC93, IC94, IC95, IC96, IC97, IC98, IC99, IC100						
5 DUP	S96T005280 0 W		@IC2-01	SOLID		
6 SPK	S96T005280 0 W		@IC2-01	SOLID		
7 SAMPLE	S96T005283 0 W		@IC2-01	SOLID	96001174	AN-104
Analytes Requested: IC1, IC2, IC3, IC4, IC5, IC6, IC7, IC8, IC9, IC10, IC11, IC12, IC13, IC14, IC15, IC16, IC17, IC18, IC19, IC20, IC21, IC22, IC23, IC24, IC25, IC26, IC27, IC28, IC29, IC30, IC31, IC32, IC33, IC34, IC35, IC36, IC37, IC38, IC39, IC40, IC41, IC42, IC43, IC44, IC45, IC46, IC47, IC48, IC49, IC50, IC51, IC52, IC53, IC54, IC55, IC56, IC57, IC58, IC59, IC60, IC61, IC62, IC63, IC64, IC65, IC66, IC67, IC68, IC69, IC70, IC71, IC72, IC73, IC74, IC75, IC76, IC77, IC78, IC79, IC80, IC81, IC82, IC83, IC84, IC85, IC86, IC87, IC88, IC89, IC90, IC91, IC92, IC93, IC94, IC95, IC96, IC97, IC98, IC99, IC100						
8 DUP	S96T005283 0 W		@IC2-01	SOLID		
9 SPK	S96T005283 0 W		@IC2-01	SOLID		

Final page for worklist # 15217

RPM 2/5/97
 Analyst Signature Date

 Analyst Signature Date

UPLOADED 2-24-97

15217FB.CSV

John Harwell
 Validated 3/3/97 gm/lye

Data Entry Comments:

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

1234

A-0010-IC

DATA FILE/WORKLIST RESOLUTION

24-Feb-97

Worklist#: 15217

Data File: 15217FB.CSV

		Seq	Type	Sample #	Seq#	Data File	Sample Name	Dilution
+ <								

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

=====

Sample Name: BLK	Date: 02/04/1997 23:01:44
Data File : C:\DX\DATA\97020471.D08	
Method : C:\DX\METHOD\ACE.MET	
ACI Address: 1 System: 2 Inject#: 8	Detector: CDM-1
Analyst: <i>James Faye</i>	Column: AG4A-SC, AS4A-SC, SRS

=====

=====

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	4500	5Hz	0.00	15.00		0

=====

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	6.07		0.000	3266	267285	2	
2	7.91		0.000	1321	23417	2	
3	8.13		0.000	1280	9226	2	
4	8.43		0.000	1493	87052	2	
Totals			0.000	7360	386979		

File: 97020471.D08 Sample: BLK

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1236 TO 1244

```

=====
Sample Name: 144N9-B                      Date: 02/04/1997 23:18:56
Data File  : C:\DX\DATA\97020471.D09
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 9        Detector: CDM-1
Analyst    :                             Column: AG4A-SC, AS4A-SC, SRS
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          101    4500  5Hz   0.00 15.00          0
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.07	fluoride	71.485	2472	12740	2	-2.97
2	2.33	acetate	122.293	593	4234	2	-3.18
3	3.04	formate	115.959	1074	7998	1	-3.49
4	6.03		0.000	3017	170911	2	
5	6.83		0.000	1782	63207	2	
6	7.87		0.000	130	2323	2	
7	8.13		0.000	307	1923	2	
8	8.39		0.000	639	44668	2	
Totals			309.736	10015	308004		

File: 97020471.D09 Sample: 144N9-B

1237

```

=====
Sample Name: BLK PREP                      Date: 02/04/1997 23:37:56
Data File  : C:\DX\DATA\97020471.D10
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 10       Detector: CDM-1
Analyst    :                               Column: AG4A-SC, AS4A-SC, SRS
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          101    4500  5Hz   0.00 15.00          0
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.23	fluoride	3.495	6	59	1	4.54
2	5.93		0.000	3126	182476	2	
3	6.84		0.000	1658	53492	2	
4	7.85		0.000	133	2561	2	
5	8.13		0.000	313	1978	2	
6	8.36		0.000	612	41730	2	

```

-----
Totals                      3.495          5848          282295
-----

```

File: 97020471.D10 Sample: BLK PREP

1238

Sample Name: S96T005280	Date: 02/05/1997 01:30:40
Data File : E:\DATA\97020471.D12	
Method : C:\DX\METHOD\ACE.MET	
ACI Address: 1 System: 2	Inject#: 12
Analyst :	Detector: CDM-1
	Column: AG4A-SC, AS4A-SC, SRS

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

External	1	41	4500	5Hz	0.00	15.00		0
----------	---	----	------	-----	------	-------	--	---

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.03	fluoride	6.673	388	2433	1	-4.54
2	2.31	acetate	3.428	32	144	1	-0.14
3	2.73		0.000	21	145	1	
4	3.00	formate	4.099	58	401	1	-4.76
5	3.73		0.000	44	357	1	
6	5.37		0.000	3597	45840	2	
7	5.79		0.000	10014	204766	2	
8	7.63		0.000	6755	80026	1	
9	8.13		0.000	106	454	2	
10	8.39		0.000	66	981	2	
Totals			14.200	21082	335547

```

=====
Sample Name: S96T005280DUP          Date: 02/05/1997 01:48:20
Data File  : C:\DX\DATA\97020471.D13
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 13      Detector: CDM-1
Analyst    :                          Column: AG4A-SC, AS4A-SC, SRS
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          41    4500  5Hz    0.00 15.00          0
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.07	fluoride	5.861	385	2065	1	-2.97
2	2.32	acetate	3.538	29	154	1	-3.73
3	2.77		0.000	18	117	1	
4	3.03	formate	4.503	62	471	1	-3.92
5	3.79		0.000	48	378	1	
6	5.37		0.000	3803	44180	2	
7	5.75		0.000	6974	311860	2	
8	6.84		0.000	3560	110558	2	
9	7.63		0.000	7553	102818	3	
11	8.39		0.000	16	169	4	
Totals			13.903	22446	572770		

File: 97020471.D13 Sample: S96T005280DUP

```

=====
Sample Name: S96T005280SPK                      Date: 02/05/1997 02:05:35
Data File  : C:\DX\DATA\97020471.D14
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 14              Detector: CDM-1
Analyst    :                      Column: AG4A-SC,AS4A-SC, SRS
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          41    4500 5Hz    0.00 15.00          0
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.03	fluoride	34.734	1832	15435	2	-4.54
2	2.32	acetate	53.168	610	4545	2	-3.73
3	3.03	formate	49.102	1150	8366	1	-3.92
4	3.79		0.000	44	404	1	
5	5.37		0.000	3348	44548	2	
6	5.79		0.000	11253	270943	2	
7	6.83		0.000	4691	188188	2	
8	7.63		0.000	9347	165476	2	
9	8.13		0.000	2500	18077	2	
10	8.36		0.000	2508	44203	2	
11	8.61		0.000	2520	115220	2	
Totals			137.004	39803	875402		

File: 97020471.D14 Sample: S96T005280SPK

1241

```

=====
Sample Name: S96T005283                      Date: 02/05/1997 02:21:34
Data File  : C:\DX\DATA\97020471.D15
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 15          Detector: CDM-1
Analyst    :                               Column: AG4A-SC,AS4A-SC, SRS
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          41    4500 5Hz   0.00 15.00          0
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.07	fluoride	5.179	317	1756	1	-2.97
2	2.33	acetate	3.119	24	116	1	-3.18
3	3.04	formate	3.954	50	376	1	-3.49
4	3.80		0.000	41	377	1	
5	5.39		0.000	2957	34400	2	
6	5.79		0.000	10078	208978	2	
7	6.83		0.000	3351	99892	2	
8	7.61		0.000	7197	91688	3	
9	8.13		0.000	41	125	4	
10	8.61		0.000	182	5528	1	
Totals			12.252	24238	443236		

File: 97020471.D15 Sample: S96T005283

1242

```

=====
Sample Name: S96T005283DUP          Date: 02/05/1997 02:39:31
Data File : C:\DX\DATA\97020471.D16
Method    : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 16
Analyst   :                          Column: AG4A-SC,AS4A-SC, SRS
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          41    4500  5Hz   0.00 15.00      0
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.07	fluoride	5.549	353	1924	1	-2.97
2	2.33	acetate	3.341	27	136	1	-3.18
3	3.03	formate	4.209	53	421	1	-3.92
4	3.77		0.000	37	294	1	
5	5.37		0.000	3477	42242	2	
6	5.79		0.000	11115	272943	2	
7	6.80		0.000	4415	184358	2	
8	7.61		0.000	9841	173097	2	
9	8.13		0.000	2504	17780	2	
10	8.59		0.000	2528	161474	2	
Totals			13.100	34350	854668		

File: 97020471.D16 Sample: S96T005283DUP

```

=====
Sample Name: S96T005283SPK          Date: 02/05/1997 02:58:13
Data File  : C:\DX\DATA\97020471.D17
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 17      Detector: CDM-1
Analyst    :                          Column: AG4A-SC, AS4A-SC, SRS
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          41    4500  5Hz   0.00 15.00          0
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.03	fluoride	31.531	1856	13922	2	-4.54
2	2.32	acetate	41.878	556	3548	2	-3.73
3	3.01	formate	46.664	1079	7925	1	-4.34
4	3.79		0.000	40	344	1	
5	5.37		0.000	3500	39326	2	
6	5.79		0.000	11027	274608	2	
7	6.77		0.000	4518	192686	2	
8	7.61		0.000	9130	165130	2	
9	8.13		0.000	2491	17663	2	
10	8.59		0.000	2528	159164	2	
Totals			120.073	36724	874314		

File: 97020471.D17 Sample: S96T005283SPK

1244

LABCORE Completed Worklist Report for Worklist# 15218

Analyst: pjm

Instrument: IC03

Book# 144N98

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

Worklist Comment: AN-104 IC2. RCJ

Seq Type	Sample# R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 CCB	0	①IC2-QC	ACETATE2 QC	1	8.60e-02	0.086	ug/mL
1 CCB	0	①IC2-QC	FORMATE2 QC	1	<2.10e-2		ug/mL
2 CCV	0	①IC2-QC	ACETATE2 QC	1.240e2	1.17e+02	94.355	% Recovery
2 CCV	0	①IC2-QC	FORMATE2 QC	1.200e2	1.19e+02	99.167	% Recovery
3 BLNK-PREP	0	①IC2-01	ACETATE2 SOLID	1	5.10e-02	0.053	ug/g
3 BLNK-PREP	0	①IC2-01	FORMATE2 SOLID	1	7.60e-02	0.076	ug/g
4 SAMPLE	S96T005290 0 W	①IC2-01	ACETATE2 SOLID	N/A	4.25e+02	79.780	ug/g
4 SAMPLE	S96T005290 0 W	①IC2-01	FORMATE2 SOLID	N/A	7.07e+02	83.750	ug/g
5 DUP	S96T005290 0 W	①IC2-01	ACETATE2 SOLID	1.26e+02	5.07e+02	17.163	RFD
5 DUP	S96T005290 0 W	①IC2-01	FORMATE2 SOLID	7.08e+02	7.11e+02	0.423	RFD
6 SPK	S96T005290 0 W	①IC2-01	ACETATE2 SOLID	1.240e2	1.17e+02	94.355	% Recovery
6 SPK	S96T005290 0 W	①IC2-01	FORMATE2 SOLID	1.200e2	1.16e+02	96.667	% Recovery
7 SAMPLE	S96T005291 0 W	①IC2-01	ACETATE2 SOLID	N/A	4.76e+02	76.570	ug/g
7 SAMPLE	S96T005291 0 W	①IC2-01	FORMATE2 SOLID	N/A	6.451e+02	80.390	ug/g
8 DUP	S96T005291 0 W	①IC2-01	ACETATE2 SOLID	1.76e+02	3.46e+02	31.630	RFD
8 DUP	S96T005291 0 W	①IC2-01	FORMATE2 SOLID	6.45e+02	5.31e+02	19.388	RFD
9 SPK	S96T005291 0 W	①IC2-01	ACETATE2 SOLID	1.240e2	1.10e+02	88.710	% Recovery
9 SPK	S96T005291 0 W	①IC2-01	FORMATE2 SOLID	1.200e2	1.15e+02	95.833	% Recovery

Final page for worklist# 15218

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Spencer 2/6/97
Reviewer Signature Date

A-0004-1

LABCORE Data Entry Template for Worklist# 15218

Analyst: RLM Instrument: IC0 IC03 Book# 144098Method: LA-533-105 Rev/Mod D-1

Worklist Comment: AN-104 IC2. RCJ

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC2-QC	QC		
2 CCV			@IC2-QC	QC		
3 BLNK-PREP			@IC2-01	SOLID		
4 SAMPLE	S96T005290	0 W	@IC2-01	SOLID	96001283	AN-104
Analytes Requested: <u>ACETATE2, FORMATE2</u>						
5 DUP	S96T005290	0 W	@IC2-01	SOLID		
6 SPK	S96T005290	0 W	@IC2-01	SOLID		
7 SAMPLE	S96T005291	0 W	@IC2-01	SOLID	96001283	AN-104
Analytes Requested: <u>ACETATE2, FORMATE2</u>						
8 DUP	S96T005291	0 W	@IC2-01	SOLID		
9 SPK	S96T005291	0 W	@IC2-01	SOLID		

Final page for worklist # 15218

Analyst Signature RL McCann Date 2/3/97

Analyst Signature _____ Date _____

15218Fb.csv
uploader 2-5-97 JN
Validated 2/6/97 pmfjg

Data Entry Comments:

A-0010-IC

DATA FILE/WORKLIST RESOLUTION

06-Feb-97

Worklist#: 15218

Data File: 15218FB1.CSV

		Seq	Type	Sample #	Seq#	Data File	Sample Name	Dilution	
-	=>	1	CCB	S96T005290	-	1	97020351.d01	INSTR BLANK	1.00
	=>	2	CCV			2	97020351.d02	144N9-B STD	101.00
	=>	3	BLNK-PREP			3	97020351.d03	PREP BLNK	1.00
	=>	4	SAMPLE			4	97020351.d06	S96T005290	21.00
	=>	5	DUP			5	97020351.d07	S96T005290 DUP	21.00
	=>	6	SPK			6	97020351.d08	S96T005290 SPK	21.00
	=>	7	SAMPLE			7	97020351.d09	S96T005290	21.00
	=>	8	DUP			8	97020351.d10	S96T005290 DUP	21.00
	=>	9	SPK			9	97020351.d11	S96T005290 SPK	21.00
+					+				

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

Sample Name: INSTR BLANK

Date: 02/03/1997 08:53:08

Data File : C:\DX\DATA\97020351.D01

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

ACI Address: 1 System: 2 Inject#: 1

Detector: CDM-1

Analyst : *Janet* Column: AG4A-SC, AS4A-SC, SRS

Calibration Volume *for DM 4/25/97* Dilution Points Rate Start Stop Area Reject

External 1 1 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.40	acetate	0.086	7	153	1	-0.41
2	5.92		0.000	4520	380938	2	
3	7.85		0.000	4126	181333	2	
4	8.00		0.000	4283	23147	2	
5	8.15		0.000	4011	31417	2	
6	8.36		0.000	4138	45579	2	
7	8.49		0.000	4166	191434	2	
Totals			0.086	25252	854003		

DIRECT RUN

File: 97020351.D01 Sample: INSTR BLANK

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION ANALYSIS ON PAGES 1248 TO 1256

=====

Sample Name: 144N9-B STD	Date: 02/03/1997 09:09:19
Data File : C:\DX\DATA\97020351.D02	
Method : C:\DX\METHOD\ACE.MET	
ACI Address: 1 System: 2 Inject#: 2	Detector: CDM-1
Analyst :	Column: AG4A-SC, AS4A-SC, SRS

=====

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

External 1 101 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.07	fluoride	68.044	2379	12086	2	-2.97
2	2.33	acetate	117.172	595	4050	2	-3.18
3	3.03	formate	118.827	1090	8209	1	-3.92
4	6.01		0.000	6131	628952	2	
5	7.92		0.000	2658	38226	2	
6	8.15		0.000	2547	18436	2	
7	8.59		0.000	2632	174111	2	

Totals 304.043 18032 884070

100 mL - 10 mL R. McCown 2/3/97

File: 97020351.D02 Sample: 144N9-B STD

=====

Sample Name: PREP BLNK	Date: 02/03/1997 09:48:12
Data File : C:\DX\DATA\97020351.D03	
Method : C:\DX\METHOD\ACE.MET	
ACI Address: 1 System: 2 Inject#: 3	Detector: CDM-1
Analyst :	Column: AG4A-SC, AS4A-SC, SRS

=====

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 1 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.32	acetate	0.053	6	31	1	-3.73
2	2.99	formate	0.076	30	235	1	-5.19
3	6.00		0.000	4509	282498	2	
4	6.64		0.000	3604	200039	2	
5	7.91		0.000	2563	54632	2	
6	8.13		0.000	2435	19577	2	
7	8.57		0.000	2538	164267	2	

Totals 0.129 15686 721278

DIRECT RUN

File: 97020351.D03 Sample: PREP BLNK

```

=====
Sample Name: S96T005290                      Date: 02/03/1997 10:52:36
Data File  : C:\DX\DATA\97020351.D06
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 6           Detector: CDM-1
Analyst    :                               Column: AG4A-SC,AS4A-SC, SRS
=====
  
```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          21    4500    5Hz    0.00 15.00          0
  
```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.03	fluoride	3.378	317	2398	1	-4.54
2	2.32	acetate	2.241	52	228	1	-3.73
3	3.01	formate	3.726	132	952	1	-4.34
4	3.75		0.000	89	784	1	
5	5.35		0.000	5413	51087	2	
6	5.73		0.000	20213	367598	2	
7	6.88		0.000	5341	219610	2	
8	7.45		0.000	19114	399412	3	
9	8.13		0.000	926	7635	4	
10	8.67		0.000	2464	149761	4	

Totals 9.345 54061 1199464

- 500ML-10ML *RLM*

File: 97020351.D06 Sample: S96T005290

=====

Sample Name: S96T005290 DUP	Date: 02/03/1997 11:08:18
Data File : C:\DX\DATA\97020351.D07	
Method : C:\DX\METHOD\ACE.MET	
ACT Address: 1 System: 2 Inject#: 7	Detector: CDM-1
Analyst :	Column: AG4A-SC, AS4A-SC, SRS

=====

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

External	1	21	4500	5Hz	0.00	15.00		0
----------	---	----	------	-----	------	-------	--	---

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.07	fluoride	3.365	443	2386	1	-2.97
2	2.33	acetate	2.794	64	324	1	-3.18
3	3.03	formate	3.917	129	1016	1	-3.92
4	3.77		0.000	82	713	1	
5	5.36		0.000	5470	52816	2	
6	5.73		0.000	20523	391999	2	
7	6.92		0.000	5295	168926	2	
8	7.41		0.000	20884	440094	3	
9	8.13		0.000	943	6809	4	
10	8.68		0.000	2467	150250	4	
Totals			10.077	56300	1215334		

• 500 mL - 10 mL *RSL*

File: 97020351.D07 Sample: S96T005290 DUP

Sample Name: S96T005290 SPK Date: 02/03/1997 11:23:59
 Data File : C:\DX\DATA\97020351.D08
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 8 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 21 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.03	fluoride	16.917	1736	14628	2	-4.54
2	2.32	acetate	24.656	622	4101	2	-3.73
3	3.01	formate	26.928	1226	8996	1	-4.34
4	3.77		0.000	83	717	1	
5	5.36		0.000	4910	42368	2	
6	5.73		0.000	19882	345459	3	
7	6.96		0.000	3242	75392	4	
8	7.45		0.000	17012	269310	3	
10	8.29		0.000	20		3	
11	8.69		0.000	509	14486	1	

Totals 68.501 49241 775459

• 500 ML ← 100 ML 1449B AS SPIKE
 9.9 ML ELUENT
 File: 97020351.D08 Sample: S96T005290 SPK

Sample Name: S96T005290 *AMY 2/16/97* Date: 02/03/1997 11:40:28
 Data File : C:\DX\DATA\97020351.d09
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 9 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	21	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.07	fluoride	2.428	291	1557	1	-2.97
2	2.33	acetate	2.614	58	292	1	-3.18
3	3.03	formate	3.539	113	888	1	-3.92
4	3.77		0.000	82	691	1	
5	5.36		0.000	5467	52535	2	
6	5.73		0.000	21417	400002	2	
7	6.95		0.000	5206	145849	2	
8	7.35		0.000	27403	599786	3	
9	8.12		0.000	864	6884	4	
10	8.33		0.000	1784	22163	4	
11	8.68		0.000	2499	129929	4	
Totals			8.581	65182	1360577		

- 500ML - 10ML RSM
 File: 97020351.d09 Sample: S96T005290

Data Reprocessed On 02/06/1997 14:37:10

Sample Name: S96T005290 ⁶⁻²⁻⁹⁷ ~~Q~~ ⁶⁻²⁻⁹⁷ ~~DUP~~ Date: 02/03/1997 12:03:08
 Data File : E:\DATA\97020351.D10
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 10 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	21	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.03	fluoride	2.907	339	1981	1	-4.54
2	2.31	acetate	1.962	42	180	1	-0.14
3	2.97	formate	3.012	96	710	1	-5.61
4	3.69		0.000	77	611	1	
5	5.35		0.000	5572	48413	2	
6	5.75		0.000	18573	312862	3	
7	6.81		0.000	2254	55633	4	
8	7.28		0.000	30371	579864	3	
9	8.12		0.000	29	161	4	
10	8.68		0.000	423	11432	1	
Totals			7.882	57775	1011847		

File: 97020351.D10 Sample: S96T005290 DUP

Sample Name: S96T005290 *amp spike* Date: 02/03/1997 12:21:20
 Data File : C:\DX\DATA\97020351.D11
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 11 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	21	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.03	fluoride	15.898	2006	13690	2	-4.54
2	2.32	acetate	24.605	638	4092	2	-3.73
3	3.00	formate	26.596	1221	8878	1	-4.76
4	3.75		0.000	87	765	1	
5	5.35		0.000	5719	50809	2	
6	5.73		0.000	21295	383811	2	
7	6.89		0.000	4592	173591	2	
8	7.33		0.000	27399	599892	3	
9	8.12		0.000	879	7930	4	
10	8.29		0.000	1648	22586	4	
11	8.68		0.000	2511	125788	4	

Totals 67.099 67996 1391831

• 500ML *100 ML 144N9B AS SPIKE*
9.9 ML ELUENT
 File: 97020351.D11 Sample: S96T005290 SPK *RAM*

LABCORE Completed Worklist Report for Worklist# 15219

Analyst: eal

Instrument: IC03

Book# 144W9B

Method: 6A-533-105 Rev/Mod D-1

Worklist Comment: AN-104 IC2. RCJ

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 CCB	0		@IC2-QC ACETATE2 QC		1	<2.00e-2		ug/mL
1 CCB	0		@IC2-QC FORMATE2 QC		1	<2.10e-2		ug/mL
2 CCV	0		@IC2-QC ACETATE2 QC		1.240e2	1.10e+02	88.710 % Recovery	
2 CCV	0		@IC2-QC FORMATE2 QC		1.200e2	1.18e+02	98.333 % Recovery	
3 BLNK-PREP	0		@IC2-01 ACETATE2 SOLID		1	<2.00e-2		ug/g
3 BLNK-PREP	0		@IC2-01 FORMATE2 SOLID		1	<2.10e-2		ug/g
4 SAMPLR	S96T005292	0 W	@IC2-01 ACETATE2 SOLID	N/A		1.019e+03	141.000	ug/g
4 SAMPLE	S96T005292	0 W	@IC2-01 FORMATE2 SOLID	N/A		1.417e+03	148.100	ug/g
5 DUP	S96T005292	0 W	@IC2-01 ACETATE2 SOLID		1.02e+03	1.09e+03	8.635 RPD	
5 DUP	S96T005292	0 W	@IC2-01 FORMATE2 SOLID		1.42e+03	1.58e+03	10.667 RPD	
6 SPK	S96T005292	0 W	@IC2-01 ACETATE2 SOLID		1.240e2	1.40e+02	112.303 % Recovery	
6 SPK	S96T005292	0 W	@IC2-01 FORMATE2 SOLID		1.200e2	1.17e+02	97.500 % Recovery	

Final page for worklist# 15219

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

John M. Lyle 12/3/96
Reviewer Signature Date

A-0010-IC

DATA FILE/WORKLIST RESOLUTION

03-Dec-96

Worklist#: 15219

Data File: 15219NV.CSV

		Seq	Type	Sample #					
-	=>	1	CCB	S96T005292 S96T005292 S96T005292	-	1	96112711.d07	INST. BLANK	1.00
	=>	2	CCV			2	96112711.d08	144N9-B STD.	101.00
	=>	3	BLNK-PREP			3	96112711.d09	PREP. BLANK	1.00
	=>	4	SAMPLE			4	96112711.d10	S96T005292	41.00
	=>	5	DUP			5	96112711.d11	S96T005292 DUP	41.00
	=>	6	SPK			6	96112711.d12	S96T005292 SPIKE	41.00
+					+				

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

=====

Sample Name: INST. BLANK	Date: 11/27/1996 22:34:12
Data File : C:\DX\DATA\96112711.D07	
Method : C:\DX\METHOD\ACE.MET	
ACI Address: 1 System: 2 Inject#: 7	Detector: CDM-1
Analyst : <i>Paul Tye</i>	Column: AG4A-SC, AS4A-SC, SRS

=====

for EAL 4/22/97

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.93		0.000	2400	84423	2	
2	7.28		0.000	2560	46459	2	
3	8.15		0.000	267	1507	2	
4	8.41		0.000	714	50792	2	
Totals			0.000	5941	183181		

File: 96112711.D07 Sample: INST. BLANK

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1210 TO 1215

Sample Name: 144N9-B STD.

Date: 11/27/1996 22:50:47

Data File : C:\DX\DATA\96112711.D08

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

ACI Address: 1 System: 2 Inject#: 8

Detector: CDM-1

Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	101	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.07	fluoride	64.586	1848	13418	2	-1.59
2	2.35	acetate	110.477	670	4484	2	-0.14
3	3.04	formate	118.425	1335	9254	1	0.00
4	5.95		0.000	4402	253044	2	
5	7.28		0.000	1622	45491	2	
6	8.15		0.000	261	1487	2	
7	8.40		0.000	687	51208	2	
Totals			293.488	10826	378386		

File: 96112711.D08 Sample: 144N9-B STD.

Sample Name: PREP. BLANK

Date: 11/27/1996 23:09:17

Data File : C:\DX\DATA\96112711.D09

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

ACI Address: 1 System: 2 Inject#: 9

Detector: CDM-1

Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.96		0.000	2060	90754	2	
2	7.25		0.000	1220	27109	2	
3	8.15		0.000	248	1603	2	
4	8.39		0.000	651	49903	2	
Totals			0.000	4180	169369		

File: 96112711.D09 Sample: PREP. BLANK

Sample Name: S96T005292

Date: 11/27/1996 23:27:19

Data File : C:\DX\DATA\96112711.D10

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

ACI Address: 1 System: 2 Inject#: 10

Detector: CDM-1

Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.07	fluoride	7.932	605	3609	1	-1.59
2	2.33	acetate	5.926	92	476	1	-0.71
3	3.03	formate	8.240	169	1133	1	-0.44
4	3.85		0.000	119	895	1	
5	5.39		0.000	6281	46201	2	
6	5.76		0.000	26041	418398	3	
7	7.20		0.000	2327	52065	4	
8	7.44		0.000	20239	294255	3	
10	8.44		0.000	84	1186	4	
Totals			22.098	55956	818219		

File: 96112711.D10 Sample: S96T005292

Sample Name: S96T005292 DUP Date: 11/27/1996 23:48:14
 Data File : C:\DX\DATA\96112711.D11
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 11 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 41 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.07	fluoride	7.888	673	3587	1	-1.59
2	2.32	acetate	5.942	91	477	1	-1.28
3	3.00	formate	8.588	167	1203	1	-1.32
4	3.81		0.000	118	944	1	
5	5.37		0.000	7768	67681	2	
6	5.75		0.000	27041	491288	2	
7	7.15		0.000	6852	156921	2	
8	7.43		0.000	22244	421942	3	
9	8.15		0.000	1272	9851	4	
10	8.39		0.000	2303	53528	4	
11	8.73		0.000	2789	119812	4	
Totals			22.419	71319	1327234		

File: 96112711.D11 Sample: S96T005292 DUP

Sample Name: S96T005292 SPIKE Date: 11/28/1996 01:45:33
 Data File : C:\DX\DATA\96112711.D12
 Method : C:\DX\METHOD\ACE.MET
 ACT Address: 1 System: 2 Inject#: 12 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.10	fluoride	35.266	3602	18374	2	0.00
2	2.35	acetate	62.087	819	6256	2	-0.14
3	3.04	formate	54.917	1571	10679	1	0.00
4	3.87		0.000	115	939	1	
5	5.39		0.000	6336	46464	2	
6	5.76		0.000	26888	449006	3	
7	7.17		0.000	4856	95970	4	
8	7.45		0.000	20067	289571	3	
10	8.41		0.000	78	968	4	
Totals			152.271	64331	918226		

File: 96112711.D12 Sample: S96T005292 SPIKE

LABCORE Completed Worklist Report for Worklist# 15220

Analyst: eal

Instrument: IC03

Book# 144N9B

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

Worklist Comment: AN-104 IC2. RCJ

Seq	Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	CCE	0		@IC2-QC	ACETATE2 QC	1	<2.00e-2		ug/mL
1	CCB	0		@IC2-QC	FORMATE2 QC	1	<2.10e-2		ug/mL
2	CCV	0		@IC2-QC	ACETATE2 QC	1.240e2	1.12e+02	95.968 %	Recovery
2	CCV	0		@IC2-QC	FORMATE2 QC	1.200e2	1.16e+02	96.667 %	Recovery
2	BLNK-PREP	0		@IC2-01	ACETATE2 SOLID	1	<2.00e-2		ug/g
3	BLNK-PREP	0		@IC2-01	FORMATE2 SOLID	1	<2.10e-2		ug/g
4	SAMPLE	S96T005295	0 W	@IC2-01	ACETATE2 SOLID	N/A	1.499e+02	149.900	ug/g
4	SAMPLE	S96T005295	0 W	@IC2-01	FORMATE2 SOLID	N/A	9.154e+02	157.400	ug/g
5	DUP	S96T005295	0 W	@IC2-01	ACETATE2 SOLID	<1.50e2	<1.46e2		RED
5	DUP	S96T005295	0 W	@IC2-01	FORMATE2 SOLID	9.15e+02	9.10e+02	0.548	RED
6	SPK	S96T005295	0 W	@IC2-01	ACETATE2 SOLID	1.240e2	1.39e+02	112.097 %	Recovery
6	SPK	S96T005295	0 W	@IC2-01	FORMATE2 SOLID	1.200e2	1.16e+02	96.667 %	Recovery

Final page for worklist# 15220

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

James Lutz 12/3/96
Reviewer Signature Date

LABCORE Data Entry Template for Worklist# 15220

Analyst: EM Instrument: IC0 TC03 Book# 144/19B

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

Worklist Comment: AN-104 IC2. RCJ

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC2-QC	QC		
2 CCV			@IC2-QC	QC		
3 BLNK-PREP			@IC2-01	SOLID		
4 SAMPLE	S96T005295 0 W		@IC2-01	SOLID	96001283	AN-104
	Analytes Requested: ACETATE2 , FORMATE2					
5 DUP	S96T005295 0 W		@IC2-01	SOLID		
6 SPK	S96T005295 0 W		@IC2-01	SOLID		

Final page for worklist # 15220

A. Hamble

11-27-96

Analyst Signature

Date

Analyst Signature

Date

15220.NU.CSV

In shell

Uploaded 12/3/96 gm Lye

Validated 12/3/96 gm Lye

Data Entry Comments:

A-0010-IC

DATA FILE/WORKLIST RESOLUTION

03-Dec-96

Worklist#: 15220

Data File: 15220NV.CSV

		Seq	Type	Sample #		Seq#	Data File	Sample Name	Dilution
- +	=>	1	CCB	S96T005295	- +	1	96112711.d01	INST. BLANK	1.00
	=>	2	CCV			2	96112711.d02	144N9-B STD	101.00
	=>	3	BLNK-PREP			3	96112711.d03	PREP. BLANK	1.00
	=>	4	SAMPLE			4	96112711.d04	S96T005295	41.00
	=>	5	DUP			5	96112711.d05	S96T005295 DUP	41.00
	=>	6	SPK			6	96112711.d06	S96T005295 SPIKE	41.00

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

Sample Name: 144N9-B STD Date: 11/27/1996 19:34:13
 Data File : C:\DX\DATA\96112711.D02
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 2 Detector: CDM-1
 Analyst : *H. Lambel* Column: AG4A-SC, AS4A-SC, SRS

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 101 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.07	fluoride	65.106	2157	13533	2	-1.59
2	2.33	acetate	119.177	697	4847	2	-0.71
3	3.01	formate	116.418	1296	9085	1	-0.88
4	5.95		0.000	4001	253031	2	
5	7.08		0.000	2090	85091	2	
6	8.15		0.000	104	415	1	

Totals 300.701 10345 366002

File: 96112711.D02 Sample: 144N9-B STD

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1266 TO 1274

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=====
Sample Name: INST. BLANK                      Date: 11/27/1996 19:14:52
Data File  : C:\DX\DATA\96112711.D01
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 1           Detector: CDM-1
Analyst    :                               Column: AG4A-SC,AS4A-SC, SRS
=====
  
```

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 1 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.65		0.000	34	167	1	
2	6.16		0.000	1055	16561	1	
3	8.15		0.000	274	1764	2	
4	8.40		0.000	715	51462	2	
Totals			0.000	2078	69954		

File: 96112711.D01 Sample: INST. BLANK

```

=====
Sample Name: PREP. BLANK                      Date: 11/27/1996 19:54:34
Data File  : C:\DX\DATA\96112711.D03
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 3           Detector: CDM-1
Analyst    :                               Column: AG4A-SC, AS4A-SC, SRS
=====
  
```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          1  4500  5Hz  0.00 15.00          0
  
```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	6.01		0.000	2426	126502	2	
2	7.16		0.000	2363	94005	2	
3	7.79		0.000	1549	35391	2	
4	8.15		0.000	1580	11269	2	
5	8.41		0.000	1826	115587	2	
Totals			0.000	9743	382755		

File: 96112711.D03 Sample: PREP. BLANK

Sample Name: S96T005295 Date: 11/27/1996 21:40:36
 Data File : C:\DX\DATA\96112711.D04
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 4 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.19	fluoride	4.968	302	2045	1	4.13
2	3.15	formate	5.008	71	486	1	3.51
3	3.97		0.000	54	418	1	
4	5.41		0.000	4373	54214	2	
5	5.80		0.000	14582	379974	2	
6	7.19		0.000	4479	161892	2	
7	7.55		0.000	13924	233326	2	
8	8.15		0.000	3019	24057	2	
9	8.41		0.000	3084	199459	2	
Totals			9.976	43889	1055872		

File: 96112711.D04 Sample: S96T005295

Sample Name: S96T005295 DUP Date: 11/27/1996 22:00:49
Data File : C:\DX\DATA\96112711.D05
Method : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 5 Detector: CDM-1
Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 41 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.10	fluoride	4.970	355	2046	1	0.00
2	3.03	formate	5.109	76	506	1	-0.44
3	3.84		0.000	55	429	1	
4	5.39		0.000	5309	55581	2	
5	5.79		0.000	15287	410751	2	
6	7.17		0.000	5692	163086	2	
7	7.53		0.000	14030	238293	2	
8	8.15		0.000	3009	23977	2	
9	8.36		0.000	3046	197651	2	
Totals			10.078	46858	1092321		

File: 96112711.D05 Sample: S96T005295 DUP

Sample Name: S96T005295 SPIKE Date: 11/27/1996 22:18:20
 Data File : C:\DX\DATA\96112711.D06
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 6 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.07	fluoride	32.349	2578	16768	2	-1.59
2	2.33	acetate	55.585	763	5588	2	-0.71
3	3.03	formate	51.463	1463	9959	1	-0.44
4	3.87		0.000	54	415	1	
5	5.40		0.000	4302	48278	2	
6	5.79		0.000	15711	402061	2	
7	7.23		0.000	5732	172373	2	
8	7.53		0.000	14171	236397	2	
9	8.15		0.000	3001	21811	2	
10	8.37		0.000	3047	200223	2	
Totals			139.396	50822	1113872		

File: 96112711.D06 Sample: S96T005295 SPIKE

LABCORE Completed Worklist Report for Worklist# 15221

Analyst: pjm

Instrument: IC03

Book# 144/1078

Method: 1A-533/85 Rev/Mod D-1

Worklist Comment: AN-104 IC2. RCJ

Seq Type	Sample# R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 CCB	0	@IC2-QC	ACETATE2 QC	1	<2.00e-2		ug/mL
1 CCB	0	@IC2-QC	FORMATE2 QC	1	<2.10e-2		ug/mL
2 CCV	0	@IC2-QC	ACETATE2 QC	1.240e2	9.94e+01	80.161 % Recovery	
2 CCV	0	@IC2-QC	FORMATE2 QC	1.200e2	1.15e+02	95.833 % Recovery	
3 BLNK-PREP	0	@IC2-01	ACETATE2 SOLID	1	6.20e-02	0.062	ug/g
3 BLNK-PREP	0	@IC2-01	FORMATE2 SOLID	1	<2.10e-2		ug/g
4 SAMPLE	S96T005558 0 W	@IC2-01	ACETATE2 SOLID	N/A	4.835e+02	82.000	ug/g
4 SAMPLE	S96T005558 0 W	@IC2-01	FORMATE2 SOLID	N/A	6.909e+02	86.120	ug/g
5 DUP	S96T005558 0 W	@IC2-01	ACETATE2 SOLID	4.84e+02	4.93e+02	1.842 RPD	
5 DUP	S96T005558 0 W	@IC2-01	FORMATE2 SOLID	6.91e+02	7.38e+02	6.578 RPD	
6 SPK	S96T005558 0 W	@IC2-01	ACETATE2 SOLID	1.240e2	1.03e+02	83.065 % Recovery	
6 SPK	S96T005558 0 W	@IC2-01	FORMATE2 SOLID	1.200e2	1.18e+02	98.333 % Recovery	
7 SAMPLE	S96T005561 0 W	@IC2-01	ACETATE2 SOLID	N/A	4.395e+02	76.380	ug/g
7 SAMPLE	S96T005561 0 W	@IC2-01	FORMATE2 SOLID	N/A	6.363e+02	80.200	ug/g
8 DUP	S96T005561 0 W	@IC2-01	ACETATE2 SOLID	4.40e+02	4.59e+02	4.227 RPD	
8 DUP	S96T005561 0 W	@IC2-01	FORMATE2 SOLID	6.36e+02	6.03e+02	5.327 RPD	
9 SPK	S96T005561 0 W	@IC2-01	ACETATE2 SOLID	1.240e2	1.38e+02	111.290 % Recovery	
9 SPK	S96T005561 0 W	@IC2-01	FORMATE2 SOLID	1.200e2	1.14e+02	95.000 % Recovery	

Final page for worklist# 15221

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

James M. Faye
Reviewer Signature Date 2/12/97

LABCORE Data Entry Template for Worklist# 15221

Analyst: RLM Instrument: IC0 IC03 Book# 144N9B

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

Worklist Comment: AN-104 IC2. RCJ

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC2-QC	QC		
2 CCV			@IC2-QC	QC		
3 BLNK-PREP			@IC2-01	SOLID		
4 SAMPLE	S96T005558	0 W	@IC2-01	SOLID	96001283	AN-104
Analytes Requested: ACETATE2 , FORMATE2						
5 DUP	S96T005558	0 W	@IC2-01	SOLID		
6 SPK	S96T005558	0 W	@IC2-01	SOLID		
7 SAMPLE	S96T005561	0 W	@IC2-01	SOLID	96001283	AN-104
Analytes Requested: ACETATE2 , FORMATE2						
8 DUP	S96T005561	0 W	@IC2-01	SOLID		
9 SPK	S96T005561	0 W	@IC2-01	SOLID		

Final page for worklist # 15221

RLMCPawn 2/3/97
Analyst Signature Date

Analyst Signature Date

15221 PB.CSV

uploaded 15221 PB.CSV

Validated 2/12/97 JMF

Data Entry Comments:

A-0010-IC

DATA FILE/WORKLIST RESOLUTION

12-Feb-97

Worklist#: 15221

Data File: 15221FB.CSV

		Seq	Type	Sample #	Seq#	Data File	Dilution
-	=>	1	CCB		-	1 97020351.d12	1.00
	=>	2	CCV			2 97020351.d14	101.00
	=>	3	BLNK-PREP			3 97020351.d15	1.00
	=>	4	SAMPLE	S96T005558		4 97020351.d16	21.00
	=>	5	DUP	S96T005558		5 97020351.d17	21.00
	=>	6	SPK	S96T005558		6 97020351.d18	21.00
	=>	7	SAMPLE	S96T005561		7 97020351.d19	21.00
	=>	8	DUP	S96T005561		8 97020351.d20	21.00
	=>	9	SPK	S96T005561		9 97020351.d21	21.00
+					+		

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

Sample Name: CCV 144N9B Date: 02/03/1997 14:40:48
 Data File : C:\DX\DATA\97020351.D14
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 14 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	101	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.03	fluoride	69.088	2231	12284	2	-4.54
2	2.31	acetate	99.420	558	3414	2	-0.14
3	2.97	formate	114.589	1056	7898	1	-5.61
4	6.05		0.000	5965	586348	2	
5	7.85		0.000	2718	57559	2	
6	8.13		0.000	2544	19975	2	
7	8.55		0.000	2649	171549	2	

Totals 283.098 17721 859028

• 100ML - 10ML RJ McCown 2/3/97

File: 97020351.D14 Sample: CCV 144N9B

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1278 TO 1286

```

=====
Sample Name: CCB                      Date: 02/03/1997 13:59:07
Data File  : C:\DX\DATA\97020351.D12
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 12   Detector: CDM-1
Analyst    :                          Column: AG4A-SC, AS4A-SC, SRS
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          1  4500  5Hz   0.00 15.00          0
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.03	fluoride	0.038	6	118	1	-4.54
Totals			0.038	6	118		

DIRECT RUN

File: 97020351.D12 Sample: CCB

```

=====
Sample Name: PREP BLNK                      Date: 02/03/1997 15:01:27
Data File  : C:\DX\DATA\97020351.D15
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 15        Detector: CDM-1
Analyst    :                               Column: AG4A-SC, AS4A-SC, SRS
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          1  4500  5Hz   0.00 15.00          0
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.33	acetate	0.062	6	65	1	-3.18
2	5.91		0.000	4893	302665	2	
3	6.75		0.000	3964	216403	2	
4	7.89		0.000	2672	51046	2	
5	8.13		0.000	2559	20491	2	
6	8.55		0.000	2652	172265	2	

```

-----
Totals          0.062          16745          762934
-----

```

DIRECT Rfm
File: 97020351.D15 Sample: PREP BLNK

```

=====
Sample Name: S96T005558      Date: 02/03/1997 15:21:22
Data File  : C:\DX\DATA\97020351.D16
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 16      Detector: CDM-1
Analyst    :      Column: AG4A-SC, AS4A-SC, SRS
=====

```

```

=====
Calibration Volume  Dilution Points Rate  Start  Stop Area Reject
-----
External           1           21    4500  5Hz    0.00  15.00          0
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.03	fluoride	5.531	687	4310	1	-4.54
2	2.32	acetate	2.476	55	269	1	-3.73
3	2.73		0.000	29	201	2	
4	3.00	formate	3.538	117	888	2	-4.76
5	3.73		0.000	78	656	1	
6	5.35		0.000	5224	51363	2	
7	5.75		0.000	18613	362719	2	
8	6.81		0.000	3919	173664	2	
9	7.45		0.000	18958	398389	3	
10	8.13		0.000	925	6588	4	
11	8.68		0.000	2506	151685	4	
Totals			11.545	51110	1150731		

.500ML-10ML RLM

File: 97020351.D16 Sample: S96T005558

```

=====
Sample Name: S96T005558  DUP                      Date: 02/03/1997 15:38:12
Data File  : C:\DX\DATA\97020351.D17
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 17                Detector: CDM-1
Analyst    :                      Column: AG4A-SC, AS4A-SC, SRS
=====

```

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 21 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.03	fluoride	6.419	654	5102	1	-4.54
2	2.32	acetate	2.617	57	293	1	-3.73
3	2.76		0.000	28	219	2	
4	3.01	formate	3.920	128	1017	2	-4.34
5	3.76		0.000	82	712	1	
6	5.36		0.000	4801	49670	2	
7	5.73		0.000	18517	371153	2	
8	6.91		0.000	6006	190872	2	
9	7.47		0.000	17579	367718	3	
10	8.13		0.000	919	6488	4	
11	8.68		0.000	2576	151765	4	
Totals			12.955	51347	1145010		

• 500mL - 10mL *R/M*
File: 97020351.D17 Sample: S96T005558 DUP

```

=====
Sample Name: S96T005558  SPK                      Date: 02/03/1997 16:00:37
Data File  : E:\DATA\97020351.D18
Method     : C:\DX\METHOD\ACE.MET
ACT Address: 1  System: 2  Inject#: 18              Detector: CDM-1
Analyst    :                      Column: AG4A-SC,AS4A-SC, SRS
=====

```

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 21 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.03	fluoride	19.851	3367	17345	2	-4.54
2	2.29	acetate	22.998	612	3815	2	0.15
3	2.73		0.000	23	110	2	
4	2.97	formate	27.105	1284	9059	2	-5.61
5	3.69		0.000	78	675	1	
6	5.33		0.000	5858	76493	2	
7	5.75		0.000	18429	361993	2	
8	6.76		0.000	6122	201026	2	
9	7.45		0.000	18602	388976	3	
10	8.13		0.000	941	6752	4	
11	8.68		0.000	2535	152975	4	

Totals 69.954 57853 1219219

File: 97020351.D18 Sample: S96T005558 SPK

1283

Data Reprocessed On 02/11/1997 14:48:45

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=====
Sample Name: S96T005561                      Date: 02/03/1997 16:18:43
Data File  : E:\DATA\97020351.D19
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 19          Detector: CDM-1
Analyst    :                               Column: AG4A-SC, AS4A-SC, SRS
=====

```

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 21 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.03	fluoride	14.860	1816	12738	2	-4.54
2	2.31	acetate	2.417	49	258	2	-0.14
3	2.75		0.000	35	249	2	
4	3.01	formate	3.499	117	875	2	-4.34
5	3.75		0.000	83	713	1	
6	5.35		0.000	5230	49684	2	
7	5.73		0.000	18447	363168	2	
8	6.84		0.000	5989	202532	2	
9	7.39		0.000	22330	477246	3	
10	8.13		0.000	972	8023	4	
11	8.63		0.000	3607	163785	4	

Totals 20.776 58675 1279270

File: 97020351.D19 Sample: S96T005561

1284

=====

Sample Name: S96T005561 DUP	Date: 02/03/1997 16:34:30
Data File : C:\DX\DATA\97020351.D20	
Method : C:\DX\METHOD\ACE.MET	
ACI Address: 1 System: 2 Inject#: 20	Detector: CDM-1
Analyst :	Column: AG4A-SC, AS4A-SC, SRS

=====

Calibration Volume Dilution Points Rate Start Stop Area Reject

External	1	21	4500	5Hz	0.00	15.00	0
----------	---	----	------	-----	------	-------	---

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.03	fluoride	13.243	1495	11260	2	-4.54
2	2.32	acetate	2.453	50	265	2	-3.73
3	2.76		0.000	34	238	2	
4	3.01	formate	3.220	104	780	2	-4.34
5	3.76		0.000	72	608	1	
6	5.36		0.000	4799	51000	2	
7	5.75		0.000	17916	349152	2	
8	6.88		0.000	5614	179500	2	
9	7.39		0.000	22880	489451	3	
10	8.13		0.000	953	6883	4	
11	8.64		0.000	3488	164075	4	

Totals 18.916 57404 1253212

- 500 mL - 10 mL Refill

File: 97020351.D20 Sample: S96T005561 DUP

Sample Name: S96T005561 SPK Date: 02/03/1997 16:50:46
 Data File : C:\DX\DATA\97020351.D21
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 21 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	21	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.03	fluoride	29.469	3459	26434	2	-4.54
2	2.32	acetate	30.024	666	5025	2	-3.73
3	2.75		0.000	28	163	1	
4	3.01	formate	26.372	1228	8798	1	-4.34
5	3.76		0.000	79	658	1	
6	5.36		0.000	4987	51497	2	
7	5.75		0.000	18179	369088	2	
8	6.88		0.000	5386	167415	2	
9	7.40		0.000	21662	458152	3	
10	8.13		0.000	958	6940	4	
11	8.64		0.000	3556	164574	4	

Totals 85.865 60189 1258746

500ML 100ML 144N9B AS SPIKE
 9.9ML ELUENT RAW
 File: 97020351.D21 Sample: S96T005561 SPK

LABCORE Completed Worklist Report for Worklist# 15541

Analyst: cal

Instrument: IC01

Book# 36N20D

Method: LA533105 Rev/Mod D-1

Worklist Comment: @IC-01 FOR AN-104

RTS!

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	<1.00e-1		ug/mL
1 CCB	0		⊖IC-QC BR	QC	1	<1.25e-1		ug/mL
1 CCB	0		⊖IC-QC NO3	QC	1	<1.39e-1		ug/mL
1 CCB	0		⊖IC-QC P04	QC	1	<1.20e-1		ug/mL
1 CCB	0		⊖IC-QC S04	QC	1	<1.38e-1		ug/mL
1 CCB	0		⊖IC-QC OXALATE2	QC	1	<1.05e-1		ug/mL
2 CCV	0		⊖IC-QC F	QC	5.9000e1	6.58e+01	111.525 % Recovery	
2 CCV	0		⊖IC-QC CL	QC	7.9000e1	7.85e+01	99.367 % Recovery	
2 CCV	0		⊖IC-QC NO2	QC	5.4200e2	5.12e+02	94.465 % Recovery	
2 CCV	0		⊖IC-QC BR	QC	5.8900e2	5.67e+02	96.265 % Recovery	
2 CCV	0		⊖IC-QC NO3	QC	5.9400e2	5.93e+02	99.832 % Recovery	
2 CCV	0		⊖IC-QC P04	QC	5.4400e2	5.34e+02	98.162 % Recovery	
2 CCV	0		⊖IC-QC S04	QC	6.3100e2	6.57e+02	104.120 % Recovery	
2 CCV	0		⊖IC-QC OXALATE2	QC	5.3300e2	5.62e+02	105.441 % Recovery	
3 SAMPLE	S96T005979	0	⊖IC-01 F-02	LIQUID	N/A	<1.224e+02	122.400	ug/mL
3 SAMPLE	S96T005979	0	⊖IC-01 CL-02	LIQUID	N/A	9.617e+03	173.400	ug/mL
3 SAMPLE	S96T005979	0	⊖IC-01 NO2-02	LIQUID	N/A	1.325e+05	1102.000	ug/mL
3 SAMPLE	S96T005979	0	⊖IC-01 BR-02	LIQUID	N/A	1.520e+03	1275.000	ug/mL
3 SAMPLE	S96T005979	0	⊖IC-01 NO3-02	LIQUID	N/A	2.072e+05	1418.000	ug/mL
3 SAMPLE	S96T005979	0	⊖IC-01 P04-02	LIQUID	N/A	3.980e+03	1224.000	ug/mL
3 SAMPLE	S96T005979	0	⊖IC-01 S04-02	LIQUID	N/A	2.118e+03	1408.000	ug/mL
3 SAMPLE	S96T005979	0	⊖IC-01 OXALATE2	LIQUID	N/A	<1.071e+03	1071.000	ug/mL
4 DUP	S96T005979	0	⊖IC-01 F-02	LIQUID	<1.22e2	<1.22e2		RPD
4 DUP	S96T005979	0	⊖IC-01 CL-02	LIQUID	9.62e+03	9.30e+03	3.383	RPD
4 DUP	S96T005979	0	⊖IC-01 NO2-02	LIQUID	1.32e+05	1.29e+05	2.299	RPD
4 DUP	S96T005979	0	⊖IC-01 BR-02	LIQUID	1.52e+03	1.58e+03	3.871	RPD
4 DUP	S96T005979	0	⊖IC-01 NO3-02	LIQUID	2.07e+05	2.06e+05	9.484	RPD
4 DUP	S96T005979	0	⊖IC-01 P04-02	LIQUID	3.98e+03	3.61e+03	9.750	RPD
4 DUP	S96T005979	0	⊖IC-01 S04-02	LIQUID	2.12e+03	2.50e+03	16.450	RPD
4 DUP	S96T005979	0	⊖IC-01 OXALATE2	LIQUID	<1.07e3	<1.07e3		RPD
5 SPK	S96T005979	0	⊖IC-01 F-02	LIQUID	5.9000e1	5.09e+01	86.271 % Recovery	
5 SPK	S96T005979	0	⊖IC-01 CL-02	LIQUID	7.9000e1	7.38e+01	93.418 % Recovery	
5 SPK	S96T005979	0	⊖IC-01 NO2-02	LIQUID	5.4200e2	5.25e+02	96.863 % Recovery	
5 SPK	S96T005979	0	⊖IC-01 BR-02	LIQUID	5.8900e2	5.67e+02	94.567 % Recovery	
5 SPK	S96T005979	0	⊖IC-01 NO3-02	LIQUID	5.9400e2	6.06e+02	102.020 % Recovery	
5 SPK	S96T005979	0	⊖IC-01 P04-02	LIQUID	5.4400e2	5.18e+02	95.221 % Recovery	
5 SPK	S96T005979	0	⊖IC-01 S04-02	LIQUID	6.3100e2	6.44e+02	102.060 % Recovery	
5 SPK	S96T005979	0	⊖IC-01 OXALATE2	LIQUID	5.3300e2	5.64e+02	105.816 % Recovery	

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

LABCORE Completed Worklist Report for Worklist# 15541

Seq Type	Sample# R A	Test	Matrix	Actual	Found	DL or Yield	Unit
----------	-------------	------	--------	--------	-------	-------------	------

Final page for worklist# 15541

Analyst Signature

Date

Analyst Signature

Date

Heather Anastas 1-28-97
Reviewer Signature Date

Validated 1-28-97 Hea

LABCORE Data Entry Template for Worklist# 15541

Analyst: EAL Instrument: IC0 IC01 Book# 36N20.D

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

Worklist Comment: @IC-01 FOR AN-104

RTS!

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC-QC	QC		
2 CCV			@IC-QC	QC		
3 SAMPLE	S96T005979 0		@IC-01	LIQUID	96001174	AN-104
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
4 DUP	S96T005979 0		@IC-01	LIQUID		
5 SPK	S96T005979 0		@IC-01	LIQUID		

Final page for worklist # 15541

A. Langel 1-18-97
Analyst Signature Date

Analyst Signature Date

15541JA.CSV uploaded 1-28-97 Hea
validated 1-28-97 Hea

Data Entry Comments:

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

A-0010-IC				DATA FILE/WORKLIST RESOLUTION				28-Jan-97	
Worklist#: 15541				Data File: 15541JA.CSV					
	Seq	Type	Sample #	Seq#	Data File	Sample Name	Dilution		
-	=>	1	CCB	-	1	97011801.d01	INST. BLANK	1.00	
	=>	2	CCV		2	97011801.d03	36N20-D STD.	101.00	
	=>	3	SAMPLE		3	97011801.d05	S96T005979	10201.00	
	=>	4	DUP		4	97011801.d06	S96T005979 DUP	10201.00	
	=>	5	SPK		5	97011801.d07	S96T005979 SPIKE	10201.00	
+				+					

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

Data Reprocessed On 01/28/1997 11:09:35

Sample Name: INST. BLANK

Date: 01/18/1997 07:10:39

Data File : F:\DATA\97011801.d01

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

ACI Address: 1 System: 1 Inject#: 1

Detector: CDM-1

Analyst : *John Faye* 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	3.46	nitrate	0.055	74	483	1	-3.35
2	6.51	sulfate	-0.006	40	851	1	-1.61
Totals			0.049	113	1335		

=====

File: 97011801.d01 Sample: INST. BLANK

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1291 TO 1295

Data Reprocessed On 01/28/1997 11:09:37

Sample Name: 36N20-D STD.

Date: 01/18/1997 07:43:15

Data File : F:\DATA\97011801.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		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.94		0.000	18	53	2	
2	1.12	fluoride	65.756	1234	8777	2	3.70
3	1.67	chloride	78.453	1830	9866	1	0.00
4	1.98	nitrite	512.429	6219	42945	1	-2.62
5	2.97	bromide	567.072	5001	33099	1	-0.11
6	3.37	nitrate	593.332	5751	46738	1	-5.77
7	4.91	phosphate	533.846	1543	21293	1	-1.08
8	6.40	sulfate	656.654	4735	69703	1	-3.23
9	8.43	oxalate	562.328	2174	43053	1	-3.07

Totals	3569.869	28504	275526
--------	----------	-------	--------

File: 97011801.d03 Sample: 36N20-D STD.

Data Reprocessed On 01/28/1997 11:09:37

```

=====
Sample Name: S96T005979                      Date: 01/18/1997 08:13:48
Data File  : F:\DATA\97011801.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          10201   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	0.95		0.000	146	1054	2	
2	1.33		0.000	210	2626	2	
3	1.66	chloride	9617.255	2076	12021	1	-0.40
4	1.98	nitrite	132452.198	16250	113802	1	-2.62
5	3.01	bromide	1520.298	44	255	1	-3.11
6	3.31	nitrate	207186.394	18566	167499	1	0.10
7	4.96	phosphate	3980.095	77	1224	1	0.00
8	6.51	sulfate	2118.150	201	3065	1	-1.61
Totals			356874.390	37571	301547		

File: 97011801.d05 Sample: S96T005979

Data Reprocessed On 01/28/1997 11:09:38

```

=====
Sample Name: S96T005979 DUP                      Date: 01/18/1997 08:26:00
Data File  : F:\DATA\97011801.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       10201    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	0.94		0.000	142	1028	2	
2	1.33		0.000	201	2532	2	
3	1.66	chloride	9296.885	2081	11613	1	-0.40
4	1.97	nitrite	128918.138	16204	110644	1	-2.95
5	3.01	bromide	1580.218	47	290	1	-3.32
6	3.31	nitrate	206497.191	18515	166912	1	-0.10
7	4.93	phosphate	3610.092	73	1078	1	-0.54
8	6.45	sulfate	2501.035	199	3455	1	-2.42
9	7.79		0.000	12	200	1	
Totals			352403.558	37476	297752		

File: 97011801.d06 Sample: S96T005979 DUP

```

=====
Sample Name: S96T005979 SPIKE                      Date: 01/18/1997 08:36:48
Data File  : F:\DATA\97011801.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       10201    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	0.95		0.000	102	449	1	
2	1.12	fluoride	5140.724	1085	6603	1	3.70
3	1.65	chloride	17075.048	3949	21665	1	-0.80
4	1.98	nitrite	185521.382	23473	161870	1	-2.62
5	2.97	bromide	57815.006	5147	33423	1	-0.11
6	3.30	nitrate	268351.529	23849	220560	1	0.00
7	4.91	phosphate	56348.854	1645	22286	1	-1.08
8	6.40	sulfate	67172.822	4805	70604	1	-3.23
9	8.43	oxalate	56994.385	2174	43207	1	-3.07

```

-----
Totals          714419.750          66228          580666
=====

```

File: 97011801.d07 Sample: S96T005979 SPIKE

LABCORE Completed Worklist Report for Worklist# 15545

Analyst: rdm

Instrument: IC03

Book# 144A98

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

Worklist Comment: @IC2-01 FOR AN-104

RTS!

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 CCB	0	@IC2-QC	ACETATE2 QC		1	<2.00e-2		ug/mL
1 CCB	0	@IC2-QC	FORMATE2 QC		1	<2.10e-2		ug/mL
2 CCV	0	@IC2-QC	ACETATE2 QC		1.240e2	1.20e+02	98.774 % Recovery	
2 CCV	0	@IC2-QC	FORMATE2 QC		1.200e2	1.13e+02	94.167 % Recovery	
3 SAMPLE	896T005979	0	@IC2-01	ACETATE2 LIQUID	N/A	1.773e+03	406.000	ug/mL
3 SAMPLE	896T005979	0	@IC2-01	FORMATE2 LIQUID	N/A	3.447e+03	426.300	ug/mL
4 DUP	896T005979	0	@IC2-01	ACETATE2 LIQUID	1.77e+03	1.99e+03	11.702 RPD	
4 DUP	896T005979	0	@IC2-01	FORMATE2 LIQUID	3.45e+03	3.43e+03	0.581 RPD	
5 SPK	896T005979	0	@IC2-01	ACETATE2 LIQUID	1.240e2	1.45e+02	116.935 % Recovery	
5 SPK	896T005979	0	@IC2-01	FORMATE2 LIQUID	1.200e2	1.20e+02	100.000 % Recovery	

Final page for worklist# 15545

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

James M. Lutz 2/10/97
Reviewer Signature Date

LABCORE Data Entry Template for Worklist# 15545

Analyst: RM Instrument: IC0 IC03 Book# 144N913

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

Worklist Comment: @IC2-01 FOR AN-104

RTS!

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC2-QC	QC		
2 CCV			@IC2-QC	QC		
3 SAMPLE	S96T005979 0		@IC2-01	LIQUID	96001174	AN-104
Analytes Requested: ACETATE2, FORMATE2						
4 DUP	S96T005979 0		@IC2-01	LIQUID		
5 SPK	S96T005979 0		@IC2-01	LIQUID		

Final page for worklist # 15545

RM 2/2/97
Analyst Signature Date

Analyst Signature Date

UPLOADED

15545FB2.SCH

2-7-97

J.R. Wall

Validated 2/10/97 JRM

Data Entry Comments:

A-0010-IC				DATA FILE/WORKLIST RESOLUTION				07-Feb-97			
Worklist#: 15545					Data File: 15545FB2.CSV						
		Seq	Type	Sample #	Seq#		Data File	Sample Name	Dilution		
-	=v	1	CCB		-	1	97020151.d12	BLK	1.00		
	=v	2	CCV			2	97020151.d13	144N9-B	101.00		
	=v	3	SAMPLE	S96T005979		3	97020151.d14	S96T005979	20301.00		
	=v	4	DUP	S96T005979		4	97020151.d15	S96T005979DUP	20301.00		
	=v	5	SPK	S96T005979		5	97020151.d16	S96T005979SPK	20301.00		
							97013141.d08	S97H000002 SPK	10201.00		
+					+						

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

Sample Name: BLK Date: 02/02/1997 09:52:18
 Data File : C:\DX\DATA\97020151.D12
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 12 Detector: CDM-1
 Analyst : *John Lyle* Column: AG4A-SC, AS4A-SC, SRS

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 1 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	3.84		0.000	7	52	1	
2	6.03		0.000	2023	133860	1	
3	7.99		0.000	1637	30288	2	
4	8.15		0.000	1601	11825	2	
5	8.41		0.000	1960	99843	2	
Totals			0.000	7228	275868		

File: 97020151.D12 Sample: BLK

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1299 TO 1303

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=====
Sample Name: 144N9-B                      Date: 02/02/1997 10:09:40
Data File  : C:\DX\DATA\97020151.D13
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1   System: 2   Inject#: 13   Detector: CDM-1
Analyst    :                      Column: AG4A-SC, AS4A-SC, SRS
=====

```

```

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

```

```

External      1      101    4500    5Hz    0.00    15.00      0
=====

```

```

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

```

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.07	fluoride	68.474	2123	12167	2	-2.97
2	2.35	acetate	120.214	581	4159	2	-2.63
3	3.05	formate	113.415	1055	7812	1	-3.07
4	6.01		0.000	2758	163019	2	
5	6.92		0.000	1556	58821	2	
6	7.95		0.000	166	1566	2	
7	8.13		0.000	267	1625	2	
8	8.41		0.000	621	39602	2	
Totals			302.103	9126	288771		

File: 97020151.D13 Sample: 144N9-B

```

=====
Sample Name: S96T005979                      Date: 02/02/1997 10:31:58
Data File  : C:\DX\DATA\97020151.D14
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 14          Detector: CDM-1
Analyst    :                               Column: AG4A-SC, AS4A-SC, SRS
=====

```

```

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

```

```

External      1      20301    4500 5Hz    0.00 15.00      0
=====

```

```

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

```

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.33	acetate	1773.232	38	157	1	-3.18
2	3.03	formate	3447.271	112	897	1	-3.92
3	3.77		0.000	84	710	1	
4	5.36		0.000	6025	68964	2	
5	5.77		0.000	22085	380837	3	
6	6.87		0.000	2788	121155	4	
7	7.55		0.000	15790	323334	3	
8	8.13		0.000	706	5657	4	
9	8.29		0.000	1419	131101	4	
Totals			5220.503	49047	1032811		

File: 97020151.D14 Sample: S96T005979

Sample Name: S96T005979DUP Date: 02/02/1997 10:50:34
 Data File : C:\DX\DATA\97020151.D15
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 15 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	20301	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.35	acetate	1992.008	44	197	1	-2.63
2	3.04	formate	3431.283	112	892	1	-3.49
3	3.80		0.000	86	774	1	
4	5.37		0.000	5769	50818	2	
5	5.77		0.000	22460	380477	3	
6	6.91		0.000	3097	137990	4	
7	7.55		0.000	15881	324704	3	
8	8.13		0.000	716	5118	4	
9	8.31		0.000	1477	133868	4	
Totals			5423.290	49643	1034837		

File: 97020151.D15 Sample: S96T005979DUP

```

=====
Sample Name: S96T005979SPK      Date: 02/02/1997 11:08:01
Data File  : C:\DX\DATA\97020151.D16
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 16      Detector: CDM-1
Analyst    :      Column: AG4A-SC,AS4A-SC, SRS
=====

```

```

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

```

```

External      1      20301    4500  5Hz    0.00 15.00      0

```

```

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

```

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.07	fluoride	12616.219	2168	11085	2	-2.97
2	2.33	acetate	30845.238	691	5349	2	-3.18
3	3.04	formate	27378.597	1281	9491	1	-3.49
4	3.81		0.000	107	946	1	
5	5.37		0.000	6824	57235	2	
6	5.76		0.000	23856	394975	3	
7	6.96		0.000	3055	122223	4	
8	7.52		0.000	17340	359297	3	
9	8.13		0.000	735	5247	4	
10	8.31		0.000	1484	134161	4	
Totals			70840.054	57540	1100009		

File: 97020151.D16 Sample: S96T005979SPK

LABCORE Completed Worklist Report for Worklist# 15722

Analyst: rwk

Instrument: IC02

Book# 36120D

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

Worklist Comment: AN-104 IC Rerun for F only. Use 21 DF.

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	5.9000e1	5.79e+01	98.138 % Recovery	
2 CCV	0	QIC-QC CL	QC	7.9000e1	7.80e+01	98.734 % Recovery	
2 CCV	0	QIC-QC NO2	QC	5.4200e2	5.76e+02	106.273 % Recovery	
2 CCV	0	QIC-QC BR	QC	5.8900e2	5.51e+02	93.548 % Recovery	
2 CCV	0	QIC-QC NO3	QC	5.9400e2	5.76e+02	96.970 % Recovery	
2 CCV	0	QIC-QC P04	QC	5.4400e2	5.41e+02	99.449 % Recovery	
2 CCV	0	QIC-QC S04	QC	6.3100e2	6.17e+02	97.781 % Recovery	
2 CCV	0	QIC-QC OXALATE2	QC	5.3300e2	5.21e+02	97.749 % Recovery	
3 BLNK-PREP	0	QIC-01 F-02	SOLID	1	<1.20e-2		ug/g
3 BLNK-PREP	0	QIC-01 CL-02	SOLID	1	2.20e-02	0.022	ug/g
3 BLNK-PREP	0	QIC-01 NO2-02	SOLID	1	<1.08e-1		ug/g
3 BLNK-PREP	0	QIC-01 BR-02	SOLID	1	<1.25e-1		ug/g
3 BLNK-PREP	0	QIC-01 NO3-02	SOLID	1	<1.39e-1		ug/g
3 BLNK-PREP	0	QIC-01 P04-02	SOLID	1	<1.20e-1		ug/g
3 BLNK-PREP	0	QIC-01 S04-02	SOLID	1	<1.38e-1		ug/g
3 BLNK-PREP	0	QIC-01 OXALATE2	SOLID	1	<1.05e-1		ug/g
4 SAMPLE	896T005295	Q W QIC-01 F-02	SOLID	N/A	8.061e+02	221.500	ug/g
5 DUP	896T005295	Q W QIC-01 F-02	SOLID	8.06e+02	6.57e+02	20.369	RPD
5 DUP	896T005295	Q W QIC-01 CL-02	SOLID	?	4.45e+02		RPD
5 DUP	896T005295	Q W QIC-01 NO2-02	SOLID	?	6.31e+04		RPD
5 DUP	896T005295	Q W QIC-01 BR-02	SOLID	?	<2.25e3		RPD
5 DUP	896T005295	Q W QIC-01 NO3-02	SOLID	?	9.16e+04		RPD
5 DUP	896T005295	Q W QIC-01 P04-02	SOLID	?	3.75e+03		RPD
5 DUP	896T005295	Q W QIC-01 S04-02	SOLID	?	1.26e+04		RPD
5 DUP	896T005295	Q W QIC-01 OXALATE2	SOLID	?	9.16e+02		RPD
6 SPK	896T005295	Q W QIC-01 F-02	SOLID	5.9000e1	5.98e+01	101.356 % Recovery	
6 SPK	896T005295	Q W QIC-01 CL-02	SOLID	7.9000e1	0.00e+00	0.000 % Recovery	
6 SPK	896T005295	Q W QIC-01 NO2-02	SOLID	5.4200e2	0.00e+00	0.000 % Recovery	
6 SPK	896T005295	Q W QIC-01 BR-02	SOLID	5.8900e2	0.00e+00	0.000 % Recovery	
6 SPK	896T005295	Q W QIC-01 NO3-02	SOLID	5.9400e2	0.00e+00	0.000 % Recovery	
6 SPK	896T005295	Q W QIC-01 P04-02	SOLID	5.4400e2	0.00e+00	0.000 % Recovery	
6 SPK	896T005295	Q W QIC-01 S04-02	SOLID	6.3100e2	0.00e+00	0.000 % Recovery	
6 SPK	896T005295	Q W QIC-01 OXALATE2	SOLID	5.3300e2	0.00e+00	0.000 % Recovery	

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

LABCORE Completed Worklist Report for Worklist# 15722

Seq	Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
-----	------	---------	-----	------	--------	--------	-------	-------------	------

Comments Section:

Comments for sample# S96T005295 and test @IC-01 .

~~All spikes failed. skim~~ *JMF 1/27/97*

Final page for worklist# 15722

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

JMF *1/27/97*
Reviewer Signature _____ Date _____

LABCORE Data Entry Template for Worklist# 15722

Analyst: NK Instrument: IC0 IC02 Book# 36470-11

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

Worklist Comment: AN-104 IC Rerun for F only. Use 21 DF.

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	S96T005295 0 W	@IC-01	SOLID		96001283	AN-104
Analytes Requested: F-02						
5 DUP	S96T005295 0 W	@IC-01	SOLID			
6 SPK	S96T005295 0 W	@IC-01	SOLID			

Final page for worklist # 15722

NK/Kmg 11/18/97
Analyst Signature Date

Analyst Signature Date

15722ja.csv

uploaded 1/27/97 - Labcore tried to put values for all analytes in for Dup & SPK, not just F as it should.

Validated 1/27/97 JMK

Data Entry Comments:

Sample Name: INSTRA BLK

Date: 01/17/1997 19:58:15

Data File : C:\DX\DATA\97011211.D01

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

ACI Address: 1 System: 1 Inject#: 1

Detector: CDM-1

Analyst : *ML* 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
2	3.28		0.000	23	120	1	
Totals			0.000	23	120		

File: 97011211.D01 Sample: INSTRA BLK

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1307 TO 1312.

Sample Name: PREP BLK

Date: 01/17/1997 22:36:59

Data File : C:\DX\DATA\97011221.D03

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

ACI Address: 1 System: 1 Inject#: 3

Detector: CDM-1

Analyst : 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	1.16		0.000	41	107	1	
2	1.56	CHLORIDE	0.022	103	368	1	0.00
3	1.88	NITRITE	0.085	27	107	1	-1.05
4	3.26		0.000	127	814	1	
Totals			0.107	297	1397		

File: 97011221.D03 Sample: PREP BLK

```

=====
Sample Name: 36N20-D                      Date: 01/17/1997 21:48:07
Data File  : C:\DX\DATA\97011221.D02
Method     : C:\DX\METHOD\ANIONSA.MET
ACI Address: 1 System: 1 Inject#: 2
Analyst    :                               Column:
Detector: CDM-1
=====

```

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	0.86		0.000	89	400	2	
2	1.02	FLUORIDE	57.909	2708	11282	2	0.00
3	1.56	CHLORIDE	78.044	2292	10212	2	-0.43
4	1.87	NITRITE	576.171	9904	49948	2	-1.75
5	2.82	BROMIDE	551.387	5623	34444	2	1.44
6	3.21	NITRATE	575.571	6153	46579	2	3.88
7	4.70	PHOSPHATE	541.277	1593	20060	1	1.15
8	6.16	SULFATE	617.123	4587	63559	1	0.44
9	8.08	OXALATE	521.369	2175	40875	1	0.83

Totals 3518.850 35123 277359

File: 97011221.D02 Sample: 36N20-D

Sample Name: S96T005295

Date: 01/17/1997 23:16:43

Data File : C:\DX\DATA\97011251.D04

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

ACI Address: 1 System: 1 Inject#: 4

Detector: CDM-1

Analyst : Column:

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 101 3000 5Hz 0.00 10.00 50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.87		0.000	81	394	1	
2	1.02	FLUORIDE	4.410	200	767	2	0.00
3	1.14		0.000	37	108	2	
4	1.55	CHLORIDE	23.688	705	3126	1	-0.85
5	1.86	NITRITE	339.541	5753	29108	1	-2.10
6	3.19	NITRATE	560.265	6071	45285	1	3.24
7	4.72	PHOSPHATE	21.604	36	337	1	1.72
8	6.18	SULFATE	81.670	547	7582	1	0.87
9	8.13	OXALATE	57.743	230	4057	1	1.50

Totals	1088.920	13661	90764
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File: 97011251.D04 Sample: S96T005295

Sample Name: S96T005295 DUP Date: 01/18/1997 00:08:44
 Data File : C:\DX\DATA\97011251.D05
 Method : C:\DX\METHOD\ANIONSA.MET
 ACI Address: 1 System: 1 Inject#: 5 Detector: CDM-1
 Analyst : Column:

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 101 3000 5Hz 0.00 10.00 50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.87		0.000	80	385	1	
2	1.02	FLUORIDE	3.686	166	625	2	0.00
3	1.14		0.000	36	98	2	
4	1.55	CHLORIDE	24.987	731	3294	1	-0.85
5	1.86	NITRITE	354.298	5978	30405	1	-2.10
6	3.20	NITRATE	513.871	5511	41367	1	3.45
7	4.73	PHOSPHATE	21.062	32	316	1	1.87
8	6.18	SULFATE	70.910	457	6475	1	0.87
9	8.16	OXALATE	51.388	203	3555	1	1.83
Totals			1040.202	13195	86520		

File: 97011251.D05 Sample: S96T005295 DUP

```

=====
Sample Name: S96T005295  SP                      Date: 01/18/1997 01:32:22
Data File  : C:\DX\DATA\97011251.D06
Method     : C:\DX\METHOD\ANIONSA.MET
ACI Address: 1 System: 1 Inject#: 6
Analyst    :                               Column:
Detector: CDM-1
=====

```

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	0.86		0.000	149	667	2	
2	1.02	FLUORIDE	64.174	2940	12523	2	0.00
3	1.55	CHLORIDE	102.607	2939	13458	1	-0.85
4	1.87	NITRITE	955.246	16366	83520	1	-1.75
5	2.80	BROMIDE	566.806	5857	35451	2	0.96
6	3.16	NITRATE	1167.956	12907	97473	2	2.37
7	4.70	PHOSPHATE	558.646	1663	20732	1	1.29
8	6.17	SULFATE	700.471	5279	72432	1	0.65
9	8.09	OXALATE	581.408	2448	45670	1	1.00

Totals 4697.314 50547 381925

File: 97011251.D06 Sample: S96T005295 SP

LABCORE Completed Worklist Report for Worklist# 15821

Analyst: eal

Instrument: IC02

Book# 36 N20-D

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

Worklist Comment: AN-104 IC Rerun (original WL#14189) Try 41 DF.

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	1.47e-01	0.147	ug/mL
1 CCB	0	QIC-QC OXALATE2	QC	1	<1.05e-1		ug/mL
2 CCV	0	QIC-QC F	QC	5.9000e1	5.84e+01	98.983 % Recovery	
2 CCV	0	QIC-QC CL	QC	7.9000e1	7.86e+01	99.494 % Recovery	
2 CCV	0	QIC-QC NO2	QC	5.4200e2	5.74e+02	105.904 % Recovery	
2 CCV	0	QIC-QC BR	QC	5.8900e2	5.49e+02	93.209 % Recovery	
2 CCV	0	QIC-QC NO3	QC	5.9400e2	5.96e+02	98.653 % Recovery	
2 CCV	0	QIC-QC P04	QC	5.4400e2	5.32e+02	97.794 % Recovery	
2 CCV	0	QIC-QC S04	QC	6.3100e2	6.29e+02	99.683 % Recovery	
2 CCV	0	QIC-QC OXALATE2	QC	5.3300e2	5.28e+02	99.062 % Recovery	
3 BLNK-PREP	0	QIC-01 F-02	SOLID	1	<1.20e-2		ug/g
3 BLNK-PREP	0	QIC-01 CL-02	SOLID	1	<1.70e-2		ug/g
3 BLNK-PREP	0	QIC-01 NO2-02	SOLID	1	<1.08e-1		ug/g
3 BLNK-PREP	0	QIC-01 BR-02	SOLID	1	<1.25e-1		ug/g
3 BLNK-PREP	0	QIC-01 NO3-02	SOLID	1	<1.39e-1		ug/g
3 BLNK-PREP	0	QIC-01 P04-02	SOLID	1	<1.20e-1		ug/g
3 BLNK-PREP	0	QIC-01 S04-02	SOLID	1	<1.38e-1		ug/g
3 BLNK-PREP	0	QIC-01 OXALATE2	SOLID	1	<1.05e-1		ug/g
4 SAMPLE	S96T004800	0 W QIC-01 F-02	SOLID	N/A	5.435e+02	99.670	ug/g
4 SAMPLE	S96T004800	0 W QIC-01 CL-02	SOLID	N/A	3.148e+03	141.200	ug/g
4 SAMPLE	S96T004800	0 W QIC-01 NO2-02	SOLID	N/A	5.781e+04	897.100	ug/g
4 SAMPLE	S96T004800	0 W QIC-01 BR-02	SOLID	N/A	<1.038e+03	1038.000	ug/g
4 SAMPLE	S96T004800	0 W QIC-01 NO3-02	SOLID	N/A	1.608e+05	1154.000	ug/g
4 SAMPLE	S96T004800	0 W QIC-01 P04-02	SOLID	N/A	1.529e+03	996.700	ug/g
4 SAMPLE	S96T004800	0 W QIC-01 S04-02	SOLID	N/A	4.385e+03	1146.000	ug/g
4 SAMPLE	S96T004800	0 W QIC-01 OXALATE2	SOLID	N/A	2.105e+03	872.100	ug/g
5 DUP	S96T004800	0 W QIC-01 F-02	SOLID	6.44e+02	6.22e+02	3.476	RPD
5 DUP	S96T004800	0 W QIC-01 CL-02	SOLID	3.15e+03	3.18e+03	0.948	RPD
5 DUP	S96T004800	0 W QIC-01 NO2-02	SOLID	5.78e+04	5.72e+04	1.043	RPD
5 DUP	S96T004800	0 W QIC-01 BR-02	SOLID	<1.04e3	<1.02e3		RPD
5 DUP	S96T004800	0 W QIC-01 NO3-02	SOLID	1.61e+05	1.59e+05	1.250	RPD
5 DUP	S96T004800	0 W QIC-01 P04-02	SOLID	1.53e+03	<9.80e2		RPD
5 DUP	S96T004800	0 W QIC-01 S04-02	SOLID	4.39e+03	4.37e+03	0.457	RPD
5 DUP	S96T004800	0 W QIC-01 OXALATE2	SOLID	2.10e+03	2.11e+03	0.475	RPD
6 SPK	S96T004800	0 W QIC-01 F-02	SOLID	5.9000e1	5.27e+01	89.322 % Recovery	

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

LABCORE Completed Worklist Report for Worklist# 15821

Seq Type	Sample# R A	Test	Matrix	Actual	Found	DL or Yield	Unit
6 SPK	S96T004800 0 W	②IC-01 CL-02	SOLID	7.9000e1	7.70e+01	97.468 %	Recovery
6 SPK	S96T004800 0 W	②IC-01 NO2-02	SOLID	5.4200e2	6.11e+02	112.731 %	Recovery
6 SPK	S96T004800 0 W	②IC-01 BR-02	SOLID	5.8900e2	5.75e+02	97.623 %	Recovery
6 SPK	S96T004800 0 W	②IC-01 NO3-02	SOLID	5.9400e2	6.75e+02	113.636 %	Recovery
6 SPK	S96T004800 0 W	②IC-01 PO4-02	SOLID	5.4400e2	5.20e+02	95.588 %	Recovery
6 SPK	S96T004800 0 W	②IC-01 SO4-02	SOLID	6.3100e2	6.17e+02	97.781 %	Recovery
6 SPK	S96T004800 0 W	②IC-01 OXALATE2	SOLID	5.3300e2	5.19e+02	97.373 %	Recovery

Final page for worklist# 15821

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Blandina Valenzuela 1-22-97
 Reviewer Signature _____ Date _____

LABCORE Data Entry Template for Worklist# 15821

Analyst: ELL Instrument: IC0 IC02 Book# 36N20-0

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

Worklist Comment: AN-104 IC Rerun (original WL#14189) Try 41 DF.

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	S96T004800 0 W		@IC-01	SOLID	96001174	AN-104
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
5 DUP	S96T004800 0 W		@IC-01	SOLID		
6 SPK	S96T004800 0 W		@IC-01	SOLID		

Final page for worklist # 15821

A. Lamber 01-18-97
Analyst Signature Date

Analyst Signature Date

15821ja.csv

uploaded 1/22/97 BDR

Validated 1/22/97 BDR

Data Entry Comments:

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

A-0010-IC

DATA FILE/WORKLIST RESOLUTION

22-Jan-97

Worklist#: 15821

Data File: 15821JA.CSV

	Seq	Type	Sample #		Seq#	Data File	Sample Name	Dilution
-	=>	1	CCB		1	97011801.d01	INST. BLANK	1.00
	=>	2	CCV		2	97011801.d02	36N20-D STD.	101.00
	=>	3	BLNK-PREP			97011801.d05	36N20-D STD.	101.00
	=>	4	SAMPLE		3	97011801.d03	PREP. BLANK	1.00
	=>	5	DUP		4	97011801.d06	S96T004800	41.00
	=>	6	SPK		5	97011801.d07	S96T004800 DUP	41.00
			S96T004800		6	97011801.d08	S96T004800 SPIKE	41.00
			S96T004800					
+				+				

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

Data Reprocessed On 01/21/1997 16:23:59

Sample Name: 36N20-D STD. Date: 01/18/1997 07:30:29
 Data File : E:\DATA\97011801.d02
 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 2 Detector: CDM-1
 Analyst : *Bandina Valenzuela* Column:

for EA Lamber 1-21-97

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
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External	1	101	3000	5Hz	0.00	10.00		50
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***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.86		0.000	71	297	2	
2	1.02	FLUORIDE	58.437	2697	11386	2	-0.33
3	1.55	CHLORIDE	78.601	2329	10285	2	-0.85
4	1.87	NITRITE	573.674	10001	49727	2	-1.75
5	2.81	BROMIDE	549.335	5685	34311	2	1.20
6	3.20	NITRATE	586.444	6379	47499	2	3.45
7	4.69	PHOSPHATE	531.875	1585	19695	1	1.08
8	6.09	SULFATE	628.850	4759	64805	1	-0.65
9	8.00	OXALATE	527.806	2231	41389	1	-0.17
Totals			3535.022	35735	279395		

File: 97011801.d02 Sample: 36N20-D STD.

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1317 TO 1322.

Data Reprocessed On 01/21/1997 16:23:58

Sample Name: INST. BLANK

Date: 01/18/1997 07:11:40

Data File : E:\DATA\97011801.d01

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

ACI Address: 1 System: 1 Inject#: 1

Detector: CDM-1

Analyst : 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	1.55	CHLORIDE	0.001	24	90	1	-0.85
2	3.26		0.000	124	864	1	
3	6.13	SULFATE	0.147	59	718	1	0.00
Totals			0.148	207	1672		

File: 97011801.d01 Sample: INST. BLANK

Data Reprocessed On 01/21/1997 16:24:01

Sample Name: PREP. BLANK

Date: 01/18/1997 07:45:26

Data File : E:\DATA\97011801.d03

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

ACI Address: 1 System: 1 Inject#: 3

Detector: CDM-1

Analyst : 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	1.28		0.000	53	622	1	
3	3.25		0.000	65	424	1	
4	6.14	SULFATE	0.109	28	322	1	0.22
Totals			0.109	146	1368		

File: 97011801.d03 Sample: PREP. BLANK

Data Reprocessed On 01/21/1997 16:24:01

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=====
Sample Name: S96T004800          Date: 01/18/1997 08:23:30
Data File  : E:\DATA\97011801.d06
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 6
Analyst    :                    Column:
Detector: CDM-1
=====

```

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

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External      1      41  3000  5Hz  0.00 10.00      50
=====

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

```

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.86		0.000	286	1658	2	
2	1.02	FLUORIDE	3.177	347	1434	2	0.33
3	1.13		0.000	193	1652	2	
4	1.54	CHLORIDE	15.544	1066	5017	1	-1.28
5	1.86	NITRITE	285.420	11583	61164	1	-2.10
6	3.13	NITRATE	793.731	21245	167694	1	1.29
7	4.72	PHOSPHATE	7.551	25	221	1	1.65
8	6.12	SULFATE	21.654	343	4668	1	-0.22
9	8.05	OXALATE	10.392	94	1518	1	0.50
Totals			1137.469	35184	245026		

File: 97011801.d06 Sample: S96T004800

Data Reprocessed On 01/21/1997 16:24:02

Sample Name: S96T004800 DUP	Date: 01/18/1997 08:35:09
Data File : E:\DATA\97011801.d07	
Method : C:\DX\METHOD\ANIONS.MET	
ACI Address: 1 System: 1 Inject#: 7	Detector: CDM-1
Analyst :	Column:

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
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External	1	41	3000	5Hz	0.00	10.00		50
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***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.86		0.000	284	1640	2	
2	1.02	FLUORIDE	3.120	341	1406	2	0.33
3	1.13		0.000	187	1516	2	
4	1.54	CHLORIDE	15.964	1092	5151	1	-1.28
5	1.86	NITRITE	286.892	11695	61484	1	-2.10
6	3.13	NITRATE	796.906	21375	168408	1	1.29
7	6.12	SULFATE	21.913	348	4734	1	-0.22
8	8.04	OXALATE	10.601	93	1559	1	0.33
Totals			1135.396	35414	245899		

File: 97011801.d07 Sample: S96T004800 DUP

Data Reprocessed On 01/21/1997 16:24:03

Sample Name: S96T004800 SPIKE	Date: 01/18/1997 08:45:55
Data File : E:\DATA\97011801.d08	
Method : C:\DX\METHOD\ANIONS.MET	
ACI Address: 1 System: 1 Inject#: 8	Detector: CDM-1
Analyst :	Column:

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	3000	5Hz	0.00	10.00		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.87		0.000	376	2036	1	
2	1.02	FLUORIDE	24.255	2599	11646	1	-0.33
3	1.54	CHLORIDE	46.337	3227	14993	1	-1.28
4	1.86	NITRITE	529.929	22003	114745	1	-2.10
5	2.80	BROMIDE	230.039	5895	35443	2	0.72
6	3.11	NITRATE	1063.639	27587	229571	2	0.65
7	4.69	PHOSPHATE	215.357	1588	19643	1	1.08
8	6.09	SULFATE	268.592	4997	68294	1	-0.65
9	8.00	OXALATE	218.008	2291	42126	1	-0.17
Totals			2596.157	70562	538496		

File: 97011801.d08 Sample: S96T004800 SPIKE

LABCORE Completed Worklist Report for Worklist# 15869

Analyst: eal

Instrument: IC03

Book# 1441998

Method: LA-533-10 Rev/Mod D-1

Worklist Comment: Rerun AN104 IC2. Try 21 or 11 df.jmf

Seq Type	Sample# R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 CCB	0	QIC2-QC ACETATE2 QC		1	<2.00e-2		ug/mL
1 CCB	0	QIC2-QC FORMATE2 QC		1	<2.10e-2		ug/mL
2 CCV	0	QIC2-QC ACETATE2 QC		1.240e2	1.07e+02	86.290 % Recovery	
2 CCV	0	QIC2-QC FORMATE2 QC		1.200e2	1.13e+02	94.167 % Recovery	
3 BLNK-PREP	0	QIC2-01 ACETATE2 SOLID		1	<2.00e-2		ug/g
3 BLNK-PREP	0	QIC2-01 FORMATE2 SOLID		1	6.25e-01	0.625 ug/g	
4 SAMPLE	S96T005069 0 W	QIC2-01 ACETATE2 SOLID	N/A	7.517e+02	169.700 ug/g		
4 SAMPLE	S96T005069 0 W	QIC2-01 FORMATE2 SOLID	N/A	6.954e+02	178.100 ug/g		
5 DUP	S96T005069 0 W	QIC2-01 ACETATE2 SOLID		7.52e+02	6.35e+02	16.871 RPD	
5 DUP	S96T005069 0 W	QIC2-01 FORMATE2 SOLID		6.95e+02	7.01e+02	0.860 RPD	
6 SPK	S96T005069 0 W	QIC2-01 ACETATE2 SOLID		1.240e2	1.14e+02	91.935 % Recovery	
6 SPK	S96T005069 0 W	QIC2-01 FORMATE2 SOLID		1.200e2	1.16e+02	96.667 % Recovery	
7 SAMPLE	S96T005072 0 W	QIC2-01 ACETATE2 SOLID	N/A	5.532e+02	83.120 ug/g		
7 SAMPLE	S96T005072 0 W	QIC2-01 FORMATE2 SOLID	N/A	6.123e+02	87.280 ug/g		
8 DUP	S96T005072 0 W	QIC2-01 ACETATE2 SOLID		5.53e+02	5.54e+02	0.181 RPD	
8 DUP	S96T005072 0 W	QIC2-01 FORMATE2 SOLID		6.12e+02	6.52e+02	6.329 RPD	
9 SPK	S96T005072 0 W	QIC2-01 ACETATE2 SOLID		1.240e2	1.23e+02	99.134 % Recovery	
9 SPK	S96T005072 0 W	QIC2-01 FORMATE2 SOLID		1.200e2	1.17e+02	97.500 % Recovery	
10 SAMPLE	S96T005073 0 W	QIC2-01 ACETATE2 SOLID	N/A	5.437e+02	92.380 ug/g		
10 SAMPLE	S96T005073 0 W	QIC2-01 FORMATE2 SOLID	N/A	6.569e+02	96.980 ug/g		
11 DUP	S96T005073 0 W	QIC2-01 ACETATE2 SOLID		5.44e+02	5.68e+02	4.317 RPD	
11 DUP	S96T005073 0 W	QIC2-01 FORMATE2 SOLID		6.57e+02	6.25e+02	4.992 RPD	
12 SPK	S96T005073 0 W	QIC2-01 ACETATE2 SOLID		1.240e2	1.24e+02	100.000 % Recovery	
12 SPK	S96T005073 0 W	QIC2-01 FORMATE2 SOLID		1.200e2	1.18e+02	98.333 % Recovery	

Final page for worklist# 15869

Analyst Signature Date

Analyst Signature Date

Jan M. June 1/27/97
Reviewer Signature Date

LABCORE Data Entry Template for Worklist# 15869

Analyst: gsl Instrument: IC0 IC03 Book# 144N9-B

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

Worklist Comment: Rerun AN104 IC2. Try 21 or 11 df.jmf

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC2-QC	QC		
2 CCV			@IC2-QC	QC		
3 BLNK-PREP			@IC2-01	SOLID		
4 SAMPLE	S96T005069	0 W	@IC2-01	SOLID	96001174	AN-104
Analytes Requested: ACETATE2, FORMATE2						
5 DUP	S96T005069	0 W	@IC2-01	SOLID		
6 SPK	S96T005069	0 W	@IC2-01	SOLID		
7 SAMPLE	S96T005072	0 W	@IC2-01	SOLID	96001174	AN-104
Analytes Requested: ACETATE2, FORMATE2						
8 DUP	S96T005072	0 W	@IC2-01	SOLID		
9 SPK	S96T005072	0 W	@IC2-01	SOLID		
10 SAMPLE	S96T005073	0 W	@IC2-01	SOLID	96001174	AN-104
Analytes Requested: ACETATE2, FORMATE2						
11 DUP	S96T005073	0 W	@IC2-01	SOLID		
12 SPK	S96T005073	0 W	@IC2-01	SOLID		

Final page for worklist # 15869

A. Lambel 01.12.97
Analyst Signature Date

Analyst Signature Date

15869.ja.osv
Insell
Uploaded 1/13/97 JMF
Data Entry Comments:
Validated 1/13/97 JMF

Sample Name: INST. BLANK

Date: 01/12/1997 19:31:01

Data File : C:\DX\DATA\97011241.D01

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

ACI Address: 1 System: 2 Inject#: 1

Detector: CDM-1

Analyst *John Lutz* Column: AG4A-SC, AS4A-SC, SRS

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 1 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.20		0.000	222	7974	1	
2	6.08		0.000	5566	201984	2	
3	7.97		0.000	1948	54107	2	
4	8.15		0.000	1875	14613	2	
5	8.56		0.000	2579	137853	2	
Totals			0.000	12192	416530		

File: 97011241.D01 Sample: INST. BLANK

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1335 TO 1336

Sample Name: 144N9-B STD.

Date: 01/12/1997 19:49:21

Data File : C:\DX\DATA\97011241.D02

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

ACI Address: 1 System: 2 Inject#: 2

Detector: CDM-1

Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
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External	1	101	4500	5Hz	0.00	15.00		0
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***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.10	fluoride	64.440	2101	14422	2	0.00
2	2.39	acetate	107.384	623	4617	2	-0.14
3	3.13	formate	112.672	1299	9629	1	1.40
4	5.97		0.000	5697	236911	2	
5	6.57		0.000	2405	56486	2	
6	7.96		0.000	364	3330	2	
7	8.13		0.000	414	2885	2	
8	8.39		0.000	883	53942	2	

Totals			284.497	13787	382222		
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File: 97011241.D02 Sample: 144N9-B STD.

Sample Name: PREP. BLANK

Date: 01/12/1997 22:10:31

Data File : C:\DX\DATA\97011241.D03

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

ACI Address: 1 System: 2 Inject#: 3

Detector: CDM-1

Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
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External	1	1	4500	5Hz	0.00	15.00		0
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***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	3.07	formate	0.625	301	5250	1	-0.76
2	5.85		0.000	4709	231394	2	
3	6.45		0.000	3804	119039	2	
4	7.97		0.000	302	2464	2	
5	8.15		0.000	440	2855	2	
6	8.39		0.000	883	54659	2	

Totals			0.625	10439	415661		
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File: 97011241.D03 Sample: PREP. BLANK

Sample Name: S96T005069 Date: 01/12/1997 22:33:48
 Data File : C:\DX\DATA\97011241.D04
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 4 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.13	fluoride	2.710	149	948	1	1.59
2	2.39	acetate	3.633	42	240	1	-0.14
3	3.11	formate	3.361	72	492	1	0.54
4	3.88		0.000	50	406	1	
5	5.41		0.000	4731	59844	2	
6	5.84		0.000	12203	220962	2	
7	6.32		0.000	4031	109662	2	
8	7.73		0.000	7688	17468	3	
9	8.15		0.000	840	5268	4	
10	8.43		0.000	2331	145459	4	
Totals			9.704	32135	560749		

File: 97011241.D04 Sample: S96T005069

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=====
Sample Name: S96T005069 DUP                      Date: 01/12/1997 22:52:06
Data File  : C:\DX\DATA\97011241.D05
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 5                Detector: CDM-1
Analyst    :                      Column: AG4A-SC, AS4A-SC, SRS
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Calibration Volume Dilution Points Rate Start Stop Area Reject
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External      1      41    4500    5Hz    0.00  15.00      0
=====

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

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Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.40	acetate	3.064	36	176	1	0.42
2	3.13	formate	3.379	70	496	1	1.40
3	3.92		0.000	45	364	1	
4	5.43		0.000	3607	34304	2	
5	5.84		0.000	12172	226300	2	
6	6.47		0.000	4318	124622	2	
7	7.73		0.000	7787	16617	3	
8	8.15		0.000	824	5191	4	
9	8.41		0.000	2295	152981	4	

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Totals                      6.443      31153      561052

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File: 97011241.D05 Sample: S96T005069 DUP

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Sample Name: S96T005069 SPIKE                      Date: 01/12/1997 23:11:57
Data File  : C:\DX\DATA\97011241.D06
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 6                 Detector: CDM-1
Analyst    :                               Column: AG4A-SC,AS4A-SC, SRS
=====

```

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 41 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.10	fluoride	29.524	2942	16386	2	0.00
2	2.37	acetate	49.103	689	5208	2	-0.70
3	3.11	formate	49.788	1430	10520	1	0.54
4	3.91		0.000	48	371	1	
5	5.43		0.000	4476	45420	2	
6	5.85		0.000	12646	230268	2	
7	6.45		0.000	4432	111926	2	
8	7.73		0.000	7919	18390	3	
9	8.15		0.000	829	5213	4	
10	8.43		0.000	2343	152484	4	
Totals			128.414	37754	596187		

File: 97011241.D06 Sample: S96T005069 SPIKE

Sample Name: S96T005072

Date: 01/12/1997 23:29:25

Data File : C:\DX\DATA\97011261.D07

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

ACI Address: 1 System: 2 Inject#: 7

Detector: CDM-1

Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	21	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.13	fluoride	2.669	389	2368	1	1.59
2	2.39	acetate	2.796	81	443	1	-0.14
3	3.13	formate	3.094	143	1061	1	1.40
4	3.92		0.000	98	853	1	
5	5.41		0.000	5418	45132	2	
6	5.81		0.000	21925	328477	3	
7	6.49		0.000	2899	55863	4	
8	7.61		0.000	14277	190005	1	
9	8.43		0.000	633	33831	1	
Totals			8.559	45863	658032		

File: 97011261.D07 Sample: S96T005072

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Sample Name: S96T005072 DUP                      Date: 01/13/1997 01:36:29
Data File  : C:\DX\DATA\97011261.D08
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 8                Detector: CDM-1
Analyst    :                      Column: AG4A-SC,AS4A-SC, SRS
=====

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

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External      1      21    4500    5Hz    0.00  15.00      0
=====

```

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

```

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.20		0.000	391	2228	1	
2	2.48	acetate	2.867	84	459	1	3.77
3	3.21	formate	3.378	150	1178	1	3.99
4	4.00		0.000	104	870	1	
5	5.13		0.000	1497	12963	2	
6	5.44		0.000	5889	44026	2	
7	5.83		0.000	22633	307733	2	
8	6.49		0.000	5080	111428	2	
9	7.64		0.000	14358	190568	1	
10	8.44		0.000	675	39500	1	
Totals			6.244	50860	710952		

File: 97011261.D08 Sample: S96T005072 DUP

Sample Name: S96T005072 SPIKE Date: 01/13/1997 01:53:36
 Data File : C:\DX\DATA\97011261.D09
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 9 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	21	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.10	fluoride	16.198	3086	17616	2	0.00
2	2.39	acetate	27.430	754	5683	2	-0.14
3	3.12	formate	26.550	1504	10971	1	0.97
4	3.92		0.000	95	824	1	
5	5.41		0.000	6425	68149	2	
6	5.81		0.000	22976	360658	2	
7	6.51		0.000	7433	300121	2	
8	7.63		0.000	17357	304172	2	
9	8.15		0.000	3532	28457	2	
10	8.43		0.000	3589	219987	2	

Totals 70.178 66751 1316639

File: 97011261.D09 Sample: S96T005072 SPIKE

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=====
Sample Name: S96T005073                      Date: 01/13/1997 02:12:45
Data File  : C:\DX\DATA\97011261.D10
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 10          Detector: CDM-1
Analyst    :                               Column: AG4A-SC, AS4A-SC, SRS
=====

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```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
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External          1          21  4500  5Hz   0.00 15.00          0
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.13	fluoride	2.674	376	2374	1	1.59
2	2.39	acetate	2.472	71	373	1	-0.14
3	3.12	formate	2.987	133	1016	1	0.97
4	3.91		0.000	86	685	1	
5	5.40		0.000	5233	47450	2	
6	5.81		0.000	19713	279448	2	
7	6.43		0.000	5035	107321	2	
8	7.61		0.000	14380	127198	3	
9	8.15		0.000	924	6927	4	
10	8.41		0.000	2506	160194	4	
Totals			8.133	48458	732986		

File: 97011261.D10 Sample: S96T005073

Sample Name: S96T005073 DUP Date: 01/13/1997 02:36:42
 Data File : C:\DX\DATA\97011261.D11
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 11 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 21 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.10	fluoride	2.698	432	2400	1	0.00
2	2.36	acetate	2.575	74	395	1	-1.26
3	3.08	formate	2.836	128	954	1	-0.32
4	5.40		0.000	5979	69263	2	
5	5.81		0.000	19955	265055	2	
6	6.32		0.000	5443	121456	2	
7	7.61		0.000	14230	126634	3	
8	8.15		0.000	910	6731	4	
9	8.44		0.000	2567	57133	4	
10	8.77		0.000	2820	103449	4	
Totals			8.108	52539	753469		

File: 97011261.D11 Sample: S96T005073 DUP

```

=====
Sample Name: S96T005073 SPIKE                      Date: 01/13/1997 02:54:57
Data File  : C:\DX\DATA\97011261.D12
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 12                Detector: CDM-1
Analyst    :                      Column: AG4A-SC,AS4A-SC, SRS
=====

```

```

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

```

```

External      1      21  4500  5Hz  0.00 15.00      0
=====

```

```

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

```

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.10	fluoride	16.526	3308	17992	2	0.00
2	2.37	acetate	27.198	738	5635	2	-0.70
3	3.11	formate	26.535	1487	10965	1	0.54
4	3.91		0.000	82	661	1	
5	5.41		0.000	4959	40393	2	
6	5.81		0.000	18764	272899	2	
7	6.48		0.000	5111	129643	2	
8	7.61		0.000	13651	113583	3	
9	8.15		0.000	875	6505	4	
10	8.43		0.000	2512	162016	4	
Totals			70.259	51487	760292		

File: 97011261.D12 Sample: S96T005073 SPIKE

LABCORE Completed Worklist Report for Worklist# 16173

Analyst: pjm

Instrument: IC01

Book# 36 N200

Method: 14533-105 Rev/Mod D-1

Worklist Comment: AN-104. Run per procedure.

new

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 CCB	0	0	01C-QC F	QC	1	<1.20e-2		ug/mL
1 CCB	0	0	01C-QC CL	QC	1	<1.70e-2		ug/mL
1 CCB	0	0	01C-QC NO2	QC	1	<1.08e-1		ug/mL
1 CCB	0	0	01C-QC BR	QC	1	<1.25e-1		ug/mL
1 CCB	0	0	01C-QC NO3	QC	1	<1.39e-1		ug/mL
1 CCB	0	0	01C-QC P04	QC	1	<1.20e-1		ug/mL
1 CCB	0	0	01C-QC S04	QC	1	<1.38e-1		ug/mL
1 CCB	0	0	01C-QC OXALATE2	QC	1	<1.05e-1		ug/mL
2 CCV	0	0	01C-QC F	QC	5.9000e1	5.82e+01	98.544 % Recovery	
2 CCV	0	0	01C-QC CL	QC	7.9000e1	8.33e+01	105.443 % Recovery	
2 CCV	0	0	01C-QC NO2	QC	5.4200e2	5.98e+02	110.332 % Recovery	
2 CCV	0	0	01C-QC BR	QC	5.8900e2	5.76e+02	97.793 % Recovery	
2 CCV	0	0	01C-QC NO3	QC	5.9400e2	5.89e+02	99.158 % Recovery	
2 CCV	0	0	01C-QC P04	QC	5.4400e2	5.51e+02	101.287 % Recovery	
2 CCV	0	0	01C-QC S04	QC	6.3200e2	6.36e+02	100.792 % Recovery	
2 CCV	0	0	01C-QC OXALATE2	QC	5.3300e2	5.41e+02	101.501 % Recovery	
3 BLNK-PREP	0	0	01C-01 F-02	SOLID	1	<1.20e-2		ug/g
3 BLNK-PREP	0	0	01C-01 CL-02	SOLID	1	1.80e-02	0.018	ug/g
3 BLNK-PREP	0	0	01C-01 NO2-02	SOLID	1	2.28e-01	0.228	ug/g
3 BLNK-PREP	0	0	01C-01 BR-02	SOLID	1	<1.25e-1		ug/g
3 BLNK-PREP	0	0	01C-01 NO3-02	SOLID	1	4.13e-01	0.413	ug/g
3 BLNK-PREP	0	0	01C-01 P04-02	SOLID	1	<1.20e-1		ug/g
3 BLNK-PREP	0	0	01C-01 S04-02	SOLID	1	<1.38e-1		ug/g
3 BLNK-PREP	0	0	01C-01 OXALATE2	SOLID	1	<1.05e-1		ug/g
4 SAMPLE	S96T005977	0 W	01C-01 F-02	SOLID	N/A	5.324e+02	96.390	ug/g
4 SAMPLE	S96T005977	0 W	01C-01 CL-02	SOLID	N/A	4.016e+03	136.500	ug/g
4 SAMPLE	S96T005977	0 W	01C-01 BR-02	SOLID	N/A	1.145e+03	1004.000	ug/g
4 SAMPLE	S96T005977	0 W	01C-01 NO3-02	SOLID	N/A	1.018e+05	1116.000	ug/g
4 SAMPLE	S96T005977	0 W	01C-01 P04-02	SOLID	N/A	3.555e+03	963.900	ug/g
4 SAMPLE	S96T005977	0 W	01C-01 S04-02	SOLID	N/A	1.171e+04	1108.000	ug/g
4 SAMPLE	S96T005977	0 W	01C-01 OXALATE2	SOLID	N/A	9.783e+03	843.400	ug/g
5 DUP	S96T005977	0 W	01C-01 F-02	SOLID	5.32e+02	7.84e+02	38.298 RPD	
5 DUP	S96T005977	0 W	01C-01 CL-02	SOLID	4.02e+03	4.15e+03	3.182 RPD	
5 DUP	S96T005977	0 W	01C-01 NO2-02	SOLID	6.78e+04	7.03e+04	3.621 RPD	
5 DUP	S96T005977	0 W	01C-01 BR-02	SOLID	1.11e+03	9.76e+02	RPD	
5 DUP	S96T005977	0 W	01C-01 NO3-02	SOLID	1.02e+05	1.00e+05	1.980 RPD	
5 DUP	S96T005977	0 W	01C-01 P04-02	SOLID	3.56e+03	3.13e+03	12.855 RPD	
5 DUP	S96T005977	0 W	01C-01 S04-02	SOLID	1.17e+04	1.15e+04	1.724 RPD	
5 DUP	S96T005977	0 W	01C-01 OXALATE2	SOLID	9.78e+03	9.55e+03	2.380 RPD	
6 SPK	S96T005977	0 W	01C-01 F-02	SOLID	5.9000e1	6.47e+01	109.661 % Recovery	
6 SPK	S96T005977	0 W	01C-01 CL-02	SOLID	7.9000e1	8.10e+01	102.532 % Recovery	

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

LABCORE Completed Worklist Report for Worklist# 16173

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
6	SPK	S96T005977	0	W	@IC-01	NO2-02	SOLID	5.4200e2	6.40e+02	118.081 % Recovery
6	SPK	S96T005977	0	W	@IC-01	BR-02	SOLID	5.8900e2	5.70e+02	96.774 % Recovery
6	SPK	S96T005977	0	W	@IC-01	NO3-02	SOLID	5.9400e2	7.13e+02	120.034 % Recovery
6	SPK	S96T005977	0	W	@IC-01	PO4-02	SOLID	5.4400e2	5.44e+02	100.000 % Recovery
6	SPK	S96T005977	0	W	@IC-01	SO4-02	SOLID	5.3100e2	5.31e+02	100.000 % Recovery
6	SPK	S96T005977	0	W	@IC-01	OXALATE2	SOLID	5.3300e2	5.40e+02	101.313 % Recovery

Final page for worklist# 16173

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

James M. Lyle
Reviewer Signature _____ Date *2/5/97*

LABCORE Data Entry Template for Worklist# 16173

Analyst: Blm Instrument: IC0 IC-01 Book# 36N20D

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

Worklist Comment: AN-104. Run per procedure. new

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	S96T005977 0 W	@IC-01	SOLID	96001174 AN-104		
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
5 DUP	S96T005977 0 W	@IC-01	SOLID			
6 SPK	S96T005977 0 W	@IC-01	SOLID			

Final page for worklist # 16173

Blm 1/26/97
Analyst Signature Date

Analyst Signature Date

16173.jy.sch
16173.jy.csv reviewed OK M Farland
uploaded 2/5/97 m.farland

Validated 2/5/97, NO₂ rejected & put out for re-run on Wk1
16548

Data Entry Comments:

A-0010-IC

DATA FILE/WORKLIST RESOLUTION

29-Jan-97

Worklist#: 16173

Data File: 16173JY.CSV

		Seq	Type	Sample #	Seq#	Data File	Sample Name	Dilution	
-	=>	1	CCB		-	1	97012611.d09	CCB	1.00
	=>	2	CCV			2	97012611.d10	CCV 36N20D	101.00
	=>	3	BLNK-PREP			3	97012611.d11	PREP BLNK	1.00
	=>	4	SAMPLE	S96T005977		4	97012611.d12	S96T005977	41.00
	=>	5	DUP	S96T005977		5	97012611.d13	S96T005977 DUP	41.00
	=>	6	SPK	S96T005977		6	97012611.d15	S96T005977 SPK	41.00
+					+				

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

Sample Name: CCB
 Data File : C:\DX\DATA\97012611.D09
 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 9
 Analyst : *James Taylor* Column:

Date: 01/26/1997 14:22:56

Detector: CDM-1

Calibration Volume *for CDM 1/22/97* Dilution Points Rate Start Stop Area Reject

External 1 1 3000 5Hz 0.00 10.00 50

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

Pk. Num	Ret. Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.85		0.000	81	443	1	
2	1.48		0.000	505	4882	1	
Totals			0.000	586	5325		

DIRECT RUN
 File: 97012611.D09 Sample: CCB

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1341 TO 1346.

Sample Name: CCV 36N20D
 Data File : C:\DX\DATA\97012611.D10
 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 10
 Analyst : Column:

Date: 01/26/1997 14:35:47

Detector: CDM-1

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	0.86		0.000	102	445	2	
2	1.02	FLUORIDE	58.154	2675	11330	2	0.33
3	1.42		0.000	54	275	2	
4	1.56	CHLORIDE	83.323	2482	10907	2	0.00
5	1.88	NITRITE	597.845	10262	51861	1	-1.05
6	2.83	BROMIDE	575.852	5729	36042	2	1.92
7	3.22	NITRATE	588.965	6363	47713	2	4.31
8	4.83	PHOSPHATE	550.982	1594	20434	1	4.09
9	6.28	SULFATE	635.675	4609	65531	1	2.39
10	8.25	OXALATE	540.726	2183	42420	1	3.00

Totals 3631.522 36052 286957

. 100ml - 10 ml *R. McCown* 1/26/97

File: 97012611.D10 Sample: CCV 36N20D

Data Reprocessed On 01/29/1997 10:34:28

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=====
Sample Name: PREP BLNK                      Date: 01/26/1997 14:50:33
Data File  : E:\DATA\97012611.D11
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 11
Analyst    :                               Column:
Detector: CDM-1
=====

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=====
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
2	1.57	CHLORIDE	0.018	88	314	1	0.43
3	1.89	NITRITE	0.228	307	1370	1	-0.70
4	3.28	NITRATE	0.413	287	2008	1	-0.10
5	6.33	SULFATE	0.109	28	320	1	3.26
Totals			0.768	709	4012		

File: 97012611.D11 Sample: PREP BLNK

Sample Name: S96T005977
 Data File : C:\DX\DATA\97012611.D12
 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 12
 Analyst : Column:

Date: 01/26/1997 15:07:45

Detector: CDM-1

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 41 3000 5Hz 0.00 10.00 50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.86		0.000	225	1096	1	
2	1.03	FLUORIDE	2.718	314	1213	1	0.98
3	1.46		0.000	186	709	2	
4	1.59	CHLORIDE	20.503	2004	6606	2	1.71
5	1.90	NITRITE	346.191	16128	74425	1	-0.35
6	2.85	BROMIDE	5.844	15	72	1	2.64
7	3.19	NITRATE	519.555	14278	107269	1	3.24
8	4.87	PHOSPHATE	18.150	102	1196	1	4.96
9	6.32	SULFATE	59.761	999	14342	1	3.05
10	8.30	OXALATE	49.940	490	9219	1	3.66

Totals 1022.661 34741 216146

250 mL - 10 mL RLM

File: 97012611.D12 Sample: S96T005977

Sample Name: S96T005977 DUP
 Data File : C:\DX\DATA\97012611.D13
 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 13
 Analyst : Column:

Date: 01/26/1997 15:24:46

Detector: CDM-1

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 41 3000 5Hz 0.00 10.00 50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.86		0.000	234	1181	2	
2	1.03	FLUORIDE	4.114	390	1885	2	0.98
3	1.14		0.000	128	952	2	
4	1.46		0.000	181	678	2	
5	1.58	CHLORIDE	21.794	2059	7020	2	1.28
6	1.90	NITRITE	368.908	16684	79392	1	-0.35
7	3.19	NITRATE	526.602	14541	108793	1	3.24
8	4.86	PHOSPHATE	16.413	91	1036	1	4.67
9	6.30	SULFATE	60.522	1007	14536	1	2.83
10	8.30	OXALATE	50.160	504	9262	1	3.66

Totals 1048.513 35819 224734

0.250 ml - 10 ml *PSM*

File: 97012611.D13 Sample: S96T005977 DUP

Sample Name: S96T005977 SPK
 Data File : C:\DX\DATA\97012611.D15
 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 15
 Analyst : Column:

Date: 01/26/1997 16:06:42

Detector: CDM-1

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	3000	5Hz	0.00	10.00		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.86		0.000	285	1265	2	
2	1.02	FLUORIDE	28.593	2807	13765	2	0.33
3	1.46		0.000	156	548	2	
4	1.59	CHLORIDE	52.920	5034	17160	2	1.71
5	1.90	NITRITE	602.164	27646	130690	1	0.00
6	2.84	BROMIDE	234.044	6090	36087	2	2.16
7	3.17	NITRATE	804.872	21249	170200	2	2.59
8	4.85	PHOSPHATE	235.715	1697	21583	1	4.53
9	6.29	SULFATE	312.315	5679	79800	1	2.61
10	8.25	OXALATE	265.789	2653	51537	1	3.00

Totals 2536.412 73297 522634

• 250ml L 100ml 36020D AS SPK
 9.9 ml ELUENT
 File: 97012611.D15 Sample: S96T005977 SPK

LABCORE Completed Worklist Report for Worklist# 16174

Analyst: eal

Instrument: IC03

Book# 144/098

Method: 4-533-705 Rev/Mod D-1

Worklist Comment: AN-104. Run per procedure. For Organic.

new

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 CCB	0	@IC2-QC	ACETATE2 QC		1	5.40e-02	0.054	ug/mL
1 CCB	0	@IC2-QC	FORMATE2 QC		1	<2.10e-2		ug/mL
2 CCV	0	@IC2-QC	ACETATE2 QC		1.240e2	1.04e+02	83.871 %	Recovery
2 CCV	0	@IC2-QC	FORMATE2 QC		1.200e2	1.15e+02	95.833 %	Recovery
3 BLNK-PREP	0	@IC2-01	ACETATE2 SOLID		1	1.27e-01	0.127	ug/g
3 BLNK-PREP	0	@IC2-01	FORMATE2 SOLID		1	2.20e-01	0.220	ug/g
4 SAMPLE	S96T005977	0 W	@IC2-01	ACETATE2 SOLID	N/A	6.127e+02	160.600	ug/g
4 SAMPLE	S96T005977	0 W	@IC2-01	FORMATE2 SOLID	N/A	7.626e+02	168.700	ug/g
5 DUP	S96T005977	0 W	@IC2-01	ACETATE2 SOLID	6.13e+02	6.60e+02	7.384	RPD
5 DUP	S96T005977	0 W	@IC2-01	FORMATE2 SOLID	7.63e+02	7.02e+02	8.328	RPD
6 SPK	S96T005977	0 W	@IC2-01	ACETATE2 SOLID	1.240e2	8.58e+01	69.194 %	Recovery
6 SPK	S96T005977	0 W	@IC2-01	FORMATE2 SOLID	1.200e2	1.15e+02	95.833 %	Recovery

Comments Section:

Comments for sample# S96T005977 and test @IC2-01 .
Acetate spike failed. skm

Final page for worklist# 16174

Analyst Signature _____ Date _____

Donald M Garland 2-28-97
Analyst Signature Date

James M Luge 3/3/97
Reviewer Signature Date

A-0010-IC				DATA FILE/WORKLIST RESOLUTION				28-Feb-97			
Worklist#: 16174				Data File: 16174FB.CSV							
		Seq	Type	Sample #	Seq#	Data File	Sample Name	Dilution			
-	=>	1	CCB		-	1 97020711.d01	INST. BLANK	1.00			
	=>	2	CCV		2	97020711.d02	144N9-B STD.	101.00			
	=>	3	BLNK-PREP		3	97020711.d03	PREP. BLANK	1.00			
	=>	4	SAMPLE	S96T005977	4	97020711.d04	S96T005977	41.00			
	=>	5	DUP	S96T005977	5	97020711.d05	S96T005977 DUP	41.00			
	=>	6	SPK	S96T005977	6	97020711.d06	S96T005977 SPIKE	41.00			
+					+						

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

01/22/97 16:59
A-0004-1

HNF-SD-WM-DP-226, REV. 0

Page: 1

LABCORE Data Entry Template for Worklist# 16174Analyst: EAL Instrument: IC0 3 Book# 14/N9-BMethod: LA-533-105 Rev/Mod D1

Worklist Comment: AN-104. Run per procedure. For Organic. new

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC2-QC	QC		
2 CCV			@IC2-QC	QC		
3 BLNK-PREP			@IC2-01	SOLID		
4 SAMPLE	S96T005977 0 W		@IC2-01	SOLID	96001174	AN-104
Analytes Requested: ACETATE2, FORMATE2						
5 DUP	S96T005977 0 W		@IC2-01	SOLID		
6 SPK	S96T005977 0 W		@IC2-01	SOLID		

Final page for worklist # 16174

A. Lambel 02-07-97
 Analyst Signature Date

David M. Garland 2-28-97
 Analyst Signature Date

uploaded 2/28/97 16174FB.SCH, 16174FB.CSV OKM

Validated 3/3/97 JmZug

Data Entry Comments:

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

Data Reprocessed On 02/28/1997 13:04:43

Sample Name: INST. BLANK

Date: 02/07/1997 19:59:53

Data File : E:\DATA\97020711.d01

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

ACI Address: 1 System: 2 Inject#: 1

Detector: CDM-1

Analyst *James L. Lyle* Column: AG4A-SC, AS4A-SC, SRS

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 1 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.33	acetate	0.054	3	36	1	1.01
2	5.89		0.000	4485	324659	2	
3	6.84		0.000	2613	41142	2	
4	7.25		0.000	2702	73994	2	
5	7.63		0.000	2629	33837	2	
6	7.97		0.000	2742	48613	2	
7	8.13		0.000	2570	20610	2	
8	8.77		0.000	3887	214293	2	
Totals			0.054	21632	757183		

File: 97020711.d01 Sample: INST. BLANK

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1350 TO 1355

Data Reprocessed On 02/28/1997 13:04:44

Sample Name: 144N9-B STD.	Date: 02/07/1997 20:17:11
Data File : E:\DATA\97020711.d02	
Method : C:\DX\METHOD\ACE.MET	
ACI Address: 1 System: 2 Inject#: 2	Detector: CDM-1
Analyst :	Column: AG4A-SC, AS4A-SC, SRS

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 101 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.00	fluoride	67.398	2280	11963	1	-1.48
2	2.25	acetate	104.250	562	3587	1	-2.45
3	2.92	formate	114.935	1075	7923	1	-2.34
4	5.72		0.000	6377	204569	2	
5	6.09		0.000	6552	328044	2	
6	7.39		0.000	2699	64248	2	
7	7.85		0.000	2710	65903	2	
8	8.15		0.000	2499	18110	2	
9	8.33		0.000	2663	166585	2	
Totals			286.583	27418	870932		

File: 97020711.d02 Sample: 144N9-B STD.

Sample Name: PREP. BLANK	Date: 02/07/1997 22:42:19
Data File : E:\DATA\97020711.d03	
Method : C:\DX\METHOD\ACE.MET	
ACI Address: 1 System: 2 Inject#: 3	Detector: CDM-1
Analyst :	Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.00	fluoride	0.040	21	150	1	-1.48
2	2.27	acetate	0.127	48	300	1	-1.88
3	2.93	formate	0.220	163	1253	1	-1.90
4	6.20		0.000	226	2813	1	
5	7.76		0.000	39	5668	1	
6	8.91		0.000	51	814	1	
7	12.99		0.000	28	1257	1	
Totals			0.386	575	12255		

File: 97020711.d03 Sample: PREP. BLANK

Data Reprocessed On 02/28/1997 13:04:46

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=====
Sample Name: S96T005977          Date: 02/07/1997 23:00:06
Data File  : E:\DATA\97020711.d04
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 4      Detector: CDM-1
Analyst    :                      Column: AG4A-SC,AS4A-SC, SRS
=====

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=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1           41  4500  5Hz  0.00 15.00          0
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.00	fluoride	4.242	256	1332	1	-1.48
2	2.24	acetate	3.128	28	117	1	-3.03
3	2.89	formate	3.893	52	366	1	-3.23
4	3.61		0.000	53	512	2	
5	4.05		0.000	65	2210	2	
6	5.32		0.000	3499	40432	2	
7	5.75		0.000	10711	253285	2	
8	7.57		0.000	7332	25956	3	
9	8.13		0.000	814	6209	4	
10	8.56		0.000	2055	126040	4	
Totals			11.264	24866	456460		

File: 97020711.d04 Sample: S96T005977

Data Reprocessed On 02/28/1997 13:04:47

Sample Name: S96T005977 DUP	Date: 02/07/1997 23:16:59
Data File : E:\DATA\97020711.d05	
Method : C:\DX\METHOD\ACE.MET	
ACI Address: 1 System: 2 Inject#: 5	Detector: CDM-1
Analyst :	Column: AG4A-SC,AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.00	fluoride	4.000	217	1223	2	-1.48
2	2.25	acetate	3.464	28	147	2	-2.45
3	2.93	formate	3.685	47	330	1	-1.90
4	3.64		0.000	43	388	1	
5	5.33		0.000	2951	31307	2	
6	5.75		0.000	11063	171186	2	
7	6.08		0.000	4481	108617	2	
8	6.71		0.000	3254	105918	2	
9	7.57		0.000	7804	104165	3	
11	8.37		0.000	8	37	4	
Totals			11.149	29895	523318		

File: 97020711.d05 Sample: S96T005977 DUP

Data Reprocessed On 02/28/1997 13:04:48

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=====
Sample Name: S96T005977 SPIKE          Date: 02/07/1997 23:32:51
Data File  : E:\DATA\97020711.d06
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 6      Detector: CDM-1
Analyst    :                          Column: AG4A-SC,AS4A-SC, SRS
=====

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=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
=====
External          1          41    4500  5Hz   0:00 15:00          0
=====

```

```

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

```

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.00	fluoride	31.173	2668	13753	1	-1.48
2	2.25	acetate	37.450	551	3157	1	-2.45
3	2.92	formate	49.856	1149	8502	1	-2.34
4	3.64		0.000	42	385	1	
5	5.33		0.000	3079	32795	2	
6	5.75		0.000	11070	237882	2	
7	6.80		0.000	3046	98599	2	
8	7.57		0.000	7734	105505	3	
10	8.40		0.000	7	18	4	
Totals			118.479	29348	500596		

File: 97020711.d06 Sample: S96T005977 SPIKE

1355

LABCORE Completed Worklist Report for Worklist# 16244

Analyst: pjm

Instrument: IC03

Book# 144N98

Method: 1A-633-105-Rev/Mod D-1

Worklist Comment: RERun AN104 use 10201 or 5151 df.jmf

Seq	Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	CCB	0		@IC2-QC ACETATE2 QC		1	5.80e-02	0.058	ug/mL
1	CCB	0		@IC2-QC FORMATE2 QC		1	<2.10e-2		ug/mL
2	CCV	0		@IC2-QC ACETATE2 QC		1.240e2	1.21e+02	97.581	% Recovery
2	CCV	0		@IC2-QC FORMATE2 QC		1.200e2	1.19e+02	99.167	% Recovery
3	SAMPLE	S96T004774	0	@IC2-01 ACETATE2 LIQUID	N/A	5.157e+02		82.820	ug/mL
3	SAMPLE	S96T004774	0	@IC2-01 FORMATE2 LIQUID	N/A	1.138e+03		86.960	ug/mL
4	DUP	S96T004774	0	@IC2-01 ACETATE2 LIQUID		5.15e+02	5.32e+02	2.053	RPD
4	DUP	S96T004774	0	@IC2-01 FORMATE2 LIQUID		1.14e+03	1.14e+03	0.000	RPD
5	SPK	S96T004774	0	@IC2-01 ACETATE2 LIQUID		1.240e2	1.61e+02	129.839	% Recovery
5	SPK	S96T004774	0	@IC2-01 FORMATE2 LIQUID		1.200e2	1.26e+02	105.000	% Recovery

Final page for worklist# 16244

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

James M. Lyle 2/4/97
Reviewer Signature Date

LABCORE Data Entry Template for Worklist# 16244

Analyst: Rsu Instrument: IC0 IC2-QC Book# 144N98

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

Worklist Comment: RERun AN104 use 10201 or 5151 df.jmf

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	CCB				@IC2-QC	QC		
2	CCV				@IC2-QC	QC		
3	SAMPLE	S96T004774 0			@IC2-01	LIQUID	96001174	AN-104
Analytes Requested: ACETATE2, FORMATE2								
4	DUP	S96T004774 0			@IC2-01	LIQUID		
5	SPK	S96T004774 0			@IC2-01	LIQUID		

Final page for worklist # 16244

Rsu 1/24/97
Analyst Signature Date

Analyst Signature Date

16244ja.csv

Uploaded 2/4/97 GME

Validated 2/4/97 GME

Data Entry Comments:

A-0010-IC

DATA FILE/WORKLIST RESOLUTION

04-Feb-97

Worklist#: 16244

Data File: 16244JA.CSV

		Seq	Type	Sample #			Seq#	Data File	Sample Name	Dilution
-	=>	1	CCB		-	1	96112461.d20	CCB		1.00
	=>	2	CCV			2	96112461.d21	CCV 144N9B		101.00
	=>	3	SAMPLE	S96T004774		3	96112461.d22	S96T004774		4141.00
	=>	4	DUP	S96T004774		4	96112461.d23	S96T004774	DUP	4141.00
	=>	5	SPK	S96T004774		5	96112461.d24	S96T004774	SPK	4141.00
+					+					

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

Sample Name: CCB Date: 01/24/1997 16:04:44
 Data File : C:\DX\DATA\96112461.D20
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 20 Detector: CDM-1
 Analyst *John Law* Column: AG4A-SC, AS4A-SC, SRS

Calibration Volume Dilution Points Rate Start Stop Area Reject
 External 1 1 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.40	acetate	0.058	6	51	1	-0.41
2	6.01		0.000	4348	307860	2	
3	7.35		0.000	3672	182283	2	
4	8.13		0.000	2492	23290	2	
5	8.36		0.000	2544	162095	2	
Totals			0.058	13061	675578		

DIRECT RUN
 File: 96112461.D20 Sample: CCB

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1359 TO 1363.

```

=====
Sample Name: CCV 144N9B                      Date: 01/24/1997 16:24:34
Data File  : C:\DX\DATA\96112461.D21
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 21          Detector: CDM-1
Analyst    :                               Column: AG4A-SC,AS4A-SC, SRS
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          101    4500   5Hz   0.00 15.00          0
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.10	fluoride	66.133	1970	11723	2	-1.41
2	2.39	acetate	121.368	549	4200	2	-0.97
3	3.11	formate	118.953	1077	8218	1	-1.38
4	5.97		0.000	4402	333638	2	
5	7.29		0.000	3506	166531	2	
6	7.97		0.000	2596	26356	2	
7	8.13		0.000	2484	18064	2	
8	8.40		0.000	2520	162888	2	

```

-----
Totals          306.454          19104          731618
-----

```

.100mL - 10mL R McCombs 1/24/97

File: 96112461.D21 Sample: CCV 144N9B

```

=====
Sample Name: S96T004774                      Date: 01/24/1997 16:40:29
Data File  : C:\DX\DATA\96112461.D22
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 22          Detector: CDM-1
Analyst    :                               Column: AG4A-SC, AS4A-SC, SRS
=====

```

```

=====
Calibration Volume  Dilution Points Rate  Start  Stop Area Reject
-----
External           1           4141   4500  5Hz   0.00  15.00           0
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.40	acetate	515.741	64	293	1	-0.41
2	3.13	formate	1138.366	202	1646	1	-0.53
3	3.89		0.000	139	1306	1	
4	5.39		0.000	7924	54940	2	
5	5.76		0.000	30704	406354	3	
6	7.32		0.000	1353	26664	4	
7	7.52		0.000	19313	297021	2	
Totals			1654.107	59699	788223		

-100ML-10ML - 1.250ML-10ML Rfu

File: 96112461.D22 Sample: S96T004774

Sample Name: S96T004774 DUP Date: 01/24/1997 16:56:18
 Data File : C:\DX\DATA\96112461.D23
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 23 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	4141	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.40	acetate	532.023	69	307	1	-0.41
2	3.12	formate	1135.757	202	1642	1	-0.95
3	3.89		0.000	138	1231	1	
4	5.39		0.000	8152	58460	2	
5	5.76		0.000	30998	413550	3	
6	7.37		0.000	1670	27171	4	
7	7.53		0.000	19517	309487	2	
Totals			1667.780	60746	811848		

• 100mL - 10mL - 250mL - 10mL *RAW*
 File: 96112461.D23 Sample: S96T004774 DUP

Sample Name: S96T004774 SPK Date: 01/24/1997 17:12:06
 Data File : C:\DX\DATA\96112461.D24
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 24 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	4141	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.10	fluoride	2528.605	1807	10877	2	-1.41
2	2.40	acetate	7026.780	733	5991	2	-0.41
3	3.12	formate	6217.735	1383	10639	1	-0.95
4	3.89		0.000	139	1192	1	
5	5.40		0.000	8127	57259	2	
6	5.77		0.000	31084	410893	2	
7	7.55		0.000	19758	342998	2	

Totals 15773.120 63030 839850

.100ML - 10ML - .250ML — .100ML 144N7B AS SPIKE
 9.9ML ELUENT *Phw*
 File: 96112461.D24 Sample: S96T004774 SPK

HNF-SD-WM-DP-226, REV. 0

LABCORE Completed Worklist Report for Worklist# 16269

Analyst: eal

Instrument: IC01

Book# 36 N30D

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

Worklist Comment: Rerun AN104 for oxalate using 10201 DF.jmf

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 CCB	0	0	①IC-QC	F	QC	1	<1.20e-2	ug/mL
1 CCB	0	0	①IC-QC	CL	QC	1	<1.70e-2	ug/mL
1 CCB	0	0	①IC-QC	NO2	QC	1	<1.08e-1	ug/mL
1 CCB	0	0	①IC-QC	BR	QC	1	<1.25e-1	ug/mL
1 CCB	0	0	①IC-QC	NO3	QC	1	<1.39e-1	ug/mL
1 CCB	0	0	①IC-QC	PO4	QC	1	<1.20e-1	ug/mL
1 CCB	0	0	①IC-QC	SO4	QC	1	<1.38e-1	ug/mL
1 CCB	0	0	①IC-QC	OXALATE2	QC	1	<1.05e-1	ug/mL
2 CCV	0	0	①IC-QC	F	QC	5.9000e1	5.38e+01	91.186 % Recovery
2 CCV	0	0	①IC-QC	CL	QC	7.9000e1	7.86e+01	99.494 % Recovery
2 CCV	0	0	①IC-QC	NO2	QC	5.4200e2	6.02e+02	111.070 % Recovery
2 CCV	0	0	①IC-QC	BR	QC	5.8900e2	5.98e+02	101.528 % Recovery
2 CCV	0	0	①IC-QC	NO3	QC	5.9400e2	6.32e+02	106.397 % Recovery
2 CCV	0	0	①IC-QC	PO4	QC	5.4400e2	5.14e+02	94.485 % Recovery
2 CCV	0	0	①IC-QC	SO4	QC	6.2100e2	6.70e+02	106.181 % Recovery
2 CCV	0	0	①IC-QC	OXALATE2	QC	5.3300e2	5.47e+02	102.627 % Recovery
3 SAMPLE	S96T004976	0	①IC-01	OXALATE2 LIQUID	N/A	< 5.409e+02	540.900	ug/mL
4 DUF	S96T004976	0	①IC-01	OXALATE2 LIQUID	<5.41e2	<5.41e2		RPD
5 SPK	S96T004976	0	①IC-01	OXALATE2 LIQUID	5.3200e2	5.36e+02	100.563 % Recovery	
6 SAMPLE	S96T004977	0	①IC-01	OXALATE2 LIQUID	N/A	< 5.409e+02	540.900	ug/mL
7 DUF	S96T004977	0	①IC-01	OXALATE2 LIQUID	<5.41e2	<5.41e2		RPD

Final page for worklist# 16269

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

James M. Lyle 2/4/97
Reviewer Signature Date

01/21/97 15:38

A-0004-1

Page: 1

LABCORE Data Entry Template for Worklist# 16269Analyst: ELC Instrument: ICP ICP1 Book# 361/2010Method: LA-533-105 Rev/Mod D1

Worklist Comment: Rerun AN104 for oxalate using 10201 DF.jmf

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	CCB				@IC-QC	QC		
2	CCV				@IC-QC	QC		
3	SAMPLE	S96T004976 0			@IC-01	LIQUID	96001174	AN-104
Analytes Requested: OXALATE2								
4	DUP	S96T004976 0			@IC-01	LIQUID		
5	SPK	S96T004976 0			@IC-01	LIQUID		
6	SAMPLE	S96T004977 0			@IC-01	LIQUID	96001174	AN-104
Analytes Requested: OXALATE2								
7	DUP	S96T004977 0			@IC-01	LIQUID		

Final page for worklist # 16269

A. Lumbel 01.28.97
 Analyst Signature Date

 Analyst Signature Date

16269 ja.csv

In shell

Upload 2/4/97 GMIT

Validated 2/4/97 GMIT

Data Entry Comments:

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

1365

No. 9460 20/40

Jan 28 1997 10:29PM WMC 2225 LAB ROOM 2E BACKSIDE

A-0010-IC				DATA FILE/WORKLIST RESOLUTION				04-Feb-97			
Worklist#: 16269				Data File: 16269JA.CSV							
		Seq	Type	Sample #			Seq#	Data File	Sample Name	Dilution	
-	=>	1	CCB		-	1	97012801.d34	INST. BLANK		1.00	
	=>	2	CCV			2	97012801.d38	36N20-D STD.		101.00	
	=>	3	SAMPLE	S96T004976		3	97012801.d39	S96T004976		5151.00	
	=>	4	DUP	S96T004976		4	97012801.d40	S96T004976 DUP		5151.00	
	=>	5	SPK	S96T004976		5	97012801.d41	S96T004976 SPIKE		5151.00	
	=>	6	SAMPLE	S96T004977		6	97012801.d42	S96T004977		5151.00	
	=>	7	DUP	S96T004977		7	97012801.d43	S96T004977 DUP		5151.00	
+					+						

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

Data Reprocessed On 02/04/1997 13:48:40

Sample Name: INST. BLANK Date: 01/28/1997 11:06:02
Data File : F:\DATA\97012801.d34
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 34 Detector: CDM-1
Analyst : *James Taylor* 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
Totals			0.000	0	0		

File: 97012801.d34 Sample: INST. BLANK

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES *136a* TO *137b*

Data Reprocessed On 02/04/1997 13:48:41

Sample Name: 36N20-D STD.

Date: 01/28/1997 13:39:27

Data File : F:\DATA\97012801.d38

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

ACI Address: 1 System: 1 Inject#: 38

Detector: CDM-1

Analyst : Column: AG4A/AS4A anion column

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

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.93		0.000	19	59	1	
2	1.11	fluoride	53.789	1215	7981	1	3.09
3	1.65	chloride	78.570	1831	9640	1	1.65
4	1.95	nitrite	601.635	6357	43948	1	-0.34
5	2.91	bromide	598.191	5307	34484	1	2.58
6	3.31	nitrate	632.336	6144	49243	1	4.85
7	4.83	phosphate	514.001	1321	19703	1	2.26
8	6.24	sulfate	669.897	4143	72459	1	2.63
9	8.27	oxalate	546.957	2310	44142	1	4.03
Totals			3695.374	28647	281659		

File: 97012801.d38 Sample: 36N20-D STD.

Data Reprocessed On 02/04/1997 13:48:42

```

=====
Sample Name: S96T004976                      Date: 01/28/1997 13:50:46
Data File  : F:\DATA\97012801.d39
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 39          Detector: CDM-1
Analyst    :                               Column: AG4A/AS4A anion column
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          5151  3000  5Hz   0.00 10.00          50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.93		0.000	233	1725	2	
2	1.32		0.000	337	4076	2	
3	1.63	chloride	7782.680	3381	18917	1	0.82
4	1.95	nitrite	120185.687	25933	183785	1	-0.68
5	2.96		0.000	140	844	1	
6	3.21	nitrate	173281.420	30384	289798	1	1.69
7	4.85	phosphate	6996.228	281	5160	1	2.82
8	6.35	sulfate	1231.381	248	4342	1	4.39
9	8.37	oxalate	445.681	28	666	1	5.37
Totals			309923.077	60965	509312		

File: 97012801.d39 Sample: S96T004976

Data Reprocessed On 02/04/1997 13:48:42

```

=====
Sample Name: S96T004976 DUP                      Date: 01/28/1997 14:03:24
Data File  : F:\DATA\97012801.d40
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 40              Detector: CDM-1
Analyst    :                      Column: AG4A/AS4A anion column
=====

```

```

=====
Calibration Volume  Dilution Points Rate  Start  Stop Area Reject
-----
External           1           5151   3000  5Hz   0.00  10.00      50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.94		0.000	230	1729	2	
2	1.32		0.000	327	3989	2	
3	1.63	chloride	7873.163	3396	19143	1	0.82
4	1.95	nitrite	118505.384	26034	181008	1	-0.34
5	2.96		0.000	135	785	1	
6	3.21	nitrate	172947.413	30426	289163	1	1.69
7	4.88	phosphate	1708.625	86	1226	1	3.39
8	6.35	sulfate	1153.357	250	4184	1	4.39
Totals			302187.941	60884	501228		

File: 97012801.d40 Sample: S96T004976 DUP

Data Reprocessed On 02/04/1997 13:48:43

```

=====
Sample Name: S96T004976 SPIKE                      Date: 01/28/1997 14:14:57
Data File  : F:\DATA\97012801.d41
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 41                Detector: CDM-1
Analyst    :                      Column: AG4A/AS4A anion column
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
External          1          5151   3000  5Hz   0.00 10.00          50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.94		0.000	154	714	1	
2	1.12	fluoride	2070.293	1007	5889	1	3.70
3	1.63	chloride	11808.556	5257	29200	1	0.41
4	1.95	nitrite	147591.321	32698	230041	1	-0.34
5	2.90	bromide	28329.137	5356	31942	1	2.11
6	3.20	nitrate	200567.428	35412	342978	1	1.27
7	4.83	phosphate	27820.054	1420	20936	1	2.26
8	6.24	sulfate	34473.131	4334	73111	1	2.63
9	8.27	oxalate	27092.008	2275	42858	1	4.03
Totals			479751.927	87912	777668		

File: 97012801.d41 Sample: S96T004976 SPIKE

Data Reprocessed On 02/04/1997 13:48:44

Sample Name: S96T004977 Date: 01/28/1997 14:26:46
 Data File : F:\DATA\97012801.d42
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 42 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 5151 3000 5Hz 0.00 10.00 50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.94		0.000	280	2061	2	
2	1.32		0.000	415	4995	2	
3	1.63	chloride	9397.737	4106	22991	1	0.41
4	1.95	nitrite	144130.458	31579	224096	1	-0.34
5	2.96		0.000	54	302	1	
6	3.20	nitrate	205301.488	35492	352495	1	1.27
7	4.88	phosphate	2175.032	112	1572	1	3.39
8	6.35	sulfate	1880.466	312	5657	1	4.39
9	8.37	oxalate	368.622	26	545	1	5.37
Totals			363253.803	72375	614713		

File: 97012801.d42 Sample: S96T004977

Data Reprocessed On 02/04/1997 13:48:45

```

=====
Sample Name: S96T004977 DUP                      Date: 01/28/1997 14:42:03
Data File  : F:\DATA\97012801.d43
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 43              Detector: CDM-1
Analyst    :                               Column: AG4A/AS4A anion column
=====

```

```

=====
Calibration Volume  Dilution Points Rate Start Stop Area Reject
-----
External           1           5151  3000  5Hz  0.00 10.00          50
=====

```

```

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

```

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.94		0.000	284	2118	2	
2	1.32		0.000	401	4786	2	
3	1.63	chloride	9423.528	4144	23056	1	0.41
4	1.95	nitrite	144525.853	31790	224774	1	-0.34
5	2.96		0.000	55	303	1	
6	3.20	nitrate	205714.464	35648	353329	1	1.27
7	4.88	phosphate	2334.749	110	1690	1	3.39
8	6.35	sulfate	1649.323	313	5189	1	4.39
9	8.37	oxalate	335.258	30	493	1	5.37
Totals			363983.175	72775	615738		

File: 97012801.d43 Sample: S96T004977 DUP

LABCORE Completed Worklist Report for Worklist# 16371

Analyst: smf

Instrument: IC03

Book# 144W9B

Method: 1A-533-105 Rev/Mod D-7

Worklist Comment: Rerun an104 organic acids. Use 5151 df.jmf

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 CCB	0	0	0102-QC	ACETATE2 QC	1	<2.00e-2		ug/mL
1 CCB	0	0	01C2-QC	FORMATE2 QC	1	<2.10e-2		ug/mL
2 CCV	0	0	01C2-QC	ACETATE2 QC	1.240e2	1.32e+02	106.452 % Recovery	
2 CCV	0	0	01C2-QC	FORMATE2 QC	1.200e2	1.25e+02	104.167 % Recovery	
3 SAMPLE	S96T004781	0	01C2-01	ACETATE2 LIQUID	N/A	6.262e+02	103.900 ug/mL	
3 SAMPLE	S96T004781	0	01C2-01	FORMATE2 LIQUID	N/A	1.098e+03	108.200 ug/mL	
4 DUP	S96T004781	0	01C2-01	ACETATE2 LIQUID	6.28e+02	5.66e+02	10.067 RPD	
4 DUP	S96T004781	0	01C2-01	FORMATE2 LIQUID	1.10e+03	1.02e+03	7.547 RPD	
5 SPK	S96T004781	0	01C2-01	ACETATE2 LIQUID	1.240e2	1.44e+02	116.129 % Recovery	
5 SPK	S96T004781	0	01C2-01	FORMATE2 LIQUID	1.200e2	1.13e+02	94.167 % Recovery	
6 SAMPLE	S96T004782	0	01C2-01	ACETATE2 LIQUID	N/A	5.631e+02	103.900 ug/mL	
6 SAMPLE	S96T004782	0	01C2-01	FORMATE2 LIQUID	N/A	1.073e+03	108.200 ug/mL	
7 DUP	S96T004782	0	01C2-01	ACETATE2 LIQUID	5.63e+02	5.46e+02	3.06% RPD	
7 DUP	S96T004782	0	01C2-01	FORMATE2 LIQUID	1.07e+03	1.06e+03	0.939 RPD	

Final page for worklist# 16371

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

James M. Luy 2/12/97
Reviewer Signature Date

LABCORE Data Entry Template for Worklist# 16371

Analyst: SMF Instrument: IC0 IC03 Book# 144N9-B

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

Worklist Comment: Rerun an104 organic acids. Use 5151 df.jmf

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC2-QC	QC		
2 CCV			@IC2-QC	QC		
3 SAMPLE	S96T004781 0		@IC2-01	LIQUID	96001174	AN-104
Analytes Requested: ACETATE2, FORMATE2						
4 DUP	S96T004781 0		@IC2-01	LIQUID		
5 SPK	S96T004781 0		@IC2-01	LIQUID		
6 SAMPLE	S96T004782 0		@IC2-01	LIQUID	96001174	AN-104
Analytes Requested: ACETATE2, FORMATE2						
7 DUP	S96T004782 0		@IC2-01	LIQUID		

Final page for worklist # 16371

Shirley M. Dulfer
Analyst Signature

2-2-97
Date

Analyst Signature

Date

16371 f.d. CSV

UPLADSD 2-12-97

R. J. Jones

Validated 2/12/97 JMS/eye

Data Entry Comments:

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

A-0010-IC				DATA FILE/WORKLIST RESOLUTION				12-Feb-97	
Worklist#: 16371				Data File: 16371FB.CSV					
	Seq	Type	Sample #	Seq#	Data File	Sample Name	Dilution		
-	=>	1	CCB	-	1	97020131.d01	CCB ELUENT BLANK	1.00	
	=>	2	CCV		2	97020151.d04	CCV STD 144N9-B	101.00	
	=>	3	SAMPLE		3	97020151.d05	S96T004781	5151.00	
	=>	4	DUP		4	97020151.d06	S96T004781 DUP	5151.00	
	=>	5	SPK		5	97020151.d09	S96T004781 SPK	5151.00	
	=>	6	SAMPLE		6	97020151.d07	S96T004782	5151.00	
	=>	7	DUP		7	97020151.d08	S96T004782 DUP	5151.00	
+				+					

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

Sample Name: CCB ELUENT BLANK Date: 02/01/1997 20:29:37
Data File : C:\DX\DATA\97020131.D01
Method : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 1 Detector: CDM-1
Analyst : *AME* Column: AG4A-SC, AS4A-SC, SRS

Calibration Volume Dilution Points Rate Start Stop Area Reject.
External 1 1 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.28		0.000	7	48	1	
2	6.13		0.000	3005	211561	1	
Totals			0.000	3012	211609		

File: 97020131.D01 Sample: CCB ELUENT BLANK

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 127 TO 128.

Sample Name: CCV STD 144N9-B Date: 02/02/1997 01:30:20
 Data File : C:\DX\DATA\97020151.D04
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 4 Detector: CDM-1
 Analyst : *Smalton* Column: AG4A-SC, AS4A-SC, SRS

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 101 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.07	fluoride	74.389	2434	13294	2	-2.97
2	2.33	acetate	131.892	634	4577	2	-3.18
3	3.04	formate	124.983	1163	8662	1	-3.49
4	3.81		0.000	20	150	1	
5	5.95		0.000	2773	187683	1	
6	7.96		0.000	356	3784	2	
7	8.13		0.000	406	2610	2	
8	8.40		0.000	797	54499	2	
Totals			331.265	8584	275259		

File: 97020151.D04 Sample: CCV STD 144N9-B

```

=====
Sample Name: S96T004781                      Date: 02/02/1997 01:54:00
Data File  : C:\DX\DATA\97020151.D05
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 5           Detector: CDM-1
Analyst    :                               Column: AG4A-SC, AS4A-SC, SRS
=====

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

```

```

External      1      5151   4500   5Hz   0.00  15.00      0
=====

```

```

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

```

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.35	acetate	626.235	66	282	1	-2.63
2	3.04	formate	1097.887	152	1206	1	-3.49
3	3.80		0.000	111	980	1	
4	5.37		0.000	7322	62883	2	
5	5.79		0.000	24382	314508	2	
6	7.55		0.000	15250	227323	1	
Totals			1724.122	47282	607182		

File: 97020151.D05 Sample: S96T004781

Sample Name: S96T004781 DUP Date: 02/02/1997 02:12:20
 Data File : C:\DX\DATA\97020151.D06
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 6 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration Volume Dilution Points Rate Start Stop Area Reject.

External 1 5151 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.36	acetate	565.621	56	239	1	-2.07
2	3.07	formate	1018.536	138	1096	1	-2.65
3	3.84		0.000	104	915	1	
4	5.39		0.000	7097	57762	2	
5	5.77		0.000	24037	404405	3	
6	7.01		0.000	3277	135184	4	
7	7.53		0.000	17841	368395	3	
8	8.13		0.000	641	5383	4	
9	8.29		0.000	1378	131695	4	

Totals 1584.157 54569 1105075

File: 97020151.D06 Sample: S96T004781 DUP

```

=====
Sample Name: S96T004781 SPK                      Date: 02/02/1997 03:08:18
Data File  : C:\DX\DATA\97020151.D09
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1. System: 2 Inject#: 9              Detector: CDM-1
Analyst    :                      Column: AG4A-SC, AS4A-SC, SRS
=====

```

```

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

```

```

External      1      5151    4500    5Hz    0.00  15.00      0
=====

```

```

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

```

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.07	fluoride	3231.009	1761	11196	2	-2.97
2	2.35	acetate	7886.837	666	5392	2	-2.63
3	3.07	formate	6810.841	1233	9294	1	-2.65
4	3.84		0.000	106	988	1	
5	5.37		0.000	5622	44567	2	
6	5.77		0.000	23774	340238	3	
7	7.09		0.000	1646	52288	4	
8	7.52		0.000	15923	247781	3	
9	8.13		0.000	27	82	4	
Totals			17928.687	50757	711826		

File: 97020151.D09 Sample: S96T004781 SPK

```

=====
Sample Name: S96T004782          Date: 02/02/1997 02:29:16
Data File  : C:\DX\DATA\97020151.D07
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 7      Detector: CDM-1
Analyst    :                      Column: AG4A-SC, AS4A-SC, SRS
=====
  
```

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 5151 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.36	acetate	563.072	52	237	1	-2.07
2	3.08	formate	1072.648	143	1171	1	-2.22
3	3.84		0.000	103	893	1	
4	5.39		0.000	6438	59306	2	
5	5.77		0.000	24899	409207	3	
6	7.13		0.000	3343	109073	4	
7	7.52		0.000	18240	376278	3	
8	8.13		0.000	650	5463	4	
9	8.29		0.000	1392	131191	4	
Totals			1635.720	55260	1092819		

File: 97020151.D07 Sample: S96T004782

```

=====
Sample Name: S96T004782   DUP                      Date: 02/02/1997 02:50:23
Data File  : C:\DX\DATA\97020151.D08
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 8                 Detector: CDM-1
Analyst    :                      Column: AG4A-SC, AS4A-SC, SRS
=====

```

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 5151 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.35	acetate	545.936	50	225	1	-2.63
2	3.07	formate	1060.713	144	1154	1	-2.65
3	3.80		0.000	101	913	1	
4	5.37		0.000	6515	53614	2	
5	5.77		0.000	24516	350225	3	
6	7.04		0.000	1491	44676	4	
7	7.53		0.000	16231	253277	3	
8	8.13		0.000	28	95	4	
Totals			1606.650	49076	704179		

File: 97020151.D08 Sample: S96T004782 DUP

LABCORE Completed Worklist Report for Worklist# 16376

Analyst: pjm

Instrument: IC03

Book# 144N9B

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

Worklist Comment: Rerun AN103 organic acids. Use 41 df.jmf

AN104 jmf 2/12/97

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
----------	---------	-----	------	--------	--------	-------	-------------	------

1 CCB	0		@IC2-QC	ACETATE2 QC	1	<2.00e-2		ug/mL
1 CCB	0		@IC2-QC	FORMATE2 QC	1	<2.10e-2		ug/mL
2 CCV	0		@IC2-QC	ACETATE2 QC	1.240e2	1.10e+02	88.710 % Recovery	
2 CCV	0		@IC2-QC	FORMATE2 QC	1.200e2	1.05e+02	88.333 % Recovery	
3 BLNK-PREP	0		@IC2-01	ACETATE2 SOLID	1	5.00e-02	0.060	ug/g
3 BLNK-PREP	0		@IC2-01	FORMATE2 SOLID	1	<2.10e-2		ug/g
4 SAMPLE	S96T005067	0 W	@IC2-01	ACETATE2 SOLID	N/A	6.232e+02	163.800	ug/g
5 DUP	S96T005067	0 W	@IC2-01	ACETATE2 SOLID	6.23e+02	6.37e+02	2.222 RPD	
5 DUP	S96T005067	0 W	@IC2-01	FORMATE2 SOLID	7.73e+02	7.18e+02	7.378 RPD	
6 SPK	S96T005067	0 W	@IC2-01	ACETATE2 SOLID	1.240e2	1.15e+02	93.548 % Recovery	
6 SPK	S96T005067	0 W	@IC2-01	FORMATE2 SOLID	1.200e2	1.02e+02	85.000 % Recovery	

Final page for worklist# 16376

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

James J. ... 2/12/97
Reviewer Signature Date

LABCORE Data Entry Template for Worklist# 16376

Analyst: Rm Instrument: IC0 IC03 Book# 144A9B
4500.5g5 2

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

Worklist Comment: Rerun AN103 organic acids. Use 41 df.jmf

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC2-QC	QC		
2 CCV			@IC2-QC	QC		
3 BLNK-PREP			@IC2-01	SOLID		
4 SAMPLE	S96T005067 0 W		@IC2-01	SOLID	96001174	AN-104
Analytes Requested: ACETATE2, FORMATE2						
5 DUP	S96T005067 0 W		@IC2-01	SOLID		
6 SPK	S96T005067 0 W		@IC2-01	SOLID		

Final page for worklist # 16376

R. McCown 1/31/97
Analyst Signature Date

Analyst Signature Date

16376JA.CSV

UPLOADED 2-12-97

R. Jones

Formate rejected due to CCV failure. JMF Rerun
WKL 16670
Rest validated 2/12/97 JMF

Data Entry Comments:

A-0010-IC

DATA FILE/WORKLIST RESOLUTION

12-Feb-97

Worklist#: 16376

Data File: 16376JA.CSV

	Seq	Type	Sample #		Seq#	Data File	Sample Name	Dilution
-		1	CCB			97013111.d04	CCB	1.00
		2	CCV			97013111.d03	CCV 144N9B	101.00
		3	BLNK-PREP			97013111.d05	PREP BLK	1.00
		4	SAMPLE			97013111.d06	S96T005067	41.00
		5	DUP			97013111.d07	S96T005067 DUP	41.00
		6	SPK			97013111.d08	S96T005067 SPK	41.00
+				+				

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

=====

Sample Name: CCB	Date: 01/31/1997 02:32:33
Data File : C:\DX\DATA\97013111.D04	
Method : C:\DX\METHOD\ACE.MET	
ACI Address: 1 System: 2 Inject#: 4	Detector: CDM-1
Analyst :	Column: AG4A-SC, AS4A-SC, SRS

=====

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	6.89		0.000	670	15950	1	
2	8.13		0.000	205	1151	2	
3	8.41		0.000	547	41939	2	
Totals			0.000	1422	59039		

DIRECT Rm

File: 97013111.D04 Sample: CCB

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1387 TO 1392.

Sample Name: CCV 144N9B Date: 01/31/1997 02:08:32
 Data File : C:\DX\DATA\97013111.D03
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 3 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	101	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.07	fluoride	63.043	1359	11137	2	-2.97
2	2.36	acetate	109.937	523	3791	2	-2.07
3	3.08	formate	106.046	959	7272	1	-2.22
4	6.00		0.000	2282	152640	1	
5	7.99		0.000	131	636	1	
6	8.13		0.000	168	963	2	
7	8.32		0.000	420	35090	2	
Totals			279.027	5841	211528		

• 100 mL - 10 mL *McCowan* 1/31/97

File: 97013111.D03 Sample: CCV 144N9B

Sample Name: PREP BLK Date: 01/31/1997 02:51:47
 Data File : C:\DX\DATA\97013111.D05
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 5 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.41	acetate	0.060	8	56	1	0.14
2	6.00		0.000	2648	161139	2	
3	6.91		0.000	1470	56637	2	
4	7.96		0.000	101	626	1	
5	8.13		0.000	170	927	2	
6	8.39		0.000	486	31882	2	
Totals			0.060	4884	251267		

DIRECT RSM
 File: 97013111.D05 Sample: PREP BLK

Sample Name: S96T005067 Date: 01/31/1997 03:09:18
 Data File : C:\DX\DATA\97013111.D06
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 6 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.10	fluoride	3.026	128	783	1	-1.41
2	2.39	acetate	3.121	23	117	1	-0.97
3	3.11	formate	3.873	44	363	1	-1.38
4	3.89		0.000	36	302	1	
5	5.39		0.000	3105	44459	2	
6	5.81		0.000	10320	250875	2	
7	6.97		0.000	3209	146366	2	
8	7.68		0.000	8672	154778	2	
9	8.13		0.000	2414	17510	2	
10	8.33		0.000	2367	149653	2	
Totals			10.020	30319	765204		

.250ml - 10ml *RLM*

File: 97013111.D06 Sample: S96T005067

Sample Name: S96T005067 DUP Date: 01/31/1997 03:26:48
 Data File : C:\DX\DATA\97013111.D07
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 7 Detector: CDM-1
 Analyst : Column: AG4A-SC,AS4A-SC, SRS

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 41 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.10	fluoride	2.782	115	673	1	-1.41
2	2.39	acetate	3.178	22	122	1	-0.97
3	3.11	formate	3.586	41	313	1	-1.38
4	3.89		0.000	38	372	1	
5	5.43		0.000	2706	31414	2	
6	5.84		0.000	9537	195303	2	
7	7.05		0.000	2012	61802	2	
8	7.71		0.000	6518	78718	2	
9	8.33		0.000	224	25220	1	

Totals 9.546 21212 393937

• 250 mL - 10 mL *Retm*

File: 97013111.D07 Sample: S96T005067 DUP

```

=====
Sample Name: S96T005067 SPK                      Date: 01/31/1997 03:42:31
Data File  : C:\DX\DATA\97013111.D08
Method     : C:\DX\METHOD\ACE.MET
ACT Address: 1 System: 2 Inject#: 8                Detector: CDM-1
Analyst    :                      Column: AG4A-SC,AS4A-SC, SRS
=====

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```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
=====
External          1          41    4500  5Hz    0.00 15.00      0
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.10	fluoride	27.102	2261	11842	2	-1.41
2	2.37	acetate	49.444	556	4216	2	-1.52
3	3.11	formate	44.595	995	7551	1	-1.38
4	3.89		0.000	36	355	1	
5	5.41		0.000	3120	44717	2	
6	5.83		0.000	10537	266128	2	
7	7.13		0.000	3669	151767	2	
8	7.72		0.000	8491	139090	2	
9	8.13		0.000	2452	17818	2	
10	8.32		0.000	2370	151724	2	

Totals 121.140 34486 795209

250ML 100ML 144.913 AS SPIKE BLU
9.9ML ELUENT

File: 97013111.D08 Sample: S96T005067 SPK

LABCORE Completed Worklist Report for Worklist# 16408

Analyst: smf

Instrument: IC02

Book# 42N20A

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

Worklist Comment: AN-104 IC Rerun for NO2. Try a 5151 DF.

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	5.900e1	6.09e+01	103.220 % Recovery	
2 CCV	0	01C-QC CL	QC	7.900e1	8.80e+01	111.392 % Recovery	
2 CCV	0	01C-QC NO2	QC	5.420e2	6.26e+02	115.498 % Recovery	
2 CCV	0	01C-QC BR	QC	5.890e2	5.86e+02	99.491 % Recovery	
2 CCV	0	01C-QC NO3	QC	5.940e2	5.98e+02	100.673 % Recovery	
2 CCV	0	01C-QC PO4	QC	5.440e2	5.84e+02	107.353 % Recovery	
2 CCV	0	01C-QC SO4	QC	6.310e2	6.52e+02	104.913 % Recovery	
2 CCV	0	01C-QC OXALATE2	QC	5.240e2	5.48e+02	104.580 % Recovery	
4 DUF	S96T005527 0	01C-01 F-02	LIQUID	?	<6.19e1		RPD
4 DUF	S96T005527 0	01C-01 CL-02	LIQUID	?	8.21e+03		RPD
4 DUF	S96T005527 0	01C-01 NO2-02	LIQUID	1.24e+05	1.25e+05	0.803 RPD	
4 DUF	S96T005527 0	01C-01 BR-02	LIQUID	?	1.21e+03		RPD
4 DUF	S96T005527 0	01C-01 NO3-02	LIQUID	?	1.68e+05		RPD
4 DUF	S96T005527 0	01C-01 PO4-02	LIQUID	?	2.58e+03		RPD
4 DUF	S96T005527 0	01C-01 SO4-02	LIQUID	?	1.66e+03		RPD
4 DUF	S96T005527 0	01C-01 OXALATE2	LIQUID	?	<5.41e2		RPD
5 SPK	S96T005527 0	01C-01 F-02	LIQUID	100	0.00e+00	0.000 % Recovery	
5 SPK	S96T005527 0	01C-01 CL-02	LIQUID	100	0.00e+00	0.000 % Recovery	
5 SPK	S96T005527 0	01C-01 NO2-02	LIQUID	100	2.34e+04	23400.000 % Recovery	
5 SPK	S96T005527 0	01C-01 BR-02	LIQUID	100	0.00e+00	0.000 % Recovery	
5 SPK	S96T005527 0	01C-01 NO3-02	LIQUID	100	0.00e+00	0.000 % Recovery	
5 SPK	S96T005527 0	01C-01 PO4-02	LIQUID	100	0.00e+00	0.000 % Recovery	
5 SPK	S96T005527 0	01C-01 SO4-02	LIQUID	100	0.00e+00	0.000 % Recovery	
5 SPK	S96T005527 0	01C-01 OXALATE2	LIQUID	100	0.00e+00	0.000 % Recovery	
7 DUF	S96T005528 0	01C-01 F-02	LIQUID	?	<6.18e1		RPD
7 DUF	S96T005528 0	01C-01 CL-02	LIQUID	?	8.17e+03		RPD
7 DUF	S96T005528 0	01C-01 NO2-02	LIQUID	1.26e+05	1.24e+05	1.600 RPD	
7 DUF	S96T005528 0	01C-01 BR-02	LIQUID	?	1.48e+03		RPD
7 DUF	S96T005528 0	01C-01 NO3-02	LIQUID	?	1.80e+05		RPD
7 DUF	S96T005528 0	01C-01 PO4-02	LIQUID	?	2.03e+03		RPD
7 DUF	S96T005528 0	01C-01 SO4-02	LIQUID	?	1.72e+03		RPD
7 DUF	S96T005528 0	01C-01 OXALATE2	LIQUID	?	<5.41e2		RPD
9 DUF	S96T005554 0	01C-01 F-02	LIQUID	?	<6.19e1		RPD

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

LABCORE Completed Worklist Report for Worklist# 16408

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
9 DUP	S96T005554	0	@IC-01	CL-02	LIQUID	7	8.48e+03	RPD
9 DUP	S96T005554	0	@IC-01	NO2-02	LIQUID	1.27e+05	1.31e+05	3.101 RPD
9 DUP	S96T005554	0	@IC-01	BR-02	LIQUID	7	1.10e+03	RPD
9 DUP	S96T005554	0	@IC-01	NO3-02	LIQUID	7	1.65e+05	RPD
9 DUP	S96T005554	0	@IC-01	PO4-02	LIQUID	7	2.52e+03	RPD
9 DUP	S96T005554	0	@IC-01	SO4-02	LIQUID	7	1.72e+03	RPD
9 DUP	S96T005554	0	@IC-01	OXALATE2	LIQUID	7	<5.41e2	RPD

Final page for worklist# 16408

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Blandina Valenzuela 3-6-97
Reviewer Signature Date

Samples put out for rerun due to
CCV failure of NO₂ standard.

LABCORE Data Entry Template for Worklist# 16408

Analyst: SMF Instrument: IC0 IC02 Book# 42 N20-A

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

Worklist Comment: AN-104 IC Rerun for NO2. Try a 5151 DF. Original WL #14851.

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC-QC	QC		
2 CCV			@IC-QC	QC		
3 SAMPLE	S96T005527 0		@IC-01	LIQUID	96001283	AN-104
Analytes Requested: NO2-02						
4 DUP	S96T005527 0		@IC-01	LIQUID		
5 SPK	S96T005527 0		@IC-01	LIQUID		
6 SAMPLE	S96T005528 0		@IC-01	LIQUID	96001283	AN-104
Analytes Requested: NO2-02						
7 DUP	S96T005528 0		@IC-01	LIQUID		
8 SAMPLE	S96T005554 0		@IC-01	LIQUID	96001283	AN-104
Analytes Requested: NO2-02						
9 DUP	S96T005554 0		@IC-01	LIQUID		

Final page for worklist # 16408

Suzie M. Telford 2-2-97
Analyst Signature Date

Analyst Signature Date

UPLOADED 2-13-97

John Womell
16408FB.CSV

NO₂ results rejected for all samples will be rerun (again)
new worklist # is: 16954

Data Entry Comments:

A-0010-IC

DATA FILE/WORKLIST RESOLUTION

13-Feb-97

Worklist#: 16408

Data File: 16408FB.CSV

		Seq	Type	Sample #	Seq#	Data File	Sample Name	Dilution
- +	=>	1	CCB		1	97020241.d08	CCB ELUENT BLANK	1.00
	=>	2	CCV		2	97020241.d09	CCV STD 42N20-A	101.00
	=>	3	SAMPLE	S96T005527	3	97020241.d01	S96T005527	5151.00
	=>	4	DUP	S96T005527	4	97020241.d04	S96T005527 DUP	5151.00
	=>	5	SPK	S96T005527	5	97020241.d07	S96T005527 SPK	5151.00
	=>	6	SAMPLE	S96T005528	6	97020241.d02	S96T005528	5151.00
	=>	7	DUP	S96T005528	7	97020241.d05	S96T005528 DUP	5151.00
	=>	8	SAMPLE	S96T005554	8	97020241.d03	S96T005554	5151.00
	=>	9	DUP	S96T005554	9	97020241.d06	S96T005554 DUP	5151.00

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

Sample Name: CCB ELUENT BLANK

Date: 02/02/1997 01:16:16

Data File : C:\DX\DATA\97020141.D08

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

ACI Address: 1 System: 1 Inject#: 8

Detector: CDM-1

Analyst : *James J. Jurek* Column:

Calibration Volume *100 mL* Dilution *1* Points *4* Rate *120/97* Start Stop Area Reject

External 1 1 3000 5Hz 0.00 10.00 50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.86		0.000	28	159	1	
2	1.41		0.000	40	189	2	
3	1.54	CHLORIDE	0.006	41	121	2	-0.43
4	3.24	NITRATE	0.183	19	95	1	2.75
5	6.05	SULFATE	0.119	37	433	1	-0.66
Totals			0.308	165	995		

File: 97020141.D08 Sample: CCB ELUENT BLANK

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1397 TO 1405

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=====
Sample Name: CCV STD 42N20-A                      Date: 02/02/1997 03:53:14
Data File  : E:\DATA\97020241.D09
Method     : C:\DX\METHOD\ANIONSA.MET
ACI Address: 1 System: 1 Inject#: 9                Detector: CDM-1
Analyst    :                      Column:
=====

```

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 101 3000 5Hz 0.00 10.00 50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.87		0.000	84	334	2	
2	1.02	FLUORIDE	60.897	2787	11870	2	0.00
3	1.55	CHLORIDE	88.044	2509	11519	1	-0.22
4	1.86	NITRITE	626.410	10514	54274	1	-0.18
5	2.79	BROMIDE	586.426	6025	36732	2	-1.30
6	3.17	NITRATE	597.667	6541	48450	2	0.74
7	4.66	PHOSPHATE	583.933	1703	21710	1	0.43
8	6.03	SULFATE	661.918	4986	68325	1	-1.04
9	7.91	OXALATE	547.950	2343	43419	1	-1.45
Totals			3753.245	37492	296633

Data Reprocessed On 02/13/1997 13:02:08

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=====
| Sample Name: S96T005527                      Date: 02/02/1997 02:11:59 |
| Data File  : E:\DATA\97020241.D01             |
| Method     : C:\DX\METHOD\ANIONSA.MET         |
| ACI Address: 1 System: 1 Inject#: 1            | Detector: CDM-1 |
| Analyst    :                               Column: |
=====

```

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 5151 3000 5Hz 0.00 10.00 50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.87		0.000	568	3571	2	
2	1.13		0.000	463	2971	2	
3	1.21		0.000	500	3215	2	
4	1.54	CHLORIDE	8076.424	4243	20938	2	-0.65
5	1.87	NITRITE	124404.586	38751	216896	2	0.18
6	2.80	BROMIDE	1201.818	122	647	2	-1.06
7	3.08	NITRATE	166733.455	33668	292561	2	-2.22
8	4.69	PHOSPHATE	2677.213	124	1486	1	1.01
9	6.04	SULFATE	1857.060	187	2936	1	-0.82
10	7.97	OXALATE	404.697	15	151	1	-0.62
Totals			305355.254	78642	545372		

File: 97020241.D01 Sample: S96T005527

Minutes

1399

Sample Name: S96T005527 DUP	Date: 02/02/1997 02:49:56
Data File : E:\DATA\97020241.D04	
Method : C:\DX\METHOD\ANIONSA.MET	
ACI Address: 1 System: 1 Inject#: 4	Detector: CDM-1
Analyst :	Column:

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
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External	1	5151	3000	5Hz	0.00	10.00		50
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***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.87		0.000	538	3330	2	
2	1.13		0.000	439	2751	2	
3	1.21		0.000	475	2907	2	
4	1.54	CHLORIDE	8209.387	4358	21292	2	-0.65
5	1.87	NITRITE	124904.277	39330	217790	2	0.18
6	2.79	BROMIDE	1213.381	125	661	1	-1.30
7	3.07	NITRATE	167547.578	33904	294146	1	-2.43
8	4.67	PHOSPHATE	2584.950	126	1419	1	0.72
9	6.04	SULFATE	1663.725	184	2547	1	-0.82
10	7.96	OXALATE	442.285	17	210	1	-0.79

Totals	306565.583	79494	547052
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File: 97020241.D04 Sample: S96T005527 DUP

 Minutes
1400

Data Reprocessed On 02/13/1997 13:08:00

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=====
Sample Name: S96T005527 SPK                      Date: 02/02/1997 03:27:55
Data File  : E:\DATA\97020241.D07
Method     : C:\DX\METHOD\ANIONSA.MET
ACI Address: 1 System: 1 Inject#: 7                Detector: CDM-1
Analyst    :                               Column:
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=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
=====

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External      1      5151    3000    5Hz    0.00  10.00      50
=====

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```

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

```

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.87		0.000	492	2485	2	
2	1.01	FLUORIDE	3630.274	2386	13911	3	-0.65
3	1.20		0.000	299	2114	4	
4	1.54	CHLORIDE	12232.952	6471	32164	2	-0.65
5	1.87	NITRITE	157837.955	47510	277099	2	0.18
6	2.78	BROMIDE	29784.761	6218	36574	2	-1.77
7	3.07	NITRATE	197349.385	39560	353399	2	-2.65
8	4.65	PHOSPHATE	29582.682	1712	21559	1	0.29
9	6.01	SULFATE	33111.641	4796	66977	1	-1.26
10	7.89	OXALATE	26406.536	2198	40988	1	-1.62
Totals			489936.185	111642	847269		

File: 97020241.D07 Sample: S96T005527 SPK

1401

Data Reprocessed On 02/13/1997 13:10:19

```

=====
Sample Name: S96T005528                      Date: 02/02/1997 02:24:38
Data File  : E:\DATA\97020241.D02
Method     : C:\DX\METHOD\ANIONSA.MET
ACI Address: 1 System: 1 Inject#: 2           Detector: CDM-1
Analyst    :                               Column:
=====

```

```

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

```

```

External      1      5151    3000    5Hz    0.00  10.00      50
=====

```

```

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

```

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.87		0.000	554	3441	2	
2	1.13		0.000	459	2924	2	
3	1.20		0.000	489	3174	2	
4	1.54	CHLORIDE	8392.437	4251	21780	2	-0.65
5	1.87	NITRITE	125931.236	38825	219628	2	0.18
6	2.79	BROMIDE	1612.452	185	1153	2	-1.30
7	3.07	NITRATE	179428.918	36228	317469	2	-2.43
8	4.67	PHOSPHATE	2097.655	97	1062	1	0.72
9	6.04	SULFATE	1762.981	192	2746	1	-0.82
10	7.93	OXALATE	484.995	21	277	1	-1.12
Totals			319710.675	81302	573653		

File: 97020241.D02 Sample: S96T005528

1402

Minutes

```

=====
Sample Name: S96T005528 DUP                      Date: 02/02/1997 03:02:36
Data File  : E:\DATA\97020241.D05
Method     : C:\DX\METHOD\ANIONSA.MET
ACI Address: 1 System: 1 Inject#: 5                Detector: CDM-1
Analyst    :                      Column:
=====

```

Calibration Volume Dilution Points Rate Start Stop Area Reject

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	5151	3000	5Hz	0.00	10.00		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.87		0.000	542	3345	2	
2	1.13		0.000	429	2731	2	
3	1.21		0.000	462	2743	2	
4	1.54	CHLORIDE	8172.400	4402	21194	2	-0.65
5	1.87	NITRITE	124096.312	39425	216344	2	0.18
6	2.79	BROMIDE	1481.209	177	991	2	-1.30
7	3.07	NITRATE	180360.731	36441	319314	2	-2.43
8	4.67	PHOSPHATE	2032.368	97	1014	1	0.72
9	6.04	SULFATE	1725.376	194	2671	1	-0.82
10	7.97	OXALATE	439.787	18	206	1	-0.62

Totals			318308.184	82187	570553		
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File: 97020241.D05 Sample: S96T005528 DUP

1403

Minutes

Sample Name: S96T005554

Date: 02/02/1997 02:37:17

Data File : E:\DATA\97020241.D03

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

ACI Address: 1 System: 1 Inject#: 3

Detector: CDM-1

Analyst :

Column:

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

External	1	5151	3000	5Hz	0.00	10.00		50
----------	---	------	------	-----	------	-------	--	----

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.87		0.000	557	3513	2	
2	1.13		0.000	470	3010	2	
3	1.21		0.000	505	3212	2	
4	1.54	CHLORIDE	8556.365	4442	22217	2	-0.65
5	1.87	NITRITE	127410.626	39860	222277	2	0.18
6	2.80	BROMIDE	1068.098	92	482	1	-1.06
7	3.08	NITRATE	165530.068	33542	290223	1	-2.22
8	4.67	PHOSPHATE	2419.504	120	1298	1	0.72
9	6.04	SULFATE	1708.834	191	2637	1	-0.82
Totals			306693.495	79780	548870		

File: 97020241.D03 Sample: S96T005554

1404

Data Reprocessed On 02/13/1997 13:18:02

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=====
Sample Name: S96T005554 DUP                      Date: 02/02/1997 03:15:16
Data File  : E:\DATA\97020241.D06
Method     : C:\DX\METHOD\ANIONSA.MET
ACI Address: 1 System: 1 Inject#: 6                Detector: CDM-1
Analyst    :                                     Column:
=====

```

```

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

```

```

External          1          5151    3000   5Hz   0.00 10.00          50

```

```

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

```

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.87		0.000	548	3331	2	
2	1.13		0.000	454	2866	2	
3	1.21		0.000	486	2950	2	
4	1.54	CHLORIDE	8477.436	4522	22006	2	-0.65
5	1.87	NITRITE	130621.407	40280	228032	2	0.18
6	2.79	BROMIDE	1104.576	96	527	2	-1.30
7	3.08	NITRATE	165087.229	33703	289363	2	-2.22
8	4.68	PHOSPHATE	2520.114	124	1371	1	0.86
9	6.04	SULFATE	1719.663	190	2659	1	-0.82
Totals			309530.426	80402	553107		

File: 97020241.D06 Sample: S96T005554 DUP

1405

LABCORE Completed Worklist Report for Worklist# 16420

Analyst: kgh

Instrument: IC01

Book# 42120A

Method: 1A-5337a5 Rev/Mod D-1

Worklist Comment: Rerun AN-104 IC.Use 10201 df.jmf

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 CCB	0	0	QIC-QC	F	QC	1	<1.20e-2	ug/mL
1 CCB	0	0	QIC-QC	CL	QC	1	<1.70e-2	ug/mL
1 CCB	0	0	QIC-QC	NO2	QC	1	<1.09e-1	ug/mL
1 CCB	0	0	QIC-QC	BR	QC	1	<1.25e-1	ug/mL
1 CCB	0	0	QIC-QC	NO3	QC	1	<1.39e-1	ug/mL
1 CCB	0	0	QIC-QC	PO4	QC	1	<1.20e-1	ug/mL
1 CCB	0	0	QIC-QC	SO4	QC	1	<1.38e-1	ug/mL
1 CCB	0	0	QIC-QC	OXALATE2	QC	1	<1.05e-1	ug/mL
2 CCV	0	0	QIC-QC	F	QC	5.900e+1	5.07e+01	85.932 % Recovery
2 CCV	0	0	QIC-QC	CL	QC	7.900e+1	7.89e+01	99.873 % Recovery
2 CCV	0	0	QIC-QC	NO2	QC	5.420e+2	5.75e+02	106.089 % Recovery
2 CCV	0	0	QIC-QC	BR	QC	5.890e+2	5.68e+02	96.435 % Recovery
2 CCV	0	0	QIC-QC	NO3	QC	5.940e+2	5.96e+02	100.337 % Recovery
2 CCV	0	0	QIC-QC	PO4	QC	5.440e+2	5.19e+02	95.404 % Recovery
2 CCV	0	0	QIC-QC	SO4	QC	6.310e+2	6.36e+02	100.792 % Recovery
2 CCV	0	0	QIC-QC	OXALATE2	QC	5.240e+2	5.39e+02	102.863 % Recovery
3 SAMPLE	596T005256	0	QIC-01	F-02	LIQUID	N/A	<1.224e+02	122.400 ug/mL
3 SAMPLE	596T005256	0	QIC-01	CL-02	LIQUID	N/A	1.533e+04	173.400 ug/mL
3 SAMPLE	596T005256	0	QIC-01	NO2-02	LIQUID	N/A	<2.271e+05	1102.000 ug/mL
3 SAMPLE	596T005256	0	QIC-01	BR-02	LIQUID	N/A	<1.275e+03	1275.000 ug/mL
3 SAMPLE	596T005256	0	QIC-01	NO3-02	LIQUID	N/A	3.199e+05	1418.000 ug/mL
3 SAMPLE	596T005256	0	QIC-01	PO4-02	LIQUID	N/A	3.859e+03	1224.000 ug/mL
3 SAMPLE	596T005256	0	QIC-01	SO4-02	LIQUID	N/A	2.796e+03	1408.000 ug/mL
3 SAMPLE	596T005256	0	QIC-01	OXALATE2	LIQUID	N/A	<1.071e+03	1071.000 ug/mL
4 DUP	596T005256	0	QIC-01	F-02	LIQUID	<1.22e+2	<1.22e+2	RPD
4 DUP	596T005256	0	QIC-01	CL-02	LIQUID	1.53e+04	1.51e+04	1.316 RPD
4 DUP	596T005256	0	QIC-01	NO2-02	LIQUID	2.27e+05	2.23e+05	1.778 RPD
4 DUP	596T005256	0	QIC-01	BR-02	LIQUID	<1.28e+3	<1.28e+3	RPD
4 DUP	596T005256	0	QIC-01	NO3-02	LIQUID	3.20e+05	3.19e+05	0.343 RPD
4 DUP	596T005256	0	QIC-01	PO4-02	LIQUID	3.86e+03	3.79e+03	1.830 RPD
4 DUP	596T005256	0	QIC-01	SO4-02	LIQUID	2.80e+03	2.49e+03	11.720 RPD
4 DUP	596T005256	0	QIC-01	OXALATE2	LIQUID	<1.07e+3	<1.07e+3	RPD
5 SPK	596T005256	0	QIC-01	F-02	LIQUID	5.900e+1	4.46e+01	75.593 % Recovery
5 SPK	596T005256	0	QIC-01	CL-02	LIQUID	7.900e+1	2.59e+00	3.278 % Recovery
5 SPK	596T005256	0	QIC-01	NO2-02	LIQUID	5.420e+2	5.57e+2	-102.769 % Recovery
5 SPK	596T005256	0	QIC-01	BR-02	LIQUID	5.890e+2	5.53e+02	93.888 % Recovery
5 SPK	596T005256	0	QIC-01	NO3-02	LIQUID	5.940e+2	<1.03e+2	173.401 % Recovery
5 SPK	596T005256	0	QIC-01	PO4-02	LIQUID	5.440e+2	4.84e+02	88.971 % Recovery
5 SPK	596T005256	0	QIC-01	SO4-02	LIQUID	6.310e+2	6.08e+02	96.355 % Recovery
5 SPK	596T005256	0	QIC-01	OXALATE2	LIQUID	5.240e+2	5.35e+02	102.099 % Recovery
6 SAMPLE	596T005257	0	QIC-01	F-02	LIQUID	N/A	<6.181e+01	61.810 ug/mL

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

LABCORE Completed Worklist Report for Worklist# 16420

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
6 SAMPLE	S96T005257	0	@IC-01	CL-02	LIQUID	N/A	7.988e+03	87.570 ug/mL
6 SAMPLE	S96T005257	0	@IC-01	NO2-02	LIQUID	N/A	1.174e+05	556.300 ug/mL
6 SAMPLE	S96T005257	0	@IC-01	BR-02	LIQUID	N/A	7.313e+02	643.900 ug/mL
6 SAMPLE	S96T005257	0	@IC-01	NO3-02	LIQUID	N/A	1.660e+05	716.000 ug/mL
6 SAMPLE	S96T005257	0	@IC-01	PO4-02	LIQUID	N/A	1.747e+03	618.100 ug/mL
6 SAMPLE	S96T005257	0	@IC-01	SO4-02	LIQUID	N/A	1.045e+03	710.800 ug/mL
6 SAMPLE	S96T005257	0	@IC-01	OXALATE2	LIQUID	N/A	5.409e+02	540.900 ug/mL
7 DUP	S96T005257	0	@IC-01	F-02	LIQUID	<6.18e1	<6.18e1	RPD
7 DUP	S96T005257	0	@IC-01	CL-02	LIQUID	7.99e+03	7.97e+03	0.251 RPD
7 DUP	S96T005257	0	@IC-01	NO2-02	LIQUID	1.17e+05	1.17e+05	0.000 RPD
7 DUP	S96T005257	0	@IC-01	BR-02	LIQUID	7.31e+02	7.49e+02	2.432 RPD
7 DUP	S96T005257	0	@IC-01	NO3-02	LIQUID	1.66e+05	1.66e+05	0.000 RPD
7 DUP	S96T005257	0	@IC-01	PO4-02	LIQUID	1.75e+03	1.87e+03	6.630 RPD
7 DUP	S96T005257	0	@IC-01	SO4-02	LIQUID	1.04e+03	1.09e+03	4.695 RPD
7 DUP	S96T005257	0	@IC-01	OXALATE2	LIQUID	<5.41e2	5.79e+02	RPD

Final page for worklist# 16420

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

James M. Fay
Reviewer Signature _____ Date 2/10/97

LABCORE Data Entry Template for Worklist# 16420

Analyst: KCN Instrument: IC0 IC01 Book# 43120-19

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

Worklist Comment: Rerun AN-104 IC.Use 10201 df.jmf

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC-QC	QC		
2 CCV			@IC-QC	QC		
3 SAMPLE	S96T005256 0		@IC-01	LIQUID	96001283	AN-104
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
4 DUP	S96T005256 0		@IC-01	LIQUID		
5 SPK	S96T005256 0		@IC-01	LIQUID		
6 SAMPLE	S96T005257 0		@IC-01	LIQUID	96001283	AN-104
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
7 DUP	S96T005257 0		@IC-01	LIQUID		

Final page for worklist # 16420

Analyst Signature [Signature] Date 2-5-97

Analyst Signature [Signature] Date 2-5-97

16420.F6.CSV UNLOADED

John Wane
2-6-97

SPIKE IS STRANGE - This was a rerun worklist & undoubtedly had the same weird spikes the last time

Validated 2/17/97 JMF we ran it. JMF
Data Entry Comments: NO. This worklist we cut

A-0010-IC				DATA FILE/WORKLIST RESOLUTION				06-Feb-97			
Worklist#: 16420				Data File: 16420FB.CSV							
	Seq	Type	Sample #	Seq#	Data File	Sample Name	Dilution				
-	=v	1	CCE	-	2	97040241.d02	42N20-A STD	101.00			
	=v	2	CCV		3	97040241.d03	S96T005256 SAM	10201.00			
	=v	3	SAMPLE		4	97040241.d04	S96T005256 DUP	10201.00			
	=v	4	DUP		5	97040241.d05	S96T005256 SPK	10201.00			
	=v	5	SPK		6	97040241.d07	S96T005257 SAM	5151.00			
	=v	6	SAMPLE		7	97040241.d08	S96T005257 DUP	5151.00			
	=v	7	DUP		1	97040241.d01	BLANK	1.00			
+				+							

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

Sample Name: 42N20-A STD Date: 02/05/1997 20:17:29
 Data File : C:\DX\DATA\97040241.D02
 Method : C:\DX\METHOD\KIT.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	3000	5Hz	0.00	10.00		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.11	fluoride	50.674	1318	8493	1	3.09
2	1.65	chloride	78.892	2029	10659	1	1.64
3	1.96	nitrite	574.656	6503	46880	1	-0.68
4	2.93	bromide	568.058	5440	36385	1	2.80
5	3.33	nitrate	595.583	6113	50173	1	5.04
6	4.80	phosphate	518.682	1372	20909	1	0.63
7	6.24	sulfate	636.340	5080	75414	1	0.00
8	8.21	oxalate	539.166	2477	47910	1	1.32
Totals			3562.052	30332	296824		

File: 97040241.D02 Sample: 42N20-A STD

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1410 TO 1416

Sample Name: BLANK Date: 02/05/1997 20:04:19
Data File : F:\DATA\97040241.D01
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 1 Detector: CDM-1
Analyst : Column: AG4A/AS4A anion column

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

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.45		0.000	18	103	1	
2	1.68	chloride	0.013	48	221	1	3.28
3	3.43	nitrate	0.090	27	171	1	-0.10
Totals			0.103	93	495		

File: 97040241.D01 Sample: BLANK

Data Reprocessed On 02/06/1997 14:25:42

Sample Name: S96T005256 SAM	Date: 02/05/1997 22:40:39
Data File : F:\DATA\97040241.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	10201	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	0.94		0.000	229	1597	2	
2	1.32		0.000	319	3733	2	
3	1.63	chloride	15334.640	3708	20755	1	0.41
4	1.95	nitrite	227076.802	27585	194355	1	-1.01
5	2.97	bromide	1107.715	69	396	1	0.11
6	3.23	nitrate	319936.290	30436	291681	1	1.68
7	4.85	phosphate	3859.376	93	1292	1	1.75
8	6.35	sulfate	2796.420	234	3694	1	1.71
9	8.32	oxalate	820.809	24	443	1	2.63
Totals			570932.051	62697	517947		

File: 97040241.D03 Sample: S96T005256 SAM

Data Reprocessed On 02/06/1997 14:28:34

Sample Name: S96T005256 DUP			Date: 02/05/1997 22:54:40
Data File : F:\DATA\97040241.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	10201	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	0.94		0.000	222	1535	2	
2	1.32		0.000	307	3556	2	
3	1.64	chloride	15101.936	3689	20432	1	0.82
4	1.95	nitrite	223155.396	27211	190743	1	-1.01
5	2.98	bromide	1083.371	68	381	1	0.00
6	3.23	nitrate	318630.064	30115	290356	1	1.89
7	4.85	phosphate	3788.514	93	1264	1	1.75
8	6.35	sulfate	2488.567	230	3341	1	1.71
9	8.37	oxalate	933.353	23	543	1	3.29
Totals			565181.200	61958	512151		

File: 97040241.D04 Sample: S96T005256 DUP

Sample Name: S96T005256 SPK Date: 02/05/1997 23:09:17
 Data File : C:\DX\DATA\97040241.D05
 Method : C:\DX\METHOD\KIT.MBT
 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	10201	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	0.94		0.000	71	275	1	
2	1.11	fluoride	4509.343	1238	7398	1	3.09
3	1.64	chloride	15596.157	3904	21119	1	0.82
4	1.95	nitrite	170803.336	20752	143462	1	-1.01
5	2.92	bromide	55868.463	5490	35405	1	2.34
6	3.25	nitrate	216118.969	21324	190226	1	2.52
7	4.80	phosphate	52753.966	1417	21060	1	0.63
8	6.24	sulfate	64223.562	5046	75359	1	0.00
9	8.21	oxalate	53990.286	2501	47495	1	1.32
Totals			633864.081	61743	541799		

File: 97040241.D05 Sample: S96T005256 SPK

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Sample Name: S96T005257 SAM                      Date: 02/05/1997 23:37:06
Data File  : F:\DATA\97040241.D07
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 7              Detector: CDM-1
Analyst    :                               Column: AG4A/AS4A anion column
=====

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=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          5151    3000    5Hz    0.00 10.00          50
=====

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.94		0.000	219	1538	2	
2	1.32		0.000	345	4090	2	
3	1.63	chloride	7987.630	3840	21429	1	0.41
4	1.95	nitrite	117350.060	28252	199272	1	-1.01
5	2.97	bromide	731.333	103	611	1	0.11
6	3.23	nitrate	166047.607	31033	300748	1	1.68
7	4.85	phosphate	1746.770	88	1133	1	1.75
8	6.35	sulfate	1045.432	185	2862	1	1.71
9	8.32	oxalate	480.252	24	558	1	2.63

Totals 295389.083 64089 532240

File: 97040241.D07 Sample: S96T005257 SAM

Data Reprocessed On 02/06/1997 14:35:15

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Sample Name: S96T005257 DUP                      Date: 02/05/1997 23:49:38
Data File  : F:\DATA\97040241.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          5151   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	0.94		0.000	230	1655	2	
2	1.32		0.000	335	3985	2	
3	1.63	chloride	7971.282	3872	21384	1	0.41
4	1.96	nitrite	117061.223	28454	198743	1	-0.68
5	2.97	bromide	748.763	107	632	1	0.11
6	3.23	nitrate	165730.798	31091	300107	1	1.68
7	4.85	phosphate	1869.107	90	1229	1	1.75
8	6.35	sulfate	1089.979	196	2963	1	1.71
9	8.32	oxalate	578.808	34	730	1	2.63
Totals			295049.960	64409	531427		

File: 97040241.D08 Sample: S96T005257 DUP

LABCORE Completed Worklist Report for Worklist# 16423

Analyst: eal

Instrument: IC03

Book# 144N9B

Method: 14533-05 Rev/Mod D-1

Worklist Comment: AN104 IC2 was 14200 before editing.jmf

Seq Type	Sample# R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 CCB	0	IC2-QC ACETATE2 QC		1	<2.00e-2		ug/mL
1 CCB	0	IC2-QC FORMATE2 QC		1	9.70e-02	0.097	ug/mL
2 CCV	0	IC2-QC ACETATE2 QC		1.240e2	1.23e+02	99.194 % Recovery	
2 CCV	0	IC2-QC FORMATE2 QC		1.200e2	1.19e+02	99.167 % Recovery	
3 SAMPLE	S96T005260 0	IC2-01 ACETATE2 LIQUID	N/A		6.207e+02	103.000	ug/mL
3 SAMPLE	S96T005260 0	IC2-01 FORMATE2 LIQUID	N/A		1.112e+03	108.200	ug/mL
4 DUP	S96T005260 0	IC2-01 ACETATE2 LIQUID		6.21e+02	6.16e+02	0.808 RPD	
4 DUP	S96T005260 0	IC2-01 FORMATE2 LIQUID		1.11e+03	1.05e+03	5.556 RPD	
5 SPK	S96T005260 0	IC2-01 ACETATE2 LIQUID		1.240e2	1.52e+02	122.581 % Recovery	
5 SPK	S96T005260 0	IC2-01 FORMATE2 LIQUID		1.200e2	1.23e+02	102.500 % Recovery	
6 SAMPLE	S96T005258 0	IC2-01 ACETATE2 LIQUID	N/A		5.643e+02	103.000	ug/mL
6 SAMPLE	S96T005258 0	IC2-01 FORMATE2 LIQUID	N/A		1.019e+03	108.200	ug/mL
7 DUP	S96T005258 0	IC2-01 ACETATE2 LIQUID		5.64e+02	5.65e+02	0.177 RPD	
7 DUP	S96T005258 0	IC2-01 FORMATE2 LIQUID		1.02e+03	1.05e+03	2.899 RPD	

Final page for worklist# 16423

Analyst Signature Date

Analyst Signature Date

Reviewer Signature Date 1/30/97

LABCORE Data Entry Template for Worklist# 16423

Analyst: EAL Instrument: IC0 IC03 Book# 144N9B

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

Worklist Comment: AN104 IC2 was 14200 before editing.jmf

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC2-QC	QC		
2 CCV			@IC2-QC	QC		
3 SAMPLE	S96T005260 0		@IC2-01	LIQUID	96001283	AN-104
Analytes Requested: ACETATE2, FORMATE2						
4 DUP	S96T005260 0		@IC2-01	LIQUID		
5 SPK	S96T005260 0		@IC2-01	LIQUID		
6 SAMPLE	S96T005258 0		@IC2-01	LIQUID	96001283	AN-104
Analytes Requested: ACETATE2, FORMATE2						
7 DUP	S96T005258 0		@IC2-01	LIQUID		

Final page for worklist # 16423

See original WKL 14200
Analyst Signature

Date

Analyst Signature

Date

14200ja.csv

Uploaded 1/30/97 JML
Validated 1/30/97 JML

Data Entry Comments:

10/21/96 14:10

A-0004-1

LABCORE Data Entry Template for Worklist# 14200

Analyst: SAC Instrument: IC0Book# 14489-BMethod: LA-533-105 Rev/Mod D.1

Worklist Comment: AN-104 IC2. RCJ

S Type	Sample#	R A	Test	Matrix	Group#	Project
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1 CCB			@IC2QC	QC		
2 CCV			@IC2QC	QC		

wrong tray Qm F1/30/97

3 SAMPLE	S96T005260 0	@IC2-01	LIQUID	96001283	AN-104
Analytes Requested: ACETATE2, FORMATE2					

4 DUP	S96T005260 0	@IC2-01	LIQUID		
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5 SPK	S96T005260 0	@IC2-01	LIQUID		
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6 SAMPLE	S96T005258 0	@IC2-01	LIQUID	96001283	AN-104
Analytes Requested: ACETATE2, FORMATE2					

7 DUP	S96T005258 0	@IC2-01	LIQUID		
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Final page for worklist # 14200

A. Lambel
Analyst Signature01-29-97
Date_____
Analyst Signature_____
Date

Data Entry Comments:

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

Sample Name: INST. BLANK Date: 01/29/1997 07:41:31
 Data File : C:\DX\DATA\97012901.D01 HNF-SD-WM-DP-226, REV. 0
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 1 Detector: CDM-1
 Analyst *John Lyle* Column: AG4A-SC, AS4A-SC, SRS

Calibration Volume *1* Dilution *1* Points *4500* Rate *5Hz* Start *0.00* Stop *15.00* Reject *0*

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.77		0.000	83	1135	1	
2	3.15	formate	0.097	24	381	1	-0.11
3	5.49		0.000	3883	99729	2	
4	5.76		0.000	4080	109293	2	
5	6.49		0.000	2180	60850	2	
6	7.99		0.000	134	550	1	
7	8.13		0.000	190	1136	2	
8	8.33		0.000	451	36980	2	
Totals			0.097	11025	310056		

File: 97012901.D01 Sample: INST. BLANK

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES *1420 TO 1427*

Sample Name: 144N9-D STD. Date: 01/29/1997 10:05:20
 Data File : C:\DX\DATA\97012901.D02 HNF-SD-WM-DP-226, REV. 0
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 2 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	101	4500	5Hz	0.00	15.00		0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.20	fluoride	67.589	2179	11999	2	3.29
2	2.48	acetate	123.381	599	4273	2	2.90
3	3.20	formate	119.158	1066	8233	1	1.59
4	5.99		0.000	4178	216746	2	
5	6.75		0.000	4211	287597	2	
6	7.99		0.000	2597	26744	2	
7	8.12		0.000	2526	20297	2	
8	8.43		0.000	2506	159376	2	
Totals			310.128	19863	735265		

File: 97012901.D02 Sample: 144N9-D STD.

```

=====
Sample Name: S96T005258                      Date: 01/29/1997 12:32:29
Data File  : C:\DX\DATA\97012901.D08          HNF-SD-WM-DP-226, REV. 0
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 8            Detector: CDM-1
Analyst    :                               Column: AG4A-SC, AS4A-SC, SRS
=====

```

```

=====
Calibration Volume Dilution Points Rate $start $stop Area Reject
-----
External          1          5151  4500  5Hz   0.00  15.00          0
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.37	acetate	564.346	55	238	1	-1.52
2	3.11	formate	1018.681	136	1096	1	-1.38
3	3.88		0.000	103	946	1	
4	5.40		0.000	6123	61729	2	
5	5.80		0.000	23802	396311	3	
6	7.04		0.000	3403	129345	4	
7	7.59		0.000	18383	518252	2	
Totals			1583.027	52006	1107919		

File: 97012901.D08 Sample: S96T005258

=====

Sample Name:	S96T005258	DUP	Date:	01/29/1997 12:48:47		
Data File :	C:\DX\DATA\97012901.D09			HNF-SD-WM-DP-226, REV. 0		
Method :	C:\DX\METHOD\ACE.MET					
ACI Address:	1	System: 2	Inject#:	9	Detector:	CDM-1
Analyst :		Column:	AG4A-SC, AS4A-SC, SRS			

=====

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 5151 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.37	acetate	565.196	52	239	1	-1.52
2	3.11	formate	1046.391	139	1135	1	-1.38
3	3.89		0.000	103	905	1	
4	5.43		0.000	6614	61823	2	
5	5.83		0.000	24859	394838	3	
6	7.19		0.000	3546	125394	4	
7	7.61		0.000	18719	519580	2	
8	14.73		0.000	16	95	1	
Totals			1611.587	54048	1104008		

File: 97012901.D09 Sample: S96T005258 DUP

```

=====
Sample Name: S96T005260      Date: 01/29/1997 11:14:42
Data File  : C:\DX\DATA\97012901.D04
Method     : C:\DX\METHOD\ACE.MET      HNF-SD-WM-DP-226, REV. 0
ACI Address: 1 System: 2 Inject#: 4      Detector: CDM-1
Analyst    :      Column: AG4A-SC, AS4A-SC, SRS
=====
  
```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          5151  4500 5Hz  0.00 15.00          0
=====
  
```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.37	acetate	620.712	59	278	1	-1.52
2	3.09	formate	1112.059	150	1225	1	-1.80
3	3.88		0.000	109	920	1	
4	5.40		0.000	5816	35163	2	
5	5.80		0.000	23291	246154	2	
6	6.99		0.000	368	6069	1	
7	7.59		0.000	15518	236071	1	
Totals			1732.771	45312	525880		

File: 97012901.D04 Sample: S96T005260

```

=====
Sample Name: S96T005260      Date: 01/29/1997 10:55:11
Data File  : C:\DX\DATA\97012901.D03      HNF-SD-WM-DP-226, REV. 0
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1      System: 2      Inject#: 3      Detector: CDM-1
Analyst    :              Column: AG4A-SC, AS4A-SC, SRS
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          4141   4500 5Hz   0.00 15.00          0
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.36	acetate	697.021	98	452	1	-2.07
2	3.08	formate	1185.440	217	1727	1	-2.22
3	3.85		0.000	147	1298	1	
4	5.40		0.000	8552	83699	2	
5	5.80		0.000	29467	508533	3	
6	7.23		0.000	2201	42149	4	
7	7.56		0.000	21133	576346	2	
Totals			1882.461	61814	1214206		

File: 97012901.D03 Sample: S96T005260

Sample Name: S96T005260 DUP Date: 01/29/1997 11:39:33
 Data File : C:\DX\DATA\97012901.D05
 Method : C:\DX\METHOD\ACE.MET HNF-SD-WM-DP-226, REV. 0
 ACI Address: 1 System: 2 Inject#: 5 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration Volume Dilution Points Rate Start Stop Area Reject
 External 1 5151 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.36	acetate	616.322	61	275	1	-2.07
2	3.08	formate	1045.088	148	1133	1	-2.22
3	3.85		0.000	131	1298	1	
4	5.40		0.000	7296	76561	2	
5	5.80		0.000	25235	383330	3	
6	6.87		0.000	3345	150517	4	
7	7.60		0.000	17981	501436	2	
Totals			1661.410	54196	1114550		

File: 97012901.D05 Sample: S96T005260 DUP

```

=====
Sample Name: S96T005260 SPIKE      Date: 01/29/1997 12:15:45
Data File  : C:\DX\DATA\97012901.D07      HNF-SD-WM-DP-226, REV. 0
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 7      Detector: CDM-1
Analyst    :      Column: AG4A-SC, AS4A-SC, SRS
=====

```

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 5151 4500 5Hz 0.00 15.00 0

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.07	fluoride	3248.044	1304	11259	2	-2.97
2	2.36	acetate	8310.959	694	5689	2	-2.07
3	3.09	formate	7304.180	1307	10011	1	-1.80
4	3.88		0.000	106	926	1	
5	5.40		0.000	6818	60050	2	
6	5.80		0.000	25651	401917	3	
7	6.97		0.000	3244	132046	4	
8	7.57		0.000	18255	515305	2	
Totals			18863.184	57379	1137204		

File: 97012901.D07 Sample: S96T005260 SPIKE

LABCORE Completed Worklist Report for Worklist# 16434

Analyst: smf

Instrument: IC02

Book# 42N20A

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

Worklist Comment: @IC-01 FOR AN-104

RTS!

Seq	Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	CCB	0	0	@IC-QC	F	QC	1	<1.20e-2	ug/mL
1	CCB	0	0	@IC-QC	CL	QC	1	<1.70e-2	ug/mL
1	CCB	0	0	@IC-QC	NO2	QC	1	<1.08e-1	ug/mL
1	CCB	0	0	@IC-QC	BR	QC	1	<1.25e-1	ug/mL
1	CCB	0	0	@IC-QC	NO3	QC	1	<1.39e-1	ug/mL
1	CCB	0	0	@IC-QC	P04	QC	1	<1.20e-1	ug/mL
1	CCB	0	0	@IC-QC	S04	QC	1	<1.38e-1	ug/mL
1	CCB	0	0	@IC-QC	OXALATE2	QC	1	<1.05e-1	ug/mL
2	CCV	0	0	@IC-QC	F	QC	5.900e1	5.95e+01	100.847 % Recovery
2	CCV	0	0	@IC-QC	CL	QC	7.900e1	8.32e+01	105.316 % Recovery
2	CCV	0	0	@IC-QC	NO2	QC	5.420e2	5.89e+02	108.672 % Recovery
2	CCV	0	0	@IC-QC	BR	QC	5.890e2	5.60e+02	95.076 % Recovery
2	CCV	0	0	@IC-QC	NO3	QC	5.940e2	5.75e+02	96.801 % Recovery
2	CCV	0	0	@IC-QC	P04	QC	5.440e2	5.55e+02	102.022 % Recovery
2	CCV	0	0	@IC-QC	S04	QC	6.310e2	6.36e+02	100.792 % Recovery
2	CCV	0	0	@IC-QC	OXALATE2	QC	5.240e2	5.27e+02	100.573 % Recovery
3	SAMPLE	S96T005253	0	@IC-01	P04-02	LIQUID	N/A	1.212e+01	12.120 ug/mL
4	DUP	S96T005253	0	@IC-01	P04-02	LIQUID	<1.21e1	<1.21e1	RPD
5	SAMPLE	S96T005255	0	@IC-01	P04-02	LIQUID	N/A	2.615e+03	618.100 ug/mL
6	DUP	S96T005255	0	@IC-01	P04-02	LIQUID	2.62e+03	2.57e+03	1.927 RPD

Final page for worklist# 16434

Analyst Signature Date

Analyst Signature Date

Reviewer Signature Date

LABCORE Data Entry Template for Worklist# 16434

Analyst: SME Instrument: IC0 IC02 Book# 42W20-A

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

Worklist Comment: @IC-01 FOR AN-104

RTS!

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC-QC	QC		
2 CCV			@IC-QC	QC		
3 SAMPLE	S96T005253 0		@IC-01	LIQUID	96001174	AN-104
	Analytes Requested: PO4-02					
4 DUP	S96T005253 0		@IC-01	LIQUID		
5 SAMPLE	S96T005255 0		@IC-01	LIQUID	96001283	AN-104
	Analytes Requested: PO4-02					
6 DUP	S96T005255 0		@IC-01	LIQUID		

Final page for worklist # 16434

Susie M. Dutton 2-2-97
Analyst Signature Date

Analyst Signature Date

Reviewed 2-12-97
data discrepancies between paper & Electronics

16434.FP.CSV

John Harell

Discrepancy corrected & WKL uploaded 2/12/97

Validated 2/12/97 gmLuz

Data Entry Comments:

Sample S96T005253 only had a little more

than .200 ml left - So, I ran
it at 101 DF. No Sample Left

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

Sample Name: CCB ELUENT BLANK

Date: 02/02/1997 03:40:35

Data File : E:\DATA\97020241.D08

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

ACI Address: 1 System: 1 Inject#: 8

Detector: CDM-1

Analyst : *SMF* 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	1.41		0.000	34	180	1	
Totals			0.000	34	180		

File: 97020241.D08 Sample: CCB ELUENT BLANK

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1420 TO 1426.

```

=====
Sample Name: CCV STD 42N20-A                      Date: 02/02/1997 04:57:51
Data File  : E:\DATA\97020251.D02
Method     : C:\DX\METHOD\ANIONSA.MET
ACI Address: 1 System: 1 Inject#: 2                Detector: CDM-1
Analyst    :                      Column:
=====

```

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 101 3000 5Hz 0.00 10.00 50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.87		0.000	90	389	2	
2	1.02	FLUORIDE	59.469	2690	11586	2	0.00
3	1.55	CHLORIDE	83.229	2408	10883	2	0.22
4	1.87	NITRITE	588.608	10162	50941	2	0.18
5	2.80	BROMIDE	560.361	5763	35029	2	-1.06
6	3.18	NITRATE	575.162	6247	46545	2	0.95
7	4.65	PHOSPHATE	554.868	1629	20584	1	0.29
8	6.03	SULFATE	635.767	4796	65543	1	-1.04
9	7.91	OXALATE	527.295	2261	41754	1	-1.45
Totals			3584.759	36045	283255		

File: 97020251.D02 Sample: CCV STD 42N20-A

Data Reprocessed On 02/12/1997 14:04:00

```
=====
Sample Name: S96T005253                      Date: 02/02/1997 04:45:12
Data File  : E:\DATA\97020251.D01
Method     : C:\DX\METHOD\ANIONSA.MET
ACI Address: 1 System: 1 Inject#: 1           Detector: CDM-1
Analyst    :                               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
2	1.41		0.000	56	341	2	
3	1.55	CHLORIDE	30.142	939	3935	2	0.22
4	3.23	NITRATE	25.931	104	705	1	2.65
5	6.05	SULFATE	23.074	120	1567	1	-0.60
Totals			79.147	1219	6548		

File: 97020251.D01 Sample: S96T005253

```

=====
Sample Name: S96T005253 DUP                      Date: 02/02/1997 05:35:50
Data File  : C:\DX\DATA\97020251.D05
Method     : C:\DX\METHOD\ANIONSA.MET
ACI Address: 1 System: 1 Inject#: 5
Analyst    :                               Column:
Detector: CDM-1
=====

```

```

=====
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	1.40		0.000	33	117	2	
2	1.56	CHLORIDE	29.711	939	3879	2	0.43
3	3.24	NITRATE	25.880	106	701	1	2.75
4	6.05	SULFATE	22.964	123	1555	1	-0.66
Totals			78.554	1201	6252		

File: 97020251.D05 Sample: S96T005253 DUP

Data Reprocessed On 02/12/1997 14:09:33

Sample Name: S96T005255

Date: 02/02/1997 05:10:30

Data File : E:\DATA\97020251.D03

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

ACI Address: 1 System: 1 Inject#: 3

Detector: CDM-1

Analyst : Column:

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	5151	3000	5Hz	0.00	10.00		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.87		0.000	544	3454	2	
2	1.13		0.000	464	3000	2	
3	1.21		0.000	504	3259	2	
4	1.54	CHLORIDE	8452.525	4332	21940	2	-0.65
5	1.87	NITRITE	125391.802	39082	218662	2	0.18
6	2.80	BROMIDE	1202.675	123	648	1	-1.06
7	3.08	NITRATE	172959.718	34660	304722	1	-2.22
8	4.67	PHOSPHATE	2614.978	126	1441	1	0.57
9	6.04	SULFATE	1670.084	186	2559	1	-0.82
Totals			312291.782	80021	559685		

File: 97020251.D03 Sample: S96T005255

Data Reprocessed On 02/12/1997 14:14:47

```

=====
Sample Name: S96T005255 DUP                      Date: 02/02/1997 05:23:10
Data File  : E:\DATA\97020251.D04
Method     : C:\DX\METHOD\ANIONSA.MET
ACI Address: 1 System: 1 Inject#: 4                Detector: CDM-1
Analyst    :                      Column:
=====

```

```

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

```

```

External      1      5151    3000    5Hz    0.00  10.00      50
=====

```

```

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

```

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.87		0.000	537	3262	2	
2	1.13		0.000	451	2896	2	
3	1.21		0.000	484	3021	2	
4	1.54	CHLORIDE	8245.944	4343	21389	2	-0.65
5	1.87	NITRITE	128152.249	39259	223606	2	0.18
6	2.80	BROMIDE	1213.949	123	662	1	-1.06
7	3.09	NITRATE	171251.558	34680	301375	1	-2.01
8	4.67	PHOSPHATE	2571.301	123	1409	1	0.57
9	6.04	SULFATE	1710.523	189	2641	1	-0.82
10	7.95	OXALATE	517.075	24	327	1	-0.96
Totals			313662.599	80212	560588		

File: 97020251.D04 Sample: S96T005255 DUP

A-0010-IC

DATA FILE/WORKLIST RESOLUTION

12-Feb-97

Worklist#: 16434

Data File: 16434FB.CSV

Seq Type Sample #				Seq# Data File Sample Name Dilution			
-	=>	1	CCB	-	1	97020241.d08	CCB ELUENT BLANK 1.00
=>	=>	2	CCV		2	97020251.d02	CCV STD 42N20-A 101.00
=>	=>	3	SAMPLE		3	97020251.d01	S96T005253 101.00
=>	=>	4	DUP		4	97020251.d05	S96T005253 DUP 101.00
=>	=>	5	SAMPLE		5	97020251.d03	S96T005255 5151.00
=>	=>	6	DUP		6	97020251.d04	S96T005255 DUP 5151.00
+				+			

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

LABCORE Completed Worklist Report for Worklist# 16548

Analyst: smf

Instrument: IC01

Book# 421207

Method: 1A-53-105 Rev/Mod D-1

Worklist Comment: Rerun of AN 104 NO2 from 16173. Use 41df.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	P04	QC	1	<1.20e-1		ug/mL
1 CCB	0	01C-QC	S04	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	5.900e1	5.29e+01	89.661 % Recovery	
2 CCV	0	01C-QC	CL	QC	7.900e1	6.85e+01	86.709 % Recovery	
2 CCV	0	01C-QC	NO2	QC	5.420e2	4.79e+02	88.376 % Recovery	
2 CCV	0	01C-QC	BR	QC	5.890e2	5.60e+02	95.076 % Recovery	
2 CCV	0	01C-QC	NO3	QC	5.340e2	7.25e+02	122.054 % Recovery	
2 CCV	0	01C-QC	P04	QC	5.440e2	5.00e+02	91.912 % Recovery	
2 CCV	0	01C-QC	S04	QC	6.310e2	6.07e+02	95.197 % Recovery	
2 CCV	0	01C-QC	OXALATE2	QC	5.240e2	5.11e+02	97.519 % Recovery	
3 BLNK-PREP	0	01C-01	F-02	SOLID	1	<1.20e-2		ug/g
3 BLNK-PREP	0	01C-01	CL-02	SOLID	1	<1.70e-2		ug/g
3 BLNK-PREP	0	01C-01	NO2-02	SOLID	1	<1.08e-1		ug/g
3 BLNK-PREP	0	01C-01	BR-02	SOLID	1	<1.25e-1		ug/g
3 BLNK-PREP	0	01C-01	NO3-02	SOLID	1	<1.39e-1		ug/g
3 BLNK-PREP	0	01C-01	P04-02	SOLID	1	<1.20e-1		ug/g
3 BLNK-PREP	0	01C-01	S04-02	SOLID	1	<1.38e-1		ug/g
3 BLNK-PREP	0	01C-01	OXALATE2	SOLID	1	<1.05e-1		ug/g
4 SAMELE	S96T005977	0 W	01C-01	NO2-02	SOLID	N/A	5.787e+04	867.600 ug/g
5 DUP	S96T005977	0 W	01C-01	NO2-02	SOLID	5.79e+04	5.82e+04	0.517 RPD
6 SPK	S96T005977	0 W	01C-01	NO2-02	SOLID	5.420e2	5.78e+02	106.632 % Recovery

Final page for worklist# 16548

Analyst Signature

Date

Analyst Signature

Date

Reviewer Signature

Date

* NOTE 1 QC FAILURE. *RG*

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

LABCORE Data Entry Template for Worklist# 16548

Analyst: SFF Instrument: IC0 _____ Book# 42N20-A

Method: LA-533-105 Rev/Mod _____

Worklist Comment: Rerun of AN 104 NO2 from 16173. Use 41df.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	S96T005977 0 W	@IC-01	SOLID		96001174	AN-104
Analytes Requested: NO2-02						
5 DUP	S96T005977 0 W	@IC-01	SOLID			
6 SPK	S96T005977 0 W	@IC-01	SOLID			

Final page for worklist # 16548

Susie M. Jelfon 2-7-97
Analyst Signature Date

Analyst Signature Date

16548FB.SCH & CSU

UPLOADED 2-21-97

Susie

Validated 2/25/97 JMF

Data Entry Comments:

* 1 QC FAILURE (SAKE) Ring 2-21-97

Note: NO₂ labeled wrong peak on Blank - Prep - But this was not needed for this work JMF Also NO₂ CCV failed

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

But was not needed for this work JMF 1438

A-0010-IC

DATA FILE/WORKLIST RESOLUTION

21-Feb-97

Worklist#: 16548

Data File: 16548FB.CSV

	Seq	Type	Sample #	Seq#	Data File	Sample Name	Dilution
-	=>	1 CCB		-	1 97020731.d01	CCB ELUENT BLANK	1.00
	=>	2 CCV			2 97020751.d02	CCV STD 42N20-A	101.00
	=>	3 BLNK-PREP			3 97020731.d03	PREP BLANK	1.00
	=>	4 SAMPLE	S96T005977		4 97020731.d04	S96T005977	41.00
	=>	5 DUP	S96T005977		5 97020741.d05	S96T005977 DUP	41.00
	=>	6 SPK	S96T005977		6 97020731.d06	S96T005977 SPK	41.00
+				+			

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

Sample Name: CCB ELUENT BLANK Date: 02/07/1997 17:43:57
 Data File : C:\DX\DATA\97020731.D01
 Method : C:\DX\METHOD\AUTOMEL.MET
 ACI Address: 1 System: 1 Inject#: 1 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

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

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.45		0.000	15	74		1
Totals			0.000	15	74		

File: 97020731.D01 Sample: CCB ELUENT BLANK

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1440 TO 1445

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Sample Name: CCV STD 42N20-A                      Date: 02/07/1997 17:56:36
Data File  : C:\DX\DATA\97020751.D02
Method     : C:\DX\METHOD\AUTOMEL.MET
ACI Address: 1 System: 1 Inject#: 2                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          50
=====

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
2	1.11	fluoride	52.870	1341	8893	1	3.09
3	1.65	chloride	68.497	1784	9920	1	-0.80
4	1.95	nitrite	478.974	6123	45265	1	-0.34
5	2.92	bromide	559.761	5267	35839	1	2.46
6	3.32	nitrate	724.941	5944	47846	1	5.40
7	4.75	phosphate	500.202	1574	21686	1	-0.49
8	6.13	sulfate	607.327	4313	72459	1	-1.71
9	8.11	oxalate	511.013	2470	45436	1	-1.26
Totals			3503.585	28816	287344		

File: 97020751.D02 Sample: CCV STD 42N20-A

Sample Name: PREP BLANK Date: 02/07/1997 18:09:15
 Data File : C:\DX\DATA\97020731.D03
 Method : C:\DX\METHOD\AUTOMEL.MET
 ACI Address: 1 System: 1 Inject#: 3 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 1 3000 5Hz 0.00 10.00 50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.69	chloride	-0.068	74	340	1	1.61
2	2.01	nitrite	-0.793	177	1126	1	2.38
3	3.01	nitrate	-6.334	14	68	1	-4.55
4	3.42		0.000	259	1901	1	
5	4.80	phosphate	-0.596	14	114	1	0.63
6	6.29	sulfate	-0.033	75	1351	1	0.85
Totals			-7.825	614	4900		

File: 97020731.D03 Sample: PREP BLANK

Sample Name: S96T005977 Date: 02/07/1997 18:21:55
 Data File : C:\DX\DATA\97020731.D04
 Method : C:\DX\METHOD\AUTOMEL.MET
 ACI Address: 1 System: 1 Inject#: 4 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	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	0.94		0.000	76	402	1	
2	1.13	fluoride	3.876	182	1094	1	4.94
3	1.65	chloride	18.807	1293	7070	1	-0.40
4	1.95	nitrite	295.419	9257	65403	1	-0.34
5	3.28	nitrate	926.749	13021	112384	1	4.13
6	4.80	phosphate	-9.361	103	1516	1	0.63
7	6.19	sulfate	47.923	833	15282	1	-0.85
8	8.16	oxalate	44.600	515	9644	1	-0.61
Totals			1328.014	25280	212796		

File: 97020731.D04 Sample: S96T005977

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Sample Name: S96T005977 DUP                      Date: 02/07/1997 18:34:34
Data File  : C:\DX\DATA\97020741.D05
Method     : C:\DX\METHOD\AUTOMEL.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 41 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	0.95		0.000	78	426	1	
2	1.14	fluoride	3.887	181	1099	1	5.56
3	1.65	chloride	32.060	2122	11278	1	-0.80
4	1.95	nitrite	305.677	9560	67467	1	-0.34
5	3.28	nitrate	933.629	13105	113170	1	4.13
6	4.80	phosphate	-12.399	96	1234	1	0.63
7	6.19	sulfate	52.446	918	16565	1	-0.85
8	8.16	oxalate	46.683	527	10100	1	-0.61
Totals			1361.983	26588	221339		

File: 97020741.D05 Sample: S96T005977 DUP

Sample Name: S96T005977 SPK

Date: 02/07/1997 18:47:13

Data File : C:\DX\DATA\97020731.D06

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

ACI Address: 1 System: 1 Inject#: 6 Detector: CDM-1

Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
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External	1	41	3000	5Hz	0.00	10.00		50
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***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.94		0.000	78	354	2	
2	1.11	fluoride	25.891	1382	10888	2	3.09
3	1.64	chloride	48.905	3092	16720	1	-1.20
4	1.95	nitrite	526.808	16153	112810	1	-0.34
5	2.92	bromide	197.957	4733	31111	1	2.46
6	3.26	nitrate	1320.956	18687	161793	1	3.49
7	4.75	phosphate	184.359	1483	19878	1	-0.49
8	6.13	sulfate	267.649	5028	78637	1	-1.71
9	8.11	oxalate	230.778	2747	50594	1	-1.26

Totals			2803.304	53383	482785		
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File: 97020731.D06 Sample: S96T005977 SPK

LABCORE Completed Worklist Report for Worklist# 16590

Analyst: rdm

Instrument: IC01

Book# 43N.20A

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

Worklist Comment: @IC-01 FOR AN-104)DIONEX IV .1ML-10)

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	S04	QC	1	<1.38e-1		ug/mL
1 CCB	0	@IC-QC	OXALATE2	QC	1	<1.05e-1		ug/mL
2 CCV	0	@IC-QC	F	QC	5.900e1	4.27e+01	94.237 % Recovery	
2 CCV	0	@IC-QC	CL	QC	7.900e1	6.75e+01	85.443 % Recovery	
2 CCV	0	@IC-QC	NO2	QC	5.420e2	5.13e+02	94.649 % Recovery	
2 CCV	0	@IC-QC	BR	QC	5.890e2	5.34e+02	90.662 % Recovery	
2 CCV	0	@IC-QC	NO3	QC	5.940e2	5.25e+02	90.067 % Recovery	
2 CCV	0	@IC-QC	PO4	QC	5.440e2	4.65e+02	85.478 % Recovery	
2 CCV	0	@IC-QC	S04	QC	6.310e2	5.67e+02	89.857 % Recovery	
2 CCV	0	@IC-QC	OXALATE2	QC	5.240e2	4.84e+02	92.366 % Recovery	
3 SAMPLE	S96T005739	0	@IC-01	NO2-02	LIQUID	N/A	2.367e+05	1102.000 ug/mL
4 DUP	S96T005739	0	@IC-01	NO2-02	LIQUID	2.37e+05	2.36e+05	0.423 RPD
5 SPK	S96T005739	0	@IC-01	NO2-02	LIQUID	5.420e2	1.32e2	24.354 % Recovery
6 SAMPLE	S96T005741	0	@IC-01	NO2-02	LIQUID	N/A	3.126e+05	1102.000 ug/mL
7 DUP	S96T005741	0	@IC-01	NO2-02	LIQUID	3.13e+05	3.17e+05	1.270 RPD
8 SAMPLE	S96T005766	0	@IC-01	NO2-02	LIQUID	N/A	1.183e+05	556.300 ug/mL
9 DUP	S96T005766	0	@IC-01	NO2-02	LIQUID	1.18e+05	1.08e+05	8.850 RPD

Final page for worklist# 16590

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Jana M. Faye 2/24/97
Reviewer Signature Date

LABCORE Data Entry Template for Worklist# 16590

Analyst: RM Instrument: IC0 1 Book# 4LN90-A

Method: LA-533-105 Rev/Mod _____

Worklist Comment: @IC-01 FOR AN-104)DIONEX IV .1ML-10)

S Type	Sample#	R A	Test	Matrix	Group#	Project
1	CCB		@IC-QC	QC		
2	CCV		@IC-QC	QC		
3	SAMPLE S96T005739 0		@IC-01	LIQUID	96001283	AN-104
Analytes Requested: NO2-02						
4	DUP S96T005739 0		@IC-01	LIQUID		
5	SPK S96T005739 0		@IC-01	LIQUID		
6	SAMPLE S96T005741 0		@IC-01	LIQUID	96001283	AN-104
Analytes Requested: NO2-02						
7	DUP S96T005741 0		@IC-01	LIQUID		
8	SAMPLE S96T005766 0		@IC-01	LIQUID	96001283	AN-104
Analytes Requested: NO2-02						
9	DUP S96T005766 0		@IC-01	LIQUID		

Final page for worklist # 16590

Analyst Signature RM Date 2/7/97

Analyst Signature _____ Date _____

1659001.csv

uploaded 2/24/97

Validated 2/24/97 RM

Data Entry Comments:

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

A-0010-IC

DATA FILE/WORKLIST RESOLUTION

24-Feb-97

Worklist#: 16590

Data File: 16590FB.CSV

		Seq	Type	Sample #	Seq#	Data File	Dilution
-	=>	1	CCB		-	97040241.d21	S96T005515DUP 101.00
	=>	2	CCV		1	97040241.d22	BLK 1.00
	=>	3	SAMPLE	S96T005739	2	97040241.d23	42N20-A 101.00
	=>	4	DUP	S96T005739	3	97040241.d24	S96T005739 10201.00
	=>	5	SPK	S96T005739	4	97040241.d25	S96T005739DUP 10201.00
	=>	6	SAMPLE	S96T005741	5	97040241.d26	S96T005739SPK 20301.00
	=>	7	DUP	S96T005741	6	97040241.d27	S96T005741 10201.00
	=>	8	SAMPLE	S96T005766	7	97040241.d28	S96T005741DUP 10201.00
	=>	9	DUP	S96T005766	8	97040241.d31	S96T005766 5151.00
					9	97040241.d32	S96T005766DUP 5151.00
+					+		

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

Sample Name: BLK Date: 02/06/1997 23:18:59
 Data File : C:\DX\DATA\97040241.D22
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 22 Detector: CDM-1
 Analyst : *James* 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	1.45		0.000	28	176	1	
2	3.44		0.000	42	268	1	
Totals			0.000	70	444		

File: 97040241.D22 Sample: BLK

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 144 TO 145

Sample Name: 42N20-A Date: 02/06/1997 23:32:17
 Data File : C:\DX\DATA\97040241.D23
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 23 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 101 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
2	1.11	fluoride	49.666	1256	8310	1	2.47
3	1.65	chloride	67.477	1719	9105	1	1.64
4	1.96	nitrite	512.811	5812	41718	1	-0.68
5	2.93	bromide	533.892	5032	34141	1	2.80
6	3.34	nitrate	535.087	5576	44941	1	5.25
7	4.80	phosphate	464.959	1274	18685	1	0.63
8	6.24	sulfate	567.459	4668	67169	1	0.00
9	8.21	oxalate	484.495	2310	42996	1	1.32
Totals			3215.845	27648	267065		

File: 97040241.D23 Sample: 42N20-A

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Sample Name: S96T005739      Date: 02/07/1997 01:01:10
Data File  : C:\DX\DATA\97040241.D24
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 24      Detector: CDM-1
Analyst    :      Column: AG4A/AS4A anion column
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Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1      10201    3000 5Hz   0.00 10.00      50
=====

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.94		0.000	264	1962	2	
2	1.23		0.000	273	2322	2	
3	1.31		0.000	373	2190	2	
4	1.63	chloride	16661.883	3876	22606	1	0.41
5	1.96	nitrite	236654.903	28296	203218	1	-0.68
6	2.99		0.000	59	323	1	
7	3.24	nitrate	315695.201	30245	287384	1	2.10
8	4.83	phosphate	3520.113	74	1157	1	1.19
9	6.35	sulfate	1913.284	169	2682	1	1.71
Totals			574445.385	63630	523843		

File: 97040241.D24 Sample: S96T005739

Sample Name: S96T005739DUP Date: 02/07/1997 01:14:21
 Data File : C:\DX\DATA\97040241.D25
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 25 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	10201	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	0.93		0.000	263	1940	2	
2	1.24		0.000	275	2305	2	
3	1.32		0.000	372	2116	2	
4	1.63	chloride	16152.495	3856	21894	1	0.41
5	1.95	nitrite	236460.714	28197	203037	1	-1.01
6	2.99		0.000	57	319	1	
7	3.24	nitrate	313532.345	29833	285198	1	2.10
8	4.83	phosphate	2372.615	58	700	1	1.19
9	6.35	sulfate	2031.357	168	2817	1	1.71
10	8.32	oxalate	1000.763	31	602	1	2.63
Totals			571550.291	63110	520929		

File: 97040241.D25 Sample: S96T005739DUP

Sample Name: S96T005739SPK Date: 02/07/1997 01:28:59
 Data File : C:\DX\DATA\97040241.D26
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 26 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	20301	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	0.93		0.000	46	195	2	
2	1.11	fluoride	11532.987	1288	9716	2	2.47
3	1.65	chloride	21713.420	2712	14658	1	1.23
4	1.95	nitrite	210350.406	12432	86887	1	-1.01
5	2.94	bromide	107430.575	5102	34179	1	3.04
6	3.31	nitrate	240139.411	12432	102965	1	4.20
7	4.80	phosphate	93596.313	1313	18713	1	0.63
8	6.24	sulfate	114990.874	4737	67722	1	0.00
9	8.21	oxalate	97735.269	2341	43154	1	1.32
Totals			897489.257	42402	378189		

File: 97040241.D26 Sample: S96T005739SPK

Sample Name: S96T005741 Date: 02/07/1997 01:40:43
 Data File : C:\DX\DATA\97040241.D27
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 27 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	10201	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	0.93		0.000	338	2478	2	
2	1.23		0.000	373	3018	2	
3	1.31		0.000	496	2985	2	
4	1.63	chloride	21388.174	5054	29276	1	0.00
5	1.96	nitrite	312628.605	37186	275814	1	-0.68
6	2.99		0.000	97	550	1	
7	3.22	nitrate	414652.825	38865	391597	1	1.47
8	4.83	phosphate	3247.645	64	1048	1	1.19
9	6.29	sulfate	4980.236	373	6199	1	0.85
10	8.32	oxalate	874.580	23	491	1	2.63
Totals			757772.065	82869	713457		

File: 97040241.D27 Sample: S96T005741

Sample Name: S96T005741DUP Date: 02/07/1997 01:53:25
 Data File : C:\DX\DATA\97040241.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	10201	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	0.94		0.000	359	2638	2	
2	1.23		0.000	380	3124	2	
3	1.31		0.000	502	3001	2	
4	1.63	chloride	21698.933	5224	29720	1	0.00
5	1.96	nitrite	316883.433	38295	280009	1	-0.68
6	2.99		0.000	105	587	1	
7	3.22	nitrate	432688.721	40117	411568	1	1.47
8	4.83	phosphate	3725.187	75	1238	1	1.19
9	6.29	sulfate	5159.350	395	6404	1	0.85
Totals			780155.623	85452	738289		

File: 97040241.D28 Sample: S96T005741DUP

Sample Name: S96T005766 Date: 02/07/1997 02:33:43
 Data File : C:\DX\DATA\97040241.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	5151	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	0.94		0.000	254	1926	2	
2	1.23		0.000	265	2299	2	
3	1.32		0.000	353	2075	2	
4	1.63	chloride	8125.329	3825	21809	1	0.41
5	1.96	nitrite	118337.938	28166	201084	1	-0.68
6	2.99		0.000	165	1030	1	
7	3.25	nitrate	143938.254	27080	256743	1	2.52
8	4.85	phosphate	1528.699	34	961	1	1.75
9	6.35	sulfate	1025.471	158	2816	1	1.71
Totals			272955.691	60300	490744		

File: 97040241.D31 Sample: S96T005766

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=====
Sample Name: S96T005766DUP                      Date: 02/07/1997 02:45:12
Data File  : C:\DX\DATA\97040241.D32
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 32              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      5151    3000  5Hz   0.00 10.00      50
=====

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```

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

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Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.94		0.000	222	1670	2	
2	1.24		0.000	243	2018	2	
3	1.32		0.000	315	1851	2	
4	1.63	chloride	7381.581	3507	19761	1	0.41
5	1.96	nitrite	108041.260	25726	182318	1	-0.68
6	2.99		0.000	145	904	1	
7	3.26	nitrate	131437.883	24715	232486	1	2.73
8	4.83	phosphate	812.889	26	397	1	1.19
9	6.35	sulfate	685.318	142	2044	1	1.71
Totals			248358.931	55041	443450		

File: 97040241.D32 Sample: S96T005766DUP

LABCORE Completed Worklist Report for Worklist# 16636

Analyst: rdm

Instrument: IC03

Book# 144N98

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

Worklist Comment: AN-104, @IC2-01 skm

Seq Type	Sample# R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 CCB	0	@IC2-QC ACETATE2 QC		1	<2.00e-2		ug/mL
1 CCB	0	@IC2-QC FORMATE2 QC		1	<2.10e-2		ug/mL
2 CCV	0	@IC2-QC ACETATE2 QC		1.240e2	1.18e+02	95.161 % Recovery	
2 CCV	0	@IC2-QC FORMATE2 QC		1.200e2	1.16e+02	96.667 % Recovery	
3 SAMPLE	S96T005256 0	@IC2-01 ACETATE2 LIQUID		N/A	1.917e+03	406.000 ug/mL	
3 SAMPLE	S96T005256 0	@IC2-01 FORMATE2 LIQUID		N/A	1.249e+03	426.300 ug/mL	
4 DUP	S96T005256 0	@IC2-01 ACETATE2 LIQUID		1.92e+03	1.15e+03	50.163 RPD	
4 DUP	S96T005256 0	@IC2-01 FORMATE2 LIQUID		1.25e+03	1.36e+03	8.429 RPD	
5 SPK	S96T005256 0	@IC2-01 ACETATE2 LIQUID		1.240e2	1.23e+02	99.194 % Recovery	
5 SPK	S96T005256 0	@IC2-01 FORMATE2 LIQUID		1.200e2	1.20e+02	100.000 % Recovery	
6 SAMPLE	S96T005257 0	@IC2-01 ACETATE2 LIQUID		N/A	4.060e+02	406.000 ug/mL	
6 SAMPLE	S96T005257 0	@IC2-01 FORMATE2 LIQUID		N/A	4.263e+02	426.300 ug/mL	
7 DUP	S96T005257 0	@IC2-01 ACETATE2 LIQUID		<4.06e2	1.29e+03	RPD	
7 DUP	S96T005257 0	@IC2-01 FORMATE2 LIQUID		<4.26e2	<4.26e2	RPD	

Comments Section:

Comments for sample# S96T005256 and test @IC2-01 .
S96T005256 RPD failure on acetate

Final page for worklist# 16636

Analyst Signature _____ Date _____

OK M. L. Luyke 2-11-97
Analyst Signature _____ Date _____

Jean M. Luyke 2/13/97
Reviewer Signature _____ Date _____

16636.jy. sch.
16636.jy. csv uploaded. skm 2-11-97

LABCORE Data Entry Template for Worklist# 14199

Analyst: SKM Instrument: IC0 IC03 Book# 144N9B

Method: LA-533-105 Rev/Mod D-1

Worklist Comment: AN-104 IC2. RCJ New worklist = 16636. SKM

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC-QC	QC		
2 CCV			@IC-QC	QC		
3 SAMPLE	S96T005256 0		@IC2-01	LIQUID	96001283	AN-104
	Analytes Requested: ACETATE2, FORMATE2					
4 DUP	S96T005256 0		@IC2-01	LIQUID		
5 SPK	S96T005256 0		@IC2-01	LIQUID		
6 SAMPLE	S96T005257 0		@IC2-01	LIQUID	96001283	AN-104
	Analytes Requested: ACETATE2, FORMATE2					
7 DUP	S96T005257 0		@IC2-01	LIQUID		

Final page for worklist # 14199

SKM 1/21/97
Analyst Signature Date

SKM Garland 2-11-97
Analyst Signature Date

16636jy.sch

16636jy.sch reviewed and uploaded. SKM Garland

Validated 2/13/97 gmf

Data Entry Comments:

A-0010-IC				DATA FILE/WORKLIST RESOLUTION				11-Feb-97	
Worklist#: 16636				Data File: 16636JY.CSV					
	Seq	Type	Sample #		Seq#	Data File	Sample Name	Dilution	
-	=>	1	CCB	-	1	97012681.d02	BLK	1.00	
	=>	2	CCV		2	97012681.d03	144N9-B	101.00	
	=>	3	SAMPLE		3	97012681.d04	S96T005256	20301.00	
	=>	4	DUP		4	97012681.d05	S96T005256DUP	20301.00	
	=>	5	SPK		5	97012681.d06	S96T005256SPK	20301.00	
	=>	6	SAMPLE		6	97012681.d07	S96T005257	20301.00	
	=>	7	DUP		7	97012681.d08	S96T005257DUP	20301.00	
+				+					

Save (F4) Abort (Shift-F3) ListFiles (Shift-F1) UploadFile (F8)

Sample Name: BLK Date: 01/27/1997 00:54:35
Data File : C:\DX\DATA\97012681.D02
Method : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 2 Detector: CDM-1
Analyst : *Jim Jey* Column: AG4A-SC, AS4A-SC, SRS

Calibration Volume Dilution Points Rate Start Stop Area Reject
External 1 1 4500 5Hz 0.00 15.00 0

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.53		0.000	1	14	1	
2	5.56		0.000	2958	91340	2	
3	6.03		0.000	3416	182918	2	
4	7.41		0.000	2796	120361	2	
5	7.97		0.000	2467	23744	2	
6	8.13		0.000	2387	19214	2	
7	8.37		0.000	2409	151026	2	
Totals			0.000	16434	588618		

File: 97012681.D02 Sample: BLK

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1461 TO 1467

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=====
Sample Name: 144N9-B                               Date: 01/27/1997 01:12:05
Data File  : C:\DX\DATA\97012681.D03
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 3                 Detector: CDM-1
Analyst    :                               Column: AG4A-SC, AS4A-SC, SRS
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=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          101    4500  5Hz   0.00 15.00          0
=====
***** Peak Report: All Peaks *****

```

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.07	fluoride	65.058	1426	11519	2	-2.97
2	2.36	acetate	118.296	554	4090	2	-2.07
3	3.08	formate	116.301	1033	8023	1	-2.22
4	5.97		0.000	2629	173517	2	
5	7.33		0.000	1192	36257	2	
6	8.13		0.000	218	1426	2	
7	8.36		0.000	509	36310	2	
Totals			299.656	7560	271142		

File: 97012681.D03 Sample: 144N9-B

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=====
Sample Name: S96T005256                      Date: 01/27/1997 01:30:14
Data File  : C:\DX\DATA\97012681.D04
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 4           Detector: CDM-1
Analyst    :                               Column: AG4A-SC, AS4A-SC, SRS
=====

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=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1      20301    4500  5Hz   0.00 15.00      0
=====

```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.40	acetate	1917.221	14	183	1	-0.41
2	3.11	formate	1248.683	19	129	1	-1.38
3	3.87		0.000	15	110	1	
4	5.41		0.000	2588	39887	2	
5	5.87		0.000	6514	247596	2	
6	7.21		0.000	3516	160203	2	
7	7.87		0.000	5591	99482	2	
8	8.33		0.000	2466	153702	2	
Totals			3165.904	20723	701291		

File: 97012681.D04 Sample: S96T005256

Sample Name: S96T005256DUP Date: 01/27/1997 01:49:12
 Data File : C:\DX\DATA\97012681.D05
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 5 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	20301	4500	5Hz	0.00	15.00		0

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.36	acetate	1145.989	9	45	1	-2.07
2	3.09	formate	1355.344	20	166	1	-1.80
3	3.87		0.000	15	112	1	
4	5.41		0.000	2628	38029	2	
5	5.87		0.000	6597	254677	2	
6	7.21		0.000	3544	170282	2	
7	7.87		0.000	5616	99718	2	
8	8.31		0.000	2455	154218	2	
Totals			2501.333	20885	717247		

File: 97012681.D05 Sample: S96T005256DUP

Sample Name: S96T005256SPK Date: 01/27/1997 02:08:28
 Data File : C:\DX\DATA\97012681.D06
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 6 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 20301 4500 5Hz 0.00 15.00 0

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.07	fluoride	13782.767	1634	12186	2	-2.97
2	2.36	acetate	26593.096	612	4592	2	-2.07
3	3.08	formate	25174.836	1154	8681	1	-2.22
4	5.40		0.000	3020	42730	2	
5	5.85		0.000	8132	260477	2	
6	7.19		0.000	3573	170448	2	
7	7.83		0.000	6765	118939	2	
8	8.33		0.000	2470	152494	2	
Totals			65550.699	27359	770548		

File: 97012681.D06 Sample: S96T005256SPK

Sample Name: S96T005257 Date: 01/27/1997 02:29:06
 Data File : C:\DX\DATA\97012681.D07
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 7 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 20301 4500 5Hz 0.00 15.00 0

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.88		0.000	2078	79916	2	
2	7.15		0.000	1922	80917	2	
3	7.96		0.000	2266	40285	2	
4	8.32		0.000	1410	86248	2	
5	11.93		0.000	53	882	1	
Totals			0.000	7730	288246		

File: 97012681.D07 Sample: S96T005257

Sample Name: S96T005257DUP

Date: 01/27/1997 02:48:06

Data File : C:\DX\DATA\97012681.D08

Method : C:\DX\METHOD\ACE.MET

ACT Address: 1 System: 2 Inject#: 8

Detector: CDM-1

Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
-------------	--------	----------	--------	------	-------	------	------	--------

External	1	20301	4500	5Hz	0.00	15.00		0
----------	---	-------	------	-----	------	-------	--	---

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.39	acetate	1286.609	7	70	1	-0.97
2	5.88		0.000	4340	266081	2	
3	7.20		0.000	3580	184385	2	
4	7.96		0.000	3493	67433	2	
5	8.36		0.000	2440	155719	2	

Totals			1286.609	13859	673689		
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File: 97012681.D08 Sample: S96T005257DUP

LABCORE Completed Worklist Report for Worklist# 16637

Analyst: eal

Instrument: IC03

Book# 144W9B

Method: 17-533-105 Rev/Mod D-1

Worklist Comment: AN-104, @IC2-01 skm

Seq Type	Sample# R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 CCB	0	@IC2-QC ACETATE2 QC		1	<2.00e-2		ug/mL
1 CCB	0	@IC2-QC FORMATE2 QC		1	<2.10e-2		ug/mL
2 CCV	0	@IC2-QC ACETATE2 QC		1.240e2	1.17e+02	94.355 % Recovery	
2 CCV	0	@IC2-QC FORMATE2 QC		1.200e2	1.15e+02	95.833 % Recovery	
3 SAMPLE	S96T005253 0	@IC2-01 ACETATE2 LIQUID		N/A	2.200e-01	0.220	ug/mL
3 SAMPLE	S96T005253 0	@IC2-01 FORMATE2 LIQUID		N/A	2.310e-01	0.231	ug/mL
4 DUP	S96T005253 0	@IC2-01 ACETATE2 LIQUID		<2.20e-1	<2.20e-1		RPD
4 DUP	S96T005253 0	@IC2-01 FORMATE2 LIQUID		<2.31e-1	<2.31e-1		RPD
5 SPK	S96T005253 0	@IC2-01 ACETATE2 LIQUID		1.240e2	1.31e+02	105.645 % Recovery	
5 SPK	S96T005253 0	@IC2-01 FORMATE2 LIQUID		1.200e2	1.25e+02	104.167 % Recovery	
6 SAMPLE	S96T005255 0	@IC2-01 ACETATE2 LIQUID		N/A	5.509e+02	82.820	ug/mL
6 SAMPLE	S96T005255 0	@IC2-01 FORMATE2 LIQUID		N/A	1.070e+03	86.960	ug/mL
7 DUP	S96T005255 0	@IC2-01 ACETATE2 LIQUID		5.51e+02	6.45e+02	15.713	RPD
7 DUP	S96T005255 0	@IC2-01 FORMATE2 LIQUID		1.07e+03	1.07e+03	0.000	RPD

Final page for worklist# 16637

Analyst Signature

Date

Analyst Signature

Date

Reviewer Signature

Date

16637.jy.sch

16637.jy.csv uploaded SKM 2-11-97

Validated 2/13/97 Gmf

A-0010-IC

DATA FILE/WORKLIST RESOLUTION

11-Feb-97

Worklist#: 16637

Data File: 16637JY.CSV

		Seq	Type	Sample #			Seq#	Data File	Sample Name	Dilution
-	=>	1	CCB		-	1	97012801.d01	INST. BLANK		1.00
	=>	2	CCV			2	97012801.d02	144N9-B STD.		101.00
	=>	3	SAMPLE	S96T005253		3	97012801.d05	S96T005253		11.00
	=>	4	DUP	S96T005253		4	97012801.d06	S96T005253 DUP		11.00
	=>	5	SPK	S96T005253		5	97012801.d07	S96T005253 SPIK		11.00
	=>	6	SAMPLE	S96T005255		6	97012801.d08	S96T005255		4141.00
	=>	7	DUP	S96T005255		7	97012801.d09	S96T005255 DUP		4141.00
+					+					

Save (F4) Abort (Shift-F3) ListFiles (Shift-F1) UploadFile (F8)

10/21/96 14:09
A-0004-1

Page: 1

LABCORE Data Entry Template for Worklist# 14198

Analyst: SM Instrument: IC0 IC03 Book# 144N9-BMethod: LA-533-105 Rev/Mod D-11Worklist Comment: AN-104 IC2, RCJ New worklist 16637 SKM

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC-QC	QC		
2 CCV			@IC-QC	QC		
3 SAMPLE	S96T005253 0		@IC2-01	LIQUID	96001174	AN-104
Analytes Requested: ACETATE2, FORMATE2						
4 DUP	S96T005253 0		@IC2-01	LIQUID		
5 SPK	S96T005253 0		@IC2-01	LIQUID		
6 SAMPLE	S96T005255 0		@IC2-01	LIQUID	96001283	AN-104
Analytes Requested: ACETATE2, FORMATE2						
7 DUP	S96T005255 0		@IC2-01	LIQUID		

Final page for worklist # 14198

A. Lambel
Analyst Signature

Date

Sandy K. M. Jarred 2-11-97
Analyst Signature Date

16637jy.sch
16637jy.csv uploaded. SKM

Data Entry Comments:

Spiked
on 2-23-97
Why do we have blanks on a forced blank?

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

1470

No. 9460 P. 3/40

WHC 2225 LAB ROOM 2F BACKS105

Jan. 28. 1997 10:22PM

Sample Name: INST. BLANK Date: 01/28/1997 07:26:53
 Data File : C:\DX\DATA\97012801.D01
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 1 Detector: CDM-1
 Analyst: *[Signature]* Column: AG4A-SC, AG4A-SC, SRS

Calibration Volume Dilution Points Rate Start Stop Area Reject
 External 1 1 4500 5Hz 0.00 15.00 0

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.76		0.000	143	1069	1	
2	7.07		0.000	880	18058	1	
3	8.13		0.000	229	1455	2	
4	8.36		0.000	531	37732	2	

Totals 0.000 1783 58313

File: 97012801.D01 Sample: INST. BLANK

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1471 TO 1477

1471

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=====
Sample Name: 144N9-B STD.                      Date: 01/28/1997 07:43:02
Data File: # C:\DX\DATA\97012801.D02
Method : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 2              Detector: CDM-1
Analyst :                      Column: AG4A-SC, AS4A-SC, SRS
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=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          101    4500  5Hz   0.00 15.00          0
=====

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***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.60		0.000	16	187	1	
2	2.10	fluoride	65.323	1942	11569	2	-1.41
3	2.39	acetate	116.533	549	4027	2	-0.97
4	3.12	formate	115.017	1019	7929	1	-0.95
5	5.99		0.000	2477	153844	2	
6	7.17		0.000	1442	48253	2	
7	8.13		0.000	232	1310	2	
8	8.40		0.000	578	39542	2	
Totals			296.873	8255	266661		

File: 97012801.D02 Sample: 144N9-B STD.

1472

Sample Name: S96T005253 Date: 01/28/1997 10:07:20
 Data File : C:\DX\DATA\97012801.D05
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 5 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration Volume Dilution Points Rate Start Stop Area Reject
 External 1 11 1500 5Hz 0.00 15.00 0

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.10	fluoride	0.668	75	541	1	-1.41
2	5.41		0.000	4109	42569	2	
3	5.97		0.000	2563	128971	2	
4	6.96		0.000	1741	61010	2	
5	7.97		0.000	1027	11665	2	
6	8.39		0.000	631	44453	2	
Totals			0.668	10146	289208		

File: 97012801.D05 Sample: S96T005253

Sample Name: S96T005253 DUP Date: 01/28/1997 10:23:55
 Data File : C:\DX\DATA\97012801.D06
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 6 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	11	4500	5Hz	0.00	15.00		0

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.10	fluoride	0.647	72	506	1	-1.41
2	5.41		0.000	3765	40826	2	
3	5.96		0.000	2734	134134	2	
4	7.12		0.000	2950	93396	2	
5	7.95		0.000	921	8471	2	
6	8.37		0.000	334	28892	1	
Totals			0.647	10776	306226		

File: 97012801.D06 Sample: S96T005253 DUP

1474

Sample Name: S96T005253 SPIKE Date: 01/28/1997 10:41:18
 Data File : C:\DX\DATA\97012801.D07
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 7 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration Volume Dilution Points Rate Start Stop Area Reject
 External 1 11 4500 5Hz 0.00 15.00 0

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.10	fluoride	7.218	2168	11749	2	-1.41
2	2.39	acetate	13.090	562	4158	2	-0.97
3	3.11	formate	12.506	1025	7916	1	-1.38
4	6.00		0.000	3570	245368	2	
5	7.09		0.000	4624	215445	2	
6	8.13		0.000	2395	19255	2	
7	8.36		0.000	2426	157528	2	
Totals			32.814	16770	661419		

File: 97012801.D07 Sample: S96T005253 SPIKE

1475

Sample Name: S96T005255 Date: 01/28/1997 11:01:13
 Data File : C:\DX\DATA\97012801.D08
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 8 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration Volume Dilution Points Rate Start Stop Area Reject
 External 1 4141 4500 5Hz 0.00 15.00 0

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.39	acetate	550.924	72	324	1	-0.97
2	3.11	formate	1070.326	190	1529	1	-1.38
3	3.89		0.000	142	1323	1	
4	5.40		0.000	8320	68942	2	
5	5.79		0.000	28831	451772	3	
6	7.09		0.000	3246	118547	4	
7	7.55		0.000	21493	586113	2	
Totals			1621.250	62294	1228549		

File: 97012801.D08 Sample: S96T005255

1476

Sample Name: S96T005255 DUP Date: 01/28/1997 11:17:54
 Data File : C:\DK\DATA\97012801.D09
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 9 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration Volume Dilution Points Rate Start Stop Area Reject
 External 1 4141 4500 5Hz 0.00 15.00 0

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.37	acetate	644.734	72	406	2	-1.52
2	2.55		0.000	58	361	2	
3	3.11	formate	1074.852	189	1537	1	-1.38
4	3.89		0.000	137	1331	1	
5	5.40		0.000	7578	55590	2	
6	5.79		0.000	28847	375077	3	
7	7.17		0.000	1784	48409	4	
8	7.55		0.000	19371	320818	2	
Totals			1719.586	58037	803529		

File: 97012801.D09 Sample: S96T005255 DUP

1477

LABCORE Completed Worklist Report for Worklist# 16670

Analyst: eal

Instrument: IC03

Book# 144N96

Method: 2A-533-105 Rev/Mod D-1

Worklist Comment: Rerun AN-104 for formate. Use 41 or 21df.jmf

S.q Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 CCB	0	0	0IC2-QC	ACETATE2 QC	1	<2.00e-2		ug/mL
1 CCB	0	0	0IC2-QC	FORMATE2 QC	1	<2.10e-2		ug/mL
2 CCV	0	0	0IC2-QC	ACETATE2 QC	1.240e2	1.10e+02	96.774 % Recovery	
2 CCV	0	0	0IC2-QC	FORMATE2 QC	1.200e2	1.16e+02	96.667 % Recovery	
3 BLNK-PREP	0	0	0IC2-01	ACETATE2 SOLID	1	<2.00e-2		ug/g
3 BLNK-PREP	0	0	0IC2-01	FORMATE2 SOLID	1	<2.10e-2		ug/g
4 SAMPLE	S96T005067	0 W	0IC2-01	FORMATE2 SOLID	N/A	8.532e+02	171.900	ug/g
5 DUP	S96T005067	0 W	0IC2-01	FORMATE2 SOLID	8.53e+02	8.50e+02	0.352 RPD	
6 SFR	S96T005067	0 W	0IC2-01	FORMATE2 SOLID	1.200e2	1.12e+02	93.333 % Recovery	

Final page for worklist# 16670

Analyst Signature

Date

Analyst Signature

Date

Reviewer Signature

Date

Validated

A-0010-IC				DATA FILE/WORKLIST RESOLUTION				20-Mar-97			
Worklist#: 16670				Data File: 16670MAR.CSV							
		Seq	Type	Sample #	Seq#	Data File	Sample Name	Dilution			
-	=>	1	CCB	S96T005067 S96T005067 S96T005067	-	1	97031811.d01	INST. BLANK	1.00		
	=>	2	CCV		2	97031811.d02	144N9-B STD.	101.00			
	=>	3	BLNK-PREP		3	97031811.d03	PREP. BLANK	1.00			
	=>	4	SAMPLE		4	97031811.d04	S96T005067	41.00			
	=>	5	DUP		5	97031811.d05	S96T005067 DUP	41.00			
	=>	6	SPK		6	97031811.d06	S96T005067 SPIKE	41.00			
+					+						

Save (F4) Abort (Shift-F3) ListFiles (Shift-F1) UploadFile (F8)

LABCORE Data Entry Template for Worklist# 16670

Analyst: ERL Instrument: IC0 3 Book# 14/N9-B

Method: LA-533-105 Rev/Mod D-1

Worklist Comment: Rerun AN-104 for formate. Use 41 or 21df.jmf

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC2-QC	QC		
2 CCV			@IC2-QC	QC		
3 BLNK-PREP			@IC2-01	SOLID		
4 SAMPLE	S96T005067 0 W		@IC2-01	SOLID	96001174	AN-104
	Analytes Requested: FORMATE2					
5 DUP	S96T005067 0 W		@IC2-01	SOLID		
6 SPK	S96T005067 0 W		@IC2-01	SOLID		

Final page for worklist # 16670

ERL 3-18-97
Analyst Signature Date

Analyst Signature Date

Data Entry Comments: 16670 MAR. SCH

16670 MAR. CSJ

Sample Name: INST. BLANK Date: 03/18/1997 21:32:49
 Data File : C:\DX\DATA\97031811.D01
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 1 Detector: CDM-1
 Analyst : *John A. ...* Column: AG4A-SC, AS4A-SC, SRS

Calibration Volume Dilution Points Rate Start Stop Area Reject
 External 1 1 4500 5Hz 0.00 15.00 0

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.40		0.000	116	4425	1	
2	5.92		0.000	3872	133078	1	
3	7.24		0.000	1179	31818	1	
4	8.15		0.000	106	502	1	
5	8.36		0.000	275	26542	1	
Totals			0.000	5549	196365		

File: 97031811.D01 Sample: INST. BLANK

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 148 TO 1486.

Sample Name: 144N9-B STD. Date: 03/18/1997 21:50:41
 Data File : C:\DX\DATA\97031811.D02
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 2 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	101	4500	5Hz	0.00	15.00		0

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.10	fluoride	64.945	2127	11911	1	0.00
2	2.39	acetate	120.023	563	3798	1	-0.14
3	3.12	formate	115.602	1128	8654	1	-0.32
4	5.97		0.000	3269	183722	1	
5	7.27		0.000	1004	22653	1	
6	8.15		0.000	134	628	1	
7	8.37		0.000	261	24259	1	
Totals			300.570	8486	255624		

File: 97031811.D02 Sample: 144N9-B STD.

Sample Name: PREP. BLANK

Date: 03/18/1997 22:10:45

Data File : C:\DX\DATA\97031811.D03

Method : C:\DX\METHOD\ACE.MET

ACI Address: 1 System: 2 Inject#: 3

Detector: CDM-1

Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
-------------	--------	----------	--------	------	-------	------	------	--------

External	1	1	4500	5Hz	0.00	15.00		0
----------	---	---	------	-----	------	-------	--	---

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.23		0.000	3	22	1	
2	2.40	acetate	0.014	8	42	1	0.42
3	5.95		0.000	3319	194719	1	
4	7.23		0.000	1117	30344	1	
5	8.15		0.000	99	452	1	
6	8.37		0.000	294	21779	1	

Totals			0.014	4840	247357		
--------	--	--	-------	------	--------	--	--

File: 97031811.D03 Sample: PREP. BLANK

```

=====
Sample Name: S96T005067                      Date: 03/18/1997 22:27:22
Data File  : C:\DX\DATA\97031811.D04
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 4           Detector: CDM-1
Analyst    :                               Column: AG4A-SC, AS4A-SC, SRS
=====
    
```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          41  4500  5Hz  0.00 15.00          0
    
```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.10	fluoride	2.606	114	738	1	0.00
2	2.40	acetate	2.991	39	232	1	0.42
3	3.15	formate	4.273	68	561	1	0.53
4	3.96		0.000	44	377	1	
5	5.44		0.000	1549	6779	1	
6	5.87		0.000	9818	141522	1	
7	7.31		0.000	1046	25144	1	
8	7.88		0.000	6772	111721	1	
Totals			9.870	19450	287074		

File: 97031811.D04 Sample: S96T005067

```

=====
Sample Name: S96T005067 DUP                      Date: 03/18/1997 22:56:13
Data File  : C:\DX\DATA\97031811.D05
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 5                Detector: CDM-1
Analyst    :                      Column: AG4A-SC,AS4A-SC, SRS
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
=====

```

```

External      1      41    4500    5Hz    0.00  15.00      0
=====

```

```

***** Peak Report: All Peaks *****

```

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.07	fluoride	3.028	125	934	1	-1.59
2	2.35	acetate	3.177	45	247	1	-1.81
3	3.08	formate	4.243	74	555	1	-1.60
4	3.87		0.000	45	359	1	
5	5.41		0.000	1520	6681	1	
6	5.85		0.000	8865	96349	1	
7	7.08		0.000	1603	29811	1	
8	7.87		0.000	6988	136783	1	
Totals			10.448	19265	271718		

File: 97031811.D05 Sample: S96T005067 DUP

```

=====
Sample Name: S96T005067 SPIKE          Date: 03/18/1997 23:12:23
Data File  : C:\DX\DATA\97031811.D06
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 6      Detector: CDM-1
Analyst    :                          Column: AG4A-SC, AS4A-SC, SRS
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
=====

```

```

External      1      41    4500    5Hz    0.00  15.00      0
=====

```

```

***** Peak Report: All Peaks *****

```

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.10	fluoride	29.781	2351	13551	1	0.00
2	2.39	acetate	57.129	602	4452	1	-0.14
3	3.13	formate	49.221	1211	9097	1	0.11
4	3.95		0.000	42	337	1	
5	5.44		0.000	1430	6183	1	
6	5.87		0.000	10395	149102	1	
7	7.35		0.000	1729	47125	1	
8	7.88		0.000	6894	124430	1	
Totals			136.131	24654	354276		

File: 97031811.D06 Sample: S96T005067 SPIKE

LABCORE Completed Worklist Report for Worklist# 16681

Analyst: cal

Instrument: IC02

Book# 42N20C

Method: LA-533-105 Rev/Mod D-1

Worklist Comment: AN104 Ic rerun. Use 21 df on 5290 and 41 df on 5291.jmf

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	<1.00e-1		ug/mL
1 CCB	0	QIC-QC BR	QC	1	<1.25e-1		ug/mL
1 CCB	0	QIC-QC NO3	QC	1	2.79e-01	0.279	ug/mL
1 CCB	0	QIC-QC P04	QC	1	<1.20e-1		ug/mL
1 CCB	0	QIC-QC S04	QC	1	1.84e-01	0.184	ug/mL
1 CCB	0	QIC-QC OXALATE2	QC	1	<1.05e-1		ug/mL
2 CCV	0	QIC-QC F	QC	5.90e01	5.95e+01	100.947 % Recovery	
2 CCV	0	QIC-QC CL	QC	7.90e01	7.88e+01	99.747 % Recovery	
2 CCV	0	QIC-QC NO2	QC	5.42e02	5.81e+02	107.196 % Recovery	
2 CCV	0	QIC-QC BR	QC	5.89e02	6.29e+02	106.791 % Recovery	
2 CCV	0	QIC-QC NO3	QC	5.94e02	6.40e+02	107.744 % Recovery	
2 CCV	0	QIC-QC P04	QC	5.44e02	5.57e+02	102.390 % Recovery	
2 CCV	0	QIC-QC S04	QC	6.31e02	6.93e+02	109.826 % Recovery	
2 CCV	0	QIC-QC OXALATE2	QC	5.28e02	5.40e+02	102.273 % Recovery	
3 BLNK-PREP	0	QIC-01 F-02	SOLID	1	<1.20e-2		ug/g
3 BLNK-PREP	0	QIC-01 CL-02	SOLID	1	2.10e-02	0.021	ug/g
3 BLNK-PREP	0	QIC-01 NO2-02	SOLID	1	<1.00e-1		ug/g
3 BLNK-PREP	0	QIC-01 BR-02	SOLID	1	<1.25e-1		ug/g
3 BLNK-PREP	0	QIC-01 NO3-02	SOLID	1	2.95e-01	0.295	ug/g
3 BLNK-PREP	0	QIC-01 P04-02	SOLID	1	<1.20e-1		ug/g
3 BLNK-PREP	0	QIC-01 S04-02	SOLID	1	<1.98e-1		ug/g
3 BLNK-PREP	0	QIC-01 OXALATE2	SOLID	1	<1.05e-1		ug/g
4 SAMPLE	S96T005290	QIC-01 F-02	SOLID	N/A	3.048e+02	47.960	ug/g
4 SAMPLE	S96T005290	QIC-01 CL-02	SOLID	N/A	4.626e+03	67.790	ug/g
4 SAMPLE	S96T005290	QIC-01 NO2-02	SOLID	N/A	6.932e+04	430.700	ug/g
4 SAMPLE	S96T005290	QIC-01 BR-02	SOLID	N/A	4.985e+02	498.500	ug/g
4 SAMPLE	S96T005290	QIC-01 NO3-02	SOLID	N/A	1.424e+05	554.400	ug/g
4 SAMPLE	S96T005290	QIC-01 P04-02	SOLID	N/A	3.088e+03	478.600	ug/g
4 SAMPLE	S96T005290	QIC-01 S04-02	SOLID	N/A	1.118e+04	550.400	ug/g
4 SAMPLE	S96T005290	QIC-01 OXALATE2	SOLID	N/A	9.520e+03	418.700	ug/g
5 DUP	S96T005290	QIC-01 F-02	SOLID	3.05e+02	2.90e+02	5.042 RPD	
5 DUP	S96T005290	QIC-01 CL-02	SOLID	4.63e+03	4.45e+03	3.965 RPD	
5 DUP	S96T005290	QIC-01 NO2-02	SOLID	6.93e+04	6.83e+04	4.425 RPD	
5 DUP	S96T005290	QIC-01 BR-02	SOLID	<4.98e2	<4.76e2	RPD	
5 DUP	S96T005290	QIC-01 NO3-02	SOLID	1.42e+05	1.36e+05	4.317 RPD	
5 DUP	S96T005290	QIC-01 P04-02	SOLID	3.09e+03	2.92e+03	5.657 RPD	
5 DUP	S96T005290	QIC-01 S04-02	SOLID	1.14e+04	1.11e+04	2.667 RPD	
5 DUP	S96T005290	QIC-01 OXALATE2	SOLID	9.52e+03	9.29e+03	2.446 RPD	
6 SFR	S96T005290	QIC-01 F-02	SOLID	5.90e01	6.31e+01	106.949 % Recovery	

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Completed Worklist Report for Worklist# 16681

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
6 SPK	S96T005290	0 W	@IC-01	CL-02	SOLID	7.90e01	1.04e+02	131.646 % Recovery
6 SPK	S96T005290	0 W	@IC-01	NO2-02	SOLID	5.42e02	6.83e+02	126.015 % Recovery
6 SPK	S96T005290	0 W	@IC-01	BR-02	SOLID	5.89e02	6.17e+02	104.754 % Recovery
6 SPK	S96T005290	0 W	@IC-01	NO3-02	SOLID	5.94e02	6.63e+02	111.616 % Recovery
6 SPK	S96T005290	0 W	@IC-01	PO4-02	SOLID	5.44e02	5.87e+02	107.904 % Recovery
6 SPK	S96T005290	0 W	@IC-01	SO4-02	SOLID	6.31e02	6.94e+02	109.984 % Recovery
6 SPK	S96T005290	0 W	@IC-01	OXALATE2	SOLID	5.28e02	5.62e+02	106.439 % Recovery
7 SAMPLE	S96T005291	0 W	@IC-01	NO2-02	SOLID	N/A	6.901e+04	607.300 ug/g
8 DUP	S96T005291	0 W	@IC-01	NO2-02	SOLID	6.90e+04	6.69e+04	3.091 RPD
9 SPK	S96T005291	0 W	@IC-01	NO2-02	SOLID	5.42e02	6.55e+02	120.849 % Recovery

Comments Section:

Comments for sample# S96T005290 and test @IC-01 .

~~NO2 std recovery was high. High RPD's on Cl~~

~~SO4 and oxalate. skm~~ *gmF 3/19/97*

Comments for sample# S96T005291 and test @IC-01 .

~~High RPD's on E and NO3. NO2 std was high. skm~~ *gmF 3/19/97*

Final page for worklist# 16681

Analyst Signature _____ Date _____

R. J. Jones 3-18-97
Analyst Signature _____ Date _____

James M. Lyle 3/19/97
Reviewer Signature _____ Date _____

02/13/97 16:34
A-0004-1

HNF-SD-WM-DP-226, REV. 0

Page: 1

LABCORE Data Entry Template for Worklist# 16681Analyst: EAL Instrument: IC0 IC02 Book# 42N20-CMethod: LA-533-105 Rev/Mod D.1

Worklist Comment: AN104 Ic rerun. Use 21 df on 5290 and 41 df on 5291.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	S96T005290 0 W		@IC-01	SOLID	96001283	AN-104
	Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OKALATE2, PO4-02 , SO4-02					
5 DUP	S96T005290 0 W		@IC-01	SOLID		
6 SPK	S96T005290 0 W		@IC-01	SOLID		
7 SAMPLE	S96T005291 0 W		@IC-01	SOLID	96001283	AN-104
	Analytes Requested: NO2-02					
8 DUP	S96T005291 0 W		@IC-01	SOLID		
9 SPK	S96T005291 0 W		@IC-01	SOLID		

Final page for worklist # 16681

A. Lambel 03.07.97
 Analyst Signature Date

 Analyst Signature Date

Data Entry Comments:

16681 MAR. SCH16681 MAR. CSV

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

1489

A-0010-IC

DATA FILE/WORKLIST RESOLUTION

18-Mar-97

Worklist#: 16681

Data File: 16681MAR.CSV

	Seq	Type	Sample #	Seq#	Data File	Sample Name	Dilution
=>	1	CCB		1	97030701.d01	INST. BLANK	1.00
=>	2	CCV		2	97030701.d02	42N20-C STD.	101.00
=>	3	BLNK-PREP		3	97030701.d03	PREP. BLANK	1.00
=>	4	SAMPLE	S96T005290	4	97030701.d04	S96T005290	21.00
=>	5	DUP	S96T005290	5	97030701.d05	S96T005290 DUP	21.00
=>	6	SPK	S96T005290	6	97030701.d06	S96T005290 SPIKE	21.00
=>	7	SAMPLE	S96T005291	7	97030701.d08	S96T005291	41.00
=>	8	DUP	S96T005291	8	97030701.d09	S96T005291 DUP	41.00
=>	9	SPK	S96T005291	9	97030701.d10	S96T005291 SPIKE	41.00

Save (F4) Abort (Shift-F3) ListFiles (Shift-F1) UploadFile (F8)

Sample Name: INST. BLANK Date: 03/07/1997 22:52:57
 Data File : C:\DX\DATA\97030701.D01 HNF-SD-WM-DP-226, REV. 0
 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 1 Detector: CDM-1
 Analyst : Column:

John J. [Signature]
 for 2nd 8/7/97

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 1 3000 5Hz 0.00 10.00 50

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.16		0.000	35	192	1	
2	0.88		0.000	80	544	1	
3	1.42		0.000	162	870	1	
4	3.28	NITRATE	0.279	126	892	1	2.50
6	6.08	SULFATE	0.184	85	1131	1	-0.16
7	7.17		0.000	16	66	1	
8	7.40		0.000	48	460	1	
9	8.15	OXALATE	0.068	19	65	1	1.54
10	8.51		0.000	9	102	1	
11	9.32		0.000	16	101	1	

Totals 0.531 595 4422

File: 97030701.D01 Sample: INST. BLANK

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1491 TO 1499.

Sample Name: 42N20-C STD.	Date: 03/07/1997 23:07:18
Data File : C:\DX\DATA\97030701.D02	
Method : C:\DX\METHOD\ANIONS.MET	HNF-SD-WM-DP-226, REV. 0
ACI Address: 1 System: 1 Inject#: 2	Detector: CDM-1
Analyst : <i>A. Lomay</i> 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	0.21		0.000	30	199	1	
2	0.88		0.000	123	525	2	
3	1.03	FLUORIDE	59.463	2402	11585	2	0.65
4	1.42		0.000	88	342	2	
5	1.57	CHLORIDE	78.774	2608	10329	2	1.51
6	1.89	NITRITE	580.518	9878	50228	1	1.25
7	2.83	BROMIDE	629.170	5958	39532	2	0.12
8	3.22	NITRATE	640.251	6651	52061	2	0.63
9	4.76	PHOSPHATE	557.498	1581	20693	1	2.59
10	6.03	SULFATE	693.155	5148	71662	1	-1.04
11	7.92	OXALATE	539.567	2265	42743	1	-1.29
12	8.72		0.000	24	104	1	
Totals			3778.395	36757	300002		

File: 97030701.D02 Sample: 42N20-C STD.

Sample Name: PREP. BLANK	Date: 03/07/1997 23:38:09
Data File : C:\DX\DATA\97030701.D03	HNH-SD-WM-DP-226, REV. 0
Method : C:\DX\METHOD\ANIONS.MET	
ACI Address: 1 System: 1 Inject#: 3	Detector: CDM-1
Analyst :	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	1.16		0.000	115	376	1	
2	1.57	CHLORIDE	0.021	107	407	1	1.08
3	1.91	NITRITE	0.093	29	147	1	2.68
4	3.28	NITRATE	0.295	156	1022	1	2.50
5	7.51	OXALATE	0.096	43	288	1	-6.44
Totals			0.504	450	2240		

File: 97030701.D03 Sample: PREP. BLANK

```

=====
Sample Name: S96T005290                      Date: 03/07/1997 23:50:06
Data File  : C:\DX\DATA\97030701.D04         HNF-SD-WM-DP-226, REV. 0
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 4
Analyst    :                               Detector: CDM-1
Column:
=====

```

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 21 3000 5Hz 0.00 10.00 50

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.27		0.000	35	237	1	
2	0.87		0.000	431	2208	1	
3	1.03	FLUORIDE	1.605	383	1402	2	1.31
4	1.14		0.000	107	307	2	
5	1.41		0.000	113	636	2	
6	1.57	CHLORIDE	24.360	3513	15401	2	1.08
7	1.89	NITRITE	365.049	29049	154925	1	1.25
8	3.11	NITRATE	749.646	35615	326302	1	-2.71
9	4.78	PHOSPHATE	16.261	197	2465	1	3.02
10	6.05	SULFATE	59.940	2033	28999	1	-0.60
11	7.51		0.000	85	576	2	
12	7.95	OXALATE	50.132	1019	18770	2	-0.96
Totals			1266.993	72580	552229		

File: 97030701.D04 Sample: S96T005290

Data Reprocessed On 03/08/1997 00:14:30

Sample Name: S96T005290 DUP	Date: 03/08/1997 00:02:56
Data File : C:\DX\DATA\97030701.D05	
Method : C:\DX\METHOD\ANIONS.MET	HNF-SD-WM-DP-226, REV. 0
ACI Address: 1 System: 1 Inject#: 5	Detector: CDM-1
Analyst :	Column:

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	21	3000	5Hz	0.00	10.00		50

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.29		0.000	37	190	1	
2	0.87		0.000	401	2005	1	
3	1.03	FLUORIDE	1.598	377	1395	2	1.31
4	1.14		0.000	108	312	2	
5	1.41		0.000	122	662	2	
6	1.57	CHLORIDE	24.512	3534	15498	2	1.08
7	1.89	NITRITE	365.393	29132	155075	1	1.25
8	3.11	NITRATE	750.082	35701	326515	1	-2.71
9	4.78	PHOSPHATE	16.074	199	2431	1	3.02
10	6.05	SULFATE	61.147	2072	29604	1	-0.60
11	7.43		0.000	64	482	2	
12	7.96	OXALATE	51.205	1031	19184	2	-0.79
Totals			1270.012	72779	553353		

File: 97030701.D05 Sample: S96T005290 DUP

```

=====
Sample Name: S96T005290 SPIKE      Date: 03/08/1997 00:19:11
Data File  : C:\DX\DATA\97030701.D06
Method     : C:\DX\METHOD\ANIONS.MET      HNF-SD-WM-DP-226, REV. 0
ACI Address: 1 System: 1 Inject#: 6
Analyst    :                      Column:      Detector: CDM-1
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          21 3000 5Hz 0.00 10.00          50
=====

```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.27		0.000	42	270	1	
2	0.88		0.000	421	1843	2	
3	1.03	FLUORIDE	14.226	2594	13362	2	1.31
4	1.41		0.000	111	594	2	
5	1.57	CHLORIDE	45.207	6149	28995	2	1.08
6	1.89	NITRITE	501.581	38606	214438	2	1.61
7	2.83	BROMIDE	123.383	6255	37189	2	-0.12
8	3.10	NITRATE	882.164	41702	392625	2	-3.13
9	4.76	PHOSPHATE	133.727	1767	24016	2	2.59
10	6.03	SULFATE	198.757	7239	99912	2	-1.04
11	7.91	OXALATE	162.532	3263	62311	1	-1.45
Totals			2061.577	108150	875556		

File: 97030701.D06 Sample: S96T005290 SPIKE

Sample Name: S96T005291	Date: 03/08/1997 02:09:21
Data File : C:\DX\DATA\97030701.D08	HNF-SD-WM-DP-226, REV. 0
Method : C:\DX\METHOD\ANIONS.MET	
ACI Address: 1 System: 1 Inject#: 8	Detector: CDM-1
Analyst :	Column:

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
-------------	--------	----------	--------	------	-------	------	------	--------

External	1	41	3000	5Hz	0.00	10.00	50	
----------	---	----	------	-----	------	-------	----	--

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	273	1380	1	
2	1.04	FLUORIDE	1.446	149	590	2	1.96
3	1.15		0.000	49	132	2	
4	1.43		0.000	86	375	2	
5	1.58	CHLORIDE	24.124	1840	7799	2	1.94
6	1.90	NITRITE	378.565	15551	81354	1	1.97
7	2.87	BROMIDE	6.496	32	172	1	1.53
8	3.16	NITRATE	1260.691	30820	276418	1	-1.25
9	4.81	PHOSPHATE	18.577	112	1252	1	3.74
10	6.09	SULFATE	36.936	594	8570	1	0.05
11	8.01	OXALATE	31.903	318	5783	1	-0.12
Totals			1758.738	49824	383825		

File: 97030701.D08 Sample: S96T005291

Sample Name: S96T005291 DUP Date: 03/08/1997 02:21:46
 Data File : C:\DX\DATA\97030701.D09 HNF-SD-WM-DP-226, REV. 0
 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 9 Detector: CDM-1
 Analyst : Column:

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	3000	5Hz	0.00	10.00		50

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	252	1234	1	
2	1.04	FLUORIDE	1.506	149	619	2	1.96
3	1.15		0.000	49	135	2	
4	1.43		0.000	75	304	2	
5	1.57	CHLORIDE	24.056	1861	7777	2	1.51
6	1.89	NITRITE	379.046	15484	81460	1	1.61
7	2.85	BROMIDE	6.609	33	189	1	0.82
8	3.15	NITRATE	1241.242	30758	271727	1	-1.67
9	4.81	PHOSPHATE	19.165	112	1306	1	3.59
10	6.08	SULFATE	36.211	591	8386	1	-0.16
11	8.00	OXALATE	31.332	318	5671	1	-0.29
Totals			1739.168	49682	378808		

File: 97030701.D09 Sample: S96T005291 DUP

Sample Name: S96T005291 SPIKE	Date: 03/08/1997 02:32:50
Data File : C:\DX\DATA\97030701.D10	HNF-SD-WM-DP-226, REV. 0
Method : C:\DX\METHOD\ANIONS.MET	
ACI Address: 1 System: 1 Inject#: 10	Detector: CDM-1
Analyst : <i>A. Lambert</i> Column:	

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	3000	5Hz	0.00	10.00		50

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	296	1320	2	
2	1.03	FLUORIDE	24.719	2443	11869	2	1.31
3	1.43		0.000	123	653	2	
4	1.57	CHLORIDE	61.101	4451	19867	2	1.51
5	1.89	NITRITE	640.397	25713	138907	1	1.61
6	2.83	BROMIDE	248.344	6374	38391	2	0.12
7	3.12	NITRATE	1501.587	36831	335842	2	-2.50
8	4.78	PHOSPHATE	254.101	1709	23347	2	3.02
9	6.05	SULFATE	305.504	5618	78011	2	-0.60
10	7.93	OXALATE	249.388	2553	48775	1	-1.12
Totals			3285.141	86110	696982		

File: 97030701.D10 Sample: S96T005291 SPIKE

LABCORE Completed Worklist Report for Worklist# 16779

Analyst: eal

Instrument: IC03

Book# 144W 9B

Method: 1A-533-105 Rev/Mod D-1

Worklist Comment: Rerun AN104 organic acids. Try 41 dilution.jmf

Seq Type	Sample# R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 CCB	0	@IC2-QC ACETATE2 QC		1	<2.00e-2		ug/mL
1 CCB	0	@IC2-QC FORMATE2 QC		1	<2.10e-2		ug/mL
2 CCV	0	@IC2-QC ACETATE2 QC		1.240e2	1.24e+02	100.000 % Recovery	
2 CCV	0	@IC2-QC FORMATE2 QC		1.200e2	1.15e+02	95.833 % Recovery	
3 BLNK-PREP	0	@IC2-01 ACETATE2 SOLID		1	<2.00e-2		ug/g
3 BLNK-PREP	0	@IC2-01 FORMATE2 SOLID		1	<2.10e-2		ug/g
4 SAMPLE	S96T005779	0 W @IC2-01 ACETATE2 SOLID	N/A		6.083e+02	473.800	ug/g
4 SAMPLE	S96T005779	0 W @IC2-01 FORMATE2 SOLID	N/A		8.798e+02	182.500	ug/g
5 DUP	S96T005779	0 W @IC2-01 ACETATE2 SOLID		5.08e+02	5.54e+02	9.294 RPD	
5 DUP	S96T005779	0 W @IC2-01 FORMATE2 SOLID		8.80e+02	8.41e+02	4.532 RPD	
6 SPK	S96T005779	0 W @IC2-01 ACETATE2 SOLID		1.240e2	1.26e+02	101.613 % Recovery	
6 SPK	S96T005779	0 W @IC2-01 FORMATE2 SOLID		1.200e2	1.09e+02	90.833 % Recovery	
7 SAMPLE	S96T005785	0 W @IC2-01 ACETATE2 SOLID	N/A		5.547e+02	175.900	ug/g
7 SAMPLE	S96T005785	0 W @IC2-01 FORMATE2 SOLID	N/A		8.507e+02	184.700	ug/g
8 DUP	S96T005785	0 W @IC2-01 ACETATE2 SOLID		5.55e+02	4.89e+02	12.644 RPD	
8 DUP	S96T005785	0 W @IC2-01 FORMATE2 SOLID		8.51e+02	7.99e+02	6.303 RPD	
9 SPK	S96T005785	0 W @IC2-01 ACETATE2 SOLID		1.240e2	1.31e+02	105.645 % Recovery	
9 SPK	S96T005785	0 W @IC2-01 FORMATE2 SOLID		1.200e2	1.11e+02	92.500 % Recovery	

Comments Section:

Comments for sample# S96T005779 and test @IC2-01 .

~~Acetate and formate spike failure. skm~~ JMF 4/30/97

Comments for sample# S96T005785 and test @IC2-01 .

~~Acetate duplicate failure. skm~~ JMF 4/30/97

Final page for worklist# 16779

Analyst Signature

Date

Analyst Signature

Date

Reviewer Signature

Date

LABCORE Data Entry Template for Worklist# 16779

Analyst:

ELM

Instrument: ICO

3

Book#

^{03.19.97}
~~44~~ ~~4419-D~~ *JW 4-29-97*
144N9-B

Method: LA-533-105

Rev/Mod

D/

Worklist Comment: Rerun AN104 organic acids. Try 41 dilution.jmf

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC2-QC	QC		
2 CCV			@IC2-QC	QC		
3 BLNK-PREP			@IC2-01	SOLID		
4 SAMPLE	S96T005779	0 W	@IC2-01	SOLID	96001283	AN-104
Analytes Requested: ACETATE2, FORMATE2						
5 DUP	S96T005779	0 W	@IC2-01	SOLID		
6 SPK	S96T005779	0 W	@IC2-01	SOLID		
7 SAMPLE	S96T005785	0 W	@IC2-01	SOLID	96001283	AN-104
Analytes Requested: ACETATE2, FORMATE2						
8 DUP	S96T005785	0 W	@IC2-01	SOLID		
9 SPK	S96T005785	0 W	@IC2-01	SOLID		

Final page for worklist # 16779

Analyst Signature

Date

Analyst Signature

Date

Uploaded 4-29-97

John W. Hall

16779APR.CSV

Validated 4/30/97

Data Entry Comments:

A-0010-IC

DATA FILE/WORKLIST RESOLUTION

29-Apr-97

Worklist#: 16779

Data File: 16779APR.CSV

	Seq	Type	Sample #		Seq#	Data File	Sample Name	Dilution
-	=>	1	CCB		1	97031901.d08	INST. BLANK	1.00
	=>	2	CCV		2	97031811.d07	144N9-B STD	101.00
	=>	3	BLNK-PREP		3	97031901.d09	PREP. BLANK	1.00
	=>	4	SAMPLE	S96T005779	4	97031901.d10	S96T005779	41.00
	=>	5	DUP	S96T005779	5	97031901.d11	S96T005779 DUP	41.00
	=>	6	SPK	S96T005779	6	97031901.d12	S96T005779 SPIKE	41.00
	=>	7	SAMPLE	S96T005785	7	97031901.d13	S96T005785	41.00
	=>	8	DUP	S96T005785	8	97031901.d14	S96T005785 DUP	41.00
	=>	9	SPK	S96T005785	9	97031901.d15	S96T005785 SPIKE	41.00
+					+			

Save (F4) Abort (Shift-F3) ListFiles (Shift-F1) UploadFile (F8)

Sample Name: INST. BLANK Date: 03/19/1997 01:18:14
 Data File : C:\DX\DATA\97031901.D08
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System, 2 Inject#: 8 Detector: CDM-1
 Analyst : *Janet Lyle* Column: AG4A-SC, AS4A-SC, SRS

Calibration Volume Dilution Points Rate Start Stop Area Reject
 External 1 1 4500 5Hz 0.00 15.00 0

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.23		0.000	25	417	1	
2	5.99		0.000	2455	101894	1	
3	7.33		0.000	1166	29601	1	
4	8.15		0.000	114	549	1	
5	8.40		0.000	322	27519	1	
Totals			0.000	4081	159980		

File: 97031901.D08 Sample: INST. BLANK

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1503 TO 1511

Sample Name: 144N9-B STD Date: 03/18/1997 23:29:17
 Data File : C:\DX\DATA\97031811.D07
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 7 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	101	4500	5Hz	0.00	15.00		0

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.10	fluoride	65.037	2089	11929	1	0.00
2	2.39	acetate	123.637	559	3912	1	-0.14
3	3.13	formate	114.501	1133	8568	1	0.11
4	6.09		0.000	3260	188120	1	
5	7.36		0.000	1703	36505	1	
6	8.15		0.000	129	609	1	
7	8.36		0.000	266	26627	1	
Totals			303.175	9138	276269		

File: 97031811.D07 Sample: 144N9-B STD

Sample Name: PREP. BLANK Date: 03/19/1997 01:36:31
 Data File : C:\DX\DATA\97031901.D09
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 9 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	4500	5Hz	0.00	15.00		0

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.35	acetate	0.017	9	54	1	-1.81
2	5.96		0.000	3443	197604	1	
3	7.39		0.000	1132	30263	1	
4	8.13		0.000	113	527	1	
5	8.41		0.000	373	25680	1	
Totals			0.017	5071	254127		

File: 97031901.D09 Sample: PREP. BLANK

```

=====
Sample Name: S96T005779                      Date: 03/19/1997 01:54:24
Data File  : C:\DX\DATA\97031901.D10
Method     : C:\DX\METHOD\ACE.MET
ACT Address: 1 System: 2 Inject#: 10          Detector: CDM-1
Analyst    :                               Column: AG4A-SC, AS4A-SC, SRS
=====

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=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
=====
External          1          41    4500   5Hz   0.00 15.00          0
=====

```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.10	fluoride	4.385	240	1562	1	0.00
2	2.39	acetate	2.870	37	223	1	-0.14
3	3.15	formate	4.151	68	538	1	0.53
4	3.92		0.000	40	376	1	
5	5.43		0.000	924	2362	1	
6	5.85		0.000	8199	136557	1	
7	7.39		0.000	870	17905	1	
8	7.84		0.000	7075	129028	1	
Totals			11.405	17453	288550		

File: 97031901.D10 Sample: S96T005779

```

=====
Sample Name: S96T005779 DUP                      Date: 03/19/1997 02:10:47
Data File  : C:\DX\DATA\97031901.D11
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 11              Detector: CDM-1
Analyst    :                      Column: AG4A-SC,AS4A-SC, SRS
=====

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```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          41    4500   5Hz   0.00 15.00          0
=====

```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.10	fluoride	4.224	223	1487	1	0.00
2	2.39	acetate	2.761	35	214	1	-0.14
3	2.81		0.000	14	87	1	
4	3.13	formate	4.191	71	546	1	0.11
5	3.93		0.000	37	307	1	
6	5.44		0.000	1217	5430	1	
7	5.87		0.000	8368	135551	1	
8	7.47		0.000	1819	29661	1	
9	7.84		0.000	6905	121226	1	
Totals			11.176	18690	294508		

File: 97031901.D11 Sample: S96T005779 DUP

```

=====
Sample Name: S96T005779 SPIKE           Date: 03/19/1997 02:39:42
Data File  : C:\DX\DATA\97031901.D12
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 12      Detector: CDM-1
Analyst    :                          Column: AG4A-SC, AS4A-SC, SRS
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
=====
External          1          41    4500   5Hz   0.00 15.00          0
=====

```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.07	fluoride	30.532	2274	13912	1	-1.59
2	2.35	acetate	53.242	589	4150	1	-1.81
3	3.07	formate	47.748	1198	8812	1	-2.02
4	3.84		0.000	40	372	1	
5	5.41		0.000	1178	5198	1	
6	5.87		0.000	7707	90820	1	
7	7.21		0.000	2014	36343	1	
8	7.84		0.000	7166	142313	1	
Totals			131.522	22166	301920		

File: 97031901.D12 Sample: S96T005779 SPIKE

```

=====
Sample Name: S96T005785                      Date: 03/19/1997 02:56:24
Data File  : C:\DX\DATA\97031901.D13
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 13          Detector: CDM-1
Analyst    :                               Column: AG4A-SC, AS4A-SC, SRS
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          41    4500    5Hz    0.00 15.00          0
=====

```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.10	fluoride	4.580	229	1652	1	0.00
2	2.41	acetate	2.586	34	200	1	0.98
3	3.13	formate	3.966	66	504	1	0.11
4	3.93		0.000	40	370	1	
5	5.43		0.000	1190	5484	1	
6	5.85		0.000	8325	139766	1	
7	7.48		0.000	1765	39331	1	
8	7.84		0.000	6123	92786	1	
Totals			11.133	17772	280093		

File: 97031901.D13 Sample: S96T005785

```

=====
Sample Name: S96T005785 DUP                      Date: 03/19/1997 03:13:36
Data File  : C:\DX\DATA\97031901.D14
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 14              Detector: CDM-1
Analyst    :                      Column: AG4A-SC, AS4A-SC, SRS
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
=====

```

```

External      1      41    4500    5Hz    0.00  15.00      0
=====

```

```

***** Peak Report: All Peaks *****

```

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.10	fluoride	4.312	237	1528	1	0.00
2	2.39	acetate	2.467	31	191	1	-0.14
3	2.81		0.000	16	111	1	
4	3.13	formate	4.030	69	516	1	0.11
5	3.93		0.000	37	304	1	
6	5.43		0.000	1091	3984	1	
7	5.85		0.000	8315	144302	1	
8	7.45		0.000	1884	29323	1	
9	7.84		0.000	6356	106153	1	
Totals			10.809	18036	286412		

File: 97031901.D14 Sample: S96T005785 DUP

```

=====
Sample Name: S96T005785 SPIKE                      Date: 03/19/1997 03:30:27
Data File  : C:\DX\DATA\97031901.D15
Method     : C:\DX\METHOD\ACE.MBT
ACI Address: 1 System: 2 Inject#: 15                Detector: CDM-1
Analyst    :                      Column: AG4A-SC,AS4A-SC, SRS
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          41    4500  5Hz   0.00 15.00          0
=====

```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.10	fluoride	31.406	2478	14334	1	0.00
2	2.39	acetate	54.906	593	4279	1	-0.14
3	3.12	formate	48.384	1186	8935	1	-0.32
4	3.95		0.000	38	335	1	
5	5.43		0.000	1083	3748	1	
6	5.85		0.000	8272	142495	1	
7	7.45		0.000	1868	29266	1	
8	7.84		0.000	6225	104560	1	
Totals			134.696	21742	307951		

File: 97031901.D15 Sample: S96T005785 SPIKE

LABCORE Completed Worklist Report for Worklist# 16954

Analyst: eal

Instrument: IC02

Book# 12N20C

Method: 1A-53-105 Rev/Mod D-1

Worklist Comment: AN-104 IC Rerun for NO2. Try a 5151 DF.

Seq Type	Sample# R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 CCB	0	②IC-QC F	QC	1	<1.20e-2		ug/mL
1 CCB	0	②IC-QC CL	QC	1	<1.70e-2		ug/mL
1 CCB	0	②IC-QC NO2	QC	1	<1.08e-1		ug/mL
1 CCB	0	②IC-QC BR	QC	1	<1.25e-1		ug/mL
1 CCB	0	②IC-QC NO3	QC	1	2.90e-01	0.290	ug/mL
1 CCB	0	②IC-QC PO4	QC	1	<1.20e-1		ug/mL
1 CCB	0	②IC-QC SO4	QC	1	2.00e-01	0.200	ug/mL
1 CCB	0	②IC-QC OXALATE2	QC	1	<1.05e-1		ug/mL
2 CCV	0	②IC-QC F	QC	5.90e01	5.95e+01	100.947 % Recovery	
2 CCV	0	②IC-QC CL	QC	7.90e01	7.95e+01	100.633 % Recovery	
2 CCV	0	②IC-QC NO2	QC	5.42e02	5.90e+02	108.856 % Recovery	
2 CCV	0	②IC-QC BR	QC	5.89e02	6.30e+02	106.961 % Recovery	
2 CCV	0	②IC-QC NO3	QC	5.94e02	6.45e+02	108.596 % Recovery	
2 CCV	0	②IC-QC PO4	QC	5.44e02	5.79e+02	106.434 % Recovery	
2 CCV	0	②IC-QC SO4	QC	6.31e02	7.02e+02	111.252 % Recovery	
2 CCV	0	②IC-QC OXALATE2	QC	5.29e02	5.39e+02	102.083 % Recovery	
3 SAMPLE	S96T005527	②IC-01 NO2-02	LIQUID	N/A	1.327e+05	556.300	ug/mL
4 DUP	S96T005527	②IC-01 NO2-02	LIQUID	1.33e+05	1.33e+05	0.000	RPD
5 SPK	S96T005527	②IC-01 NO2-02	LIQUID	5.42e02	6.47e+02	119.372 % Recovery	
6 SAMPLE	S96T005528	②IC-01 NO2-02	LIQUID	N/A	1.292e+05	556.300	ug/mL
7 DUP	S96T005528	②IC-01 NO2-02	LIQUID	1.29e+05	1.30e+05	0.772	RPD
8 SAMPLE	S96T005554	②IC-01 NO2-02	LIQUID	N/A	1.191e+05	556.300	ug/mL
9 DUP	S96T005554	②IC-01 NO2-02	LIQUID	1.19e+05	1.26e+05	5.714	RPD

Final page for worklist# 16954

Analyst Signature

Date

Analyst Signature

Date

Reviewer Signature

Date

Janio M. Luy 3/19/97
Validated 3/19/97
SO4 CCV failed but it was not needed for the
worklist. jmf 3/19/97

03/07/97 12:27
A-0004-1

HNF-SD-WM-DP-226, REV. 0

Page: 1

LABCORE Data Entry Template for Worklist# 16954Analyst: EAL Instrument: IC0 IC02 Book# 42N20-CMethod: LA-533-105 Rev/Mod D-1Worklist Comment: AN-104 IC Rerun for NO2. Try a 5151 DF. Original WL# 16408

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC-QC	QC		
2 CCV			@IC-QC	QC		
3 SAMPLE	S96T005527 0		@IC-01	LIQUID	96001283	AN-104
Analytes Requested: NO2-02						
4 DUP	S96T005527 0		@IC-01	LIQUID		
5 SPK	S96T005527 0		@IC-01	LIQUID		
6 SAMPLE	S96T005528 0		@IC-01	LIQUID	96001283	AN-104
Analytes Requested: NO2-02						
7 DUP	S96T005528 0		@IC-01	LIQUID		
8 SAMPLE	S96T005554 0		@IC-01	LIQUID	96001283	AN-104
Analytes Requested: NO2-02						
9 DUP	S96T005554 0		@IC-01	LIQUID		

Final page for worklist # 16954A. Lambel
Analyst Signature3-8-97
Date_____
Analyst Signature_____
Date

Data Entry Comments:

16954 MAR. SCH16954 MAR. CSV

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

A-0010-IC				DATA FILE/WORKLIST RESOLUTION				18-Mar-97	
Worklist#: 16954				Data File: 16954MAR.CSV					
	Seq	Type	Sample #	Seq#	Data File	Sample Name	Dilution		
-	=>	1	CCB	-	1	97030801.d11	INST. BLANK		1.00
	=>	2	CCV		2	97030801.d12	42N20-C STD		101.00
	=>	3	SAMPLE		3	97030801.d13	S96T005227		5151.00
	=>	4	DUP		4	97030801.d14	S96T005227 DUP		5151.00
	=>	5	SPK		5	97030801.d15	S96T005227 SPIKE		5151.00
	=>	6	SAMPLE		6	97030801.d17	S96T005228		5151.00
	=>	7	DUP		7	97030801.d18	S96T005228 DUP		5151.00
	=>	8	SAMPLE		8	97030801.d19	S96T005554		5151.00
	=>	9	DUP		9	97030801.d20	S96T005554 DUP		5151.00
+				+					

Save (F4) Abort (Shift-F3) ListFiles (Shift-F1) UploadFile (F8)

Sample Name: INST. BLANK Date: 03/08/1997 02:45:03
 Data File : C:\DX\DATA\97030801.D11 HNF-SD-WM-DP-226, REV. 0
 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 11 Detector: CDM-1
 Analyst : Column:

Calibration Volume Dilution Points Rate Start Stop Area Reject
 External 1 1 3000 5Hz 0.00 10.00 50

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.87		0.000	100	654	1	
2	1.43		0.000	171	879	1	
3	3.27	NITRATE	0.290	137	980	1	2.29
4	6.08	SULFATE	0.200	102	1296	1	-0.16
Totals			0.490	511	3809		

File: 97030801.D11 Sample: INST. BLANK

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1515 TO 1523.

Sample Name: 42N20-C STD	Date: 03/08/1997 02:57:41
Data File : C:\DX\DATA\97030801.D12	
Method : C:\DX\METHOD\ANIONS.MET	HNF-SD-WM-DP-226, REV. 0
ACI Address: 1 System: 1 Inject#: 12	Detector: CDM-1
Analyst : <i>A. Lombel</i> Column:	

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	101	3000	5Hz	0.00	10.00		50

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	136	567	2	
2	1.03	FLUORIDE	59.506	2336	11594	2	1.31
3	1.43		0.000	120	475	2	
4	1.57	CHLORIDE	79.462	2613	10419	2	1.51
5	1.89	NITRITE	589.959	10071	51060	1	1.25
6	2.84	BROMIDE	630.324	6061	39607	2	0.35
7	3.22	NITRATE	645.202	6788	52481	2	0.63
8	4.77	PHOSPHATE	579.428	1596	21542	2	2.87
9	6.05	SULFATE	702.022	5260	72608	2	-0.60
10	7.95	OXALATE	539.229	2278	42716	1	-0.96
Totals			3825.132	37260	303070		

File: 97030801.D12 Sample: 42N20-C STD

Sample Name: S96T005227 ~~5-1877~~ Date: 03/08/1997 03:10:24
 Data File : C:\DX\DATA\97030801.D13
 Method : C:\DX\METHOD\ANIONS.MET HNF-SD-WM-DP-226, REV. 0
 ACI Address: 1 System: 1 Inject#: 13 Detector: CDM-1
 Analyst : Column:

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	5151	3000	5Hz	0.00	10.00		50

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	573	3523	2	
2	1.14		0.000	349	2102	2	
3	1.22		0.000	350	1690	2	
4	1.57	CHLORIDE	9005.138	5029	23394	2	1.08
5	1.89	NITRITE	132698.914	41410	231759	2	1.61
6	2.83	BROMIDE	1411.031	140	905	2	-0.12
7	3.11	NITRATE	178848.023	34872	316319	2	-2.71
8	4.79	PHOSPHATE	2740.331	124	1550	1	3.16
9	6.05	SULFATE	2614.787	312	4485	1	-0.60
10	7.96	OXALATE	455.476	19	231	1	-0.79
Totals			327773.700	83180	585957		

File: 97030801.D13 Sample: S96T005227

5-4-97

Sample Name: S96T005227 DUP

Date: 03/08/1997 03:21:07

Data File : C:\DX\DATA\97030801.D14

Method : C:\DX\METHOD\ANIONS.MET

ACI Address: 1 System: 1 Inject#: 14

HNF-SD-WM-DP-226 REV. 0

Analyst : Column:

Detector: CDM-1

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 5151 3000 5Hz 0.00 10.00 50

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.87		0.000	562	3359	2	
2	1.14		0.000	345	2037	2	
3	1.21		0.000	344	1668	2	
4	1.56	CHLORIDE	9010.173	5065	23407	2	0.65
5	1.88	NITRITE	133349.303	41321	232927	2	0.89
6	2.82	BROMIDE	1338.895	137	816	2	-0.35
7	3.10	NITRATE	179766.698	34923	318137	2	-3.13
8	4.77	PHOSPHATE	2477.587	117	1357	1	2.73
9	6.04	SULFATE	2984.232	365	5229	1	-0.82
10	7.95	OXALATE	483.266	21	274	1	-0.96

Totals 329410.154 83200 589211

File: 97030801.D14 Sample: S96T005227 DUP

Sample Name: S96T005227 SPIKE Date: 03/08/1997 03:32:34
 Data File : C:\DX\DATA\97030801.D15 HNF-SD-WM-DP-226, REV. 0
 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 15 Detector: CDM-1
 Analyst : Column:

Calibration Volume Dilution Points Rate Start Stop Area Reject
 External 1 5151 3000 5Hz 0.00 10.00 50

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.87		0.000	544	2826	2	
2	1.03	FLUORIDE	3120.245	2003	11926	3	0.65
3	1.21		0.000	225	1115	4	
4	1.56	CHLORIDE	13511.544	7745	35625	2	0.65
5	1.89	NITRITE	165385.000	50347	290796	2	1.25
6	2.80	BROMIDE	32655.068	6613	40262	2	-1.06
7	3.08	NITRATE	212997.871	41385	385566	2	-3.75
8	4.74	PHOSPHATE	32236.513	1724	23585	2	2.16
9	6.00	SULFATE	37185.291	5374	75502	2	-1.48
10	7.88	OXALATE	27609.838	2284	42889	1	-1.79
Totals			524701.371	118244	910092		

File: 97030801.D15 Sample: S96T005227 SPIKE

Sample Name: S96T005228 Date: 03/08/1997 03:57:11
 Data File : C:\DX\DATA\97030801.D17
 Method : C:\DX\METHOD\ANIONS.MET HNF-SD-WM-DP-226, REV. 0
 ACI Address: 1 System: 1 Inject#: 17
 Analyst : Column: Detector: CDM-1

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	5151	3000	5Hz	0.00	10.00		50

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.87		0.000	559	3427	2	
2	1.13		0.000	332	1958	2	
3	1.21		0.000	336	1598	2	
4	1.42		0.000	50	272	2	
5	1.55	CHLORIDE	8826.086	4923	22916	2	0.22
6	1.88	NITRITE	129238.718	41097	225553	2	0.89
7	2.81	BROMIDE	1468.980	176	976	2	-0.59
8	3.09	NITRATE	190044.653	36981	338641	2	-3.54
9	4.76	PHOSPHATE	2144.520	96	1113	1	2.59
10	6.03	SULFATE	2659.810	319	4575	1	-1.04
11	7.96	OXALATE	439.339	20	205	1	-0.79
Totals			334822.106	84890	601235		

File: 97030801.D17 Sample: S96T005228

Sample Name: S96T005228 DUP Date: 03/08/1997 04:07:54
 Data File : C:\DX\DATA\97030801.D18
 Method : C:\DX\METHOD\ANIONS.MET HNF-SD-WM-DP-226, REV. 0
 ACI Address: 1 System: 1 Inject#: 18
 Analyst : Column: Detector: CDM-1

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	5151	3000	5Hz	0.00	10.00		50

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.87		0.000	569	3459	2	
2	1.13		0.000	333	1921	2	
3	1.21		0.000	335	1596	2	
4	1.41		0.000	61	302	2	
5	1.55	CHLORIDE	8893.363	4978	23095	2	0.22
6	1.88	NITRITE	129751.905	41282	226473	2	0.89
7	2.81	BROMIDE	1425.031	173	922	2	-0.59
8	3.09	NITRATE	189259.325	37182	337063	2	-3.33
9	4.76	PHOSPHATE	2012.921	91	1017	1	2.59
10	6.03	SULFATE	2638.714	320	4533	1	-1.04
11	7.47		0.000	12	64	1	
12	7.91	OXALATE	516.306	23	326	1	-1.45
Totals			334497.565	85359	600772		

File: 97030801.D18 Sample: S96T005228 DUP

Sample Name: S96T005554 Date: 03/08/1997 04:19:32
 Data File : C:\DX\DATA\97030801.D19 HNF-SD-WM-DP-226, REV. 0
 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 19 Detector: CDM-1
 Analyst : Column:

Calibration Volume Dilution Points Rate Start Stop Area Reject
 External 1 5151 3000 5Hz 0.00 10.00 50

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.87		0.000	521	3137	2	
2	1.13		0.000	304	1824	2	
3	1.21		0.000	305	1419	2	
4	1.41		0.000	56	291	2	
5	1.55	CHLORIDE	8106.847	4599	21005	2	0.22
6	1.87	NITRITE	119100.246	37713	207415	2	0.54
7	2.81	BROMIDE	1409.085	162	902	2	-0.59
8	3.09	NITRATE	174163.134	33947	307084	2	-3.33
9	4.75	PHOSPHATE	1886.629	83	925	1	2.44
10	6.01	SULFATE	2449.173	287	4151	1	-1.26
11	7.93	OXALATE	484.995	22	277	1	-1.12
Totals			307600.110	77999	548431		

File: 97030801.D19 Sample: S96T005554

Sample Name: S96T005554 DUP Date: 03/08/1997 04:30:32
 Data File : C:\DX\DATA\97030801.D20
 Method : C:\DX\METHOD\ANIONS.MET HNF-SD-WM-DP-226, REV. 0
 ACI Address: 1 System: 1 Inject#: 20 Detector: CDM-1
 Analyst : Column:

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	5151	3000	5Hz	0.00	10.00		50

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.87		0.000	545	3265	2	
2	1.13		0.000	319	1837	2	
3	1.21		0.000	319	1519	2	
4	1.40		0.000	67	342	2	
5	1.55	CHLORIDE	8523.300	4803	22111	2	0.22
6	1.87	NITRITE	125958.025	39026	219676	2	0.54
7	2.81	BROMIDE	1086.027	92	504	1	-0.59
8	3.11	NITRATE	162619.743	31905	284583	1	-2.92
9	4.74	PHOSPHATE	2417.624	112	1313	1	2.16
10	6.01	SULFATE	2615.185	319	4485	1	-1.26
Totals			303219.903	77507	539635		

File: 97030801.D20 Sample: S96T005554 DUP

LABCORE Completed Worklist Report for Worklist# 16967

Analyst: eal

Instrument: IC01

Book# 4216.20D

Method: 1A-533-105 Rev/Mod D-1

Worklist Comment: Rerun An104 IC.jmf

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 CCB	0	0	01C-QC	F	QC	1	<1.20e-2	ug/mL
1 CCB	0	0	01C-QC	CL	QC	1	<1.70e-2	ug/mL
1 CCB	0	0	01C-QC	NO2	QC	1	<1.08e-1	ug/mL
1 CCB	0	0	01C-QC	BR	QC	1	<1.25e-1	ug/mL
1 CCB	0	0	01C-QC	NO3	QC	1	1.58e-01	0.158 ug/mL
1 CCB	0	0	01C-QC	PO4	QC	1	<1.20e-1	ug/mL
1 CCB	0	0	01C-QC	SO4	QC	1	<1.38e-1	ug/mL
1 CCB	0	0	01C-QC	OxALATE2	QC	1	<1.05e-1	ug/mL
2 CCV	0	0	01C-QC	F	QC	5.90e01	5.96e+01	101.017 % Recovery
2 CCV	0	0	01C-QC	CL	QC	7.90e01	7.68e+01	97.215 % Recovery
2 CCV	0	0	01C-QC	NO2	QC	5.42e02	5.23e+02	96.494 % Recovery
2 CCV	0	0	01C-QC	BR	QC	5.89e02	6.01e+02	102.037 % Recovery
2 CCV	0	0	01C-QC	NO3	QC	5.94e02	6.05e+02	101.852 % Recovery
2 CCV	0	0	01C-QC	PO4	QC	5.44e02	5.00e+02	91.912 % Recovery
2 CCV	0	0	01C-QC	SO4	QC	6.31e02	6.42e+02	101.743 % Recovery
2 CCV	0	0	01C-QC	OxALATE2	QC	5.33e02	5.11e+02	95.872 % Recovery
3 BLNK-PREP	0	0	01C-01	F-02	SOLID	1	<1.20e-2	ug/g
3 BLNK-PREP	0	0	01C-01	CL-02	SOLID	1	2.50e-02	0.025 ug/g
3 BLNK-PREP	0	0	01C-01	NO2-02	SOLID	1	<1.08e-1	ug/g
3 BLNK-PREP	0	0	01C-01	BR-02	SOLID	1	<1.25e-1	ug/g
3 BLNK-PREP	0	0	01C-01	NO3-02	SOLID	1	1.64e-01	0.164 ug/g
3 BLNK-PREP	0	0	01C-01	PO4-02	SOLID	1	<1.20e-1	ug/g
3 BLNK-PREP	0	0	01C-01	SO4-02	SOLID	1	<1.38e-1	ug/g
3 BLNK-PREP	0	0	01C-01	OxALATE2	SOLID	1	<1.05e-1	ug/g
4 SAMPLE	S96T005069	0 W	01C-01	F-02	SOLID	N/A	4.684e+02	101.800 ug/g
4 SAMPLE	S96T005069	0 W	01C-01	CL-02	SOLID	N/A	4.959e+03	144.200 ug/g
4 SAMPLE	S96T005069	0 W	01C-01	NO2-02	SOLID	N/A	7.438e+04	916.400 ug/g
4 SAMPLE	S96T005069	0 W	01C-01	BR-02	SOLID	N/A	< 1.060e+03	1060.000 ug/g
4 SAMPLE	S96T005069	0 W	01C-01	NO3-02	SOLID	N/A	1.027e+05	1179.000 ug/g
4 SAMPLE	S96T005069	0 W	01C-01	PO4-02	SOLID	N/A	< 1.018e+03	1018.000 ug/g
4 SAMPLE	S96T005069	0 W	01C-01	SO4-02	SOLID	N/A	1.013e+04	1171.000 ug/g
4 SAMPLE	S96T005069	0 W	01C-01	OxALATE2	SOLID	N/A	7.865e+03	890.500 ug/g
5 DUP	S96T005069	0 W	01C-01	F-02	SOLID	4.68e+02	4.61e+02	1.507 RPD
5 DUP	S96T005069	0 W	01C-01	CL-02	SOLID	4.96e+03	4.74e+03	4.536 RPD
5 DUP	S96T005069	0 W	01C-01	NO2-02	SOLID	7.44e+04	7.22e+04	3.001 RPD
5 DUP	S96T005069	0 W	01C-01	BR-02	SOLID	<1.06e3	<1.06e3	RPD
5 DUP	S96T005069	0 W	01C-01	NO3-02	SOLID	1.03e+05	1.05e+05	1.923 RPD
5 DUP	S96T005069	0 W	01C-01	PO4-02	SOLID	<1.02e3	<1.02e3	RPD
5 DUP	S96T005069	0 W	01C-01	SO4-02	SOLID	1.01e+04	9.96e+03	1.396 RPD
5 DUP	S96T005069	0 W	01C-01	OxALATE2	SOLID	7.86e+03	7.31e+03	7.251 RPD
6 RPK	S96T005069	0 W	01C-01	F-02	SOLID	5.90e01	5.50e+01	110.169 % Recovery

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Completed Worklist Report for Worklist# 16967

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
6 SPK	S96T005069	0 W	@IC-01	CL-02	SOLID	7.90e01	8.35e+01	105.696 % Recovery
6 SPK	S96T005069	0 W	@IC-01	NO2-02	SOLID	5.42e02	5.31e+02	97.970 % Recovery
6 SPK	S96T005069	0 W	@IC-01	BR-02	SOLID	3.89e02	3.97e+02	101.358 % Recovery
6 SPK	S96T005069	0 W	@IC-01	NO3-02	SOLID	5.94e02	6.66e+02	112.121 % Recovery
6 SPK	S96T005069	0 W	@IC-01	PO4-02	SOLID	5.44e02	5.31e+02	97.610 % Recovery
6 SPK	S96T005069	0 W	@IC-01	SO4-02	SOLID	6.31e02	6.63e+02	105.071 % Recovery
6 SPK	S96T005069	0 W	@IC-01	OXALATE2	SOLID	5.33e02	5.43e+02	101.876 % Recovery

Final page for worklist# 16967

Analyst Signature _____ Date _____

3-20-97
Analyst Signature _____ Date _____

3/24/97
Reviewer Signature _____ Date _____

PO₄ rejected due to instrument problem
it will be re run on WKL # 17142

Rest validated 3/24/97

A-0010-IC				DATA FILE/WORKLIST RESOLUTION				20-Mar-97	
Worklist#: 16967				Data File: 16967MAR.CSV					
	Seq	Type	Sample #	Seq#	Data File	Sample Name	Dilution		
-	=>	1 CCB		-	1 97031801.d01	INST. BLANK	1.00		
	=>	2 CCV			2 97031801.d02	42 20-D STD.	101.00		
	=>	3 BLNK-PREP			3 97031801.d03	PREP. BLANK	1.00		
	=>	4 SAMPLE	S96T005069		4 97031801.d04	S96T005069	41.00		
	=>	5 DUP	S96T005069		5 97031801.d05	S96T005069 DUP	41.00		
	=>	6 SPK	S96T005069		6 97031801.d06	S96T005069 SPIKE	41.00		
+				+					

Save (F4) Abort (Shift-F3) ListFiles (Shift-F1) UploadFile (F8)

LABCORE Data Entry Template for Worklist# 16967

Analyst: EDL Instrument: IC0 1 Book# 42N20-D

Method: LA-533-105 Rev/Mod D.1

Worklist Comment: Rerun An104 IC.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	S96T005069 0 W			@IC-01	SOLID	96001174	AN-104
		Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
5	DUP	S96T005069 0 W			@IC-01	SOLID		
6	SPK	S96T005069 0 W			@IC-01	SOLID		

Final page for worklist # 16967

A. Lambert 03.18.97
Analyst Signature Date

Analyst Signature Date

Data Entry Comments: 16967 MNR. SCW

16967 MAR. CSV

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

Sample Name: INST. BLANK Date: 03/18/1997 22:52:20
 Data File : C:\DX\DATA\97031801.D01
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 1 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration Volume Dilution Points Rate Start Stop Area Reject
 External 1 1 3000 5Hz 0.00 10.00 50

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.71	chloride	-0.006	16	59	1	3.43
2	2.85		0.000	281	9315	1	
3	3.47	nitrate	0.158	44	278	1	1.66
4	6.45	sulfate	-0.001	54	869	1	4.25
Totals			0.151	396	10521		

File: 97031801.D01 Sample: INST. BLANK

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1528 TO 1533

4231897

Sample Name: 42N20-D STD.

Date: 03/18/1997 23:03:39

Data File : C:\DX\DATA\97031801.D02

Method : C:\DX\METHOD\KIT.MET

ACI Address: 1 System: 1 Inject#: 2

Detector: CDM-1

Analyst : *Rambe* Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
-------------	--------	----------	--------	------	-------	------	------	--------

External	1	101	3000	5Hz	0.00	10.00		50
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***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.12	fluoride	59.639	1286	9461	1	-0.88
2	1.67	chloride	76.810	1771	9303	1	1.01
3	1.98	nitrite	522.557	5216	38911	1	-0.50
4	2.96	bromide	600.779	5033	34461	1	-1.33
5	3.37	nitrate	604.759	5479	46912	1	-1.27
6	4.88	phosphate	499.871	1813	22383	1	3.39
7	6.29	sulfate	641.613	4726	74498	1	1.67
8	8.32	oxalate	510.959	2262	44337	1	5.45

Totals			3516.987	27585	280265		
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File: 97031801.D02 Sample: 42 20-D STD.

Sample Name: PREP. BLANK Date: 03/18/1997 23:14:32
 Data File : C:\DX\DATA\97031801.D03
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 3 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	3000	5Hz	0.00	10.00		50

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
2	1.72	chloride	0.025	28	426	1	4.24
3	3.48	nitrate	0.164	47	328	1	2.05
4	6.51	sulfate	0.009	36	988	1	5.12
Totals			0.198	110	1742

Sample Name: S96T005069 Date: 03/18/1997 23:26:00
 Data File : C:\DX\DATA\97031801.D04
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 4 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	3000	5Hz	0.00	10.00		50

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.94		0.000	39	204	1	
2	1.15	fluoride	2.264	98	414	1	2.06
3	1.67	chloride	23.969	1264	7157	1	1.01
4	1.97	nitrite	359.499	8606	67498	1	-1.17
5	3.33	nitrate	496.518	10600	97261	1	-2.44
6	4.93	phosphate	-13.220	86	1090	1	4.52
7	6.35	sulfate	48.980	745	14534	1	2.53
8	8.37	oxalate	38.012	377	7946	1	6.13
Totals			956.022	21815	196106		

File: 97031801.D04 Sample: S96T005069

Sample Name: S96T005069 DUP

Date: 03/18/1997 23:37:37

Data File : C:\DX\DATA\97031801.D05

Method : C:\DX\METHOD\KIT.MET

ACI Address: 1 System: 1 Inject#: 5

Detector: CDM-1

Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
-------------	--------	----------	--------	------	-------	------	------	--------

External	1	41	3000	5Hz	0.00	10.00		50
----------	---	----	------	-----	------	-------	--	----

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.94		0.000	45	241	1	
2	1.15	fluoride	2.224	95	397	1	2.06
3	1.67	chloride	22.862	1249	6829	1	1.41
4	1.97	nitrite	348.120	8567	65268	1	-0.84
5	3.33	nitrate	506.005	10605	99193	1	-2.44
6	4.93	phosphate	-11.639	81	1243	1	4.52
7	6.35	sulfate	48.033	759	14269	1	2.53
8	8.37	oxalate	35.258	366	7358	1	6.13

Totals			950.863	21766	194799
--------	--	--	---------	-------	--------

File: 97031801.D05 Sample: S96T005069 DUP

Sample Name: S96T005069 SPIKE
 Date: 03/19/1997 01:14:14
 Data File : C:\DX\DATA\97031801.D06
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 6 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	3000	5Hz	0.00	10.00		50

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.93		0.000	39	143	2	
2	1.11	fluoride	28.267	1481	11163	2	-2.06
3	1.64	chloride	57.386	3374	17222	1	-0.61
4	1.96	nitrite	571.771	15347	109850	1	-1.51
5	2.93	bromide	238.711	5205	33708	1	-2.22
6	3.28	nitrate	762.807	16727	152355	1	-3.81
7	4.85	phosphate	212.394	1808	23335	1	2.82
8	6.29	sulfate	314.353	5797	90057	1	1.67
9	8.27	oxalate	255.165	2665	54657	1	4.77
Totals			2440.854	52443	492489		

File: 97031801.D06 Sample: S96T005069 SPIKE

LABCORE Completed Worklist Report for Worklist# 17106

Analyst: cal

Instrument: IC03

Book# 144/N98

Method: 1A-533-105 Rev/Mod D-1

Worklist Comment: Rerun AN-104 IC for formate only. Try 21 df.jmf

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 CCB	0	@IC2-QC	ACETATE2 QC		1	<2.00e-2		ug/mL
1 CCB	0	@IC2-QC	FORMATE2 QC		1	<2.10e-2		ug/mL
2 CCV	0	@IC2-QC	ACETATE2 QC		1.240e+2	1.24e+02	100.000 %	Recovery
2 CCV	0	@IC2-QC	FORMATE2 QC		1.200e+2	1.09e+02	90.833 %	Recovery
3 BLNK-PREP	0	@IC2-01	ACETATE2 SOLID		1	<2.00e-2		ug/g
3 BLNK-PREP	0	@IC2-01	FORMATE2 SOLID		1	3.80e-02	0.038	ug/g
4 SAMPLE	S96T004799	0 W	@IC2-01	FORMATE2 SOLID	N/A	6.775e+02	86.620	ug/g
5 DUF	S96T004799	0 W	@IC2-01	ACETATE2 SOLID	1	5.18e+02	199.229	RPD
5 DUF	S96T004799	0 W	@IC2-01	FORMATE2 SOLID	6.78e+02	7.28e+02	7.112	RPD
6 SPK	S96T004799	0 W	@IC2-01	ACETATE2 SOLID	1.240e+2	0.00e+00	0.000 %	Recovery
6 SPK	S96T004799	0 W	@IC2-01	FORMATE2 SOLID	1.200e+2	1.12e+02	93.333 %	Recovery
7 SAMPLE	S96T004800	0 W	@IC2-01	FORMATE2 SOLID	N/A	6.773e+02	89.330	ug/g
8 DUF	S96T004800	0 W	@IC2-01	ACETATE2 SOLID	1	5.29e+02	199.245	RPD
8 DUF	S96T004800	0 W	@IC2-01	FORMATE2 SOLID	6.77e+02	6.69e+02	1.189	RPD

Final page for worklist# 17106

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

James M. Lape 3/27/97
Reviewer Signature Date

*Rejected Formate std failed
& will be rerun on WKL # 17305.*

LABCORE Data Entry Template for Worklist# 17106

Analyst: EM Instrument: IC0 3 Book# 144198

Method: LA-533-105 Rev/Mod D1

Worklist Comment: Rerun AN-104 IC for formate only. Try 21 df.jmf

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC2-QC	QC		
2 CCV			@IC2-QC	QC		
3 BLNK-PREP			@IC2-01	SOLID		
4 SAMPLE	S96T004799 0 W		@IC2-01	SOLID	96001174	AN-104
	Analytes Requested: FORMATE2					
5 DUP	S96T004799 0 W		@IC2-01	SOLID		
6 SPK	S96T004799 0 W		@IC2-01	SOLID		
7 SAMPLE	S96T004800 0 W		@IC2-01	SOLID	96001174	AN-104
	Analytes Requested: FORMATE2					
8 DUP	S96T004800 0 W		@IC2-01	SOLID		

Final page for worklist # 17106

Analyst Signature

Date

Analyst Signature

Date

Uploaded 3-26-97

John Wonell

17106 MAR.CSV

Data Entry Comments:

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

=====

Sample Name: INST. BLANK	Date: 03/20/1997 19:46:12
Data File : C:\DX\DATA\97032001.D01	
Method : C:\DX\METHOD\ACE.MET	
ACI Address: 1 System: 2 Inject#: 1	Detector: CDM-1
Analyst : <i>John J. [Signature]</i>	Column: AG4A-SC, AS4A-SC, SRS

=====

Calibration Volume *97032001.D01* Dilution Points Rate Start Stop Area Reject

External 1 1 4500 5Hz 0.00 15.00 0

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.33		0.000	63	2475	1	
2	6.04		0.000	2037	99225	1	
3	7.05		0.000	1007	20691	1	
4	8.15		0.000	126	609	1	
5	8.39		0.000	335	30660	1	
Totals			0.000	3567	153659		

File: 97032001.D01 Sample: INST. BLANK

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1536 TO 1593

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=====
Sample Name: 144N9-B STD.           Date: 03/20/1997 20:02:12
Data File  : C:\DX\DATA\97032001.D02
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 2   Detector: CDM-1
Analyst    :           Column: AG4A-SC, AS4A-SC, SRS
=====

```

```

=====
Calibration Volume  Dilution Points Rate Start Stop Area Reject
-----
External           1           101    4500  5Hz   0.00 15.00      0
=====

```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.10	fluoride	63.853	2178	11699	1	0.00
2	2.37	acetate	123.849	545	3919	1	-0.70
3	3.11	formate	109.014	1093	8139	1	-0.75
4	6.07		0.000	3305	173911	1	
5	7.41		0.000	1268	57474	1	
6	8.13		0.000	135	630	1	
7	8.36		0.000	266	29689	1	
Totals			296.716	8791	285460		

File: 97032001.D02 Sample: 144N9-B STD.

```

=====
Sample Name: PREP. BLANK                      Date: 03/20/1997 21:52:49
Data File  : C:\DX\DATA\97032001.D03
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 3           Detector: CDM-1
Analyst    :                               Column: AG4A-SC,AS4A-SC, SRS
=====

```

```

=====
Calibration Volume  Dilution Points Rate  Start  Stop Area Reject
-----
External           1           1  4500  5Hz   0.00  15.00      0
=====

```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.40		0.000	5	66	1	
2	3.20	formate	0.038	11	58	1	2.24
3	5.96		0.000	4071	220831	1	
4	7.41		0.000	1203	29462	1	
5	8.15		0.000	95	429	1	
6	8.43		0.000	396	29671	1	
Totals			0.038	5781	280517		

File: 97032001.D03 Sample: PREP. BLANK

```

=====
Sample Name: S96T004799          Date: 03/20/1997 23:42:36
Data File  : C:\DX\DATA\97032001.D06
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 6      Detector: CDM-1
Analyst    :                      Column: AG4A-SC, AS4A-SC, SRS
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
=====
External          1          21    4500   5Hz    0.00 15.00          0
=====

```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.10	fluoride	3.261	409	2481	1	0.00
2	2.33	acetate	2.928	72	445	1	-2.37
3	3.07	formate	3.449	127	1021	1	-2.02
4	3.87		0.000	90	972	1	
5	5.43		0.000	3991	39099	1	
6	5.87		0.000	15726	143808	1	
7	7.32		0.000	60	791	1	
8	7.71		0.000	15643	224233	1	
9	8.33		0.000	665	25226	1	
Totals			9.638	36782	438075		

File: 97032001.D06 Sample: S96T004799

Sample Name: S96T004799 DUP

Date: 03/21/1997 01:36:34

Data File : C:\DX\DATA\97032001.D07

Method : C:\DX\METHOD\ACE.MET

ACI Address: 1 System: 2 Inject#: 7

Detector: CDM-1

Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
-------------	--------	----------	--------	------	-------	------	------	--------

External	1	21	4500	5Hz	0.00	15.00		0
----------	---	----	------	-----	------	-------	--	---

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.07	fluoride	3.334	371	2548	1	-1.59
2	2.36	acetate	2.611	74	396	1	-1.26
3	2.52		0.000	26	120	1	
4	3.08	formate	3.667	147	1100	1	-1.60
5	3.84		0.000	94	776	1	
6	5.41		0.000	3189	14211	1	
7	5.84		0.000	16540	162921	1	
8	6.96		0.000	231	2740	1	
9	7.41		0.000	925	11061	1	
10	7.71		0.000	15324	274869	1	
Totals			9.612	36922	470741		

File: 97032001.D07 Sample: S96T004799 DUP

```

=====
Sample Name: S96T004799 SPIKE          Date: 03/21/1997 02:08:34
Data File  : C:\DX\DATA\97032011.D09
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 9      Detector: CDM-1
Analyst    :                          Column: AG4A-SC, AS4A-SC, SRS
=====

```

```

=====
Calibration Volume  Dilution Points Rate  Start  Stop Area Reject
-----
External           1           21   4500  5Hz   0.00  15.00           0
=====

```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.07	fluoride	16.995	2198	15191	1	-1.59
2	2.36	acetate	31.146	661	4739	1	-1.26
3	3.08	formate	25.929	1292	9368	1	-1.60
4	3.88		0.000	88	761	1	
5	5.43		0.000	3178	12651	1	
6	5.83		0.000	16853	204767	1	
7	7.55		0.000	300	3252	1	
8	7.69		0.000	15261	214711	1	
Totals			74.071	39830	465442		

File: 97032011.D09 Sample: S96T004799 SPIKE

Sample Name: S96T004800

Date: 03/21/1997 02:27:50

Data File : C:\DX\DATA\97032011.D10

Method : C:\DX\METHOD\ACE.MET

ACI Address: 1 System: 2 Inject#: 10

Detector: CDM-1

Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
-------------	--------	----------	--------	------	-------	------	------	--------

External	1	21	4500	5Hz	0.00	15.00		0
----------	---	----	------	-----	------	-------	--	---

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.07	fluoride	2.214	217	1532	1	-1.59
2	2.36	acetate	2.480	70	376	1	-1.26
3	2.51		0.000	23	128	1	
4	3.08	formate	3.344	133	982	1	-1.60
5	3.85		0.000	96	868	1	
6	5.41		0.000	2945	10650	1	
7	5.83		0.000	16475	174094	1	
8	7.44		0.000	1470	20876	1	
9	7.76		0.000	11449	187124	1	
Totals			8.037	32878	396632		

File: 97032011.D10 Sample: S96T004800

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Sample Name: S96T004800 DUP                      Date: 03/21/1997 02:43:56
Data File  : C:\DX\DATA\97032011.D11
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 11              Detector: CDM-1
Analyst    :                               Column: AG4A-SC, AS4A-SC, SRS
=====

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Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          21    4500   5Hz   0.00 15.00          0
=====

```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.07	fluoride	2.220	172	1538	1	-1.59
2	2.36	acetate	2.655	77	403	1	-1.26
3	2.53		0.000	25	100	1	
4	3.09	formate	3.359	132	988	1	-1.17
5	3.88		0.000	92	796	1	
6	5.41		0.000	3347	13745	1	
7	5.81		0.000	16988	208554	1	
8	7.48		0.000	1263	17210	1	
9	7.75		0.000	11300	157168	1	
Totals			8.234	33397	400501		

File: 97032011.D11 Sample: S96T004800 DUP

LABCORE Completed Worklist Report for Worklist# 17142

Analyst: jds

Instrument: IC01

Book# 42N20D

Method: 64-533-105 Rev/Mod D-1

Worklist Comment: AN-104 PO4 only. use 41 df.jmf

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 CCB	0	0	01C-QC	F	QC	1	<1.20e-2	ug/mL
1 CCB	0	0	01C-QC	CL	QC	1	<1.70e-2	ug/mL
1 CCB	0	0	01C-QC	NO2	QC	1	<1.00e-1	ug/mL
1 CCB	0	0	01C-QC	BR	QC	1	<1.25e-1	ug/mL
1 CCB	0	0	01C-QC	NO3	QC	1	1.76e-01	0.176 ug/mL
1 CCB	0	0	01C-QC	PO4	QC	1	<1.20e-1	ug/mL
1 CCB	0	0	01C-QC	SO4	QC	1	<1.30e-1	ug/mL
1 CCB	0	0	01C-QC	OXALATE2	QC	1	<1.05e-1	ug/mL
2 CCV	0	0	01C-QC	F	QC	5.90e01	6.63e+01	112.373 % Recovery
2 CCV	0	0	01C-QC	CL	QC	7.90e01	7.90e+01	100.000 % Recovery
2 CCV	0	0	01C-QC	NO2	QC	5.42e02	5.20e+02	95.941 % Recovery
2 CCV	0	0	01C-QC	BR	QC	5.89e02	6.32e+02	107.301 % Recovery
2 CCV	0	0	01C-QC	NO3	QC	5.94e02	6.33e+02	106.566 % Recovery
2 CCV	0	0	01C-QC	PO4	QC	5.44e02	5.42e+02	99.632 % Recovery
2 CCV	0	0	01C-QC	SO4	QC	6.31e02	6.60e+02	104.596 % Recovery
2 CCV	0	0	01C-QC	OXALATE2	QC	5.33e02	5.39e+02	101.126 % Recovery
3 BLNK-PREP	0	0	01C-01	F-02	SOLID	1	<4.92e-1	ug/g
3 BLNK-PREP	0	0	01C-01	CL-02	SOLID	1	<6.97e-1	ug/g
3 BLNK-PREP	0	0	01C-01	NO2-02	SOLID	1	<4.43e0	ug/g
3 BLNK-PREP	0	0	01C-01	BR-02	SOLID	1	<5.12e0	ug/g
3 BLNK-PREP	0	0	01C-01	NO3-02	SOLID	1	7.51e+00	7.510 ug/g
3 BLNK-PREP	0	0	01C-01	PO4-02	SOLID	1	<4.92e0	ug/g
3 BLNK-PREP	0	0	01C-01	SO4-02	SOLID	1	6.38e+00	6.380 ug/g
3 BLNK-PREP	0	0	01C-01	OXALATE2	SOLID	1	<4.30e0	ug/g
4 SAMPLE	S96T005069	0 W	01C-01	PO4-02	SOLID	N/A	1.535e+03	1010.000 ug/g
5 DUP	S96T005069	0 W	01C-01	F-02	SOLID	7	3.81e+02	RPD
5 DUP	S96T005069	0 W	01C-01	CL-02	SOLID	7	2.31e+03	RPD
5 DUP	S96T005069	0 W	01C-01	NO2-02	SOLID	7	3.46e+04	RPD
5 DUP	S96T005069	0 W	01C-01	BR-02	SOLID	7	<1.06e3	RPD
5 DUP	S96T005069	0 W	01C-01	NO3-02	SOLID	7	5.08e+04	RPD
5 DUP	S96T005069	0 W	01C-01	PO4-02	SOLID	1.54e+03	1.37e+03	11.664 RPD
5 DUP	S96T005069	0 W	01C-01	SO4-02	SOLID	7	5.79e+03	RPD
5 DUP	S96T005069	0 W	01C-01	OXALATE2	SOLID	7	3.62e+03	RPD
6 SPK	S96T005069	0 W	01C-01	F-02	SOLID	5.90e01	0.00e+00	0.000 % Recovery
6 SPK	S96T005069	0 W	01C-01	CL-02	SOLID	7.90e01	0.00e+00	0.000 % Recovery
6 SPK	S96T005069	0 W	01C-01	NO2-02	SOLID	5.42e02	0.00e+00	0.000 % Recovery
6 SPK	S96T005069	0 W	01C-01	BR-02	SOLID	5.89e02	0.00e+00	0.000 % Recovery
6 SPK	S96T005069	0 W	01C-01	NO3-02	SOLID	5.94e02	0.00e+00	0.000 % Recovery
6 SPK	S96T005069	0 W	01C-01	PO4-02	SOLID	5.44e02	5.44e+02	100.000 % Recovery
6 SPK	S96T005069	0 W	01C-01	SO4-02	SOLID	6.31e02	0.00e+00	0.000 % Recovery
6 SPK	S96T005069	0 W	01C-01	OXALATE2	SOLID	5.33e02	0.00e+00	0.000 % Recovery

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Completed Worklist Report for Worklist# 17142

Seq Type	Sample# R A	Test	Matrix	Actual	Found	DL or Yield	Unit
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Final page for worklist# 17142

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

3/31/97
Reviewer Signature Date

LABCORE Data Entry Template for Worklist# 17142

Analyst: Jds Instrument: IC0 1 Book# 4/2 N20 D

Method: LA-533-105 Rev/Mod D-1

Worklist Comment: AN-104 PO4 only. use 41 df.jmf

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	CCB				@IC-QC	QC		
2	CCV				@IC-QC	QC		
3	BLNK-PREP				@IC-01	SOLID		
4	SAMPLE	S96T005069 0 W			@IC-01	SOLID	96001174	AN-104
		Analytes Requested: PO4-02						
5	DUP	S96T005069 0 W			@IC-01	SOLID		
6	SPK	S96T005069 0 W			@IC-01	SOLID		

Final page for worklist # 17142

TM Spr 3/24/97
Analyst Signature Date

Uploaded 3-27-97

John Wavell

17142 MAR. CS V

Validated 3/31/97 gm Lays

Analyst Signature Date

Data Entry Comments:

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

A-0010-IC

DATA FILE/WORKLIST RESOLUTION

27-Mar-97

Worklist#: 17142

Data File: 17142MAR.SCV

	Seq	Type	Sample #	Seq#	Data File	Sample Name	Dilution
-	=v	1 CCB		-	1 97032421.d05	BLANK	1.00
	=v	2 CCV			2 97032421.d06	42N20D STD	101.00
	=v	3 BLNK-PREP			3 97032421.d07	PREP BLK	41.00
	=v	4 SAMPLE	S96T005069		4 97032421.d08	S96T005069	41.00
	=v	5 DUP	S96T005069		5 97032421.d09	S96T005069DUP	41.00
	=v	6 SPK	S96T005069		6 97032421.d10	S96T005069SPK	41.00
+				+			

Save (F4) Abort (Shift-F3) ListFiles (Shift-F1) UploadFile (F8)

Sample Name: BLANK Date: 03/24/1997 19:35:19
 Data File : C:\DX\DATA\97032421.D05
 Method : C:\DX\METHOD\KIT.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 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
2	2.82		0.000	116	1573	1	
3	3.43	nitrate	0.176	64	421	1	0.49
4	6.45	sulfate	0.011	50	1010	1	4.25
Totals			0.187	230	3004

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1548 TO 1553

Sample Name: 42N20D STD Date: 03/24/1997 19:57:14
Data File : C:\DX\DATA\97032421.D06
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 6 Detector: CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 101 3000 5Hz 0.00 10.00 50

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.11	fluoride	66.270	1377	10589	1	-2.06
2	1.65	chloride	79.049	1776	9574	1	0.20
3	1.95	nitrite <i>10x95</i>	519.982	5167	38710	1	-1.84
4	2.92	bromide <i>106</i>	631.642	5162	36288	1	-2.67
5	3.32	nitrate <i>106</i>	632.773	5817	49162	1	-2.64
6	4.88	phosphate	542.108	1872	22693	1	3.39
7	6.29	sulfate <i>104</i>	659.861	4740	76629	1	1.67
8	8.32	oxalate	539.336	2483	46824	1	5.45

Totals 3671.020 28395 290470

File: 97032421.D06 Sample: 42N20D STD

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=====
Sample Name: PREP BLK                      Date: 03/24/1997 20:18:04
Data File  : C:\DX\DATA\97032421.D07
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 7         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      41    3000 5Hz    0.00 10.00      50
=====

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```

***** Peak Report: All Peaks *****

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Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.70	chloride	-0.042	25	115	1	3.03
2	3.44	nitrate	7.511	66	479	1	0.88
3	6.45	sulfate	6.379	120	2656	1	4.25
Totals			13.847	212	3250		

File: 97032421.D07 Sample: PREP BLK

```

=====
Sample Name: S96T005069                      Date: 03/24/1997 20:36:51
Data File  : C:\DX\DATA\97032421.D08
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 8           Detector: CDM-1
Analyst    :                               Column: AG4A/AS4A anion column
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          41  3000  5Hz  0.00 10.00          50
=====

```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.93		0.000	25	119	1	
2	1.15	fluoride	1.934	66	279	1	1.47
3	1.67	chloride	13.559	722	4086	1	1.01
4	1.96	nitrite	200.098	4713	36605	1	-1.51
5	3.33	nitrate	279.087	6029	53565	1	-2.44
6	4.93	phosphate	7.421	44	544	1	4.52
7	6.40	sulfate	25.679	493	8029	1	3.39
8	8.43	oxalate	24.703	235	5102	1	6.80
Totals			552.481	12326	108330		

File: 97032421.D08 Sample: S96T005069

Sample Name: S96T005069DUP Date: 03/24/1997 20:51:16
 Data File : C:\DX\DATA\97032421.D09
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 9 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 41 3000 5Hz 0.00 10.00 50

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.94		0.000	20	82	1	
2	1.15	fluoride	1.838	56	240	1	1.47
3	1.67	chloride	11.135	623	3374	1	1.41
4	1.97	nitrite	166.957	3992	30274	1	-1.17
5	3.33	nitrate	245.005	5277	46815	1	-2.25
6	4.93	phosphate	6.588	31	459	1	4.52
7	6.40	sulfate	27.908	505	8651	1	3.39
8	8.43	oxalate	17.466	193	3556	1	6.80
Totals			476.897	10697	93451		

File: 97032421.D09 Sample: S96T005069DUP

Sample Name: S96T005069SPK Date: 03/24/1997 21:07:23
 Data File : C:\DX\DATA\97032421.D10
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 10 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	3000	5Hz	0.00	10.00		50

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.94		0.000	40	143	2	
2	1.11	fluoride	28.535	1470	11276	2	-1.47
3	1.64	chloride	59.084	3187	17741	1	-0.61
4	1.96	nitrite	587.663	15133	113080	1	-1.51
5	2.93	bromide	233.339	4987	32926	1	-2.44
6	3.27	nitrate	767.721	16880	153389	1	-4.20
7	4.88	phosphate	224.931	1911	23208	1	3.39
8	6.29	sulfate	306.221	5593	87702	1	1.67
9	8.27	oxalate	254.658	2603	54547	1	4.77
Totals			2462.150	51804	494011		

File: 97032421.D10 Sample: S96T005069SPK

LABCORE Completed Worklist Report for Worklist# 17144

Analyst: jds

Instrument: IC01

Book# 42 N20D

Method: LA-533-105 Rev/Mod D1

Worklist Comment: Rerun AN 104 IC. jmf

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 CCB	0	0	QIC-QC F	QC	1	<1.20e-2		ug/mL
1 CCB	0	0	QIC-QC CL	QC	1	<1.70e-2		ug/mL
1 CCB	0	0	QIC-QC NO2	QC	1	<1.08e-1		ug/mL
1 CCB	0	0	QIC-QC BR	QC	1	<1.25e-1		ug/mL
1 CCB	0	0	QIC-QC NO3	QC	1	1.69e-01	0.169	ug/mL
1 CCB	0	0	QIC-QC PO4	QC	1	<1.20e-1		ug/mL
1 CCB	0	0	QIC-QC SO4	QC	1	<1.38e-1		ug/mL
1 CCB	0	0	QIC-QC OXALATE2	QC	1	<1.05e-1		ug/mL
2 CCV	0	0	QIC-QC F	QC	5.90e01	5.88e+01	99.661 % Recovery	
2 CCV	0	0	QIC-QC CL	QC	7.90e01	7.40e+01	93.671 % Recovery	
2 CCV	0	0	QIC-QC NO2	QC	5.42e02	5.05e+02	93.173 % Recovery	
2 CCV	0	0	QIC-QC BR	QC	5.89e02	5.95e+02	101.019 % Recovery	
2 CCV	0	0	QIC-QC NO3	QC	5.94e02	6.05e+02	101.852 % Recovery	
2 CCV	0	0	QIC-QC PO4	QC	5.44e02	5.14e+02	94.485 % Recovery	
2 CCV	0	0	QIC-QC SO4	QC	6.31e02	6.26e+02	99.208 % Recovery	
2 CCV	0	0	QIC-QC OXALATE2	QC	5.33e02	5.10e+02	95.685 % Recovery	
3 SAMPLE	S96T004781	0	QIC-01 F-02	LIQUID	N/A	< 1.224e+02	122.400	ug/mL
3 SAMPLE	S96T004781	0	QIC-01 CL-02	LIQUID	N/A	7.215e+03	173.400	ug/mL
3 SAMPLE	S96T004781	0	QIC-01 NO2-02	LIQUID	N/A	1.094e+05	1202.000	ug/mL
3 SAMPLE	S96T004781	0	QIC-01 BR-02	LIQUID	N/A	< 1.275e+03	1275.000	ug/mL
3 SAMPLE	S96T004781	0	QIC-01 NO3-02	LIQUID	N/A	1.695e+05	1416.000	ug/mL
3 SAMPLE	S96T004781	0	QIC-01 PO4-02	LIQUID	N/A	3.775e+03	1224.000	ug/mL
3 SAMPLE	S96T004781	0	QIC-01 SO4-02	LIQUID	N/A	2.725e+03	1408.000	ug/mL
3 SAMPLE	S96T004781	0	QIC-01 OXALATE2	LIQUID	N/A	1.434e+03	1071.000	ug/mL
4 DUP	S96T004781	0	QIC-01 F-02	LIQUID	<1.22e2	<1.22e2		RPD
4 DUP	S96T004781	0	QIC-01 CL-02	LIQUID	7.22e+03	7.34e+03	1.648	RPD
4 DUP	S96T004781	0	QIC-01 NO2-02	LIQUID	1.09e+05	1.10e+05	0.913	RPD
4 DUP	S96T004781	0	QIC-01 BR-02	LIQUID	<1.28e3	<1.28e3		RPD
4 DUP	S96T004781	0	QIC-01 NO3-02	LIQUID	1.70e+05	1.67e+05	1.780	RPD
4 DUP	S96T004781	0	QIC-01 PO4-02	LIQUID	3.78e+03	1.81e+03	70.483	RPD
4 DUP	S96T004781	0	QIC-01 SO4-02	LIQUID	2.72e+03	1.50e+03	57.820	RPD
4 DUP	S96T004781	0	QIC-01 OXALATE2	LIQUID	1.43e+03	<1.07e3		RPD
5 SPK	S96T004781	0	QIC-01 F-02	LIQUID	5.90e01	6.33e+01	107.288 % Recovery	
5 SPK	S96T004781	0	QIC-01 CL-02	LIQUID	7.90e01	6.29e+01	79.620 % Recovery	
5 SPK	S96T004781	0	QIC-01 NO2-02	LIQUID	5.42e02	1.80e+02	33.210 % Recovery	
5 SPK	S96T004781	0	QIC-01 BR-02	LIQUID	5.89e02	5.95e+02	101.019 % Recovery	
5 SPK	S96T004781	0	QIC-01 NO3-02	LIQUID	5.94e02	3.99e+00	0.604 % Recovery	
5 SPK	S96T004781	0	QIC-01 PO4-02	LIQUID	5.44e02	5.15e+02	94.669 % Recovery	
5 SPK	S96T004781	0	QIC-01 SO4-02	LIQUID	6.31e02	6.38e+02	101.109 % Recovery	
5 SPK	S96T004781	0	QIC-01 OXALATE2	LIQUID	5.33e02	5.26e+02	98.687 % Recovery	
6 SAMPLE	S96T004783	0	QIC-01 F-02	LIQUID	N/A	< 1.224e+02	122.400	ug/mL

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Completed Worklist Report for Worklist# 17144

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
6 SAMPLE	S96T004783	0	QIC-01	CL-02	LIQUID	N/A	8.429e+03	173.400 ug/mL
6 SAMPLE	S96T004783	0	QIC-01	NO2-02	LIQUID	N/A	1.279e+05	1102.000 ug/mL
6 SAMPLE	S96T004783	0	QIC-01	BR-02	LIQUID	N/A	1.275e+03	1275.000 ug/mL
6 SAMPLE	S96T004783	0	QIC-01	NO3-02	LIQUID	N/A	1.797e+05	1416.000 ug/mL
6 SAMPLE	S96T004783	0	QIC-01	PO4-02	LIQUID	N/A	2.648e+03	1224.000 ug/mL
6 SAMPLE	S96T004783	0	QIC-01	SO4-02	LIQUID	N/A	1.818e+03	1408.000 ug/mL
6 SAMPLE	S96T004783	0	QIC-01	OXALATE2	LIQUID	N/A	1.071e+03	1071.000 ug/mL
7 DUP	S96T004783	0	QIC-01	F-02	LIQUID	<1.22e2	<1.22e2	RPD
7 DUP	S96T004783	0	QIC-01	CL-02	LIQUID	8.43e+03	8.60e+03	1.336 RPD
7 DUP	S96T004783	0	QIC-01	NO2-02	LIQUID	1.28e+05	1.30e+05	1.550 RPD
7 DUP	S96T004783	0	QIC-01	BR-02	LIQUID	<1.28e3	<1.28e3	RPD
7 DUP	S96T004783	0	QIC-01	NO3-02	LIQUID	1.80e+05	1.77e+05	1.681 RPD
7 DUP	S96T004783	0	QIC-01	PO4-02	LIQUID	2.65e+03	2.71e+03	2.239 RPD
7 DUP	S96T004783	0	QIC-01	SO4-02	LIQUID	1.82e+03	2.31e+03	23.729 RPD
7 DUP	S96T004783	0	QIC-01	OXALATE2	LIQUID	<1.07e3	<1.07e3	RPD

Final page for worklist# 17144

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Jenn M. Lye 3/31/97
Reviewer Signature Date

LABCORE Data Entry Template for Worklist# 17144

Analyst: JDS Instrument: IC0 1 Book# 42N20DMethod: LA-533-105 Rev/Mod D-1

Worklist Comment: Rerun AN 104 IC. jmf

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	CCB				@IC-QC	QC		
2	CCV				@IC-QC	QC		
3	SAMPLE	S96T004781 0			@IC-01	LIQUID	96001174	AN-104
					Analytes Requested: BR-02	, CL-02	, F-02	, NO2-02
						OXALATE2, PO4-02	, SO4-02	, NO3-02
4	DUP	S96T004781 0			@IC-01	LIQUID		
5	SPK	S96T004781 0			@IC-01	LIQUID		
6	SAMPLE	S96T004783 0			@IC-01	LIQUID	96001174	AN-104
					Analytes Requested: BR-02	, CL-02	, F-02	, NO2-02
						OXALATE2, PO4-02	, SO4-02	, NO3-02
7	DUP	S96T004783 0			@IC-01	LIQUID		

Final page for worklist # 17144

Analyst Signature JDS Date 3/25/97

Analyst Signature _____ Date _____

uploaded 3-27-97John W. Wainell17144MAR.csvValidated 3/28/97 JMF

Data Entry Comments:

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

A-0010-IC				DATA FILE/WORKLIST RESOLUTION				27-Mar-97			
Worklist#: 17144				Data File: 17144MAR.CSV							
		Seq	Type	Sample #		Seq#	Data File	Sample Name		Dilution	
-	=>	1	CCB		-	1	97032421.d16	BLANK		1.00	
	=>	2	CCV			2	97032421.d17	42N20D STD		101.00	
	=>	3	SAMPLE	S96T004781		3	97032421.d18	S96T004781		10201.00	
	=>	4	DUP	S96T004781		4	97032421.d19	S96T004781DUP		10201.00	
	=>	5	SPK	S96T004781		5	97032421.d20	S96T004781SPK		10201.00	
	=>	6	SAMPLE	S96T004783		6	97032421.d21	S96T004783		10201.00	
	=>	7	DUP	S96T004783		7	97032421.d22	S96T004783DUP		10201.00	
+					+						

Save (F4) Abort (Shift-F3) ListFiles (Shift-F1) UploadFile (F8)

Sample Name: BLANK
Data File : C:\DX\DATA\97032421.D16
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 16
Analyst : *John J. Lee* Column: AG4A/AS4A anion column

Date: 03/25/1997 01:51:27

Detector: CDM-1

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	3.42	nitrate	0.169	57	368	1	0.29
2	6.45	sulfate	0.124	126	2294	1	4.25
Totals			0.293	183	2663		

File: 97032421.D16 Sample: BLANK

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1558 TO 1564

Sample Name: 42N20D STD Date: 03/25/1997 02:03:46
 Data File : C:\DX\DATA\97032421.D17
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 17 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	101	3000	5Hz	0.00	10.00		50

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.11	fluoride	58.762	1251	9312	1	-1.47
2	1.65	chloride	73.973	1653	8959	1	0.20
3	1.96	nitrite	504.994	5052	37544	1	-1.51
4	2.91	bromide	595.440	4926	34145	1	-2.89
5	3.31	nitrate	605.429	5437	46966	1	-2.83
6	4.88	phosphate	514.370	1711	21503	1	3.39
7	6.29	sulfate	625.639	4162	72633	1	1.67
8	8.32	oxalate	510.342	2335	44283	1	5.45
Totals			3488.948	26527	275345		

File: 97032421.D17 Sample: 42N20D STD

Sample Name: S96T004781 Date: 03/25/1997 02:28:03
 Data File : C:\DX\DATA\97032421.D18
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 18 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	10201	3000	5Hz	0.00	10.00		50

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.95		0.000	76	477	1	
2	1.25		0.000	20	78	1	
3	1.65	chloride	7215.474	1554	8653	1	0.20
4	1.95	nitrite	109372.339	11243	83309	1	-1.84
5	2.98	bromide	977.845	16	85	1	-0.67
6	3.27	nitrate	169467.339	14428	135261	1	-4.20
7	4.93	phosphate	3775.005	71	1340	1	4.52
8	6.45	sulfate	2725.284	179	3929	1	4.25
9	8.48	oxalate	1433.566	23	1058	1	7.48

Totals 294966.851 27611 234189

File: 97032421.D18 Sample: S96T004781

Sample Name: S96T004781DUP Date: 03/25/1997 02:48:38
 Data File : C:\DX\DATA\97032421.D19
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 19 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	10201	3000	5Hz	0.00	10.00		50

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.94		0.000	86	538	1	
2	1.25		0.000	21	78	1	
3	1.66	chloride	7335.230	1568	8796	1	0.61
4	1.96	nitrite	110374.580	11256	84109	1	-1.51
5	3.00	bromide	939.697	13	64	1	0.00
6	3.28	nitrate	166897.365	14438	133112	1	-3.81
7	4.93	phosphate	1813.284	51	531	1	4.52
8	6.45	sulfate	1496.480	159	2555	1	4.25
Totals			288856.637	27591	229783		

File: 97032421.D19 Sample: S96T004781DUP

Sample Name: S96T004781SPK Date: 03/25/1997 03:00:09
 Data File : C:\DX\DATA\97032421.D20
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 20 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	10201	3000	5Hz	0.00	10.00		50

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.94		0.000	29	99	2	
2	1.11	fluoride	6396.540	1289	10089	2	-1.47
3	1.65	chloride	13570.263	2907	16352	1	-0.20
4	1.96	nitrite	127549.373	13004	97908	1	-1.51
5	2.92	bromide	60084.422	5075	34113	1	-2.67
6	3.27	nitrate	169829.769	15203	135565	1	-4.01
7	4.88	phosphate	55816.396	1875	23145	1	3.39
8	6.29	sulfate	67172.108	4827	77238	1	1.67
9	8.32	oxalate	54523.137	2449	46868	1	5.45
Totals			554942.009	46657	441377		

File: 97032421.D20 Sample: S96T004781SPK

Sample Name: S96T004783 Date: 03/25/1997 03:15:25
 Data File : C:\DX\DATA\97032421.D21
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 21 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	10201	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	0.95		0.000	91	604	1	
2	1.25		0.000	24	117	1	
3	1.65	chloride	8429.270	1796	10109	1	0.20
4	1.96	nitrite	127913.606	13173	98202	1	-1.51
5	3.27	nitrate	179698.124	15249	143844	1	-4.01
6	4.93	phosphate	2648.048	77	875	1	4.52
7	6.40	sulfate	1817.891	143	2914	1	3.39
Totals			320506.939	30553	256665		

File: 97032421.D21 Sample: S96T004783

Sample Name: S96T004783DUP

Date: 03/25/1997 03:27:58

Data File : C:\DX\DATA\97032421.D22

Method : C:\DX\METHOD\KIT.MET

ACI Address: 1 System: 1 Inject#: 22

Detector: CDM-1

Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	10201	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	0.93		0.000	105	796	2	
2	1.33		0.000	134	1551	2	
3	1.65	chloride	8600.511	1797	10315	1	0.20
4	1.95	nitrite	129575.744	13040	99546	1	-1.84
5	3.27	nitrate	176644.685	15168	141278	1	-4.01
6	4.93	phosphate	2705.479	69	899	1	4.52
7	6.40	sulfate	2309.657	164	3464	1	3.39
Totals			319836.076	30477	257849		

File: 97032421.D22 Sample: S96T004783DUP

LABCORE Completed Worklist Report for Worklist# 17512

Analyst: krq

Instrument: IC02

Book# 50N20A

Method: 14-533705 Rev/Mod D-1

Worklist Comment: Rerun AN-104 IC use 41 df.jmf

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 PO4	QC	1	<1.20e-1		ug/mL
1 CCB	0	QIC-QC SO4	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	5.87e+01	99.492 % Recovery	
2 CCV	0	QIC-QC CL	QC	7.90e01	7.52e+01	95.190 % Recovery	
2 CCV	0	QIC-QC NO2	QC	5.43e02	5.24e+02	96.501 % Recovery	
2 CCV	0	QIC-QC BR	QC	5.89e02	5.73e+02	97.284 % Recovery	
2 CCV	0	QIC-QC NO3	QC	5.94e02	<1.40e1	% Recovery	
2 CCV	0	QIC-QC PO4	QC	5.45e02	5.34e+02	97.982 % Recovery	
2 CCV	0	QIC-QC SO4	QC	6.31e02	6.23e+02	98.732 % Recovery	
2 CCV	0	QIC-QC OXALATE2	QC	5.32e02	5.24e+02	98.496 % Recovery	
3 BLNK-PREP	0	QIC-01 F-02	SOLID	1	<1.20e-2		ug/g
3 BLNK-PREP	0	QIC-01 CL-02	SOLID	1	3.20e-02	0.032	ug/g
3 BLNK-PREP	0	QIC-01 NO2-02	SOLID	1	<1.08e-1		ug/g
3 BLNK-PREP	0	QIC-01 BR-02	SOLID	1	<1.25e-1		ug/g
3 BLNK-PREP	0	QIC-01 NO3-02	SOLID	1	<1.39e-1		ug/g
3 BLNK-PREP	0	QIC-01 PO4-02	SOLID	1	<1.20e-1		ug/g
3 BLNK-PREP	0	QIC-01 SO4-02	SOLID	1	<1.38e-1		ug/g
3 BLNK-PREP	0	QIC-01 OXALATE2	SOLID	1	<1.05e-1		ug/g
5 DUP	S96T005068	0 W QIC-01 F-02	SOLID	?	7.09e+02		RPD
5 DUP	S96T005068	0 W QIC-01 CL-02	SOLID	?	4.41e+03		RPD
5 DUP	S96T005068	0 W QIC-01 NO2-02	SOLID	6.07e+04	5.90e+04	2.840	RPD
5 DUP	S96T005068	0 W QIC-01 BR-02	SOLID	?	<1.00e3		RPD
5 DUP	S96T005068	0 W QIC-01 NO3-02	SOLID	?	3.88e+04		RPD
5 DUP	S96T005068	0 W QIC-01 PO4-02	SOLID	?	2.27e+03		RPD
5 DUP	S96T005068	0 W QIC-01 SO4-02	SOLID	?	1.08e+04		RPD
5 DUP	S96T005068	0 W QIC-01 OXALATE2	SOLID	?	8.23e+03		RPD
6 SPK	S96T005068	0 W QIC-01 F-02	SOLID	5.90e01	0.00e+00	0.000 % Recovery	
6 SPK	S96T005068	0 W QIC-01 CL-02	SOLID	7.90e01	0.00e+00	0.000 % Recovery	
6 SPK	S96T005068	0 W QIC-01 NO2-02	SOLID	5.43e02	5.92e+02	109.024 % Recovery	
6 SPK	S96T005068	0 W QIC-01 BR-02	SOLID	5.89e02	0.00e+00	0.000 % Recovery	
6 SPK	S96T005068	0 W QIC-01 NO3-02	SOLID	5.94e02	0.00e+00	0.000 % Recovery	
6 SPK	S96T005068	0 W QIC-01 PO4-02	SOLID	5.45e02	0.00e+00	0.000 % Recovery	
6 SPK	S96T005068	0 W QIC-01 SO4-02	SOLID	6.31e02	0.00e+00	0.000 % Recovery	
6 SPK	S96T005068	0 W QIC-01 OXALATE2	SOLID	5.32e02	0.00e+00	0.000 % Recovery	
8 DUP	S96T005071	0 W QIC-01 F-02	SOLID	?	4.62e+02		RPD

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Completed Worklist Report for Worklist# 17512

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
8 DUP	S96T005071	0 W	@IC-01	CL-02	SOLID	?	4.75e+03	RPD
8 DUP	S96T005071	0 W	@IC-01	NO2-02	SOLID	6.59e+04	6.42e+04	2.613 RPD
8 DUP	S96T005071	0 W	@IC-01	BR-02	SOLID	?	<1.04e3	RPD
8 DUP	S96T005071	0 W	@IC-01	NO3-02	SOLID	?	1.03e+05	RPD
8 DUP	S96T005071	0 W	@IC-01	P04-02	SOLID	?	2.35e+03	RPD
8 DUP	S96T005071	0 W	@IC-01	S04-02	SOLID	?	9.88e+03	RPD
8 DUP	S96T005071	0 W	@IC-01	OXALATE2	SOLID	?	8.10e+03	RPD

Final page for worklist# 17512

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

James Lue

Reviewer Signature Date 5/13/97

Reprinted copy.

Files: 970410 41.D02, D04 > D10

Data Reprocessed On 05/13/1997 14:10:55

Sample Name: CCB Date: 04/10/1997 19:52:19
Data File : E:\DATA\97041041.d02
Method : C:\DX\METHOD\ANIONSa.met
ACI Address: 1 System: 1 Inject#: 2 Detector: CDM-1
Analyst : *John K. R. 5/12/97* Column: AG4A/AS4A anion column

Calibration Volume Dilution Points Rate Start Stop Area Reject
External 1 1 3000 5Hz 0.00 10.00 50

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.27		0.000	55	310	1	
2	5.44	sulfate	0.042	23	290	1	-4.73
Totals			0.042	78	600

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1567 TO 1574

Data Reprocessed On 05/13/1997 14:10:56

Sample Name: CCV 50N20-A	Date: 04/10/1997 20:17:37
Data File : E:\DATA\97041041.d04	
Method : C:\DX\METHOD\ANIONSa.met	
ACI Address: 1 System: 1 Inject#: 4	Detector: CDM-1
Analyst :	Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	101	3000	5Hz	0.00	10.00		50

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.31		0.000	35	228	1	
2	0.87		0.000	69	287	2	
3	1.02	fluoride	58.723	2041	10699	2	0.99
4	1.54	chloride	75.241	2281	10663	1	0.00
5	1.85	nitrite	523.708	9575	50786	1	-1.07
6	2.77	bromide	573.460	5678	35903	1	2.72
7	3.15	nitrate	597.202	6362	48793	1	-0.11
8	4.51	phosphate	534.398	1662	20909	1	1.20
9	5.92	sulfate	623.459	5019	68564	1	3.68
10	7.73	oxalate	524.477	2301	44006	1	4.32
Totals			3510.669	35021	290839		

File: 97041041.d04 Sample: CCV 50N20-A

Sample Name: BLANK PREP Date: 04/10/1997 20:30:16
 Data File : E:\DATA\97041041.d05
 Method : C:\DX\METHOD\ANIONSa.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		50

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.33		0.000	48	347	1	
2	1.29		0.000	52	460	1	
3	1.55	chloride	0.032	40	302	1	0.87
4	3.21		0.000	20	122	1	
5	5.39	sulfate	0.040	29	273	1	-5.66
Totals			0.072	190	1504		

File: 97041041.d05 Sample: BLANK PREP

Data Reprocessed On 05/13/1997 14:10:58

Sample Name: S96T005068 SAMPLE	Date: 04/10/1997 20:42:56
Data File : E:\DATA\97041041.d06	
Method : C:\DX\METHOD\ANIONSa.met	
ACI Address: 1 System: 1 Inject#: 6	Detector: CDM-1
Analyst :	Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
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External	1	41	3000	5Hz	0.00	10.00		50
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***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.22		0.000	76	460	1	
2	0.88		0.000	165	900	2	
3	1.03	fluoride	3.827	289	1501	2	1.65
4	1.13		0.000	211	860	2	
5	1.21		0.000	187	1051	2	
6	1.54	chloride	22.632	1596	7840	1	0.00
7	1.85	nitrite	301.885	13423	72776	1	-1.07
8	3.11	nitrate	512.381	13540	106347	1	4.24
9	4.53	phosphate	10.459	66	727	1	1.80
10	5.92	sulfate	57.954	1001	15346	1	3.68
11	7.79	oxalate	43.417	512	9629	1	5.04
Totals			952.555	31065	217437		

File: 97041041.d06 Sample: S96T005068 SAMPLE

Data Reprocessed On 05/13/1997 14:10:59

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=====
Sample Name: S96T005068 DUP                      Date: 04/10/1997 20:55:35
Data File  : E:\DATA\97041041.d07
Method     : C:\DX\METHOD\ANIONSa.met
ACI Address: 1 System: 1 Inject#: 7                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      41    3000  5Hz    0.00 10.00      50
=====

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***** Peak Report: All Peaks *****

```

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.25		0.000	54	359	1	
2	0.87		0.000	159	807	2	
3	1.03	fluoride	3.618	274	1407	2	1.65
4	1.13		0.000	197	797	2	
5	1.21		0.000	177	969	2	
6	1.54	chloride	22.496	1597	7792	1	0.00
7	1.85	nitrite	301.224	13463	72613	1	-1.07
8	3.11	nitrate	504.636	13202	104660	1	4.24
9	4.53	phosphate	11.599	67	837	1	1.80
10	5.92	sulfate	54.945	1008	14537	1	3.68
11	7.79	oxalate	42.001	506	9344	1	5.04
Totals			940.518	30705	214119		

File: 97041041.d07 Sample: S96T005068 DUP

Data Reprocessed On 05/13/1997 14:10:59

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=====
Sample Name: S96T005068 SPIKE      Date: 04/10/1997 21:08:14
Data File  : E:\DATA\97041041.d08
Method     : C:\DX\METHOD\ANIONSa.met
ACI Address: 1 System: 1 Inject#: 8
Analyst    :                      Column: AG4A/AS4A anion column
Detector: CDM-1
=====

```

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 41 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	0.23		0.000	60	370	1	
2	0.87		0.000	202	921	2	
3	1.02	fluoride	29.959	2183	13566	2	0.99
4	1.54	chloride	53.580	3806	18965	1	0.00
5	1.85	nitrite	538.735	23540	131391	1	-0.71
6	2.77	bromide	226.776	5745	34936	1	2.72
7	3.09	nitrate	766.274	20140	162946	1	3.35
8	4.51	phosphate	226.432	1710	21856	1	1.20
9	5.87	sulfate	304.585	4973	82876	1	2.74
10	7.73	oxalate	255.666	2843	52759	1	4.32
Totals			2402.007	65201	520586		

File: 97041041.d08 Sample: S96T005068 SPIKE

Data Reprocessed On 05/13/1997 14:11:00

```

=====
Sample Name: S96T005071 SAMPLE          Date: 04/10/1997 21:20:53
Data File  : E:\DATA\97041041.d09
Method     : C:\DX\METHOD\ANIONSa.met
ACI Address: 1 System: 1 Inject#: 9      Detector: CDM-1
Analyst    :                          Column: AG4A/AS4A anion column
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
External          1          41    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	0.27		0.000	40	293	1	
2	0.87		0.000	166	795	1	
3	1.03	fluoride	2.157	177	746	2	1.65
4	1.13		0.000	77	236	2	
5	1.53	chloride	24.417	1710	8476	1	-0.43
6	1.85	nitrite	332.443	14729	80315	1	-1.07
7	2.79	bromide	5.504	18	91	1	3.47
8	3.11	nitrate	532.777	13881	110801	1	4.02
9	4.53	phosphate	11.265	72	804	1	1.80
10	5.92	sulfate	51.711	949	13669	1	3.68
11	7.79	oxalate	41.472	493	9237	1	5.04
Totals			1001.745	32313	225462		

File: 97041041.d09 Sample: S96T005071 SAMPLE

Data Reprocessed On 05/13/1997 14:11:00

Sample Name: S96T005071 DUP		Date: 04/10/1997 21:33:33
Data File : E:\DATA\97041041.d10		
Method : C:\DX\METHOD\ANIONSa.met		
ACI Address: 1	System: 1	Inject#: 10
Analyst :	Column: AG4A/AS4A anion column	Detector: CDM-1

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	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	0.28		0.000	62	302	1	
2	0.87		0.000	152	714	1	
3	1.03	fluoride	2.388	185	850	2	2.31
4	1.13		0.000	76	217	2	
5	1.53	chloride	23.523	1633	8157	1	-0.43
6	1.85	nitrite	318.034	14060	76759	1	-1.07
7	3.11	nitrate	511.726	13275	106204	1	4.24
8	4.53	phosphate	11.608	74	838	1	1.80
9	5.92	sulfate	48.925	901	12921	1	3.68
10	7.79	oxalate	40.089	477	8959	1	5.04
Totals			956.293	30896	215920		

File: 97041041.d10 Sample: S96T005071 DUP

This document was too large to scan as a whole document,
therefore it required breaking into smaller sections.

Document number: SD-WM-DP-224

Section 5 of 6

Title: Tank 241-AN-104, Cores 163 and 164
Analytical Results for the Final Report

Date: 6/5/97 Revision: A000

Originator: Steve LXL

Co: RFLH

Recipient: _____

Co: _____

References: EDT- 620405

LABCORE Completed Worklist Report for Worklist# 17519

Analyst: eal

Instrument: IC03

Book# 144N9C

Method: 44-533-705 Rev/Mod D-1

Worklist Comment: Rerun AN104 was wkl 17305.

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 CCB	0		⑥IC2-QC ACETATE2 QC		1	<2.00e-2		ug/mL
1 CCB	0		⑥IC2-QC FORMATE2 QC		1	<2.10e-2		ug/mL
2 CCV	0		⑥IC2-QC ACETATE2 QC		1.22e02	1.11e+02	90.984 % Recovery	
2 CCV	0		⑥IC2-QC FORMATE2 QC		1.20e02	1.04e+02	86.667 % Recovery	
3 BLNK-PREP	0		⑥IC2-01 ACETATE2 SOLID		1	<2.00e-2		ug/g
3 BLNK-PREP	0		⑥IC2-01 FORMATE2 SOLID		1	<2.10e-2		ug/g
5 DUP	S96T004799	0 W	⑥IC2-01 ACETATE2 SOLID		1	<2.04e4		RPD
5 DUP	S96T004799	0 W	⑥IC2-01 FORMATE2 SOLID		<2.12e4	<2.15e4		RPD
6 SPK	S96T004799	0 W	⑥IC2-01 ACETATE2 SOLID		1.22e02	0.00e+00	0.000 % Recovery	
6 SPK	S96T004799	0 W	⑥IC2-01 FORMATE2 SOLID		1.20e02	2.03e+02	169.167 % Recovery	
8 DUP	S96T004800	0 W	⑥IC2-01 ACETATE2 SOLID		1	<2.05e4		RPD
8 DUP	S96T004800	0 W	⑥IC2-01 FORMATE2 SOLID		<2.19e4	<2.16e4		RPD

Final page for worklist# 17519

Analyst Signature

Date

Analyst Signature

Date

John J. J. 5/13/97
Reviewer Signature Date

Rerun no WKL 17545

LABCORE Data Entry Template for Worklist# 17519

Analyst: EAL Instrument: IC0 3 Book# 144N9C

Method: LA-533-105 Rev/Mod D-1

Worklist Comment: Rerun AN104 was wkl 17305.

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	CCB				@IC2-QC	QC		
2	CCV				@IC2-QC	QC		
3	BLNK-PREP				@IC2-01	SOLID		
4	SAMPLE	S96T004799	0	W	@IC2-01	SOLID	96001174	AN-104
		Analytes Requested: FORMATE2						
5	DUP	S96T004799	0	W	@IC2-01	SOLID		
6	SPK	S96T004799	0	W	@IC2-01	SOLID		
7	SAMPLE	S96T004800	0	W	@IC2-01	SOLID	96001174	AN-104
		Analytes Requested: FORMATE2						
8	DUP	S96T004800	0	W	@IC2-01	SOLID		

Final page for worklist # 17519

Analyst Signature

Date

Analyst Signature

Date

See original for signature
#17305

uploaded 4-11-97

John W. Small

17519APR.CSV

Rejected format as CCV failed - Rerun on 17545

Data Entry Comments:

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist# 17305

Analyst: Jan Instrument: IC0 3 Book# 144N9-C

Method: LA-533-105 Rev/Mod D.1

Worklist Comment: Rerun AN104 format. Use 21 df.jmf

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC-QC	QC		
2 CCV			@IC-QC	QC		
3 SAMPLE	S96T004799 0 W		@IC2-01	SOLID	96001174	AN-104
	Analytes Requested: FORMATE2					
4 DUP	S96T004799 0 W		@IC2-01	SOLID		
5 SPK	S96T004799 0 W		@IC2-01	SOLID		
6 SAMPLE	S96T004800 0 W		@IC2-01	SOLID	96001174	AN-104
	Analytes Requested: FORMATE2					
7 DUP	S96T004800 0 W		@IC2-01	SOLID		

Final page for worklist # 17305

A. Lambel
Analyst Signature

04.05.97
Date

Analyst Signature

Date

Prep Blank was added to the wkl & it
was resaved as 17519. gm Lye

Data Entry Comments:

2/4 -> I added a prep-blank to this one
because the batch has one. Was this an over-look. If
not-well I got extra practice. @ @

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

A-0010-IC

DATA FILE/WORKLIST RESOLUTION

07-Apr-97

Worklist#: 17305

Data File: 17305AP1.CSV

		Seq	Type	Sample #			Seq#	Data File	Sample Name	Dilution
-	=>	1	CCB		-	1	97040411.d01	INST. BLANK		1.00
	=>	2	CCV			2	97040411.d02	144N9-C STD.		101.00
	=>	3	BLNK-PREP			3	97040411.d03	PREP. BLANK		1.00
	=>	4	SAMPLE	S96T004799		4	97040411.d04	S96T004799		5151.00
	=>	5	DUP	S96T004799		5	97040411.d05	S96T004799 DUP		5151.00
	=>	6	SPK	S96T004799		6	97040501.d06	S96T004799 SPIKE		5151.00
	=>	7	SAMPLE	S96T004800		7	97040501.d07	S96T004800		5151.00
	=>	8	DUP	S96T004800		8	97040501.d08	S96T004800DUP		5151.00
+					+					

Save (F4) Abort (Shift-F3) ListFiles (Shift-F1) UploadFile (F8)

Data Reprocessed On 05/13/1997 14:15:36

Sample Name: INST. BLANK

Date: 04/04/1997 23:20:23

Data File : E:\DATA\97040411.d01

Method : C:\DX\METHOD\ACE.MET

ACI Address: 1 System: 2 Inject#: 1

Detector: CDM-1

Analyst : *James Hays* Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	4500	5Hz	0.00	15.00		0

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.50		0.000	9	83	1	
2	6.04		0.000	10	22	1	
3	7.96		0.000	193	3371	1	
4	8.17		0.000	118	525	1	
5	8.60		0.000	1467	66439	1	
Totals			0.000	1796	70440		

File: 97040411.d01 Sample: INST. BLANK

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1574 TO 1586

Data Reprocessed On 05/13/1997 14:15:37

Sample Name: 144N9-C STD.	Date: 04/04/1997 23:36:41
Data File : E:\DATA\97040411.d02	
Method : C:\DX\METHOD\ACE.MET	
ACI Address: 1 System: 2 Inject#: 2	Detector: CDM-1
Analyst :	Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	101	4500	5Hz	0.00	15.00		0

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.19	fluoride	64.803	1879	9903	1	-0.61
2	2.47	acetate	110.893	480	3354	1	-0.54
3	3.23	formate	104.085	923	6769	1	0.00
4	6.00		0.000	2990	162319	1	
5	6.73		0.000	35	360	1	
6	7.31		0.000	81	1100	1	
7	8.17		0.000	125	596	1	
8	8.44		0.000	310	24554	1	
Totals			279.781	6824	208955		

File: 97040411.d02 Sample: 144N9-C STD.

Data Reprocessed On 05/13/1997 14:15:38

```
=====
Sample Name: PREP. BLANK                      Date: 04/04/1997 23:52:52
Data File  : E:\DATA\97040411.d03
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 3           Detector: CDM-1
Analyst    :                               Column: AG4A-SC, AS4A-SC, SRS
=====
```

```
Calibration Volume Dilution Points Rate Start Stop Area Reject
External          1           1 4500 5Hz 0.00 15.00           0
```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.53		0.000	0	70	1	
2	6.00		0.000	1891	69453	1	
3	7.39		0.000	904	22938	1	
4	8.17		0.000	94	421	1	
5	8.45		0.000	364	25643	1	
Totals			0.000	3252	118523		

File: 97040411.d03 Sample: PREP. BLANK

Data Reprocessed On 05/13/1997 14:15:39

```
=====
Sample Name: S96T004799                      Date: 04/05/1997 00:09:02
Data File  : E:\DATA\97040411.d04
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 4           Detector: CDM-1
Analyst    :                               Column: AG4A-SC, AS4A-SC, SRS
=====
```

```
=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
External          1          5151  4500  5Hz   0.00 15.00          0
=====
```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.19	fluoride	882.272	405	2349	1	-0.61
2	4.01		0.000	75	634	1	
3	5.45		0.000	2796	11057	1	
4	5.81		0.000	18189	197386	1	
5	7.40		0.000	481	6827	1	
6	7.72		0.000	13283	258167	1	
Totals			882.272	35229	476419		

File: 97040411.d04 Sample: S96T004799

Data Reprocessed On 05/13/1997 14:15:40

```

=====
Sample Name: S96T004799 DUP                      Date: 04/05/1997 01:46:00
Data File  : E:\DATA\97040411.d05
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 5                Detector: CDM-1
Analyst    :                      Column: AG4A-SC, AS4A-SC, SRS
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          5151  4500  5Hz   0.00 15.00          0
=====

```

```

***** Peak Report: All Peaks *****

```

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.19	fluoride	910.102	401	2434	1	-0.61
2	3.99		0.000	81	716	1	
3	5.44		0.000	3037	12852	1	
4	5.81		0.000	17437	163586	1	
5	7.24		0.000	1695	29069	1	
6	7.75		0.000	12739	253807	1	
Totals			910.102	35389	462465		

File: 97040411.d05 Sample: S96T004799 DUP

Data Reprocessed On 05/13/1997 14:15:41

```

=====
Sample Name: S96T004799 SPIKE                      Date: 04/05/1997 02:02:33
Data File  : E:\DATA\97040501.d06
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 6                  Detector: CDM-1
Analyst    :                      Column: AG4A-SC,AS4A-SC, SRS
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          5151  4500  5Hz  0.00 15.00          0
=====

```

```

***** Peak Report: All Peaks *****

```

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.19	fluoride	4524.775	2379	13804	1	-0.61
2	2.91		0.000	8	44	1	
3	3.23	formate	203.109	17	92	1	0.00
4	4.01		0.000	71	602	1	
5	5.45		0.000	2766	12053	1	
6	5.83		0.000	18374	209620	1	
7	7.41		0.000	1360	22745	1	
8	7.75		0.000	12979	224324	1	
Totals			4727.883	37954	483283		

File: 97040501.d06 Sample: S96T004799 SPIKE

Data Reprocessed On 05/13/1997 14:15:42

```
=====
Sample Name: S96T004800          Date: 04/05/1997 02:19:01
Data File  : E:\DATA\97040501.d07
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 7      Detector: CDM-1
Analyst    :          Column: AG4A-SC, AS4A-SC, SRS
=====
```

```
=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          5151  4500  5Hz  0.00 15.00          0
=====
```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.19	fluoride	582.148	246	1430	1	-0.61
2	4.01		0.000	77	665	1	
3	5.45		0.000	3016	11238	1	
4	5.81		0.000	18765	213702	1	
5	7.45		0.000	1233	18608	1	
6	7.80		0.000	9698	171820	1	
Totals			582.148	33035	417463		

File: 97040501.d07 Sample: S96T004800

Data Reprocessed On 05/13/1997 14:15:43

```
=====
Sample Name: S96T004800DUP          Date: 04/05/1997 02:35:53
Data File  : E:\DATA\97040501.d08
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 8   Detector: CDM-1
Analyst    :          Column: AG4A-SC, AS4A-SC, SRS
=====
```

```
=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1         5151  4500  5Hz   0.00 15.00          0
=====
```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.19	fluoride	575.931	228	1411	1	-0.61
2	4.01		0.000	81	695	1	
3	5.45		0.000	3103	12563	1	
4	5.81		0.000	19437	219043	1	
5	7.44		0.000	1453	20439	1	
6	7.79		0.000	10419	180487	1	
Totals			575.931	34721	434638		

File: 97040501.d08 Sample: S96T004800DUP

LABCORE Completed Worklist Report for Worklist# 17545

Analyst: dpb

Instrument: IC03

Book# 144N9C

Method: LA-533-705 Rev/Mod D-1

Worklist Comment: Rerun AN 104 for formate. Use 5151 df.jmf

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 CCB	0	0	0IC2-QC	ACETATE2 QC	1	<2.00e-2		ug/mL
1 CCB	0	0	0IC2-QC	FORMATE2 QC	1	<2.10e-2		ug/mL
2 CCV	0	0	0IC2-QC	ACETATE2 QC	1.22e02	1.20e+02	98.361 % Recovery	
2 CCV	0	0	0IC2-QC	FORMATE2 QC	1.20e02	1.28e+02	106.667 % Recovery	
3 BLNK-PREP	0	0	0IC2-01	ACETATE2 SOLID	1	<2.00e-2		ug/g
3 BLNK-PREP	0	0	0IC2-01	FORMATE2 SOLID	1	3.70e-02	0.037	ug/g
4 SAMPLE	S96T004799	0 W	0IC2-01	FORMATE2 SOLID	N/A	1.182e+05	21250.000	ug/g
5 DUP	S96T004799	0 W	0IC2-01	ACETATE2 SOLID	1	3.07e+04	199.987	RPD
5 DUP	S96T004799	0 W	0IC2-01	FORMATE2 SOLID	1.18e+05	7.60e+04	43.299	RPD
6 SPK	S96T004799	0 W	0IC2-01	ACETATE2 SOLID	1.22e02	0.00e+00	0.000 % Recovery	
6 SPK	S96T004799	0 W	0IC2-01	FORMATE2 SOLID	1.20e02	1.12e+02	93.333 % Recovery	
7 SAMPLE	S96T004800	0 W	0IC2-01	FORMATE2 SOLID	N/A	4.425e+04	21910.000	ug/g
8 DUP	S96T004800	0 W	0IC2-01	ACETATE2 SOLID	1	<2.05e-4		RPD
8 DUP	S96T004800	0 W	0IC2-01	FORMATE2 SOLID	4.42e+04	7.05e+04	45.859	RPD

Final page for worklist# 17545

Analyst Signature

Date

Analyst Signature

Date

John M. Lutz 4/23/97
Reviewer Signature Date

LABCORE Data Entry Template for Worklist# 17545

Analyst: DPB Instrument: IC0 3 Book# 144N9-C

Method: LA-533-105 Rev/Mod D-1

Worklist Comment: Rerun AN 104 for formate. Use 5151 df.jmf

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	CCB,				@IC2-QC	QC		
2	CCV				@IC2-QC	QC		
3	BLNK-PREP				@IC2-01	SOLID		
4	SAMPLE	S96T004799	0	W	@IC2-01	SOLID	96001174	AN-104
		Analytes Requested: FORMATE2						
5	DUP	S96T004799	0	W	@IC2-01	SOLID		
6	SPK	S96T004799	0	W	@IC2-01	SOLID		
7	SAMPLE	S96T004800	0	W	@IC2-01	SOLID	96001174	AN-104
		Analytes Requested: FORMATE2						
8	DUP	S96T004800	0	W	@IC2-01	SOLID		

Final page for worklist # 17545

Analyst Signature

Date

Analyst Signature

Date

Uploaded 4-17-97

John W. Howell

17545APR.CSV

Validated 4/21/97 gmFrye

Data Entry Comments:

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

A-0010-IC				DATA FILE/WORKLIST RESOLUTION				17-Apr-97			
Worklist#: 17545				Data File: 17545APR.CSV							
		Seq	Type	Sample #	Seq#		Data File	Sample Name		Dilution	
-	=>	1	CCB		-	1	97041511.d02	BLANK		1.00	
	=>	2	CCV			2	97041511.d04	STD 144N9-C		101.00	
	=>	3	BLNK-PREP			3	97041511.d05	BLANK PREP		1.00	
	=>	4	SAMPLE	S96T004799		4	97041511.d06	S96T004799		5151.00	
	=>	5	DUP	S96T004799		5	97041511.d07	S96T004799 DUP		5151.00	
	=>	6	SPK	S96T004799		6	97041511.d08	S96T004799 SPK		5151.00	
	=>	7	SAMPLE	S96T004800		7	97041511.d09	S96T004800 SAM		5151.00	
	=>	8	DUP	S96T004800		8	97041511.d10	S96T004800 DUP		5151.00	
+					+						

Save (F4) Abort (Shift-F3) ListFiles (Shift-F1) UploadFile (F8)

Sample Name: BLANK Date: 04/15/1997 13:36:38
Data File : C:\DX\DATA\97041511.D02
Method : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 2 Detector: CDM-1
Analyst : *John J. [Signature]* Column: AG4A-SC, AS4A-SC, SRS

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 1 4500 5Hz 0.00 15.00 0

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. %Delta Code
1	1.40		0.000	9	139	1
2	6.07		0.000	1880	83844	1
3	7.51		0.000	1359	27813	1
4	8.01		0.000	406	1962	1
5	8.17		0.000	648	28541	1

Totals 0.000 4302 142298

File: 97041511.D02 Sample: BLANK

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION ANALYSIS ON PAGES 1590 TO 1597

Sample Name: STD 144N9-C Date: 04/15/1997 14:15:16
 Data File : C:\DX\DATA\97041511.D04
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 4 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	101	4500	5Hz	0.00	15.00		0

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.19	fluoride	72.308	2106	11120	1	-0.61
2	2.45	acetate	119.820	544	3622	1	-1.08
3	3.20	formate	127.571	1134	8367	1	-0.83
4	6.19		0.000	2650	184933	1	
5	7.75		0.000	965	23731	1	
6	8.16		0.000	119	512	1	
7	8.40		0.000	298	25797	1	
Totals			319.699	7816	258081		

File: 97041511.D04 Sample: STD 144N9-C

1591 *James P. Brandy 4/15/97*

Sample Name: BLANK PREP Date: 04/15/1997 14:41:35
Data File : C:\DX\DATA\97041511.D05
Method : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 5 Detector: CDM-1
Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 1 4500 5Hz 0.00 15.00 0

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	3.21	formate	0.037	14	77	1	-0.41
2	6.07		0.000	2699	188746	1	
3	7.53		0.000	1048	31640	1	
4	8.17		0.000	100	464	1	
5	8.43		0.000	331	20602	1	
Totals			0.037	4192	241529		

File: 97041511.D05 Sample: BLANK PREP

Sample Name: S96T004799 Date: 04/15/1997 15:04:56
 Data File : C:\DX\DATA\97041511.D06
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 6 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	5151	4500	5Hz	0.00	15.00	0	

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.23	fluoride	119.659	6	21	1	1.21
2	2.45	acetate	126.892	18	83	1	-1.08
3	3.19	formate	601.544	80	606	1	-1.24
4	5.51		0.000	233	3734	1	
5	6.04		0.000	1104	36374	1	
6	7.41		0.000	1118	39547	1	
7	8.17		0.000	147	727	1	
8	8.41		0.000	227	19683	1	
Totals			848.095	2932	100773		

File: 97041511.D06 Sample: S96T004799

Sample Name: S96T004799 DUP Date: 04/15/1997 15:25:35
 Data File : C:\DX\DATA\97041511.D07
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 7 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 5151 4500 5Hz 0.00 15.00 0

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.20	fluoride	121.173	4	25	1	0.00
2	2.47	acetate	154.838	15	99	1	-0.54
3	3.21	formate	383.288	38	324	1	-0.41
4	6.03		0.000	2855	172901	1	
5	7.41		0.000	1101	36060	1	
6	8.17		0.000	142	676	1	
7	8.43		0.000	281	19771	1	
Totals			659.299	4436	229857		

File: 97041511.D07 Sample: S96T004799 DUP

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Sample Name: S96T004799 SPK Date: 04/15/1997 15:43:37

Data File : C:\DX\DATA\97041511.D08

Method : C:\DX\METHOD\ACE.MET

ACI Address: 1 System: 2 Inject#: 8 Detector: CDM-1

Analyst : Column: AG4A-SC, AS4A-SC, SRS

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Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	5151	4500	5Hz	0.00	15.00		0

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.19	fluoride	3626.168	2103	10924	1	-0.61
2	2.45	acetate	5993.346	511	3553	1	-1.08
3	3.20	formate	6257.668	1010	8034	1	-0.83
4	6.03		0.000	2836	160698	1	
5	7.47		0.000	1059	31574	1	
6	8.17		0.000	147	703	1	
7	8.40		0.000	257	23288	1	
Totals			15877.182	7922	238774		

File: 97041511.D08 Sample: S96T004799 SPK

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=====
Sample Name: S96T004800 SAM                      Date: 04/15/1997 16:00:53
Data File  : C:\DX\DATA\97041511.D09
Method     : C:\DX\METHOD\ACE.MET
ACI Address: 1 System: 2 Inject#: 9                Detector: CDM-1
Analyst    :                                     Column: AG4A-SC,AS4A-SC, SRS
=====

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=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          5151   4500  5Hz   0.00 15.00          0
=====

```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.19	fluoride	132.759	11	61	1	-0.61
2	2.49	acetate	89.857	10	61	1	0.54
3	3.24	formate	218.480	14	112	1	0.41
4	6.03		0.000	2787	155478	1	
5	7.49		0.000	1038	29091	1	
6	8.17		0.000	147	700	1	
7	8.41		0.000	275	22016	1	
Totals			441.096	4282	207518		

File: 97041511.D09 Sample: S96T004800 SAM

Sample Name: S96T004800 DUP Date: 04/15/1997 16:18:31
 Data File : C:\DX\DATA\97041511.D10
 Method : C:\DX\METHOD\ACE.MET
 ACI Address: 1 System: 2 Inject#: 10 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	5151	4500	5Hz	0.00	15.00		0

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.30		0.000	1	13	1	
2	2.43	acetate	42.388	7	33	1	-2.15
3	3.21	formate	353.737	41	286	1	-0.41
4	6.03		0.000	2871	164473	1	
5	7.48		0.000	1003	27009	1	
6	8.17		0.000	147	702	1	
7	8.43		0.000	273	11024	1	
Totals			396.125	4342	203540		

File: 97041511.D10 Sample: S96T004800 DUP

LABCORE Completed Worklist Report for Worklist# 17650

Analyst: eal

Instrument: IC02

Book# 53N204

Method: 14-533-705 Rev/Mod D-1

Worklist Comment: Rerun NO2 for AN104. Use 10201df. 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	2.90e-02	0.029 ug/mL
1	CCB	0	⊗IC-QC	NO2	QC	1	<1.00e-1	ug/mL
1	CCB	0	⊗IC-QC	BR	QC	1	<1.25e-1	ug/mL
1	CCB	0	⊗IC-QC	NO3	QC	1	2.18e-01	0.218 ug/mL
1	CCB	0	⊗IC-QC	PO4	QC	1	<1.20e-1	ug/mL
1	CCB	0	⊗IC-QC	SO4	QC	1	<1.30e-1	ug/mL
1	CCB	0	⊗IC-QC	OxALATE2	QC	1	<1.05e-1	ug/mL
2	CCV	0	⊗IC-QC	F	QC	6.00e01	5.61e+01	93.832 % Recovery
2	CCV	0	⊗IC-QC	CL	QC	7.70e01	7.35e+01	95.455 % Recovery
2	CCV	0	⊗IC-QC	NO2	QC	5.63e02	5.23e+02	92.895 % Recovery
2	CCV	0	⊗IC-QC	BR	QC	2.96e02	2.78e+02	93.919 % Recovery
2	CCV	0	⊗IC-QC	NO3	QC	5.85e02	5.85e+02	100.000 % Recovery
2	CCV	0	⊗IC-QC	PO4	QC	5.71e02	5.64e+02	98.774 % Recovery
2	CCV	0	⊗IC-QC	SO4	QC	5.95e02	5.66e+02	95.126 % Recovery
2	CCV	0	⊗IC-QC	OxALATE2	QC	?	<1.06e1	% Recovery
3	SAMPLE	S96T005739	0	⊗IC-01	NO2-02	LIQUID	N/A	9.101e+04 1102.000 ug/mL
4	DUP	S96T005739	0	⊗IC-01	F-02	LIQUID	?	<1.22e2 RPD
4	DUP	S96T005739	0	⊗IC-01	CL-02	LIQUID	?	7.09e+03 RPD
4	DUP	S96T005739	0	⊗IC-01	NO2-02	LIQUID	9.10e+04	9.36e+04 2.817 RPD
4	DUP	S96T005739	0	⊗IC-01	BR-02	LIQUID	?	<1.28e3 RPD
4	DUP	S96T005739	0	⊗IC-01	NO3-02	LIQUID	?	1.36e+05 RPD
4	DUP	S96T005739	0	⊗IC-01	PO4-02	LIQUID	?	1.80e+03 RPD
4	DUP	S96T005739	0	⊗IC-01	SO4-02	LIQUID	?	2.11e+03 RPD
4	DUP	S96T005739	0	⊗IC-01	OxALATE2	LIQUID	?	<1.07e3 RPD

Final page for worklist# 17650

Analyst Signature

Date

Analyst Signature

Date

Reviewer Signature: *Jan M. Lyle* 4/30/97
Date

04/21/97 14:28
A-0004-1

LABCORE Data Entry Template for Worklist# 17650

Analyst: SAK Instrument: IC0 2 Book# 53N204

Method: LA-533-105 Rev/Mod D.1

Worklist Comment: Rerun NO2 for AN104. Use 10201df. jmf

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC-QC	QC		
2 CCV			@IC-QC	QC		
3 SAMPLE	S96T005739 0		@IC-01	LIQUID	96001283	AN-104
	Analytes Requested: NO2-02					
4 DUP	S96T005739 0		@IC-01	LIQUID		

Final page for worklist # 17650

A. Lambert 04-22-97
Analyst Signature Date

Analyst Signature Date

uploaded 4-22-97

John W. Wells

17650 APR. CSV

Validated 4/24/97 Jm Lye

Data Entry Comments:

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

A-0010-IC				DATA FILE/WORKLIST RESOLUTION				22-Apr-97	
Worklist#: 17650				Data File: 17650APR.CSV					
	Seq	Type	Sample #	Seq#	Data File	Sample Name	Dilution		
-	=v	1	CCB	-	1	97042201.d26	INST. BLANK	1.00	
	=v	2	CCV		2	97042201.d27	53N20-A STD.	101.00	
	=v	3	SAMPLE		3	97042201.d28	S96T005739	10201.00	
	=v	4	DUP		4	97042201.d29	S96T005739DUP	10201.00	
+				+					

Save (F4) Abort (Shift-F3) ListFiles (Shift-F1) UploadFile (F8)

HNF-SD-WM-DP-226, REV. 0

Sample Name: INST. BLANK Date: 04/22/1997 10:23:46
 Data File : C:\DX\DATA\97042201.D26
 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 26 Detector: CDM-1
 Analyst : *Janet Faye* 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	1.14		0.000	28	111	1	
2	1.39		0.000	28	153	1	
3	1.55	chloride	0.029	62	264	1	0.43
4	3.19	nitrate	0.218	132	939	1	0.74
5	6.08	sulfate	0.057	31	462	1	6.48
Totals			0.305	280	1928		

File: 97042201.D26 Sample: INST. BLANK

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1101 TO 1104

Sample Name: 53N20-A STD. Date: 04/22/1997 10:36:09
 Data File : C:\DX\DATA\97042201.D27
 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 27 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	101	3000	5Hz	0.00	10.00		50

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.87		0.000	56	243	1	
2	1.03	fluoride	56.345	1937	10250	1	1.65
3	1.38		0.000	35	157	1	
4	1.55	chloride	73.538	2345	10416	1	0.87
5	1.86	nitrite	522.843	9733	50700	1	-0.36
6	2.78	bromide	278.357	2678	16844	1	-0.36
7	3.15	nitrate	584.964	6351	47757	1	-0.74
8	4.64	phosphate	564.075	1766	22111	1	4.19
9	6.08	sulfate	565.781	4404	62095	1	6.48
Totals			2645.903	29305	220571		

File: 97042201.D27 Sample: 53N20-A STD.

Sample Name: S96T005739 Date: 04/22/1997 10:55:31
 Data File : C:\DX\DATA\97042201.D28
 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 28 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	10201	3000	5Hz	0.00	10.00		50

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.87		0.000	210	1352	2	
2	1.14		0.000	357	2864	2	
3	1.55	chloride	6938.482	2025	9714	1	0.43
4	1.86	nitrite	91013.683	16415	88553	1	-0.36
5	2.78	bromide	1399.270	22	110	1	-0.36
6	3.11	nitrate	133164.698	14333	111335	1	-1.79
7	4.64	phosphate	1988.067	42	490	1	4.19
8	6.08	sulfate	2828.817	181	2868	1	6.48
Totals			237333.018	33585	217285		

File: 97042201.D28 Sample: S96T005739

HNF-SD-WM-DP-226, REV. 0

Sample Name: S96T005739DUP Date: 04/22/1997 11:14:37
 Data File : C:\DX\DATA\97042201.D29
 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 29 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	10201	3000	5Hz	0.00	10.00		50

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.87		0.000	199	1302	2	
2	1.13		0.000	245	1452	2	
3	1.21		0.000	219	1280	2	
4	1.54	chloride	7094.443	1958	9938	1	0.00
5	1.85	nitrite	93598.912	16619	91121	1	-0.71
6	3.11	nitrate	135823.698	14531	113676	1	-2.00
7	4.64	phosphate	1802.567	39	419	1	4.19
8	6.08	sulfate	2109.915	137	2096	1	6.48
Totals			240429.535	33947	221284		

File: 97042201.D29 Sample: S96T005739DUP

LABCORE Completed Worklist Report for Worklist# 17660

Analyst: krq

Instrument: IC02

Book# 50N204

Method: 1A-533-105 Rev/Mod D-1

Worklist Comment: Rerun an104 was originally 17512 from 16966. jmf

Seq Type	Sample# R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 CCB	0	⊗IC-QC F	QC	1	<1.20e-2		ug/mL
1 CCB	0	⊗IC-QC CL	QC	1	<1.70e-2		ug/mL
1 CCB	0	⊗IC-QC NO2	QC	1	<1.08e-1		ug/mL
1 CCB	0	⊗IC-QC BR	QC	1	<1.25e-1		ug/mL
1 CCB	0	⊗IC-QC NO3	QC	1	<1.39e-1		ug/mL
1 CCB	0	⊗IC-QC P04	QC	1	<1.20e-1		ug/mL
1 CCB	0	⊗IC-QC S04	QC	1	<1.38e-1		ug/mL
1 CCB	0	⊗IC-QC OXALATE2	QC	1	<1.05e-1		ug/mL
2 CCV	0	⊗IC-QC F	QC	5.90e01	5.87e+01	99.492 % Recovery	
2 CCV	0	⊗IC-QC CL	QC	7.90e01	7.52e+01	95.190 % Recovery	
2 CCV	0	⊗IC-QC NO2	QC	5.42e02	5.24e+02	96.501 % Recovery	
2 CCV	0	⊗IC-QC BR	QC	5.89e02	5.73e+02	97.284 % Recovery	
2 CCV	0	⊗IC-QC NO3	QC	5.94e02	5.97e+02	100.509 % Recovery	
2 CCV	0	⊗IC-QC P04	QC	5.45e02	5.34e+02	97.982 % Recovery	
2 CCV	0	⊗IC-QC S04	QC	6.31e02	6.22e+02	98.732 % Recovery	
2 CCV	0	⊗IC-QC OXALATE2	QC	5.32e02	5.24e+02	98.496 % Recovery	
3 BLNK-PREP	0	⊗IC-01 F-02	SOLID	1	<1.20e-2		ug/g
3 BLNK-PREP	0	⊗IC-01 CL-02	SOLID	1	3.20e-02	0.032	ug/g
3 BLNK-PREP	0	⊗IC-01 NO2-02	SOLID	1	<1.08e-1		ug/g
3 BLNK-PREP	0	⊗IC-01 BR-02	SOLID	1	<1.25e-1		ug/g
3 BLNK-PREP	0	⊗IC-01 NO3-02	SOLID	1	<1.39e-1		ug/g
3 BLNK-PREP	0	⊗IC-01 P04-02	SOLID	1	<1.20e-1		ug/g
3 BLNK-PREP	0	⊗IC-01 S04-02	SOLID	1	<1.38e-1		ug/g
3 BLNK-PREP	0	⊗IC-01 OXALATE2	SOLID	1	<1.05e-1		ug/g
4 SAMPLE	S96T005068	0 W ⊗IC-01 F-02	SOLID	N/A	7.636e+02	98.930	ug/g
4 SAMPLE	S96T005068	0 W ⊗IC-01 CL-02	SOLID	N/A	4.551e+03	140.100	ug/g
4 SAMPLE	S96T005068	0 W ⊗IC-01 NO2-02	SOLID	N/A	6.070e+04	890.500	ug/g
4 SAMPLE	S96T005068	0 W ⊗IC-01 BR-02	SOLID	N/A	<1.031e+03	1031.000	ug/g
4 SAMPLE	S96T005068	0 W ⊗IC-01 NO3-02	SOLID	N/A	1.030e+05	1146.000	ug/g
4 SAMPLE	S96T005068	0 W ⊗IC-01 P04-02	SOLID	N/A	2.103e+03	989.300	ug/g
4 SAMPLE	S96T005068	0 W ⊗IC-01 S04-02	SOLID	N/A	1.165e+04	1138.000	ug/g
4 SAMPLE	S96T005068	0 W ⊗IC-01 OXALATE2	SOLID	N/A	8.731e+03	865.500	ug/g
5 DUP	S96T005068	0 W ⊗IC-02 F-02	SOLID	7.70e+02	7.09e+02	8.249	RPD
5 DUP	S96T005068	0 W ⊗IC-01 CL-02	SOLID	4.55e+03	4.41e+03	3.125	RPD
5 DUP	S96T005068	0 W ⊗IC-01 NO2-02	SOLID	6.07e+04	5.30e+04	2.840	RPD
5 DUP	S96T005068	0 W ⊗IC-01 BR-02	SOLID	<1.03e3	<1.00e3		RPD
5 DUP	S96T005068	0 W ⊗IC-01 NO3-02	SOLID	1.03e+05	9.98e+04	4.163	RPD
5 DUP	S96T005068	0 W ⊗IC-01 P04-02	SOLID	2.10e+03	2.27e+03	7.780	RPD
5 DUP	S96T005068	0 W ⊗IC-01 S04-02	SOLID	1.16e+04	1.08e+04	7.143	RPD
5 DUP	S96T005068	0 W ⊗IC-01 OXALATE2	SOLID	8.73e+03	8.23e+03	5.896	RPD
6 SPK	S96T005068	0 W ⊗IC-01 F-02	SOLID	5.90e01	6.53e+01	110.678 % Recovery	

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Completed Worklist Report for Worklist# 17660

Seq Type	Sample#	K A	Test	Matrix	Actual	Found	DL or Yield	Unit
6 SPK	S96T005068	0 W	@IC-01	CL-02	SOLID	7.90e01	7.74e+01	97.975 % Recovery
6 SPK	S96T005068	0 W	@IC-01	NO2-02	SOLID	5.43e02	5.92e+02	109.024 % Recovery
6 SPK	S96T005068	0 W	@IC-01	BR-02	SOLID	5.89e02	5.67e+02	96.265 % Recovery
6 SPK	S96T005068	0 W	@IC-01	NO3-02	SOLID	5.94e02	6.35e+02	106.902 % Recovery
6 SPK	S96T005068	0 W	@IC-01	PO4-02	SOLID	5.45e02	5.40e+02	99.083 % Recovery
6 SPK	S96T005068	0 W	@IC-01	SO4-02	SOLID	6.31e02	6.17e+02	97.781 % Recovery
6 SPK	S96T005068	0 W	@IC-01	OXALATE2	SOLID	5.32e02	5.31e+02	99.812 % Recovery
7 SAMPLE	S96T005071	0 W	@IC-01	F-02	SOLID	N/A	4.277e+02	97.580 ug/g
7 SAMPLE	S96T005071	0 W	@IC-01	CL-02	SOLID	N/A	4.842e+03	138.400 ug/g
7 SAMPLE	S96T005071	0 W	@IC-01	NO2-02	SOLID	N/A	6.592e+04	878.200 ug/g
7 SAMPLE	S96T005071	0 W	@IC-01	BR-02	SOLID	N/A	1.091e+03	1015.000 ug/g
7 SAMPLE	S96T005071	0 W	@IC-01	NO3-02	SOLID	N/A	1.056e+05	1130.000 ug/g
7 SAMPLE	S96T005071	0 W	@IC-01	PO4-02	SOLID	N/A	2.234e+03	975.800 ug/g
7 SAMPLE	S96T005071	0 W	@IC-01	SO4-02	SOLID	N/A	1.025e+04	1122.000 ug/g
7 SAMPLE	S96T005071	0 W	@IC-01	OXALATE2	SOLID	N/A	8.224e+03	853.600 ug/g
8 DUP	S96T005071	0 W	@IC-01	F-02	SOLID	4.28e+02	4.82e+02	11.868 RPD
8 DUP	S96T005071	0 W	@IC-01	CL-02	SOLID	4.84e+03	4.75e+03	1.877 RPD
8 DUP	S96T005071	0 W	@IC-01	NO2-02	SOLID	6.59e+04	6.42e+04	2.613 RPD
8 DUP	S96T005071	0 W	@IC-01	BR-02	SOLID	1.09e+03	1.04e+03	RPD
8 DUP	S96T005071	0 W	@IC-01	NO3-02	SOLID	1.06e+05	1.03e+05	2.871 RPD
8 DUP	S96T005071	0 W	@IC-01	PO4-02	SOLID	2.23e+03	2.35e+03	5.240 RPD
8 DUP	S96T005071	0 W	@IC-01	SO4-02	SOLID	1.02e+04	9.88e+03	3.187 RPD
8 DUP	S96T005071	0 W	@IC-01	OXALATE2	SOLID	8.22e+03	8.10e+03	1.471 RPD

Final page for worklist# 17660

Analyst Signature

Date

Analyst Signature

Date

John M. Lyle 4/23/97
Reviewer Signature Date

LABCORE Data Entry Template for Worklist# 17660

Analyst: KRA Instrument: IC0 2 Book# 50N20A

Method: LA-533-105 Rev/Mod D-1

Worklist Comment: Rerun an104 was originally 17512 from 16966. 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	S96T005068 0 W		@IC-01	SOLID	96001174	AN-104
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
5 DUP	S96T005068 0 W		@IC-01	SOLID		
6 SPK	S96T005068 0 W		@IC-01	SOLID		
7 SAMPLE	S96T005071 0 W		@IC-01	SOLID	96001174	AN-104
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
8 DUP	S96T005071 0 W		@IC-01	SOLID		

Final page for worklist # 17660

Jenny Lye for Kathy Owen
Analyst Signature _____ Date 4/21/97

Analyst Signature _____ Date _____

*See original
17512 for signature*

Uploaded 4/21/97 Jm Lye

Validated 4/21/97 Jm Lye

Data Entry Comments:

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Completed Worklist Report for Worklist# 18216

Analyst: rdm

Instrument: IC01

Book# 61220A

Method: LA-533-10 Rev/Mod D-1

Worklist Comment: Rerun AN 104 IC. jmf

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 CCB	0	0	01C-QC	F	QC	1	<1.20e-2	ug/mL
1 CCB	0	0	01C-QC	CL	QC	1	<1.70e-2	ug/mL
1 CCB	0	0	01C-QC	NO2	QC	1	<1.09e-1	ug/mL
1 CCB	0	0	01C-QC	BR	QC	1	<1.25e-1	ug/mL
1 CCB	0	0	01C-QC	NO3	QC	1	<1.39e-1	ug/mL
1 CCB	0	0	01C-QC	PO4	QC	1	<1.20e-1	ug/mL
1 CCB	0	0	01C-QC	SO4	QC	1	<1.38e-1	ug/mL
1 CCB	0	0	01C-QC	OXALATE2	QC	1	<1.05e-1	ug/mL
2 CCV	0	0	01C-QC	F	QC	5.90e01	5.95e+01	100.847 % Recovery
2 CCV	0	0	01C-QC	CL	QC	7.90e01	7.60e+01	96.203 % Recovery
2 CCV	0	0	01C-QC	NO2	QC	5.44e02	5.46e+02	100.368 % Recovery
2 CCV	0	0	01C-QC	BR	QC	5.89e02	5.67e+02	96.265 % Recovery
2 CCV	0	0	01C-QC	NO3	QC	5.94e02	5.77e+02	97.158 % Recovery
2 CCV	0	0	01C-QC	PO4	QC	5.45e02	5.32e+02	97.615 % Recovery
2 CCV	0	0	01C-QC	SO4	QC	6.31e02	6.04e+02	95.721 % Recovery
2 CCV	0	0	01C-QC	OXALATE2	QC	5.32e02	5.30e+02	99.624 % Recovery
3 SAMPLE	S96T004784	0	01C-01	F-02	LIQUID	N/A	6.181e+01	61.810 ug/mL
3 SAMPLE	S96T004784	0	01C-01	CL-02	LIQUID	N/A	8.239e+03	87.570 ug/mL
3 SAMPLE	S96T004784	0	01C-01	NO2-02	LIQUID	N/A	1.188e+05	556.300 ug/mL
3 SAMPLE	S96T004784	0	01C-01	BR-02	LIQUID	N/A	9.025e+02	643.900 ug/mL
3 SAMPLE	S96T004784	0	01C-01	NO3-02	LIQUID	N/A	1.816e+05	716.000 ug/mL
3 SAMPLE	S96T004784	0	01C-01	PO4-02	LIQUID	N/A	2.205e+03	618.100 ug/mL
3 SAMPLE	S96T004784	0	01C-01	SO4-02	LIQUID	N/A	1.880e+03	710.800 ug/mL
3 SAMPLE	S96T004784	0	01C-01	OXALATE2	LIQUID	N/A	5.409e+02	540.900 ug/mL
4 DUP	S96T004784	0	01C-01	F-02	LIQUID	<6.18e1	<6.18e1	RPD
4 DUP	S96T004784	0	01C-01	CL-02	LIQUID	8.24e+03	7.89e+03	4.340 RPD
4 DUP	S96T004784	0	01C-01	NO2-02	LIQUID	1.19e+05	1.14e+05	4.292 RPD
4 DUP	S96T004784	0	01C-01	BR-02	LIQUID	9.02e+02	8.87e+02	1.677 RPD
4 DUP	S96T004784	0	01C-01	NO3-02	LIQUID	1.82e+05	1.72e+05	5.650 RPD
4 DUP	S96T004784	0	01C-01	PO4-02	LIQUID	2.20e+03	2.10e+03	4.651 RPD
4 DUP	S96T004784	0	01C-01	SO4-02	LIQUID	1.88e+03	2.03e+03	10.579 RPD
4 DUP	S96T004784	0	01C-01	OXALATE2	LIQUID	<5.41e2	<5.41e2	RPD
5 SPK	S96T004784	0	01C-01	F-02	LIQUID	5.90e01	3.59e+01	60.847 % Recovery
5 SPK	S96T004784	0	01C-01	CL-02	LIQUID	7.90e01	6.88e+01	87.089 % Recovery
5 SPK	S96T004784	0	01C-01	NO2-02	LIQUID	5.44e02	4.89e+02	89.890 % Recovery
5 SPK	S96T004784	0	01C-01	BR-02	LIQUID	5.89e02	4.95e+02	84.041 % Recovery
5 SPK	S96T004784	0	01C-01	NO3-02	LIQUID	5.94e02	3.46e+02	58.249 % Recovery
5 SPK	S96T004784	0	01C-01	PO4-02	LIQUID	5.45e02	5.22e+02	95.780 % Recovery
5 SPK	S96T004784	0	01C-01	SO4-02	LIQUID	6.31e02	5.90e+02	93.502 % Recovery
5 SPK	S96T004784	0	01C-01	OXALATE2	LIQUID	5.32e02	5.24e+02	98.496 % Recovery

Units shown for QC (BLK/BKG) may not reflect the actual units.

1607.1

LABCORE Completed Worklist Report for Worklist# 18216

Seq Type	Sample# R A	Test	Matrix	Actual	Found	DL or Yield	Unit
----------	-------------	------	--------	--------	-------	-------------	------

Final page for worklist# 18216

Analyst Signature Date

Analyst Signature Date

John M. Faye 5/23/97
Reviewer Signature Date

LABCORE Data Entry Template for Worklist# 18216

Analyst: RLM Instrument: IC0 1 Book# 61N20A

Method: LA-533-105 Rev/Mod D-1

Worklist Comment: Rerun AN 104 IC. jmf

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCE			@IC-QC	QC		
2 CCV			@IC-QC	QC		
3 SAMPLE	S96T004784 0		@IC-01	LIQUID	96001174	AN-104
	Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02					
4 DUP	S96T004784 0		@IC-01	LIQUID		
5 SPK	S96T004784 0		@IC-01	LIQUID		

Final page for worklist # 18216

RLM 5/21/97
Analyst Signature Date

Analyst Signature Date

uploaded 5-23-97

J. Howell
18216 MAY. CSV

Validated 5/23/97 Jm Lye

Data Entry Comments:

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

A-0010-IC

DATA FILE/WORKLIST RESOLUTION

23-May-97

Worklist#: 18216

Data File: 18216MAY.CSV

	Seq	Type	Sample #		Seq#	Data File	Sample Name	Dilution
-	=>	1	CCB		1	97052101.d01	CCB ELUENT BLNK	1.00
	=>	2	CCV		2	97052101.d02	CCV 61N20-A	101.00
	=>	3	SAMPLE	S96T004784	3	97052101.d03	S96T004784 SMPL	5151.00
	=>	4	DUP	S96T004784	4	97052101.d04	S96T004784 DUP	5151.00
	=>	5	SPK	S96T004784	5	97052101.d05	S96T004784 SPK	5151.00
+					+			

Save (F4) Abort (Shift-F3) ListFiles (Shift-F1) UploadFile (F8)

=====

Sample Name:	CCB ELUENT BLNK	Date:	05/21/1997 22:12:40
Data File :	C:\DX\DATA\97052101.D01		
Method :	C:\DX\METHOD\KIT.MET		
ACI Address:	1	System:	1
Inject#:	1	Detector:	CDM-1
Analyst :	<i>John J. Lee</i>	Column:	AG4A/AS4A anion column

=====

Calibration Volume *60* Dilution *RFM 5/23/97* 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. %Delta Code
---------	----------	----------------	---------------------	--------	------	-----------------

Totals 0.000 0 0

DIRECT RLM

File: 97052101.D01 Sample: CCB ELUENT BLNK

1607.5

Sample Name: CCV 61N20-A Date: 05/21/1997 22:24:30
 Data File : C:\DX\DATA\97052101.D02
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 2 Detector: CDM-1
 Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	101	3000	5Hz	0.00	10.00		30

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.09	fluoride	59.470	1386	10752	1	-2.98
2	1.59	chloride	76.011	1900	9921	1	0.00
3	1.88	nitrite	545.951	5929	43157	1	-2.42
4	2.77	bromide	567.124	5250	35420	1	-2.92
5	3.14	nitrate	576.969	5975	48012	1	-3.38
6	4.61	phosphate	532.348	1906	23593	1	0.00
7	5.97	sulfate	604.475	5231	74186	1	-0.88
8	7.79	oxalate	530.267	2398	46881	1	-0.68

Totals 3492.616 29975 291922

100 mL - 10 mL *R. McCown 5/21/97*
 File: 97052101.D02 Sample: CCV 61N20-A

```

=====
Sample Name: S96T004784 SMPL                      Date: 05/21/1997 23:03:11
Data File  : C:\DX\DATA\97052101.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          5151   3000  5Hz   0.00 10.00          30
=====

```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.93		0.000	177	1282	2	
2	1.29		0.000	358	4074	2	
3	1.57	chloride	8238.808	3752	21419	1	-1.67
4	1.87	nitrite	118764.589	27349	195765	1	-3.11
5	2.83	bromide	902.483	137	724	1	-0.82
6	3.03	nitrate	181565.635	34734	326943	1	-6.67
7	4.64	phosphate	2205.334	126	1629	1	0.58
8	6.03	sulfate	1880.455	293	5191	1	0.00

Totals 313557.304 66926 557028

100ML - 10ML - 200ML - 10ML R/V
File: 97052101.D03 Sample: S96T004784 SMPL

1607.7

Sample Name: S96T004784 DUP Date: 05/21/1997 23:22:38
 Data File : C:\DX\DATA\97052101.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	5151	3000	5Hz	0.00	10.00		30

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.93		0.000	176	1245	2	
2	1.29		0.000	337	3950	2	
3	1.57	chloride	7889.440	3594	20481	1	-1.26
4	1.87	nitrite	113618.266	25943	186705	1	-3.11
5	2.84	bromide	887.054	128	705	1	-0.35
6	3.05	nitrate	172247.893	32853	308239	1	-6.26
7	4.64	phosphate	2100.512	119	1538	1	0.58
8	6.03	sulfate	2087.060	293	5676	1	0.00
Totals			298830.225	63444	528538		

.100ML - 10ML - .200ML - 10ML PLM
File: 97052101.D04 Sample: S96T004784 DUP

Sample Name: S96T004784 SPK Date: 05/21/1997 23:41:47
 Data File : C:\DX\DATA\97052101.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	5151	3000	5Hz	0.00	10.00		30

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.93		0.000	89	347	1	
2	1.09	fluoride	1812.208	1055	6149	1	-2.38
3	1.56	chloride	11715.880	5393	30933	1	-2.09
4	1.87	nitrite	143459.944	33028	240051	1	-2.77
5	2.75	bromide	25920.294	5284	31647	1	-3.39
6	3.03	nitrate	199017.292	38465	362686	1	-6.87
7	4.59	phosphate	28590.137	1971	24880	1	-0.58
8	5.92	sulfate	31653.543	4899	76184	1	-1.77
9	7.79	oxalate	26454.642	2522	45848	1	-0.68

Totals 468623.940 92706 818726

*• 100 ML - 10 ML - • 200 ML L 100 ML 6 IN 20 A
 9.9 ML ELUENT RLM
 File: 97052101.D05 Sample: S96T004784 SPK*

04/10/97 09:33
A-0004-1

Page: 1

LABCORE Data Entry Template for Worklist# 17512

Analyst: KRP Instrument: IC0 2 Book# 50N120-AMethod: LA-533-105 Rev/Mod D-1

Worklist Comment: Rerun AN-104 IC use 41 df.jmf

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC-QC	QC		
2 CCV			@IC-QC	QC		
3 BLNK-PREP			@IC-01	SOLID		
4 SAMPLE	S96T005068 0 W		@IC-01	SOLID	96001174	AN-104
Analytes Requested: NO2-02						
5 DUP	S96T005068 0 W		@IC-01	SOLID		
6 SPK	S96T005068 0 W		@IC-01	SOLID		
7 SAMPLE	S96T005071 0 W		@IC-01	SOLID	96001174	AN-104
Analytes Requested: NO2-02						
8 DUP	S96T005071 0 W		@IC-01	SOLID		

Final page for worklist # 17512

Analyst Signature [Signature] Date 4/10/97Analyst Signature [Signature] Date 4/10/97

uploaded 4-17-97.

JH Wainell

17512 APR. CSV

17660

Validated 4/21/97 Jm Lye Rejected and put on WKL 17660

because this WKL should have been

for all analytes from 16966 but

wasn't due to a lab core mess up!

operator mess up. This data is being used

with 17660. Jm Lye

Data Entry Comments:

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

A-0010-IC				DATA FILE/WORKLIST RESOLUTION				21-Apr-97	
Worklist#: 17660				Data File: 17512APR.CSV					
	Seq	Type	Sample #	Seq#	Data File	Sample Name	Dilution		
-	=v	1	CCB	-	1	97041041.d01	CCB		1.00
	=v	2	CCV		2	97041041.d04	CCV 50N20-A		101.00
	=v	3	BLNK-PREP		3	97041041.d05	BLANK PREP		1.00
	=v	4	SAMPLE		4	97041041.d06	S96T005068 SAMPL		41.00
	=v	5	DUP		5	97041041.d07	S96T005068 DUP		41.00
	=v	6	SPK		6	97041041.d08	S96T005068 SPIKE		41.00
	=v	7	SAMPLE		7	97041041.d09	S96T005071 SAMPL		41.00
	=v	8	DUP		8	97041041.d10	S96T005071 DUP		41.00
+				+					

Save (F4) Abort (Shift-F3) ListFiles (Shift-F1) UploadFile (F8)

Data Reprocessed On 04/10/1997 21:48:14

=====

Sample Name: CCB	Date: 04/10/1997 19:39:40
Data File : C:\DX\DATA\97041041.D01	
Method : C:\DX\METHOD\ANIONSa.met	
ACI Address: 1 System: 1 Inject#: 1	Detector: CDM-1
Analyst <i>[Signature]</i>	Column: AG4A/AS4A anion column

=====

=====

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	3000	5Hz	0.00	10.00		50

=====

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.20		0.000	32	239	1	
2	5.39	sulfate	0.051	43	397	1	-5.66
Totals			0.051	75	636

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1160 TO 1161.7

Data Reprocessed On 04/21/1997 14:44:01

Sample Name: CCV 50N20-A	Date: 04/10/1997 20:17:37
Data File : E:\DATA\97041041.D04	
Method : C:\DX\METHOD\ANIONSa.met	
ACI Address: 1 System: 1 Inject#: 4	Detector: CDM-1
Analyst :	Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
-------------	--------	----------	--------	------	-------	------	------	--------

External	1	101	3000	5Hz	0.00	10.00		50
----------	---	-----	------	-----	------	-------	--	----

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.31		0.000	35	228	1	
2	0.87		0.000	69	287	2	
3	1.02	fluoride	58.723	2041	10699	2	0.99
4	1.54	chloride	75.241	2281	10663	1	0.00
5	1.85	nitrite	523.708	9575	50786	1	-1.07
6	2.77	bromide	573.460	5678	35903	1	2.72
7	3.15	nitrate	597.202	6362	48793	1	-0.11
8	4.51	phosphate	534.398	1662	20909	1	1.20
9	5.92	sulfate	623.459	5019	68564	1	3.68
10	7.73	oxalate	524.477	2301	44006	1	4.32
Totals			3510.669	35021	290839		

File: 97041041.D04 Sample: CCV 50N20-A

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=====
Sample Name: BLANK PREP                               Date: 04/10/1997 20:30:16
Data File  : C:\DX\DATA\97041041.D05
Method     : C:\DX\METHOD\ANIONSa.met
ACI Address: 1 System: 1 Inject#: 5
Analyst    : [Signature]                               Column: AG4A/AS4A anion column
Detector: CDM-1
=====
  
```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1           1 3000 5Hz 0.00 10.00          50
  
```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.33		0.000	48	347	1	
2	1.29		0.000	52	460	1	
3	1.55	chloride	0.032	40	302	1	0.87
4	3.21		0.000	20	122	1	
5	5.39	sulfate	0.040	29	273	1	-5.66
Totals			0.072	190	1504		

File: 97041041.D05 Sample: BLANK PREP

Sample Name: S96T005068 SAMPLE

Date: 04/10/1997 20:42:56

Data File : C:\DX\DATA\97041041.D06

Method : C:\DX\METHOD\ANIONSa.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 41 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	0.22		0.000	76	460	1	
2	0.88		0.000	165	900	2	
3	1.03	fluoride	3.827	289	1501	2	1.65
4	1.13		0.000	211	860	2	
5	1.21		0.000	187	1051	2	
6	1.54	chloride	22.632	1596	7840	1	0.00
7	1.85	nitrite	301.885	13423	72776	1	-1.07
8	3.11	nitrate	512.381	13540	106347	1	4.24
9	4.53	phosphate	10.459	66	727	1	1.80
10	5.92	sulfate	57.954	1001	15346	1	3.68
11	7.79	oxalate	43.417	512	9629	1	5.04

Totals 952.555 31065 217437

File: 97041041.D06 Sample: S96T005068 SAMPLE

Sample Name: S96T005068 DUP Date: 04/10/1997 20:55:35
 Data File : C:\DX\DATA\97041041.D07
 Method : C:\DX\METHOD\ANIONSa.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	41	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	0.25		0.000	54	359	1	
2	0.87		0.000	159	807	2	
3	1.03	fluoride	3.618	274	1407	2	1.65
4	1.13		0.000	197	797	2	
5	1.21		0.000	177	969	2	
6	1.54	chloride	22.496	1597	7792	1	0.00
7	1.85	nitrite	301.224	13463	72613	1	-1.07
8	3.11	nitrate	504.636	13202	104660	1	4.24
9	4.53	phosphate	11.599	67	837	1	1.80
10	5.92	sulfate	54.945	1008	14537	1	3.68
11	7.79	oxalate	42.001	506	9344	1	5.04

Totals 940.518 30705 214119

File: 97041041.D07 Sample: S96T005068 DUP

Sample Name: S96T005068 SPIKE Date: 04/10/1997 21:08:14
 Data File : C:\DX\DATA\97041041.D08
 Method : C:\DX\METHOD\ANIONSa.met
 ACI Address: 1 System: 1 Inject#: 8 Detector: CDM-1
 Analyst: *[Signature]* Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	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	0.23		0.000	60	370	1	
2	0.87		0.000	202	921	2	
3	1.02	fluoride	29.959	2183	13566	2	0.99
4	1.54	chloride	53.580	3806	18965	1	0.00
5	1.85	nitrite	538.735	23540	131391	1	-0.71
6	2.77	bromide	226.776	5745	34936	1	2.72
7	3.09	nitrate	766.274	20140	162946	1	3.35
8	4.51	phosphate	226.432	1710	21856	1	1.20
9	5.87	sulfate	304.585	4973	82876	1	2.74
10	7.73	oxalate	255.666	2843	52759	1	4.32
Totals			2402.007	65201	520586		

File: 97041041.D08 Sample: S96T005068 SPIKE

Sample Name: S96T005071 SAMPLE

Date: 04/10/1997 21:20:53

Data File : C:\DX\DATA\97041041.D09

Method : C:\DX\METHOD\ANIONSa.met

ACI Address: 1 System: 1 Inject#: 9

Detector: CDM-1

Analyst: *[Signature]* Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	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	0.27		0.000	40	293	1	
2	0.87		0.000	166	795	1	
3	1.03	fluoride	2.157	177	746	2	1.65
4	1.13		0.000	77	236	2	
5	1.53	chloride	24.417	1710	8476	1	-0.43
6	1.85	nitrite	332.443	14729	80315	1	-1.07
7	2.79	bromide	5.504	18	91	1	3.47
8	3.11	nitrate	532.777	13881	110801	1	4.02
9	4.53	phosphate	11.265	72	804	1	1.80
10	5.92	sulfate	51.711	949	13669	1	3.68
11	7.79	oxalate	41.472	493	9237	1	5.04

Totals 1001.745 32313 225462

File: 97041041.D09 Sample: S96T005071 SAMPLE

Sample Name: S96T005071 DUP

Date: 04/10/1997 21:33:33

Data File : C:\DX\DATA\97041041.D10

Method : C:\DX\METHOD\ANIONSa.met

ACI Address: 1 System: 1 Inject#: 10

Detector: CDM-1

Analyst : *Kathy Baker* Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	41	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	0.28		0.000	62	302	1	
2	0.87		0.000	152	714	1	
3	1.03	fluoride	2.388	185	850	2	2.31
4	1.13		0.000	76	217	2	
5	1.53	chloride	23.523	1633	8157	1	-0.43
6	1.85	nitrite	318.034	14060	76759	1	-1.07
7	3.11	nitrate	511.726	13275	106204	1	4.24
8	4.53	phosphate	11.608	74	838	1	1.80
9	5.92	sulfate	48.925	901	12921	1	3.68
10	7.79	oxalate	40.089	477	8959	1	5.04

Totals 956.293 30896 215920

File: 97041041.D10 Sample: S96T005071 DUP

LABCORE Completed Worklist Report for Worklist# 17753

Analyst: krq

Instrument: IC03

Book# 144N9C

Method: 4A-533705 Rev/Mod D-1

Worklist Comment: AN-104 IC2 FOR ACETATE AND FORMATE. RCJ

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 CCB	0		01C2-QC	ACETATE2 QC	1	<2.00e-2		ug/mL
1 CCB	0		01C2-QC	FORMATE2 QC	1	<2.10e-2		ug/mL
2 CCV	0		01C2-QC	ACETATE2 QC	1.22e02	1.25e+02	102.459 % Recovery	
2 CCV	0		01C2-QC	FORMATE2 QC	1.20e02	1.29e+02	107.500 % Recovery	
3 BLNK-PREP	0		01C2-01	ACETATE2 SOLID	1	<2.00e-2		ug/g
3 BLNK-PREP	0		01C2-01	FORMATE2 SOLID	1	<6.20e-2		ug/g
4 SAMPLE	S97T000648	0 W	01C2-01	ACETATE2 SOLID	N/A	3.320e+02	84.000	ug/g
4 SAMPLE	S97T000648	0 W	01C2-01	FORMATE2 SOLID	N/A	5.692e+02	260.400	ug/g
5 DUP	S97T000648	0 W	01C2-01	ACETATE2 SOLID	3.32e+02	2.54e+02	6.414 RPD	
5 DUP	S97T000648	0 W	01C2-01	FORMATE2 SOLID	5.69e+02	6.01e+02	5.470 RPD	
6 SPK	S97T000648	0 W	01C2-01	ACETATE2 SOLID	1.22e02	1.28e+02	113.115 % Recovery	
6 SPK	S97T000648	0 W	01C2-01	FORMATE2 SOLID	1.20e02	1.28e+02	106.667 % Recovery	
7 SAMPLE	S97T000649	0 W	01C2-01	ACETATE2 SOLID	N/A	6.049e+02	84.380	ug/g
7 SAMPLE	S97T000649	0 W	01C2-01	FORMATE2 SOLID	N/A	9.456e+02	261.400	ug/g
8 DUP	S97T000649	0 W	01C2-01	ACETATE2 SOLID	6.05e+02	5.21e+02	2.341 RPD	
8 DUP	S97T000649	0 W	01C2-01	FORMATE2 SOLID	9.46e+02	8.32e+02	12.823 RPD	
9 SPK	S97T000649	0 W	01C2-01	ACETATE2 SOLID	1.22e02	1.95e+02	127.049 % Recovery	
9 SPK	S97T000649	0 W	01C2-01	FORMATE2 SOLID	1.20e02	1.31e+02	109.167 % Recovery	

Final page for worklist# 17753

Analyst Signature

Date

Analyst Signature

Date

James M. Lacy 4/30/97
Reviewer Signature Date

04/29/97 02:14
A-0004-1

Page: 1

LABCORE Data Entry Template for Worklist# 17753

Analyst: KAR Instrument: IC0 3Book# 1441119-CMethod: LA-533-105 Rev/Mod D-1

Worklist Comment: AN-104 IC2 FOR ACETATE AND FORMATE. RCJ

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC2-QC	QC		
2 CCV			@IC2-QC	QC		
3 BLNK-PREP			@IC2-01	SOLID		
4 SAMPLE	S97T000648 0 W		@IC2-01	SOLID	96001174	AN-104
Analytes Requested: ACETATE2, FORMATE2						
5 DUP	S97T000648 0 W		@IC2-01	SOLID		
6 SPK	S97T000648 0 W		@IC2-01	SOLID		
7 SAMPLE	S97T000649 0 W		@IC2-01	SOLID	96001174	AN-104
Analytes Requested: ACETATE2, FORMATE2						
8 DUP	S97T000649 0 W		@IC2-01	SOLID		
9 SPK	S97T000649 0 W		@IC2-01	SOLID		

Final page for worklist # 17753

Analyst Signature [Signature] Date 4/29/97Analyst Signature [Signature] Date

uploaded 4-30-97

J. Howell

17753APR.CSV

Validated 4/30/97 gm Lyle

Data Entry Comments:

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

A-0010-IC				DATA FILE/WORKLIST RESOLUTION				30-Apr-97			
Worklist#: 17753				Data File: 17753APR.CSV							
		Seq	Type	Sample #	Seq#		Data File	Sample Name		Dilution	
-	=>	1	CCB	S97T000648	-	1	97042921.d01	CCB		1.00	
	=>	2	CCV			2	97042931.d03	CCV 144N9-C		101.00	
	=>	3	BLNK-PREP			3	97042931.d04	BLANK PREP		1.00	
	=>	4	SAMPLE			4	97042931.d05	S97T000648 SAMPL		21.00	
	=>	5	DUP			5	97042931.d06	S97T000648 DUP		21.00	
	=>	6	SPK			6	97042921.d07	S97T000648 SPIKE		21.00	
	=>	7	SAMPLE			7	97042921.d08	S97T000649 SAMPL		21.00	
	=>	8	DUP			8	97042921.d09	S97T000649 DUP		21.00	
	=>	9	SPK			9	97042921.d10	S97T000649 SPIKE		21.00	
+					+						

Save (F4) Abort (Shift-F3) ListFiles (Shift-F1) UploadFile (F8)

Sample Name: CCB Date: 04/29/1997 02:22:09
 Data File : C:\DX\DATA\97042921.D01
 Method : C:\DX\METHOD\autoACE.met
 ACI Address: 1 System: 2 Inject#: 1 Detector: CDM-1
 Analyst *[Signature]* Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	4500	5Hz	0.00	15.00		0

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.00		0.000	77	430	1	
2	1.30		0.000	65	2101	1	
3	5.80		0.000	465	9876	1	
4	6.08		0.000	159	1013	1	
5	6.32		0.000	38	423	1	
6	6.59		0.000	13	84	1	
7	6.72		0.000	50	635	1	
8	7.11		0.000	243	63411	1	
Totals			0.000	1109	77973		

File: 97042921.D01 Sample: CCB

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 116270 116291

Sample Name: CCV 144N9-C Date: 04/29/1997 04:40:37
 Data File : C:\DX\DATA\97042931.D03
 Method : C:\DX\METHOD\autoACE.met
 ACI Address: 1 System: 2 Inject#: 3 Detector: CDM-1
 Analyst *LB* Column: AG4A-SC, AS4A-SC, SRS

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 101 4500 5Hz 0.00 15.00 0

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.13	fluoride	75.133	1959	11580	1	-3.03
2	2.43	acetate	124.772	569	3771	1	-2.15
3	3.15	formate	128.944	1123	8460	1	-2.48
4	5.89		0.000	529	37918	1	
5	6.07		0.000	209	1082	1	
6	6.20		0.000	199	1815	1	
7	6.81		0.000	76	879	1	
8	7.33		0.000	935	19994	1	

Totals 328.850 5598 85499

File: 97042931.D03 Sample: CCV 144N9-C

Sample Name: BLANK PREP

Date: 04/29/1997 04:58:15

Data File : C:\DX\DATA\97042931.D04

Method : C:\DX\METHOD\autoACE.met

ACI Address: 1 System: 2 Inject#: 4

Detector: CDM-1

Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	4500	5Hz	0.00	15.00		0

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.80		0.000	5	59	1	
2	5.89		0.000	265	2376	1	
3	6.07		0.000	188	908	1	
4	6.19		0.000	205	2035	1	
5	7.05		0.000	1186	40686	1	
6	8.13		0.000	12	81	1	
7	12.99		0.000	10	51	1	
Totals			0.000	1870	46195		

File: 97042931.D04 Sample: BLANK PREP

Sample Name: S97T000648 SAMPLE

Date: 04/29/1997 05:15:53

Data File : C:\DX\DATA\97042931.D05

Method : C:\DX\METHOD\autoACE.met

ACI Address: 1 System: 2 Inject#: 5

Detector: CDM-1

Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
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External	1	21	4500	5Hz	0.00	15.00		0
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***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.13	fluoride	2.689	287	1666	1	-3.03
2	2.41	acetate	1.660	46	249	1	-2.69
3	3.15	formate	2.846	91	730	1	-2.48
4	3.95		0.000	48	433	1	
5	5.45		0.000	1580	6268	1	
6	5.88		0.000	9876	76702	1	
7	7.24		0.000	124	1700	1	
8	7.41		0.000	36969	808530	1	

Totals			7.195	49021	896278		
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File: 97042931.D05 Sample: S97T000648 SAMPLE

Sample Name: S97T000648 DUP

Date: 04/29/1997 05:33:31

Data File : C:\DX\DATA\97042931.D06

Method : C:\DX\METHOD\autoACE.met

ACI Address: 1 System: 2 Inject#: 6

Detector: CDM-1

Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
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External	1	21	4500	5Hz	0.00	15.00		0
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***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.19	fluoride	3.453	347	2241	1	-0.61
2	2.45	acetate	1.793	47	269	1	-1.08
3	2.88		0.000	10	55	1	
4	3.19	formate	3.042	102	792	1	-1.24
5	3.99		0.000	52	441	1	
6	5.45		0.000	1783	6285	1	
7	5.85		0.000	11840	130663	1	
8	7.15		0.000	1038	12838	1	
9	7.41		0.000	32300	612486	1	
10	8.72		0.000	329	5259	1	

Totals			8.288	47847	771329		
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File: 97042931.D06 Sample: S97T000648 DUP

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=====
Sample Name: S97T000648 SPIKE                      Date: 04/29/1997 05:51:11
Data File  : C:\DX\DATA\97042921.D07
Method     : C:\DX\METHOD\autoACE.met
ACI Address: 1 System: 2 Inject#: 7
Analyst    :                      Column: AG4A-SC,AS4A-SC, SRS
Detector: CDM-1
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          21  4500  5Hz  0.00 15.00          0
=====

```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.13	fluoride	18.319	1737	13702	1	-3.03
2	2.44	acetate	29.206	602	4242	1	-1.61
3	3.17	formate	28.436	1212	8995	1	-1.65
4	3.97		0.000	46	377	1	
5	5.45		0.000	1631	4586	1	
6	5.87		0.000	11309	126734	1	
7	7.04		0.000	1386	22805	1	
8	7.41		0.000	36045	847668	1	
Totals			75.961	53967	1029109		

File: 97042921.D07 Sample: S97T000648 SPIKE

```

=====
Sample Name: S97T000649 SAMPLE                      Date: 04/29/1997 06:08:49
Data File  : C:\DX\DATA\97042921.D08
Method     : C:\DX\METHOD\autoACE.met
ACI Address: 1 System: 2 Inject#: 8
Analyst    :                      Column: AG4A-SC,AS4A-SC, SRS
Detector: CDM-1
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          21  4500  5Hz  0.00 15.00          0
=====

```

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.19	fluoride	2.017	200	1163	1	-0.61
2	2.45	acetate	3.011	76	446	1	-1.08
3	3.19	formate	4.707	173	1321	1	-1.24
4	3.97		0.000	87	810	1	
5	5.45		0.000	3432	12064	1	
6	5.85		0.000	19078	190853	1	
7	7.20		0.000	1625	31494	1	
8	7.71		0.000	13040	245647	1	
Totals			9.736	37710	483798		

File: 97042921.D08 Sample: S97T000649 SAMPLE

```

=====
Sample Name: S97T000649 DUP                      Date: 04/29/1997 06:26:28
Data File  : C:\DX\DATA\97042921.D09
Method     : C:\DX\METHOD\autoACE.met
ACI Address: 1 System: 2 Inject#: 9
Analyst    :                      Column: AG4A-SC,AS4A-SC, SRS
Detector: CDM-1
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
=====

```

```

External      1      21    4500  5Hz    0.00  15.00      0
=====

```

```

***** Peak Report: All Peaks *****

```

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.19	fluoride	1.818	170	1014	1	-0.61
2	2.45	acetate	2.949	73	437	1	-1.08
3	3.19	formate	4.157	149	1146	1	-1.24
4	3.97		0.000	82	728	1	
5	5.45		0.000	3135	10072	1	
6	5.85		0.000	18610	186843	1	
7	7.13		0.000	2563	43115	1	
8	7.67		0.000	12405	234920	1	
Totals			8.924	37188	478275		

File: 97042921.D09 Sample: S97T000649 DUP

Sample Name: S97T000649 SPIKE Date: 04/29/1997 06:44:08
 Data File : C:\DX\DATA\97042921.D10
 Method : C:\DX\METHOD\autoACE.met
 ACI Address: 1 System: 2 Inject#: 10 Detector: CDM-1
 Analyst : Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	21	4500	5Hz	0.00	15.00		0

***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.19	fluoride	17.939	2110	13403	1	-0.61
2	2.44	acetate	34.103	674	4947	1	-1.61
3	3.17	formate	30.964	1327	9829	1	-1.65
4	3.97		0.000	94	852	1	
5	5.45		0.000	3663	10982	1	
6	5.84		0.000	19267	197290	1	
7	7.05		0.000	1861	35512	1	
8	7.72		0.000	13484	264982	1	
9	13.97		0.000	8	118	1	
Totals			83.006	42487	537916		

File: 97042921.D10 Sample: S97T000649 SPIKE

FILE # 086100418.TXT

10/02/96 07:57

A-0004-1

HNF-SD-WM-DP-226, REV. 0

Page: 1

LABCORE Data Entry Template for Worklist# 13576

Analyst: B. Goettle Instrument: ICP01 Book# 618478Method: LA-505-151/161 Rev/Mod 8-1

Worklist Comment: ICP AN-104 (LiBr STANDARD) DIRECT

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 ICV			@ICP-QC	QC		
2 ICB			@ICP-QC	QC		
3 LLS			@ICP-QC	QC		
4 ICSA			@ICP-QC	QC		
5 ICSAB			@ICP-QC	QC		
6 SERDIL	S96T004916	0 D	@ICP-D01	LIQUID		
7 SAMPLE	S96T004916	0 D	@ICP-D01	LIQUID	96001174	AN-104
Analytes Requested: AG-D-01 , AL-D-01 , AS-D-01 , B-D-01 , BA-D-01 , BE-D-01 , BI-D-01 , CA-D-01 , CD-D-01 , CE-D-01 , CO-D-01 , CR-D-01 , CU-D-01 , FE-D-01 , K-D-01 , LA-D-01 , LI-D-01 , MG-D-01 , MN-D-01 , MO-D-01 , NA-D-01 , ND-D-01 , NI-D-01 , P-D-01 , PE-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	S96T004916	0 D	@ICP-D01	LIQUID		
9 ICSA			@ICP-QC	QC		
10 ICSAB			@ICP-QC	QC		
11 CCV			@ICP-QC	QC		
12 CCB			@ICP-QC	QC		

Final page for worklist # 13576

Analyst Signature B. Goettle Date 10-04-96Revised by: Paul H. Pung 10/10/96
Analyst Signature 25 Date 11

Data Entry Comments:

S96T004916-6 1-6-12-1-2-1-2-6
47% 1-6-10-6
47% -D 1-1-12-6

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

HNF-SD-WM-DP-226, REV. 0

Page: 2

10/02/96 07:57

A-0004-1

LABCORE Data Entry Template for Worklist# 13576

S Type	Sample#	R A Test	Matrix	Group#	Project
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Data Entry Comments:

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

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Analysis Report

Summary

#	Sample Name	File	Method	Date	Time	OpID	Type	Mode
1	ICV	961004B	ICP2	10/04/96	08:53	BJG	Q	CONC
2	ICB	961004B	ICP2	10/04/96	08:56	BJG	Q	CONC
3	LLS	961004B	ICP2	10/04/96	08:59	BJG	Q	CONC
4	ICSA	961004B	ICP2	10/04/96	09:02	BJG	Q	CONC
5	ICSAB	961004B	ICP2	10/04/96	09:05	BJG	Q	CONC
6	S96T004916_L	961004B	ICP2	10/04/96	09:07	BJG	S	CONC
7	S96T004916_	961004B	ICP2	10/04/96	09:10	BJG	S	CONC
8	S96T004916_D	961004B	ICP2	10/04/96	09:13	BJG	S	CONC
9	ICSA	961004B	ICP2	10/04/96	09:16	BJG	Q	CONC
10	ICSAB	961004B	ICP2	10/04/96	09:19	BJG	Q	CONC
11	CCV	961004B	ICP2	10/04/96	09:22	BJG	Q	CONC
12	CCB	961004B	ICP2	10/04/96	09:25	BJG	Q	CONC

10-04-96

AN-104 (LIBL)

10-10-96

S96T004916

FILE# 0961004B.TXT

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
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HNF-SD-WM-DP-226, REV. 0

Fri 10-04-96 09:28:17 AM

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Analysis Report

Averages

#	Sample Name	Ag	Al	As	B	Ba	Be
1	ICV	5.018	4.935	5.159	5.031	5.093	5.160
2	ICB	.0013	.0048	.0049	.0058	.0003	-.0000
3	LLS	.0217	.1118	.1925	.1030	.1025	.0102
4	ICSA	.0028	.244.3	-.0400	-.0009	.0005	.0003
5	ICSAB	.9604	.242.2	-.0430	-.0035	.4817	.4808
6	S96T004916_L	.1094	1.010	-.2813	.1338	.0683	-.0147
7	S96T004916_	.0179	.5487	-.0860	.0801	.0645	-.0005
8	S96T004916_D	.0181	.5876	-.1200	.0374	.0626	.0005
9	ICSA	.0041	.242.5	-.0543	.0009	.0005	.0000
10	ICSAB	.9669	.243.4	-.0337	-.0009	.4841	.4831
11	CCV	4.958	4.884	5.166	5.041	5.012	5.175
12	CCB	.0013	.0041	-.0074	.0063	.0002	.0003

#	Sample Name	Bi	Ca	Cd	Ce	Co	Cr
1	ICV	5.088	4.992	5.074	5.033	5.094	5.108
2	ICB	-.0040	.0003	-.0015	.0061	-.0011	.0004
3	LLS	.1880	.2094	.0089	.2080	.0429	.0211
4	ICSA	-.0255	.246.7	.0010	.0181	.0019	.0101
5	ICSAB	.0008	.245.5	.9394	.0168	.4677	.4808
6	S96T004916_L	1.313	5.830	-.0122	.3803	-.0475	.0419
7	S96T004916_	.0034	5.115	-.0080	.0594	.0068	.0025
8	S96T004916_D	.1453	5.055	-.0106	.1013	-.0014	.0001
9	ICSA	.0191	.246.8	-.0006	.0127	.0000	.0091
10	ICSAB	-.0139	.247.8	.9415	.0219	.4690	.4833
11	CCV	5.080	5.009	5.046	4.960	5.065	5.070
12	CCB	.0196	.0012	.0001	.0115	-.0014	.0002

#	Sample Name	Cu	Eu	Fe	K	La	Li
1	ICV	5.224	-.0023	5.071	4.993	5.102	5.080
2	ICB	-.0002	-.0001	-.0009	.2134	.0006	.0002
3	LLS	.0212	.0003	.1049	.5831	.1041	.0208
4	ICSA	-.0091	-.0382	94.46	.1663	-.0041	.0021
5	ICSAB	.4810	-.0363	93.63	.1842	-.0040	1.031
6	S96T004916_L	-.0005	.0369	.1457	9.476	.0594	.1881
7	S96T004916_	.0098	.0083	-.0057	1.221	.0048	.1968
8	S96T004916_D	.0049	.0063	.0000	2.074	.0082	.1963
9	ICSA	-.0102	-.0411	93.84	.2354	-.0036	.0107
10	ICSAB	.4848	-.0385	94.08	.1798	-.0043	1.030
11	CCV	5.191	-.0023	5.029	5.053	5.040	5.026
12	CCB	.0004	.0004	.0005	.2001	.0009	.0005

#	Sample Name	Mg	Mn	Mo	Na	Nd	Ni
1	ICV	4.851	4.949	5.098	4.932	5.124	5.056
2	ICB	.0005	.0004	.0055	.0017	.0031	-.0053
3	LLS	.2019	.0201	.1002	.2091	.2047	.0396
4	ICSA	.254.9	-.0065	-.0043	197.2	.0088	-.0046
5	ICSAB	.253.1	.4431	-.0047	195.1	.0102	.9090

Analysis Report

Averages

Fri' 10-04-96 09:28:17 AM

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#	Sample Name	Mg	Mn	Mo	Na	Nd	Ni
6	S96T004916 L	.9974	.0014	-.0473	14.01	.1769	.2190
7	S96T004916	.2114	.0028	.0455	13.86	.0352	.0580
8	S96T004916_D	.1567	.0011	.0265	13.91	.0317	.0426
9	IGSA	.253.7	-.0064	-.0086	194.9	-.0082	-.0000
10	IGSAB	.254.2	.4451	-.0088	196.1	.0073	.9162
11	CCV	.4.802	4.903	5.054	4.864	5.045	4.994
12	CCB	.0071	.0005	.0057	.0047	.0012	.0027

#	Sample Name	P	Pb	S	Sb	Se	Si
1	ICV	5.062	5.051	5.009	4.854	4.849	5.012
2	ICB	.0069	-.0223	.0023	.0008	.0056	.0076
3	LLS	.4109	.2136	.2060	.1059	.2134	.1630
4	IGSA	.0083	.0262	-.0172	.0070	-.0260	.0001
5	IGSAB	.0131	.9893	-.0353	.0086	-.0405	.0019
6	S96T004916 L	.7554	-.9363	1.493	.2773	1.357	.29.25
7	S96T004916	.0470	-.1658	1.700	-.0061	.2977	.29.20
8	S96T004916_D	.1401	-.1892	1.725	.0586	.2152	.28.93
9	IGSA	.0234	.0373	-.0380	-.0059	-.0447	.0035
10	IGSAB	.0463	.9787	-.0213	-.0070	-.0206	.0004
11	CCV	4.956	5.015	4.977	4.831	4.925	4.975
12	CCB	.0160	-.0251	-.0007	.0071	.0176	.0064

#	Sample Name	Sm	Sr	Th	Ti	Tl	U
1	ICV	4.939	4.995	.0210	4.951	4.862	9.683
2	ICB	-.0014	.0001	.0018	.0000	.0141	-.0133
3	LLS	.2078	.0207	.0003	.0202	.4160	.5106
4	IGSA	-.0053	.0021	.0018	.0012	.0202	-.0048
5	IGSAB	-.0023	.0022	-.0075	.0007	.0042	-.0130
6	S96T004916 L	.2622	.0782	.1486	.0006	1.235	.6775
7	S96T004916	.0068	.0713	.0552	-.0026	.2162	.2087
8	S96T004916_D	.0218	.0713	.0545	.0002	.0968	.0243
9	IGSA	.0014	.0021	.0002	.0007	.0101	.0047
10	IGSAB	-.0031	.0022	-.0007	.0010	.0035	-.0093
11	CCV	4.883	4.938	.0177	4.907	4.855	9.575
12	CCB	.0061	.0002	.0064	.0005	.0108	.0134

#	Sample Name	V	Y	Zn	Zr
1	ICV	5.049	.0062	5.096	4.991
2	ICB	-.0004	.0000	-.0002	.0002
3	LLS	.1036	.0006	.0228	.0217
4	IGSA	-.0020	.0067	.0056	-.0033
5	IGSAB	.4658	.0067	.9536	-.0019
6	S96T004916 L	.0294	.0256	-.1.254	.0473
7	S96T004916	.0097	.0051	-.1.265	.0115
8	S96T004916_D	.0080	.0034	-.1.265	.0078
9	IGSA	-.0016	.0068	.0046	-.0021
10	IGSAB	.4684	.0067	.9562	-.0025
11	CCV	5.017	.0062	5.063	4.938

10/04/96

08:36

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HNF-SD-WM-DP-226, REV. 0

Analysis Report

Averages

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#	Sample Name	V	Y	Zn	Zr
12	CCB	.0007	.0003	.0006	.0006

10/02/96 08:13
A-0004-1

File # 961007A.DAT

HNF-SD-WM-DP-226, REV. 0

Page: 1

LABCORE Data Entry Template for Worklist# 13578

Analyst: B. G. E. C. H. Instrument: ICP01 _____ Book# 61898

Method: LA-505-151/161 Rev/Mod d-3
10-01-96

Worklist Comment: ICP AN-104 (DIRECT)

S Type	Sample#	R A	Test	Matrix	Group#	Project
1	ICV		@ICP-QC	QC		
2	ICB		@ICP-QC	QC		
3	LLS		@ICP-QC	QC		
4	ICSA		@ICP-QC	QC		
5	ICSAB		@ICP-QC	QC		
6	SERDIL	S96T004774	0 D	@ICP-D01	LIQUID	
7	SAMPLE	S96T004774	0 D	@ICP-D01	LIQUID	96001174 AN-104
Analytes Requested: AG-D-01 , AL-D-01 , AS-D-01 , B-D-01 , BA-D-01 , BE-D-01 , BI-D-01 , CA-D-01 , CD-D-01 , CE-D-01 , CO-D-01 , CR-D-01 , CU-D-01 , FE-D-01 , K-D-01 , LA-D-01 , LI-D-01 , MG-D-01 , MN-D-01 , MO-D-01 , NA-D-01 , ND-D-01 , NI-D-01 , P-D-01 , PB-D-01 , S-D-01 , SB-D-01 , SE-D-01 , SI-D-01 , SM-D-01 , SR-D-01 , TI-D-01 , TL-D-01 , U-D-01 , V-D-01 , ZN-D-01 , ZR-D-01						
8	DUP	S96T004774	0 D	@ICP-D01	LIQUID	
9	SPK	S96T004774	0 D	@ICP-D01	LIQUID	
* 3pk 10pk 596T004774						
10	CCV		@ICP-QC	QC		
11	CCB		@ICP-QC	QC		
12	SERDIL	S96T004778	0 D	@ICP-D01	LIQUID	
13	SAMPLE	S96T004778	0 D	@ICP-D01	LIQUID	96001174 AN-104
Analytes Requested: AG-D-01 , AL-D-01 , AS-D-01 , B-D-01 , BA-D-01 , BE-D-01 , BI-D-01 , CA-D-01 , CD-D-01 , CE-D-01 , CO-D-01 , CR-D-01 , CU-D-01 , FE-D-01 , K-D-01 , LA-D-01 , LI-D-01 , MG-D-01 , MN-D-01 , MO-D-01 , NA-D-01 , ND-D-01 , NI-D-01 , P-D-01 , PB-D-01 , S-D-01 , SB-D-01 , SE-D-01 , SI-D-01 ,						

Data Entry Comments:

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist# 13578

S Type	Sample#	R A	Test	Matrix	Group#	Project
			SM-D-01	SR-D-01	TI-D-01	TL-D-01
			ZN-D-01	ZR-D-01	U-D-01	V-D-01
14 DUP	S96T004778	0 D	@ICP-D01	LIQUID		
15 SPK	S96T004778	0 D	@ICP-D01	LIQUID		
16 SERDIL	S96T004779	0 D	@ICP-D01	LIQUID		
17 SAMPLE	S96T004779	0 D	@ICP-D01	LIQUID	96001174	AN-104
	Analytes Requested: AG-D-01, AL-D-01, AS-D-01, B-D-01, BA-D-01, BE-D-01, BI-D-01, CA-D-01, CD-D-01, CE-D-01, CO-D-01, CR-D-01, CU-D-01, FE-D-01, K-D-01, LA-D-01, LI-D-01, MG-D-01, MN-D-01, MO-D-01, NA-D-01, ND-D-01, NI-D-01, P-D-01, PB-D-01, S-D-01, SB-D-01, SE-D-01, SI-D-01, SM-D-01, SR-D-01, TI-D-01, TL-D-01, U-D-01, V-D-01, ZN-D-01, ZR-D-01					
18 DUP	S96T004779	0 D	@ICP-D01	LIQUID		
19 SPK	S96T004779	0 D	@ICP-D01	LIQUID		
20 ICSA			@ICP-QC	QC		
21 ICSAB			@ICP-QC	QC		
22 CCV			@ICP-QC	QC		
23 CCB			@ICP-QC	QC		

Final page for worklist # 13578

Analyst Signature Date

S96T004774-L, 015-30-1-8, DF 6005

S96T004774, 015-30 1161

S96T004774, 015-30 1161

S96T004774, 015-30 1201, 015 ml sample + 1 ml H₂O + 14 ml H₂O₂S96T004774-X, 015-30-1-8, DF 6005, 015-30-1-8, 015 ml sample + 1 ml H₂O + 14 ml H₂O₂

S96T004774-L, 015-30-1-8, DF 6005

S96T004774, 015-30 1201

S96T004774, 015-30 1201

S96T004774, 015-30 1201, 015 ml sample + 1 ml H₂O + 14 ml H₂O₂

Data Entry Comments:

Spike recovery for Na + Al failed. Another post spike

was made with higher concentration (10 ppm) and the results are

Na = 109.8% and Al = 100.7%. These data are not entered in the LABCORE.

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

Revised by:
Analyst Signature Date

S96T004774-L, 015-30-1-8, DF 6005

S96T004774, 015-30 1161

S96T004774, 015-30 1201

S96T004774-X, 015-30 1201, 015 ml sample + 1 ml H₂O + 14 ml H₂O₂

DF 6005

14 ml H₂O₂

Post Spike

$$Al = \frac{\left(\frac{42422.977}{1201} \right) - \left(\frac{40640.575}{1201} \right)}{1} \times 100 = 148.4\%$$

$$Al = \frac{\left(\frac{161588.416}{12010} \right) - \left(\frac{40640.575}{12010} \right)}{10} \times 100 = 100.7\%$$

$$Na = \frac{\left(\frac{260923.567}{1201} \right) - \left(\frac{254420.054}{1201} \right)}{1} \times 100 = 541.5\%$$

$$Na = \frac{\left(\frac{386268.919}{12010} \right) - \left(\frac{254420.054}{12010} \right)}{10} \times 100 = 109.8\%$$

Identity 1: ICV Identity 2: Quality Control

12:44 PM October 7, 1996

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	4.823	4.874	4.969	4.903	4.819	4.788	4.914	4.969
S.D.	0.009	0.015	0.040	0.015	0.010	0.021	0.013	0.042
% R.S.D.	0.192	0.306	0.804	0.299	0.215	0.444	0.270	0.845
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	4.890	4.831	5.005	4.920	4.812	4.851	5.276	9.750
S.D.	0.016	0.007	0.011	0.005	0.008	0.011	0.011	0.023
% R.S.D.	0.332	0.138	0.227	0.103	0.165	0.227	0.202	0.238
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	4.836	4.905	4.942	4.934	4.772	4.835	4.967	4.867
S.D.	0.028	0.012	0.013	0.011	0.012	0.019	0.012	0.043
% R.S.D.	0.572	0.243	0.271	0.230	0.258	0.383	0.235	0.882
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	4.773	4.793	4.892	4.859	4.698	4.880	5.009	4.971
S.D.	0.019	0.055	0.008	0.016	0.015	0.014	0.009	0.048
% R.S.D.	0.390	1.157	0.171	0.325	0.311	0.280	0.182	0.972
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	4.877	4.625	4.869	5.037	5.070			
S.D.	0.011	0.034	0.011	0.008	0.014			
% R.S.D.	0.229	0.743	0.231	0.158	0.274			

Signature

10-07-96

AN-104

10M-1-30-1

596700 4774, 4778, 4779

FILE# 0961007A.DAT

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1021 TO 1060

HNF-SD-WM-DP-226, REV. 0

Identity 1: iCB

Identity 2: Quality Control

12:48 PM October 7, 1996

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	0.002	0.006	-0.015	-0.004	0.001	0.001
S.D.	0.002	0.000	0.010	0.002	0.008	0.003	0.001	0.001
% R.S.D.	153.162	49.487	427.854	43.458	50.277	60.119	123.479	98.966
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.001	0.002	0.000	-0.002	0.000	0.001	-0.003	-0.029
S.D.	0.001	0.002	0.002	0.002	0.000	0.002	0.006	0.054
% R.S.D.	114.433	74.666	627.259	72.128	70.887	152.287	189.922	184.816
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.007	0.018	0.001	-0.005	0.006	0.001	-0.008	-0.011
S.D.	0.016	0.012	0.001	0.002	0.002	0.000	0.004	0.006
% R.S.D.	211.873	67.856	82.576	38.776	38.312	16.661	52.050	56.689
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.001	0.006	-0.001	0.007	0.001	0.002	0.005	0.013
S.D.	0.002	0.006	0.001	0.015	0.001	0.001	0.001	0.020
% R.S.D.	213.359	101.140	74.322	225.273	41.872	47.963	25.180	146.640
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	0.002	0.011	0.000	0.001	-0.055			
S.D.	0.001	0.018	0.001	0.000	0.039			
% R.S.D.	38.047	163.798	236.157	71.494	70.693			

HNF-SD-WM-DP-226, REV. 0

Identity 1: LLS

Identity 2: Quality Control

12:51 PM October 7, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.020	0.020	0.185	0.117	0.084	0.038	0.020	0.020
S.D.	0.001	0.000	0.012	0.002	0.002	0.001	0.000	0.000
% R.S.D.	2.535	0.176	6.337	1.373	2.359	3.927	1.305	0.379
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.021	0.043	0.100	0.101	0.196	0.019	0.195	0.458
S.D.	0.000	0.002	0.001	0.002	0.000	0.001	0.010	0.009
% R.S.D.	1.262	3.669	1.158	2.354	0.087	4.601	5.250	1.888
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.168	0.196	0.100	0.381	0.201	0.199	0.190	0.196
S.D.	0.004	0.002	0.000	0.007	0.004	0.000	0.008	0.001
% R.S.D.	2.226	1.064	0.085	1.791	1.810	0.170	4.029	0.679
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.090	0.200	0.018	0.210	0.019	0.012	0.099	0.455
S.D.	0.001	0.007	0.001	0.007	0.000	0.001	0.001	0.008
% R.S.D.	1.446	3.369	3.016	3.138	0.017	6.978	0.646	1.836
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	0.020	0.143	0.093	0.010	0.365			
S.D.	0.000	0.029	0.000	0.000	0.012			
% R.S.D.	2.376	20.380	0.174	3.720	3.232			

HNF-SD-WM-DP-226, REV. 0

Identity 1: ICSA

Identity 2: Quality Control

1:00 PM October 7, 1996

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	-0.031	-0.016	194.861	0.005	0.001	0.001
S.D.	0.000	0.000	0.014	0.002	0.283	0.001	0.000	0.000
% R.S.D.	157.662	0.000	43.985	9.824	0.145	28.175	43.945	15.849

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.005	0.002	0.005	93.950	101.564	-0.003	0.035	-0.085
S.D.	0.000	0.000	0.002	0.087	0.025	0.002	0.009	0.005
% R.S.D.	3.232	17.842	37.273	0.092	0.025	59.412	27.234	6.156

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.032	0.040	0.002	0.023	-0.070	95.952	-0.024	186.995
S.D.	0.001	0.004	0.000	0.001	0.809	0.066	0.008	0.338
% R.S.D.	3.871	9.422	1.925	6.622	12.795	0.069	35.085	0.181

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	-0.001	-0.033	0.001	0.010	-0.000	0.002	0.014	-0.018
S.D.	0.001	0.004	0.000	0.014	0.000	0.002	0.000	0.003
% R.S.D.	78.038	12.941	58.581	145.515	75.760	77.059	1.522	16.778

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.005	0.023	0.004	0.003	-0.016
S.D.	0.000	0.008	0.001	0.000	0.008
% R.S.D.	6.254	34.657	15.113	0.035	49.884

Identity 1: ICSAB Identity 2: Quality Control 1:07 PM October 7, 1996
 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	-0.030	-0.006	195.453	0.471	0.483	0.942
S.D.	0.001	0.000	0.013	0.002	0.519	0.005	0.001	0.000
% R.S.D.	61.193	4.323	42.323	35.961	0.266	1.156	0.171	0.050
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.947	0.943	0.003	93.536	102.217	0.472	0.026	0.002
S.D.	0.001	0.001	0.001	0.052	0.224	0.005	0.007	0.024
% R.S.D.	0.096	0.123	19.484	0.056	0.219	1.083	25.623	1140.736
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.000	0.071	0.504	-0.002	-0.035	96.954	-0.022	190.420
S.D.	0.006	0.005	0.001	0.009	0.006	0.190	0.003	0.032
% R.S.D.	1673.778	7.382	0.202	501.532	17.221	0.196	12.317	0.017
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	-0.004	-0.021	0.993	0.953	0.001	0.954	0.013	-0.093
S.D.	0.002	0.016	0.002	0.013	0.000	0.001	0.000	0.013
% R.S.D.	43.357	72.566	0.216	1.394	33.283	0.087	3.125	14.365
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	0.475	0.046	0.476	0.488	-0.032			
S.D.	0.001	0.022	0.000	0.001	0.010			
% R.S.D.	0.190	47.883	0.093	0.256	31.595			

HNF-SD-WM-DP-226, REV. 0

Identity 1: S96T004774_L Identity 2: .025ml-30ml-2ml-8ml

1:14 PM October 7, 1996

Task name: OPTIMA

Sample Weight: 1.0000 Solution Volume: 6005.00

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	-20.509	1.483	-28.138	454.492	40442.249	68.134	10.642	4.199
S.D.	3.171	0.371	13.064	10.528	63.710	9.180	0.568	0.264
% R.S.D.	15.462	25.000	46.430	2.316	0.158	13.473	5.335	6.289
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	13.008	-1.125	-7.486	88.824	162.244	336.681	36.861	-1211.200
S.D.	1.695	8.651	10.574	19.006	19.685	2.932	19.400	41.687
% R.S.D.	13.034	768.700	141.265	21.398	12.133	0.871	52.631	3.442
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	83.134	-271.803	2.744	893.530	1200.988	148.072	-14.135	266614.435
S.D.	0.068	30.121	0.262	23.916	3.735	19.836	6.474	677.614
% R.S.D.	0.082	11.082	9.547	2.677	0.311	13.396	45.803	0.254
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	84.526	-211.425	9.699	15.313	-6.088	11.299	52.533	6185.348
S.D.	7.405	117.040	1.607	68.871	0.632	3.282	2.088	54.833
% R.S.D.	8.761	55.358	16.564	449.740	10.376	29.049	3.974	0.886
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	1.095	135.436	6.208	0.206	-55.350			
S.D.	0.023	131.760	3.521	0.008	43.097			
% R.S.D.	2.093	97.286	56.719	3.848	77.863			

HNF-SD-WM-DP-226, REV. 0

Identity 1: S96T004774 Identity 2: .025ml-30ml

1:18 PM October 7, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 1201.00

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	4.669	0.494	-6.164	477.730	40640.575	65.591	4.616	1.423
S.D.	0.691	0.043	4.852	3.563	81.146	2.014	0.155	0.280
% R.S.D.	14.794	8.660	78.725	0.746	0.200	3.070	3.360	19.643
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	12.218	5.701	1.307	-70.942	6.858	345.460	4.010	-139.834
S.D.	0.314	0.999	2.112	3.354	0.133	0.917	5.286	10.176
% R.S.D.	2.571	17.521	161.609	4.728	1.946	0.265	131.837	7.277
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	24.878	-12.346	0.617	908.105	1203.629	1.944	-19.409	254420.054
S.D.	3.916	2.628	0.110	23.453	34.643	0.194	0.952	871.753
% R.S.D.	15.741	21.286	17.858	2.583	2.878	10.001	4.904	0.343
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	80.006	7.544	-0.020	62.663	-0.470	2.664	67.811	6817.814
S.D.	0.925	5.037	0.213	0.626	0.263	0.590	0.478	35.924
% R.S.D.	1.156	66.778	1048.939	0.999	55.911	22.162	0.706	0.527
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	0.682	53.971	2.415	1.126	-21.850			
S.D.	0.388	14.985	0.838	0.002	14.894			
% R.S.D.	56.853	27.765	34.709	0.170	68.164			

1:23 PM October 7, 1996

On-Peak Integrations : 3 Off-Peak Integrations : 1

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HNF-SD-WM-DP-226, REV. 0

Identity 1: S96T004774_A Identity 2: .025ml-6mlsst5-24ml

1:27 PM October 7, 1996

Task name: OPTIMA

Sample Weight: 1.0000 Solution Volume: 1201.00

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	1167.411	1187.249	1181.260	1670.882	42422.977	1202.067	1198.498	1165.936
S.D.	1.989	1.030	14.613	2.545	19.031	1.876	0.235	3.686
% R.S.D.	0.170	0.087	1.237	0.152	0.045	0.156	0.020	0.316
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	1159.478	1154.715	1201.576	1085.976	1142.190	1493.874	1262.454	2315.294
S.D.	1.559	2.971	6.970	3.277	0.577	4.349	15.096	41.273
% R.S.D.	0.134	0.257	0.580	0.302	0.051	0.291	1.196	1.783
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	1170.531	1190.072	1203.187	2075.994	2358.917	1131.806	1157.238	260923.567
S.D.	6.598	6.040	0.709	13.537	9.860	0.854	9.380	845.241
% R.S.D.	0.564	0.508	0.059	0.652	0.418	0.075	0.811	0.324
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Tl (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	1216.898	1163.452	637.561	1206.273	1130.849	1152.375	1235.718	8001.325
S.D.	4.678	7.539	4.720	15.432	0.060	1.457	3.082	36.460
% R.S.D.	0.384	0.648	0.740	1.279	0.005	0.126	0.249	0.456
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	1156.508	1078.132	1163.121	1186.181	1168.269			
S.D.	1.581	45.880	2.515	2.490	22.510			
% R.S.D.	0.137	4.255	0.216	0.210	1.927			

HNF-SD-WM-DP-226, REV. 0

Identity 1: S96T004774_X Identity 2: .025-30ml-1ml-1-1-7 1:40 PM October 7, 1996
 Ask name : OPTIMA
 Sample Weight : 1.0000 Solution Volume : 12010.00
 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	117698.548	117252.786	120534.225	125501.796	161588.416	155.556	22.505	118872.014
S.D.	123.828	28.211	635.877	185.203	225.654	0.962	5.114	750.796
% R.S.D.	0.105	0.024	0.528	0.148	0.140	0.619	22.725	0.632
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	322.088	114485.839	120360.416	116756.108	117038.370	115814.885	125478.899	8260.435
S.D.	2.281	382.021	245.958	401.553	181.682	412.680	419.449	193.758
% R.S.D.	0.708	0.334	0.204	0.344	0.155	0.356	0.334	2.346
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	116565.476	119697.653	119644.619	120784.602	117505.461	116267.166	119381.739	386268.919
S.D.	365.596	198.243	270.082	520.420	33.265	323.104	162.509	2370.566
% R.S.D.	0.314	0.166	0.226	0.431	0.028	0.278	0.136	0.614
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	111969.166	116311.772	109380.490	115122.787	104910.916	116016.301	117736.180	125964.986
S.D.	387.207	407.222	500.177	679.041	130.100	215.615	207.380	1092.745
% R.S.D.	0.346	0.350	0.457	0.590	0.124	0.186	0.176	0.867
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	115626.911	114821.997	879.926	119622.833	120597.867			
S.D.	377.038	526.504	8.852	173.329	213.565			
% R.S.D.	0.326	0.459	1.006	0.145	0.177			

HNF-SD-WM-DP-226, REV. 0

Identity 1: CCV Identity 2: Quality Control 1:44 PM October 7, 1996
 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	4.862	4.954	5.004	4.892	4.859	4.728	5.010	5.094
S.D.	0.014	0.009	0.014	0.009	0.005	0.010	0.008	0.063
% R.S.D.	0.284	0.183	0.279	0.174	0.101	0.219	0.168	1.237

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	4.787	4.774	5.061	4.891	4.878	4.785	5.400	10.090
S.D.	0.004	0.008	0.017	0.019	0.011	0.012	0.019	0.041
% R.S.D.	0.082	0.174	0.343	0.392	0.224	0.259	0.351	0.406

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	4.876	5.069	5.049	4.909	4.725	4.764	4.923	4.997
S.D.	0.007	0.012	0.009	0.018	0.048	0.010	0.035	0.068
% R.S.D.	0.134	0.240	0.179	0.375	1.009	0.205	0.703	1.362

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	4.734	4.876	4.888	4.813	4.720	4.829	5.021	4.922
S.D.	0.008	0.033	0.007	0.008	0.009	0.013	0.004	0.081
% R.S.D.	0.159	0.673	0.143	0.166	0.186	0.277	0.074	1.647

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	4.818	4.640	4.845	5.053	5.029
S.D.	0.013	0.032	0.010	0.011	0.006
% R.S.D.	0.280	0.699	0.201	0.210	0.125

HNF-SD-WM-DP-226, REV. 0

Identity 1: CCB Identity 2: Quality Control 1:47 PM October 7, 1996
 Task name : OPTIMA
 Sample Weight : 1.0000 Solution Volume : 1.00
 On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bf (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.001	0.002	0.011	-0.003	-0.004	0.002	0.003	0.002
S.D.	0.001	0.000	0.007	0.001	0.004	0.002	0.001	0.001
% R.S.D.	41.928	16.897	67.127	52.776	94.719	88.789	27.318	21.052
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.002	-0.001	0.005	0.002	0.002	0.003	0.012	-0.161
S.D.	0.000	0.003	0.001	0.001	0.000	0.001	0.006	0.009
% R.S.D.	18.352	257.669	29.393	32.801	16.064	43.608	50.958	5.529
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.024	-0.028	0.002	-0.000	0.009	0.002	-0.007	0.011
S.D.	0.003	0.003	0.000	0.011	0.002	0.000	0.003	0.001
% R.S.D.	14.278	10.791	14.865	7416.702	22.867	9.962	46.130	12.373
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.003	-0.028	0.016	0.019	0.001	0.004	0.006	-0.041
S.D.	0.001	0.009	0.002	0.016	0.001	0.000	0.001	0.005
% R.S.D.	27.152	31.083	12.414	82.466	46.539	6.425	7.787	13.107
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	0.003	0.025	0.003	0.002	0.045			
S.D.	0.000	0.008	0.001	0.000	0.010			
% R.S.D.	10.234	32.270	16.983	18.877	23.150			

HNF-SD-WM-DP-226, REV. 0

Identity 1: S96T004778_L Identity 2: .025ml-30ml-2ml-8ml

1:53 PM October 7, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 6005.00

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	-3.408	3.708	-84.639	424.604	35007.999	69.835	12.340	12.595
S.D.	1.823	0.371	40.371	3.557	83.353	8.724	0.305	0.528
% R.S.D.	53.490	10.000	47.698	0.838	0.238	12.493	2.473	4.195
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	12.998	16.873	13.422	-32.577	130.380	295.409	59.150	-843.212
S.D.	0.609	4.236	3.979	16.625	1.558	5.779	56.042	31.525
% R.S.D.	4.688	25.104	29.647	51.033	1.195	1.956	94.745	3.739
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	239.046	-100.548	5.145	803.120	963.488	16.197	17.638	232177.391
S.D.	22.465	18.028	0.099	63.112	11.727	2.023	23.582	1435.194
% R.S.D.	9.398	17.930	1.924	7.858	1.217	12.491	133.703	0.618
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	70.653	41.221	15.909	91.309	-1.362	7.554	76.615	6185.313
S.D.	4.450	73.168	2.331	55.590	1.292	2.169	4.919	23.850
% R.S.D.	6.298	177.501	14.653	60.881	94.887	28.708	6.420	0.386
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	7.793	56.763	22.820	2.069	-42.800			
S.D.	0.005	37.574	2.550	0.781	52.394			
% R.S.D.	0.070	66.195	11.176	37.730	122.416			

HNF-SD-WM-DP-226, REV. 0

Identity 1: S96T004778 Identity 2: .025ml-30ml 1:57 PM October 7, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 1201.00

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	3.458	0.173	4.448	169.987	35401.920	54.822	1.622	5.611
S.D.	1.074	0.043	2.200	1.144	79.454	1.975	0.296	0.092
% R.S.D.	31.070	24.744	49.455	0.673	0.224	3.603	18.278	1.631
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	9.736	9.273	2.256	-66.559	5.985	291.120	-15.069	-83.304
S.D.	0.102	0.338	2.125	2.036	0.044	2.657	9.829	29.251
% R.S.D.	1.052	3.640	94.186	3.059	0.743	0.913	65.227	35.114
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-16.731	1.055	0.183	846.771	1012.096	0.972	-8.962	229263.274
S.D.	11.839	6.747	0.071	21.333	4.570	0.194	8.482	903.483
% R.S.D.	70.760	639.749	39.030	2.519	0.452	20.008	96.645	0.394
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	69.215	13.890	-0.013	50.122	0.052	1.434	57.789	5905.899
S.D.	2.016	8.447	0.653	10.531	0.065	0.913	1.538	20.795
% R.S.D.	2.912	60.814	4860.113	21.011	126.984	63.704	2.661	0.352
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	1.794	-2.739	-0.155	0.780	-73.903			
S.D.	0.190	21.722	1.069	0.161	10.833			
% R.S.D.	10.603	792.941	691.588	20.597	14.659			

HNF-SD-WM-DP-226, REV. 0

Identity 1: S96T004779_L Identity 2: .025ml-30ml-2ml-8ml

2:07 PM October 7, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 6005.00

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	-2.241	1.978	0.294	268.150	40057.551	88.534	6.202	13.349
S.D.	2.477	0.566	5.750	18.018	40.859	0.340	1.969	0.952
% R.S.D.	110.496	28.641	1958.334	6.719	0.102	0.384	31.750	7.134
	Zn	Ni	La	Fe	Ca	Cr	Nd	U
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	20.318	9.370	-7.250	-72.615	7.706	338.140	75.408	-692.027
S.D.	0.316	7.950	4.023	8.275	0.000	1.377	13.198	181.324
% R.S.D.	1.554	84.849	55.488	11.396	0.000	0.407	17.502	26.202
	Ce	Sm	Ba	P	S	Mg	As	Na
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	126.529	-121.376	1.886	944.234	1129.939	13.606	-0.465	264021.950
S.D.	29.771	41.951	0.693	23.107	7.614	0.972	22.464	1545.832
% R.S.D.	23.529	34.563	36.740	2.447	0.674	7.143	4827.591	0.585
	Mo	Se	Ag	Pb	Ti	Cd	B	K
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	78.104	-265.174	-2.875	181.667	-4.017	8.515	75.527	7143.018
S.D.	2.706	12.105	3.753	64.996	0.679	1.641	4.134	56.297
% R.S.D.	3.465	4.565	130.523	35.777	16.906	19.276	5.474	0.788
	Mn	Sb	V	Be	Tl			
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)			
Mean	4.547	161.028	6.560	1.200	-162.269			
S.D.	0.022	96.054	2.136	0.742	95.199			
% R.S.D.	0.476	59.651	32.565	61.813	58.668			

HNF-SD-WM-DP-226, REV. 0

Identity 1: S961004779 Identity 2: .025ml-30ml

2:10 PM October 7, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 1201.00

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	9.739	0.124	9.242	202.777	40553.823	64.495	1.496	8.163
S.D.	1.447	0.086	0.246	1.443	63.316	0.240	0.191	0.242
% R.S.D.	14.862	69.282	2.662	0.711	0.156	0.372	12.773	2.964
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	17.493	10.980	2.317	-76.270	4.649	340.582	18.165	50.659
S.D.	0.379	2.518	1.604	3.536	0.044	4.776	7.880	45.612
% R.S.D.	2.164	22.935	69.247	4.636	0.957	1.402	43.378	90.036
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-10.981	0.341	0.091	954.276	1164.523	0.583	-6.518	258350.833
S.D.	8.046	7.367	0.157	19.984	4.818	0.000	3.964	941.778
% R.S.D.	73.271	2162.817	171.838	2.094	0.414	0.007	60.810	0.365
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	80.314	-14.403	-2.340	51.085	0.936	3.049	68.631	6862.570
S.D.	0.616	3.260	1.057	9.572	0.329	0.491	2.030	51.127
% R.S.D.	0.767	22.635	45.170	18.738	35.157	16.094	2.958	0.745
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	1.780	-0.416	-1.141	0.714	-72.490			
S.D.	0.192	22.187	0.705	0.164	34.268			
% R.S.D.	10.782	5338.403	61.816	22.905	47.273			

HNF-SD-WM-DP-226, REV. 0

Identity 1: S96T004779_D Identity 2: .025ml-30ml

2:13 PM October 7, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 1201.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bf (ppm)	Sf (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	7.509	-0.025	-21.866	192.232	39605.336	63.713	0.835	7.677
S.D.	1.544	0.154	7.885	3.934	85.149	0.130	0.938	0.381
% R.S.D.	20.567	624.494	36.061	2.046	0.215	0.205	112.286	4.960
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	15.685	9.394	-1.386	-73.438	3.339	329.895	-7.344	19.056
S.D.	0.265	2.970	2.906	2.134	0.044	4.503	5.280	67.797
% R.S.D.	1.687	31.618	209.773	2.906	1.332	1.365	71.897	355.776
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-22.522	-7.011	-0.046	908.588	1130.300	0.324	-12.662	255560.566
S.D.	17.794	14.249	0.225	17.386	2.163	0.112	2.802	524.161
% R.S.D.	79.008	203.233	491.859	1.913	0.191	34.643	22.132	0.205
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	76.409	-8.262	-1.665	54.874	0.465	2.764	64.236	6624.185
S.D.	0.495	13.653	0.842	2.529	0.602	0.284	0.464	20.796
% R.S.D.	0.648	165.243	50.580	4.609	129.481	10.289	0.723	0.314
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	1.449	56.882	-3.136	1.156	-29.502			
S.D.	0.505	35.909	0.817	0.278	36.427			
% R.S.D.	34.835	63.129	26.045	24.015	123.475			

HNF-SD-WM-DP-226, REV. 0

Identity 1: ICSS Identity 2: Quality Control 2:18 PM October 7, 1996
 Task name : OPTIMA
 Sample Weight : 1.0000 Solution Volume : 1.00
 On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bf (ppm)	Sl (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.002	0.003	-0.040	-0.014	193.717	0.007	0.002	0.001
S.D.	0.000	0.000	0.007	0.001	0.094	0.001	0.000	0.000
% R.S.D.	20.592	1.332	18.632	7.947	0.049	19.548	11.899	17.657

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.005	0.004	-0.002	92.491	100.777	-0.006	0.053	-0.191
S.D.	0.000	0.003	0.001	0.186	0.045	0.000	0.014	0.018
% R.S.D.	6.715	63.291	35.861	0.201	0.045	6.239	26.055	9.493

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.029	0.021	0.002	0.020	-0.085	93.088	-0.018	188.226
S.D.	0.004	0.004	0.000	0.004	0.001	0.186	0.011	0.373
% R.S.D.	15.119	19.534	4.724	19.127	1.648	0.200	60.618	0.198

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	-0.001	0.011	0.002	0.017	-0.001	0.001	0.010	-0.139
S.D.	0.001	0.005	0.000	0.010	0.000	0.001	0.001	0.013
% R.S.D.	274.812	45.974	15.985	59.810	18.712	77.359	5.493	9.337

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.004	0.066	0.003	0.003	0.001
S.D.	0.000	0.015	0.000	0.000	0.010
% R.S.D.	9.515	23.129	5.766	12.013	1157.531

HNF-SD-WM-DP-226, REV. 0

Identity 1: ICSAB Identity 2: Quality Control

2:21 PM October 7, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Ri (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.003	0.002	-0.026	-0.010	194.615	0.474	0.478	0.925
S.D.	0.001	0.000	0.003	0.002	0.097	0.004	0.000	0.004
% R.S.D.	16.923	1.506	12.079	21.753	0.050	0.783	0.009	0.388

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.956	0.941	0.000	93.831	101.706	0.469	0.033	-0.071
S.D.	0.002	0.008	0.001	0.293	0.092	0.002	0.006	0.017
% R.S.D.	0.225	0.798	18298.485	0.312	0.091	0.345	16.805	23.612

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.022	0.036	0.498	0.036	-0.044	97.969	-0.026	188.193
S.D.	0.004	0.002	0.001	0.012	0.003	0.142	0.005	0.689
% R.S.D.	20.361	6.657	0.138	32.507	6.546	0.145	18.812	0.366

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	-0.001	-0.002	0.997	0.955	0.000	0.956	0.015	-0.028
S.D.	0.001	0.027	0.001	0.021	0.000	0.004	0.001	0.016
% R.S.D.	66.486	1587.487	0.144	2.197	111.969	0.449	4.652	56.208

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.479	-0.023	0.479	0.486	-0.027
S.D.	0.002	0.027	0.001	0.000	0.006
% R.S.D.	0.320	113.891	0.215	0.054	23.960

HNF-SD-WM-DP-226, REV. 0

Identity 1: CCV Identity 2: Quality Control 2:26 PM October 7, 1996

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	4.888	4.916	5.028	4.982	4.871	4.866	4.932	4.924
S.D.	0.004	0.002	0.015	0.001	0.011	0.003	0.004	0.022
% R.S.D.	0.072	0.037	0.306	0.020	0.226	0.053	0.076	0.450

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	4.951	4.917	5.065	5.024	4.856	4.934	5.297	9.947
S.D.	0.003	0.006	0.003	0.012	0.001	0.009	0.026	0.011
% R.S.D.	0.067	0.116	0.060	0.231	0.015	0.192	0.495	0.115

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	4.830	4.983	4.975	4.991	4.858	4.919	5.029	4.888
S.D.	0.010	0.002	0.002	0.027	0.008	0.006	0.007	0.025
% R.S.D.	0.198	0.042	0.034	0.538	0.173	0.127	0.139	0.509

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	4.849	4.854	4.943	4.906	4.750	4.957	5.032	4.997
S.D.	0.001	0.036	0.004	0.042	0.001	0.007	0.006	0.026
% R.S.D.	0.014	0.735	0.085	0.865	0.030	0.134	0.128	0.521

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	4.949	4.682	4.933	5.092	5.051
S.D.	0.003	0.034	0.003	0.000	0.007
% R.S.D.	0.051	0.725	0.064	0.009	0.134

HNF-SD-WM-DP-226, REV. 0

Identity 1: CCB

Identity 2: Quality Control

2:30 PM October 7, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr	Sr	Bi	Sf	Al	Co	Cu	Li
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	-0.000	0.001	0.005	0.005	-0.011	-0.001	0.002	0.002
S.D.	0.001	0.000	0.015	0.003	0.002	0.003	0.000	0.000
% R.S.D.	249.918	7.512	285.683	63.008	14.744	339.926	20.070	10.238
	Zn	Ni	La	Fe	Ca	Cr	Nd	U
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	0.001	0.002	0.003	0.002	0.002	-0.002	0.014	-0.060
S.D.	0.000	0.000	0.001	0.002	0.000	0.000	0.007	0.026
% R.S.D.	49.175	28.606	44.061	63.001	6.536	15.490	48.427	43.779
	Ce	Sm	Ba	P	S	Mg	As	Na
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	0.007	-0.005	0.001	-0.006	0.003	0.003	0.001	0.012
S.D.	0.007	0.004	0.000	0.010	0.001	0.000	0.002	0.002
% R.S.D.	98.367	80.608	15.159	165.985	43.680	5.883	436.061	18.750
	Mo	Se	Ag	Pb	Ti	Cd	B	K
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	0.002	0.001	0.002	0.024	0.001	0.003	0.002	-0.112
S.D.	0.000	0.010	0.000	0.007	0.000	0.001	0.001	0.011
% R.S.D.	12.501	667.106	19.053	29.049	29.742	21.324	37.768	9.634
	Mn	Sb	V	Be	Tl			
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)			
Mean	0.002	0.067	0.002	0.001	-0.011			
S.D.	0.000	0.017	0.001	0.000	0.013			
% R.S.D.	9.116	25.643	35.005	11.604	109.916			

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A-0004-1

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LABCORE Data Entry Template for Worklist# 13579

Analyst: J. WORRELL Instrument: ICP01 ^{SN 10-4-96}
2 Book# 618488Method: LA-505-151/161 Rev/Mod R-1
161 SN 10-4-96

Worklist Comment: ICP AN-104 (DIRECT)

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 ICV			@ICP-QC	QC		
2 ICB			@ICP-QC	QC		
3 LLS			@ICP-QC	QC		
4 ICSA			@ICP-QC	QC		
5 ICSAB			@ICP-QC	QC		
6 SERDIL	S96T004780	0 D	@ICP-D01	LIQUID		
7 SAMPLE	S96T004780	0 D	@ICP-D01	LIQUID	96001174	AN-104
Analytes Requested: AG-D-01 , AL-D-01 , AS-D-01 , B-D-01 , BA-D-01 , BE-D-01 , BI-D-01 , CA-D-01 , CD-D-01 , CE-D-01 , CO-D-01 , CR-D-01 , CU-D-01 , FE-D-01 , K-D-01 , LA-D-01 , LI-D-01 , MG-D-01 , MN-D-01 , MO-D-01 , NA-D-01 , ND-D-01 , NI-D-01 , P-D-01 , PB-D-01 , S-D-01 , SB-D-01 , SE-D-01 , SI-D-01 , SM-D-01 , SR-D-01 , TI-D-01 , TL-D-01 , U-D-01 , V-D-01 , ZN-D-01 , ZR-D-01						
8 DUP	S96T004780	0 D	@ICP-D01	LIQUID		
9 SPK	S96T004780	0 D	@ICP-D01	LIQUID		
10 CCV			@ICP-QC	QC		
11 CCB			@ICP-QC	QC		
12 SERDIL	S96T004781	0 D	@ICP-D01	LIQUID		
13 SAMPLE	S96T004781	0 D	@ICP-D01	LIQUID	96001174	AN-104
Analytes Requested: AG-D-01 , AL-D-01 , AS-D-01 , B-D-01 , BA-D-01 , BE-D-01 , BI-D-01 , CA-D-01 , CD-D-01 , CE-D-01 , CO-D-01 , CR-D-01 , CU-D-01 , FE-D-01 , K-D-01 , LA-D-01 , LI-D-01 , MG-D-01 , MN-D-01 , MO-D-01 , NA-D-01 , ND-D-01 , NI-D-01 , P-D-01 , PB-D-01 , S-D-01 , SB-D-01 , SE-D-01 , SI-D-01 ,						

Data Entry Comments:

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

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A-0004-1

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LABCORE Data Entry Template for Worklist# 13579

S Type	Sample#	R A	Test	Matrix	Group#	Project
			SM-D-01 ,	SR-D-01 ,	TI-D-01 ,	TL-D-01 , U-D-01 , V-D-01 ,
			ZN-D-01 ,	ZR-D-01		
14 DUP	S96T004781	0 D	@ICP-D01	LIQUID		
15 SPK	S96T004781	0 D	@ICP-D01	LIQUID		
16 SERDIL	S96T004782	0 D	@ICP-D01	LIQUID		
17 SAMPLE	S96T004782	0 D	@ICP-D01	LIQUID	96001174	AN-104
Analytes Requested:						
			AG-D-01 ,	AL-D-01 ,	AS-D-01 ,	BA-D-01 ,
			BE-D-01 ,	BI-D-01 ,	CA-D-01 ,	CE-D-01 ,
			CO-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 ,	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			
18 DUP	S96T004782	0 D	@ICP-D01	LIQUID		
19 SPK	S96T004782	0 D	@ICP-D01	LIQUID		
20 ICSA			@ICP-QC	QC		
21 ICSAB			@ICP-QC	QC		
22 CCV			@ICP-QC	QC		
23 CCB			@ICP-QC	QC		

Final page for worklist # 13579

John W. Hall 10-4-96
Analyst Signature Date

		DF
S96T004780	DIL 5X	3005
	SAH	601
	DUP	601
	PSPK	601
	025-15-2-8	3005
S96T004781	DIL 5X	601
	SAH	601
	DUP	601
	PSPK	601
	025-12-3	601

Revised by: *John W. Hall* 10/7/96
Analyst Signature Date

		DF
S96T004782	DIL 5X	3005
	SAH	601
	DUP	601
	PSPK	601
	025-15-2-8	3005
	025-15	601
	025-15	601
	025-12-3	601

Data Entry Comments:

Spike recovery calculation:

$$S96T004780 \quad CR = \frac{(952.3)}{601} - \frac{(332.6)}{601} \times 100 = 103.1\%$$

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

Note: Spike true value is 1.0 ppb for all elements except for U = 2.0 ppb.

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Analysis Report

Summary

Fri 10-04-96 07:41:02 PM

page 1

#	Sample Name	File	Method	Date	Time	OpID	Type	Mode
1	ICV	961004E	ICP2	10/04/96	18:07	JHW	Q	CONC
2	ICB	961004E	ICP2	10/04/96	18:10	JHW	Q	CONC
3	LLS	961004E	ICP2	10/04/96	18:15	JHW	Q	CONC
4	ICSA	961004E	ICP2	10/04/96	18:19	JHW	Q	CONC
5	ICSAB	961004E	ICP2	10/04/96	18:22	JHW	Q	CONC
6	S96T004780_L	961004E	ICP2	10/04/96	18:26	JHW	S	CONC
7	S96T004780_-	961004E	ICP2	10/04/96	18:30	JHW	S	CONC
8	S96T004780_D	961004E	ICP2	10/04/96	18:33	JHW	S	CONC
9	S96T004780_-A	961004E	ICP2	10/04/96	18:37	JHW	S	CONC
10	CCV	961004E	ICP2	10/04/96	18:43	JHW	Q	CONC
11	CCB	961004E	ICP2	10/04/96	18:47	JHW	Q	CONC
12	S96T004781_L	961004E	ICP2	10/04/96	18:50	JHW	S	CONC
13	S96T004781_-	961004E	ICP2	10/04/96	18:54	JHW	S	CONC
14	S96T004781_D	961004E	ICP2	10/04/96	18:58	JHW	S	CONC
15	S96T004781_-A	961004E	ICP2	10/04/96	19:01	JHW	S	CONC
16	S96T004782_L	961004E	ICP2	10/04/96	19:05	JHW	S	CONC
17	S96T004782_-	961004E	ICP2	10/04/96	19:09	JHW	S	CONC
18	S96T004782_D	961004E	ICP2	10/04/96	19:15	JHW	S	CONC
19	S96T004782_-A	961004E	ICP2	10/04/96	19:18	JHW	S	CONC
20	ICSA	961004E	ICP2	10/04/96	19:25	JHW	Q	CONC
21	ICSAB	961004E	ICP2	10/04/96	19:28	JHW	Q	CONC
22	CCV	961004E	ICP2	10/04/96	19:32	JHW	Q	CONC
23	CCB	961004E	ICP2	10/04/96	19:36	JHW	Q	CONC

John W. Howell
10-4-96

FILE No: 961004E.TXT
WORKLIST # 13579

S96T004780, 4781, 4782

AN-104 DIRECT .025ml - 15ml

SST-5 = 618488

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1102 TO 1106

Analysis Report

Averages

Fri 10-04-96 07:41:02 PM

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#	Sample Name	Ag	Al	As	B	Ba	Be
1	ICV	4.937	4.905	5.143	4.991	4.971	5.172
2	ICB	.0003	.0253	.0085	.0049	.0000	.0003
3	LLS	.0219	Q.1399	.2149	.1049	.1015	.0105
4	ICSA	.0035	241.7	-.0507	-.0001	.0003	.0006
5	ICSAB	.9552	240.8	-.0493	-.0011	.4739	.4839
6	S96T004780 L	21.47	37970.	-38.78	61.27	.5057	1.075
7	S96T004780	18.54	37320.	-33.72	65.36	.1857	.5381
8	S96T004780 D	18.80	38310.	-49.01	65.06	.2035	.5917
9	S96T004780 A	571.7	40180.	575.6	664.2	598.6	617.3
10	CCV	4.959	4.935	5.220	5.034	5.027	5.225
11	CCB	.0026	.0325	-.0049	.0029	.0002	.0003
12	S96T004781 L	23.85	37450.	-34.52	65.64	.6283	.6696
13	S96T004781	17.96	36950.	-40.69	65.36	.1487	.5667
14	S96T004781 D	18.89	38030.	-45.88	67.11	.2040	.5388
15	S96T004781 A	568.4	41080.	580.4	655.2	591.1	616.2
16	S96T004782 L	25.29	37080.	.6466	74.38	.3481	1.211
17	S96T004782 D	17.99	36530.	-40.33	63.90	.2384	.5382
18	S96T004782 D	19.48	38500.	-52.44	66.23	.1931	.5931
19	S96T004782 A	563.7	40180.	588.2	666.9	598.4	622.3
20	ICSA	.0073	244.0	-.0593	-.0054	.0001	.0006
21	ICSAB	.9617	242.6	-.0615	-.0014	.4775	.4844
22	CCV	4.975	4.957	5.192	5.055	5.065	5.218
23	CCB	.0033	.0369	-.0048	.0044	.0001	.0003

#	Sample Name	Bi	Ca	Cd	Ce	Co	Cr
1	ICV	5.073	4.954	4.994	4.981	5.016	5.046
2	ICB	.0336	-.0044	-.0012	-.0012	-.0006	-.0007
3	LLS	.1902	.2074	.0102	.2037	.0393	.0211
4	ICSA	.0175	245.4	.0010	.0098	.0007	.0086
5	ICSAB	.0007	246.5	.9350	.0191	.4665	.4807
6	S96T004780 L	110.7	32.29	-3.172	26.32	-.0266	337.7
7	S96T004780	1.726	15.63	.5358	5.972	-.4457	332.6
8	S96T004780 D	-9.754	10.42	.1609	6.862	.4410	339.1
9	S96T004780 A	621.1	625.0	601.6	606.2	596.9	952.3
10	CCV	5.030	5.002	5.047	5.014	5.050	5.078
11	CCB	-.0086	-.0017	-.0005	-.0004	.0012	.0007
12	S96T004781 L	78.49	172.7	-2.856	40.07	-1.155	325.9
13	S96T004781	-5.379	16.63	-.1256	-1.411	-.0110	323.0
14	S96T004781 D	6.756	7.152	.4309	4.569	.0658	333.8
15	S96T004781 A	601.8	607.3	598.3	601.3	593.8	954.7
16	S96T004782 L	45.02	45.68	-1.831	2.088	-1.539	329.0
17	S96T004782	7.216	22.04	.4455	6.888	-.7444	320.5
18	S96T004782 D	13.34	15.79	.5446	2.460	-.5418	333.0
19	S96T004782 A	616.1	604.8	599.0	607.4	595.3	944.7
20	ICSA	-.0075	244.3	.0007	.0059	.0012	.0099
21	ICSAB	.0050	247.5	.9352	.0130	.4655	.4813
22	CCV	5.096	5.012	5.027	5.041	5.039	5.070
23	CCB	.0026	-.0033	-.0001	.0064	.0002	-.0004

Analysis Report

Averages

Fri 10-04-96 07:41:02 PM

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#	Sample Name	Cu	Eu	Fe	K	La	Li
1	ICV	5.177	-.0030	5.037	4.693	5.068	5.047
2	ICB	.0000	-.0007	-.0008	.0109	-.0004	-.0002
3	LLS	.0217	-.0003	.1050	.6110	.1043	.0213
4	ICSA	-.0082	-.0416	93.81	.3602	-.0040	.0021
5	ICSAB	.4807	-.0424	93.59	.2766	-.0028	1.030
6	S96T004780 L	5.312	-.5320	8.735	7000.	2.437	5.154
7	S96T004780	3.412	.1778	5.511	6336.	.6737	6.329
8	S96T004780 D	3.276	-.4132	5.773	6600.	.0689	5.962
9	S96T004780_A	626.2	-.8546	606.3	7269.	618.9	625.8
10	CCV	5.222	-.0033	5.075	4.745	5.110	5.081
11	CCB	.0002	-.0005	-.0003	.1224	.0006	-.0005
12	S96T004781 L	7.423	-2.240	13.75	7174.	5.540	10.31
13	S96T004781	3.982	-.4574	13.44	6168.	-.5828	10.97
14	S96T004781 D	4.388	-.3244	14.98	6413.	.7347	11.85
15	S96T004781_A	621.4	-.7784	615.8	7471.	610.3	632.3
16	S96T004782 L	6.049	-2.540	10.29	6301.	-.9038	43.43
17	S96T004782	4.384	-.0515	9.374	6110.	.5586	46.88
18	S96T004782 D	3.844	-.7284	8.833	6471.	.0997	24.51
19	S96T004782_A	628.6	-1.194	610.5	7169.	617.2	645.1
20	ICSA	-.0100	-.0395	94.00	.1363	-.0057	.0010
21	ICSAB	.4837	-.0432	93.97	.3516	-.0046	1.044
22	CCV	5.259	-.0036	5.070	4.792	5.137	5.171
23	CCB	.0014	-.0011	-.0000	.2231	.0010	-.0005

#	Sample Name	Mg	Mn	Mo	Na	Nd	Ni
1	ICV	4.837	4.888	5.029	4.887	5.057	4.948
2	ICB	-.0031	.0002	.0019	.0009	.0009	-.0009
3	LLS	.1974	.0201	.0984	.2100	.2051	.0396
4	ICSA	253.5	-.0065	-.0080	194.7	.0050	-.0092
5	ICSAB	252.7	.4417	-.0063	193.4	.0058	.9058
6	S96T004780 L	24.21	.8067	80.14	255000.	9.456	6.358
7	S96T004780	.6685	.3446	80.19	249300.	.8328	.9824
8	S96T004780 D	-.5215	.1456	82.87	257800.	1.025	-.2157
9	S96T004780_A	576.5	574.9	693.2	265300.	617.9	595.0
10	CCV	4.852	4.823	5.089	4.886	5.093	4.981
11	CCB	.0022	.0003	.0031	.0009	.0037	-.0042
12	S96T004781 L	12.80	.5422	75.97	247300.	12.63	-16.58
13	S96T004781	1.626	.9681	76.86	246600.	.6594	.9253
14	S96T004781 D	.6993	.9606	81.41	250600.	1.779	.7127
15	S96T004781_A	570.0	570.9	689.3	269300.	609.3	586.7
16	S96T004782 L	-1.523	1.766	79.08	250400.	.7777	-9.540
17	S96T004782	4.782	1.671	78.01	242600.	1.562	1.695
18	S96T004782 D	2.900	1.379	81.09	256900.	1.193	2.045
19	S96T004782_A	578.6	573.3	687.5	266000.	617.6	602.5
20	ICSA	256.2	-.0069	-.0088	198.0	.0044	-.0048
21	ICSAB	254.5	.4438	-.0094	195.6	.0062	.9191
22	CCV	4.880	4.925	5.072	4.948	5.140	5.010
23	CCB	.0084	-.0000	.0006	-.0077	.0032	.0005

Analysis Report

Averages

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#	Sample Name	P	Pb	S	Sb	Se	Si
1	ICV	4.730	4.946	4.895	4.799	4.855	4.932
2	ICB	.0124	-.0128	-.0029	-.0044	.0561	.0011
3	LLS	.4032	.2029	.2039	.1032	Q.2578	.1563
4	ICSA	.0006	.0277	-.0374	.0031	-.0030	-.0060
5	ICSAB	.0313	.9999	-.0446	-.0106	.0183	-.0050
6	S96T004780 L	985.2	-14.96	1127.	-11.40	162.5	218.0
7	S96T004780	908.5	48.84	1098.	-4.468	42.18	224.0
8	S96T004780 D	877.3	50.12	1107.	-.3132	39.20	215.6
9	S96T004780_A	1449.	653.6	1780.	583.5	632.9	848.5
10	CCV	4.742	5.020	4.902	4.840	4.935	4.966
11	CCB	-.0028	.0043	-.0098	-.0015	.0586	.0046
12	S96T004781 L	840.5	-1.863	1114.	-13.21	142.9	216.7
13	S96T004781	860.4	42.31	1097.	3.390	30.47	215.7
14	S96T004781 D	878.4	38.66	1174.	3.799	36.11	220.7
15	S96T004781_A	1520.	643.7	1838.	583.9	630.0	876.6
16	S96T004782 L	952.9	13.76	1112.	15.91	100.3	272.1
17	S96T004782	900.0	43.42	1106.	-7.886	37.03	279.5
18	S96T004782 D	898.8	47.41	1156.	-1.511	36.57	268.6
19	S96T004782_A	1553.	647.2	1819.	583.4	630.9	854.0
20	ICSA	.0168	.0259	-.0442	.0116	-.0070	-.0050
21	ICSAB	.0345	.9813	-.0349	-.0025	.0065	-.0011
22	CCV	4.667	4.994	4.900	4.854	4.888	4.984
23	CCB	-.0032	-.0128	.0000	.0020	.0354	.0018

#	Sample Name	Sm	Sr	Th	Ti	Tl	U
1	ICV	4.914	4.951	.0237	4.885	4.799	9.616
2	ICB	-.0062	.0000	.0057	-.0002	-.0325	-.0237
3	LLS	.2038	.0207	.0091	.0200	.4261	.4915
4	ICSA	-.0065	.0021	.0123	.0016	.0311	-.0489
5	ICSAB	-.0030	.0021	.0025	.0013	.0007	-.0439
6	S96T004780 L	-16.69	-.1562	30.14	-1120	25.22	-43.12
7	S96T004780	.0740	-.0013	3.261	-.1417	7.929	8.924
8	S96T004780 D	-5.816	-.0317	5.269	1.635	6.978	-4.613
9	S96T004780_A	591.2	599.3	8.038	590.9	580.6	1150.3
10	CCV	4.959	4.982	.0346	4.920	4.827	9.701
11	CCB	-.0076	-.0001	.0104	.0000	.0057	-.0181
12	S96T004781 L	-23.42	-.1562	25.18	2.356	-16.99	-98.21
13	S96T004781	-7.013	-.0940	3.069	.0124	-1.208	-21.57
14	S96T004781 D	-5.482	-.0305	2.520	.0106	-1.246	-17.81
15	S96T004781_A	583.1	591.0	8.004	582.4	554.8	1139.
16	S96T004782 L	-33.65	-.4674	25.27	-1.388	35.10	-121.4
17	S96T004782	-.1675	.0310	2.905	.0109	3.812	-.1659
18	S96T004782 D	-12.93	-.0924	6.536	-.1238	22.71	-39.12
19	S96T004782_A	590.2	598.5	8.716	587.8	558.0	1135.
20	ICSA	-.0186	.0021	-.0036	.0010	.0285	-.0516
21	ICSAB	-.0059	.0021	.0025	.0008	-.0057	-.0448
22	CCV	4.988	5.014	.0254	4.945	4.850	9.764
23	CCB	-.0160	-.0001	.0151	-.0004	.0173	-.0647

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Analysis Report

Averages

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#	Sample Name	V	Y	Zn	Zr
1	ICV	5.016	.0059	5.015	4.945
2	ICB	-.0013	-.0001	.0010	-.0000
3	LLS	.1040	.0004	.0240	.0210
4	ICSA	-.0022	.0066	.0053	-.0039
5	ICSAB	.4672	.0066	.9484	-.0026
6	S96T004780 L	-1.245	-.2172	80.74	6.446
7	S96T004780	-.1328	-.0038	24.25	7.515
8	S96T004780 D	-1.139	-.1394	26.41	6.734
9	S96T004780 A	600.9	.5474	631.9	608.3
10	CCV	5.050	.0058	5.042	4.986
11	CCB	-.0006	-.0001	.0016	-.0004
12	S96T004781 L	-6.249	-.4293	89.34	2.534
13	S96T004781	-1.097	-.1321	24.83	6.488
14	S96T004781 D	-1.223	-.0866	24.95	6.952
15	S96T004781 A	596.1	.5524	631.3	601.2
16	S96T004782 L	-7.338	-.6550	84.87	3.671
17	S96T004782	-.2276	-.0470	23.97	7.335
18	S96T004782 D	-2.556	-.5015	24.85	6.035
19	S96T004782 A	600.4	.1299	627.1	604.8
20	ICSA	-.0041	.0061	.0052	-.0038
21	ICSAB	.4689	.0065	.9511	-.0026
22	CCV	5.057	.0057	5.032	4.994
23	CCB	-.0029	-.0005	.0008	-.0018

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FILE NO: 961004F.TXT

10/02/96 08:23

A-0004-1

Page: 1

LABCORE Data Entry Template for Worklist# 13580

Analyst: J. WORRELL Instrument: ICP01² Book# 61848²Method: LA-505-151/161 Rev/Mod B-1²

Worklist Comment: ICP AN-104 (DIRECT)

S Type	Sample#	R A	Test	Matrix	Group#	Project
1	ICV		@ICP-QC	QC		
2	ICB		@ICP-QC	QC		
3	LLS		@ICP-QC	QC		
4	ICSA		@ICP-QC	QC		
5	ICSAB		@ICP-QC	QC		
6	SERDIL	S96T004783 0 D	@ICP-D01	LIQUID		
7	SAMPLE	S96T004783 0 D	@ICP-D01	LIQUID	96001174	AN-104
Analytes Requested: AG-D-01 , AL-D-01 , AS-D-01 , B-D-01 , BA-D-01 ,						
BE-D-01 , BI-D-01 , CA-D-01 , CD-D-01 , CE-D-01 , CO-D-01 ,						
CR-D-01 , CU-D-01 , FE-D-01 , K-D-01 , LA-D-01 , LI-D-01 ,						
MG-D-01 , MN-D-01 , MO-D-01 , NA-D-01 , ND-D-01 , NI-D-01 ,						
P-D-01 , PB-D-01 , S-D-01 , 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	S96T004783 0 D	@ICP-D01	LIQUID		
9	SPK	S96T004783 0 D	@ICP-D01	LIQUID		
10	CCV		@ICP-QC	QC		
11	CCB		@ICP-QC	QC		
12	SERDIL	S96T004784 0 D	@ICP-D01	LIQUID		
13	SAMPLE	S96T004784 0 D	@ICP-D01	LIQUID	96001174	AN-104
Analytes Requested: AG-D-01 , AL-D-01 , AS-D-01 , B-D-01 , BA-D-01 ,						
BE-D-01 , BI-D-01 , CA-D-01 , CD-D-01 , CE-D-01 , CO-D-01 ,						
CR-D-01 , CU-D-01 , FE-D-01 , K-D-01 , LA-D-01 , LI-D-01 ,						
MG-D-01 , MN-D-01 , MO-D-01 , NA-D-01 , ND-D-01 , NI-D-01 ,						
P-D-01 , PB-D-01 , S-D-01 , SE-D-01 , SI-D-01 ,						

Data Entry Comments:

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

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LABCORE Data Entry Template for Worklist# 13580

S Type	Sample#	R A	Test	Matrix	Group#	Project
			SM-D-01 , SR-D-01 , ZN-D-01 , ZR-D-01	TI-D-01 , TL-D-01 , U-D-01 , V-D-01 ,		
14 DUP	S96T004784	0 D	@ICP-D01	LIQUID		
15 SPK	S96T004784	0 D	@ICP-D01	LIQUID		
16 SERDIL	S96T004976	0 D	@ICP-D01	LIQUID		
17 SAMPLE	S96T004976	0 D	@ICP-D01	LIQUID	96001174	AN-104
Analytes Requested:			AG-D-01 , AL-D-01 , AS-D-01 , B-D-01 , BA-D-01 , BE-D-01 , BI-D-01 , CA-D-01 , CD-D-01 , CE-D-01 , CO-D-01 , CR-D-01 , CU-D-01 , FE-D-01 , K-D-01 , LA-D-01 , LI-D-01 , MG-D-01 , MN-D-01 , MO-D-01 , NA-D-01 , ND-D-01 , NI-D-01 , P-D-01 , PB-D-01 , S-D-01 , SB-D-01 , SE-D-01 , SI-D-01 , SM-D-01 , SR-D-01 , TI-D-01 , TL-D-01 , U-D-01 , V-D-01 , ZN-D-01 , ZR-D-01			
18 DUP	S96T004976	0 D	@ICP-D01	LIQUID		
19 SPK	S96T004976	0 D	@ICP-D01	LIQUID		
20 ICSA			@ICP-QC	QC		
21 ICSAB			@ICP-QC	QC		
22 CCV			@ICP-QC	QC		
23 CCB			@ICP-QC	QC		

Final page for worklist # 13580

<i>J. L. Wainall</i>		<i>10-4-96</i>		<i>Received by</i>		<i>10/18/96</i>	
Analyst Signature		Date		Analyst Signature		Date	
S96T004783	DIL 5X	.025-15-2-8	3005	S96T004976	DIL 5X	.025-15-2-8	3005
	SAM	.025-15	601		SAM	.025-15	601
	DUP	.025-15	601		DUP	.025-15	601
	P.SPK	.025-12-3	601		P.SPK	.025-12-3	601
S96T004976	DIL 5X	.025-15-2-8	3005				
	SAM	.025-15	601				
	DUP	.025-15	601				
	P.SPK	.025-12-3	601				

Data Entry Comments:

Spike recovery calculation:

$$S96T004783 \quad C_r = \frac{(944.5)}{601} - \frac{(342.7)}{601} \times 100 = 100.2\%$$

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

Note: Spike true value is 1.0 ppm for all elements except for U = 2.0 ppm.

Analysis Report

Summary

Fri 10-04-96 10:35:39 PM

page 1

#	Sample Name	File	Method	Date	Time	OpID	Type	Mode
1	ICV	961004F	ICP2	10/04/96	21:14	JHW	Q	CONC
2	ICB	961004F	ICP2	10/04/96	21:17	JHW	Q	CONC
3	LLS	961004F	ICP2	10/04/96	21:20	JHW	Q	CONC
4	ICSA	961004F	ICP2	10/04/96	21:23	JHW	Q	CONC
5	ICSAB	961004F	ICP2	10/04/96	21:26	JHW	Q	CONC
6	S96T004783 L	961004F	ICP2	10/04/96	21:30	JHW	S	CONC
7	S96T004783-	961004F	ICP2	10/04/96	21:33	JHW	S	CONC
8	S96T004783 D	961004F	ICP2	10/04/96	21:37	JHW	S	CONC
9	S96T004783-A	961004F	ICP2	10/04/96	21:40	JHW	S	CONC
10	CCV	961004F	ICP2	10/04/96	21:44	JHW	Q	CONC
11	CCB	961004F	ICP2	10/04/96	21:48	JHW	Q	CONC
12	S96T004784 L	961004F	ICP2	10/04/96	21:51	JHW	S	CONC
13	S96T004784-	961004F	ICP2	10/04/96	21:55	JHW	S	CONC
14	S96T004784 D	961004F	ICP2	10/04/96	21:58	JHW	S	CONC
15	S96T004784-A	961004F	ICP2	10/04/96	22:02	JHW	S	CONC
16	S96T004976-L	961004F	ICP2	10/04/96	22:05	JHW	S	CONC
17	S96T004976-	961004F	ICP2	10/04/96	22:10	JHW	S	CONC
18	S96T004976 D	961004F	ICP2	10/04/96	22:13	JHW	S	CONC
19	S96T004976-A	961004F	ICP2	10/04/96	22:16	JHW	S	CONC
20	ICSA	961004F	ICP2	10/04/96	22:20	JHW	Q	CONC
21	ICSAB	961004F	ICP2	10/04/96	22:24	JHW	Q	CONC
22	CCV	961004F	ICP2	10/04/96	22:27	JHW	Q	CONC
23	CCB	961004F	ICP2	10/04/96	22:31	JHW	Q	CONC

John W. Worell
10-4-96

AN-104 DIRECT (025-15)
S96T004783 4784 4976

FILENAME 961004F.TXT

SST-5 = 610488

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1070 TO 11074

Analysis Report

Averages

Fri 10-04-96 10:35:39 PM

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#	Sample Name	Ag	Al	As	B	Ba	Be
1	ICV	4.975	4.912	5.123	4.983	5.039	5.164
2	ICB	.0018	.0270	-.0061	.0068	.0003	.0004
3	LLS	.0218	Q.1372	.2022	.1049	.1024	.0104
4	ICSA	.0028	243.2	-.0833	-.0072	.0002	.0004
5	ICSAB	.9578	242.8	-.0130	-.0038	.4805	.4857
6	S96T004783 L	20.82	39680.	-86.88	62.72	.1083	.6749
7	S96T004783	19.15	38990.	-46.33	67.11	.1085	.4853
8	S96T004783 D	20.42	43400.	-58.27	69.15	.1849	.5390
9	S96T004783 A	559.5	39480.	581.9	660.1	595.6	615.4
10	CCV	4.995	4.941	5.221	5.031	5.071	5.233
11	CCB	.0040	.0326	-.0034	.0073	.0000	.0003
12	S96T004784 L	21.26	36760.	-56.91	71.48	.2508	.9410
13	S96T004784	17.94	36150.	-55.98	61.28	.2458	.4584
14	S96T004784 D	18.80	38050.	-43.28	65.94	.1904	.5383
15	S96T004784 A	555.3	41300.	577.19	659.3	598.7	613.3
16	S96T004976 L	25.31	38830.	-23.19	77.32	.6367	.6747
17	S96T004976	19.83	40130.	-48.86	67.70	.3697	.2656
18	S96T004976 D	18.68	37810.	-58.04	65.65	.2334	.4305
19	S96T004976 A	561.9	38440.	586.9	657.2	601.7	617.1
20	ICSA	.0124	246.4	-.0461	-.0026	.0002	.0002
21	ICSAB	.9713	244.7	-.0493	-.0019	.4880	.4878
22	CCV	5.054	4.988	5.269	5.081	5.180	5.279
23	CCB	.0035	.0189	-.0066	.0039	.0000	.0001

#	Sample Name	Bi	Ca	Cd	Ce	Co	Cr
1	ICV	5.089	5.027	5.029	5.008	5.046	5.084
2	ICB	-.0012	-.0037	-.0005	.0007	-.0008	.0007
3	LLS	.2123	.2064	.0098	.2060	.0414	.0212
4	ICSA	.0074	248.2	.0005	.0150	.0002	.0085
5	ICSAB	-.0171	247.8	.9388	.0142	.4680	.4814
6	S96T004783 L	13.23	40.76	-1.178	12.55	4.448	350.2
7	S96T004783	6.107	14.24	.4965	2.771	.2261	342.7
8	S96T004783 D	3.437	8.014	.5889	.6981	.5213	381.1
9	S96T004783 A	604.3	621.9	600.5	601.9	599.7	944.9
10	CCV	5.115	5.081	5.085	5.048	5.091	5.122
11	CCB	.0052	-.0055	-.0001	.0027	-.0009	.0003
12	S96T004784 L	45.20	23.43	-2.633	4.561	-3.002	330.2
13	S96T004784	-8.043	16.98	.4014	3.482	-.5142	325.8
14	S96T004784 D	11.11	10.69	.7270	4.844	.0046	340.5
15	S96T004784 A	594.1	631.4	601.7	607.4	599.5	969.7
16	S96T004976 L	-35.97	52.85	-.9793	22.87	-2.265	355.0
17	S96T004976	17.35	10.91	.2586	4.365	-.7481	357.9
18	S96T004976 D	20.66	7.627	.6987	6.911	-.2929	337.5
19	S96T004976 A	614.0	627.7	609.2	612.7	606.0	952.0
20	ICSA	.0090	254.7	.0000	.0158	-.0020	.0104
21	ICSAB	.0025	252.8	.9510	.0191	.4728	.4883
22	CCV	5.183	5.168	5.153	5.153	5.154	5.194
23	CCB	.0029	-.0026	-.0008	.0069	-.0020	.0008

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Analysis Report

Averages

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#	Sample Name	Cu	Eu	Fe	K	La	Li
1	ICV	5.191	-.0032	5.075	4.798	5.116	5.054
2	ICB	.0009	-.0005	-.0006	.0546	.0005	.0004
3	LLS	.0219	-.0005	.1064	Q.6571	.1053	.0213
4	ICSA	-.0091	-.0458	94.50	.2823	-.0050	.0017
5	ICSAB	.4848	-.0426	94.16	.1870	-.0041	1.042
6	S96T004783 L	5.357	-.1485	18.25	7022.	.2179	4.788
7	S96T004783-	3.269	.1199	12.82	6545.	.1630	3.900
8	S96T004783 D	5.182	-.0555	14.62	7161.	.1239	4.710
9	S96T004783_A	620.6	-.3760	614.0	6919.	615.4	618.6
10	CCV	5.237	-.0033	5.117	4.707	5.144	5.088
11	CCB	.0011	-.0006	-.0001	.1212	-.0004	-.0001
12	S96T004784 L	6.732	-.7545	5.546	6420.	.4272	7.731
13	S96T004784-	4.915	.3993	4.563	6082.	.6629	7.433
14	S96T004784 D	4.778	.1017	4.136	6499.	.2023	7.801
15	S96T004784_A	621.1	-.4146	608.9	7425.	615.9	622.5
16	S96T004976 L	14.2	-.6828	13.76	7881.	2.321	41.96
17	S96T004976-	5.870	-.0356	12.29	6639.	.7492	46.00
18	S96T004976 D	3.276	-.2036	9.325	6330.	.9939	10.45
19	S96T004976_A	622.1	-.1576	620.1	6803.	620.5	633.4
20	ICSA	-.0093	-.0535	96.33	.3534	-.0041	.0034
21	ICSAB	.4873	-.0494	95.53	.3537	-.0040	1.047
22	CCV	5.304	-.0032	5.179	4.735	5.251	5.137
23	CCB	.0000	-.0002	-.0008	.1916	-.0002	.0002

#	Sample Name	Mg	Mn	Mo	Na	Nd	Ni
1	ICV	4.818	4.928	5.078	4.913	5.111	4.988
2	ICB	.0006	.0003	.0045	.0000	.0034	-.0062
3	LLS	.1953	.0200	.0995	.2074	.2054	.0451
4	ICSA	254.9	-.0065	-.0066	196.5	.0094	.0018
5	ICSAB	254.6	.4441	-.0090	196.1	.0036	.9055
6	S96T004783 L	14.37	.8778	85.83	263800.	6.376	-7.768
7	S96T004783-	2.024	.4633	83.40	257800.	1.386	2.969
8	S96T004783 D	1.248	.4014	89.09	281600.	1.411	1.836
9	S96T004783_A	574.3	574.9	690.6	253600.	616.0	596.0
10	CCV	4.878	4.966	5.119	4.923	5.139	5.051
11	CCB	-.0085	.0002	.0027	.0000	.0030	-.0045
12	S96T004784 L	14.82	.9413	78.60	246200.	6.208	10.94
13	S96T004784-	3.735	.4672	79.16	240600.	2.374	.5595
14	S96T004784 D	4.716	.3244	83.19	254000.	1.621	2.536
15	S96T004784_A	574.2	576.6	698.8	274000.	614.1	604.1
16	S96T004976 L	23.43	.2898	84.27	268600.	8.652	7.204
17	S96T004976-	5.767	.4991	87.43	265000.	1.019	5.660
18	S96T004976 D	3.695	.4098	82.68	252200.	.9258	3.260
19	S96T004976_A	576.5	582.8	698.6	252900.	620.0	607.7
20	ICSA	258.4	-.0064	-.0102	197.9	.0066	-.0030
21	ICSAB	256.3	.4518	-.0114	197.1	.0050	.9412
22	CCV	4.894	5.037	5.196	4.976	5.248	5.131
23	CCB	.0002	.0003	.0012	.0069	.0036	-.0067

HNF-SD-WM-DP-226, REV. 0

Analysis Report

Averages

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#	Sample Name	P	Pb	S	Sb	Se	Si
1	ICV	4.641	5.030	4.838	4.807	4.859	4.958
2	ICB	-.0013	-.0051	-.0028	.0040	.0594	.0011
3	LLS	.3872	.2046	.1962	.1041	Q.2533	.1640
4	ICSA	.0483	.0131	-.0390	-.0025	-.0148	-.0065
5	IC SAB	.0198	.9714	-.0521	.0033	-.0124	-.0059
6	S96T004783 L	924.5	24.36	1149.	.7565	180.3	226.4
7	S96T004783	882.6	48.64	1145.	-4.207	41.71	259.8
8	S96T004783 D	1045.	47.70	1295.	.3532	35.90	287.6
9	S96T004783_A	1447.	650.3	1759.	582.7	629.2	871.6
10	CCV	4.818	5.039	4.963	4.888	4.943	5.043
11	CCB	.0117	-.0121	-.0117	-.0027	.0493	.0103
12	S96T004784 L	816.0	10.81	1149.	-10.46	169.1	199.7
13	S96T004784	803.9	49.61	1153.	.9262	54.16	213.3
14	S96T004784 D	837.0	50.75	1221.	-3.655	41.87	205.6
15	S96T004784_A	1529.	651.9	1924.	583.0	640.0	830.1
16	S96T004976 L	1076.	14.18	1070.	-1.888	174.2	382.2
17	S96T004976	1150.	49.90	1209.	6.790	43.33	389.6
18	S96T004976 D	886.2	46.68	1144.	-5.569	41.10	249.1
19	S96T004976_A	1541.	659.3	1753.	590.0	644.5	886.9
20	ICSA	.0056	.0183	-.0381	.0070	.0136	.0057
21	IC SAB	-.0194	1.003	-.0419	.0026	.0033	.0008
22	CCV	4.781	5.119	4.977	4.904	5.017	5.065
23	CCB	.0067	-.0081	.0046	-.0000	.0688	.0114

#	Sample Name	Sm	Sr	Th	Ti	Tl	U
1	ICV	4.950	4.993	.0173	4.918	4.871	9.686
2	ICB	-.0066	.0002	.0075	.0003	.0117	-.0314
3	LLS	.2038	.0208	.0058	.0202	.4015	.4854
4	ICSA	-.0101	.0021	.0006	.0015	.0237	-.0561
5	IC SAB	-.0105	.0022	-.0010	.0017	.0017	-.0451
6	S96T004783 L	-16.49	-.1546	12.02	.0542	7.183	-64.12
7	S96T004783	1.690	.0619	3.049	.1570	-2.474	13.03
8	S96T004783 D	-4.552	-.0007	.4456	-.0012	2.365	4.309
9	S96T004783_A	590.8	596.0	7.141	587.5	569.5	1152.
10	CCV	4.976	5.015	.0208	4.948	4.940	9.739
11	CCB	-.0053	-.0001	.0053	.0003	.0009	-.0226
12	S96T004784 L	-9.723	.0032	4.768	-.7210	48.31	-45.67
13	S96T004784	4.893	.0927	2.262	.6027	.6942	22.61
14	S96T004784 D	3.281	.0301	1.927	.1540	8.403	15.22
15	S96T004784_A	590.7	596.7	4.021	587.2	580.4	1155.
16	S96T004976 L	-17.99	.0030	25.74	.8474	1.216	-54.56
17	S96T004976	-1.005	-.0009	1.690	.3013	-4.891	5.779
18	S96T004976 D	3.532	.0935	-.4372	-.0055	-16.26	17.61
19	S96T004976_A	597.3	600.6	.8864	591.3	578.6	1172.
20	ICSA	-.0041	.0022	-.0009	.0005	-.0089	-.0380
21	IC SAB	-.0081	.0021	.0017	.0005	.0412	-.0522
22	CCV	5.073	5.111	.0223	5.036	4.941	9.924
23	CCB	-.0027	.0000	.0058	.0000	.0297	-.0067

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Averages

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#	Sample Name	V	Y	Zn	Zr
1	ICV	5.049	.0062	5.036	4.987
2	ICB	-.0011	-.0001	.0009	-.0005
3	LLS	.1042	.0004	.0234	.0213
4	ICSA	-.0025	.0065	.0048	-.0035
5	ICSAB	.4681	.0067	.9465	-.0028
6	S96T004783 L	-1.740	.0273	91.03	8.899
7	S96T004783	.1955	.1829	22.53	8.174
8	S96T004783 D	-.4720	-.0018	25.44	8.593
9	S96T004783 A	601.5	.6410	627.3	606.0
10	CCV	5.085	.0062	5.076	5.018
11	CCB	-.0009	-.0001	.0004	.0000
12	S96T004784 L	-2.311	.2549	117.6	11.59
13	S96T004784	1.210	.3201	27.79	7.784
14	S96T004784 D	.3101	.0877	22.60	7.819
15	S96T004784 A	603.0	.7812	632.6	609.0
16	S96T004976 L	-1.222	.0232	106.4	7.868
17	S96T004976	-.0213	.0918	24.92	8.718
18	S96T004976 D	.1976	.2280	22.37	7.775
19	S96T004976 A	609.0	.9621	636.4	613.3
20	ICSA	-.0011	.0069	.0051	-.0018
21	ICSAB	.4757	.0067	.9590	-.0020
22	CCV	5.159	.0062	5.122	5.108
23	CCB	-.0002	.0001	.0009	.0007

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FILE No: 9618079.TXT

10/02/96 08:35
A-0004-1

Page: 1

LABCORE Data Entry Template for Worklist# 13581

Analyst: J. WORRELL Instrument: ICP012 Book# 618486

Method: LA-505-151/161 Rev/Mod B-1

Worklist Comment: ICP AN-104 (DIRECT)

S Type	Sample#	R A	Test	Matrix	Group#	Project
1	ICV		@ICP-QC	QC		
2	ICB		@ICP-QC	QC		
3	LLS		@ICP-QC	QC		
4	ICSA		@ICP-QC	QC		
5	ICSAB		@ICP-QC	QC		
6	SERDIL	S96T004977 0 D	@ICP-D01	LIQUID		
7	SAMPLE	S96T004977 0 D	@ICP-D01	LIQUID	96001174	AN-104
Analytes Requested:			AG-D-01, AL-D-01, AS-D-01, B-D-01, BA-D-01, BE-D-01, BI-D-01, CA-D-01, CD-D-01, CE-D-01, CO-D-01, CR-D-01, CU-D-01, FE-D-01, K-D-01, LA-D-01, LI-D-01, MG-D-01, MN-D-01, MO-D-01, NA-D-01, ND-D-01, NI-D-01, P-D-01, PB-D-01, S-D-01, SB-D-01, SE-D-01, SI-D-01, SM-D-01, SR-D-01, TI-D-01, TL-D-01, U-D-01, V-D-01, ZN-D-01, ZR-D-01			
8	DUP	S96T004977 0 D	@ICP-D01	LIQUID		
9	SPK	S96T004977 0 D	@ICP-D01	LIQUID		
9.5	SPK 10X	S96T004977				
10	CCV		@ICP-QC	QC		
11	CCB		@ICP-QC	QC		
12	SERDIL	S96T004978 0 D	@ICP-D01	LIQUID		
13	SAMPLE	S96T004978 0 D	@ICP-D01	LIQUID	96001174	AN-104
Analytes Requested:			AG-D-01, AL-D-01, AS-D-01, B-D-01, BA-D-01, BE-D-01, BI-D-01, CA-D-01, CD-D-01, CE-D-01, CO-D-01, CR-D-01, CU-D-01, FE-D-01, K-D-01, LA-D-01, LI-D-01, MG-D-01, MN-D-01, MO-D-01, NA-D-01, ND-D-01, NI-D-01, P-D-01, PB-D-01, S-D-01, SB-D-01, SE-D-01, SI-D-01			

Data Entry Comments:

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

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10/02/96 08:35

A-0004-1

Page: 2

LABCORE Data Entry Template for Worklist# 13581

S Type	Sample#	R A	Test	Matrix	Group#	Project
			SM-D-01 , SR-D-01 , ZN-D-01 ,	TI-D-01 , TL-D-01 , U-D-01 , V-D-01 ,		
14 DUP	S96T004978	0 D	@ICP-D01	LIQUID		
15 SPK	S96T004978	0 D	@ICP-D01	LIQUID	JW 10-7-96	
16 SERDIL	S96T004979	0 D	@ICP-D01	LIQUID		
17 SAMPLE	S96T004979	0 D	@ICP-D01	LIQUID	96001174	AN-104
Analytes Requested: AG-D-01 , AL-D-01 , AS-D-01 , B-D-01 , BA-D-01 , BE-D-01 , BI-D-01 , CA-D-01 , CD-D-01 , CE-D-01 , CO-D-01 , CR-D-01 , CU-D-01 , FE-D-01 , K-D-01 , LA-D-01 , LI-D-01 , MG-D-01 , MN-D-01 , MO-D-01 , NA-D-01 , ND-D-01 , NI-D-01 , P-D-01 , PE-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						
18 DUP	S96T004979	0 D	@ICP-D01	LIQUID		
19 SPK	S96T004979	0 D	@ICP-D01	LIQUID	JW 10-7-96	
20 ICSA			@ICP-QC	QC		
21 ICSAB			@ICP-QC	QC		
22 CCV			@ICP-QC	QC		
23 CCB			@ICP-QC	QC		

Final page for worklist # 13581

J. H. Howell 10-7-96
 Analyst Signature Date

S96T004977 DIL 5X .025-15-2-8 3005
 SAM .025-15 601
 DUP .025-15 601
 P. SPK .025-3-12 601
 P. SPK 10X .025-15-1-1-1-7-2-8 6010
 S96T004978 DIL 5X .025-15-2-8 3005
 SAM .025-15 601
 DUP .025-15 601

Reginald J. H. Howell 10/9/96
 Analyst Signature Date

S96T004979 DIL 5X .025-15-2-8 3005
 SAM .025-15 601
 DUP .025-15 601

Data Entry Comments: Post SPK 10X = .025 ml Sample - 15 ml 2M HNO₃ - 7 ml W/HC - 1 ml W/HC - 2 + 7 ml 2M HNO₃ + 1 ml of .025-15
 BUL

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

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Post Op:te:

HNF-SD-WM-DP-226, REV. 0

$$Na = \frac{\left(\frac{262900}{601}\right) - \left(\frac{288400}{601}\right)}{1} \times 100 = -4243 \quad \checkmark$$

$$Na = \frac{\left(\frac{346000}{6010}\right) - \left(\frac{288400}{6010}\right)}{10} \times 100 = 95.8\%$$

$$al = \frac{\left(\frac{40250}{601}\right) - \left(\frac{43520}{601}\right)}{1} \times 100 = -544 \quad \checkmark$$

$$al = \frac{\left(\frac{106900}{6010}\right) - \left(\frac{43520}{6010}\right)}{10} \times 100 = 105.5\%$$

#	Sample Name	File	Method	Date	Time	OpID	Type	Mode
1	ICV	961007A	ICP2	10/07/96	13:23	JHW	Q	CONC
2	ICB	961007A	ICP2	10/07/96	13:27	JHW	Q	CONC
3	LLS	961007A	ICP2	10/07/96	13:30	JHW	Q	CONC
4	ICSA	961007A	ICP2	10/07/96	13:33	JHW	Q	CONC
5	ICSAB	961007A	ICP2	10/07/96	13:37	JHW	Q	CONC
6	S96T004977 L	961007A	ICP2	10/07/96	13:41	JHW	S	CONC
7	S96T004977	961007A	ICP2	10/07/96	13:44	JHW	S	CONC
8	S96T004977 D	961007A	ICP2	10/07/96	13:48	JHW	S	CONC
9	S96T004977 A	961007A	ICP2	10/07/96	13:52	JHW	S	CONC
10	S96T004977 X	961007A	ICP2	10/07/96	13:57	JHW	S	CONC
11	CCV	961007A	ICP2	10/07/96	14:03	JHW	Q	CONC
12	CCB	961007A	ICP2	10/07/96	14:06	JHW	Q	CONC
13	S96T004978 L	961007A	ICP2	10/07/96	14:10	JHW	S	CONC
14	S96T004978	961007A	ICP2	10/07/96	14:13	JHW	S	CONC
15	S96T004978 D	961007A	ICP2	10/07/96	14:16	JHW	S	CONC
16	S96T004979 L	961007A	ICP2	10/07/96	14:20	JHW	S	CONC
17	S96T004979	961007A	ICP2	10/07/96	14:24	JHW	S	CONC
18	S96T004979 D	961007A	ICP2	10/07/96	14:27	JHW	S	CONC
19	ICSA	961007A	ICP2	10/07/96	14:32	JHW	Q	CONC
20	ICSAB	961007A	ICP2	10/07/96	14:35	JHW	Q	CONC
21	CCV	961007A	ICP2	10/07/96	14:39	JHW	Q	CONC
22	CCB	961007A	ICP2	10/07/96	14:42	JHW	Q	CONC

John W. Worell
10-7-96

FILE No 961007A.TXT

596T004977, 78 & 79 AN-104 .025-15

Post spike for Na & Al failed. Another post spike was made with higher concentration (100pp) and the results are: Na = 95.84% and Al = 105.5%. These results are not entered in the LABCORE.

SP
10/9/96

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 11618 TO 11622.

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Analysis Report

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#	Sample Name	Ag	Al	As	B	Ba	Be
1	ICV	4.888	4.895	5.202	5.071	4.925	5.208
2	ICB	.0007	.0165	.0011	.0039	-.0000	.0001
3	LLS	.0199	.1127	.2036	.1001	.0987	.0105
4	IGSA	.0020	242.2	-.0373	-.0016	.0000	.0000
5	IGSAB	.9471	241.1	-.0306	.0023	.4696	.4816
6	S96T004977 L	19.84	37930.	-64.67	51.07	-.0611	1.334
7	S96T004977	20.80	43520.	-50.79	70.07	.2842	.6425
8	S96T004977 D	17.34	37200.	-36.31	62.19	.2616	.5349
9	S96T004977 A	567.4	40250.	580.5	660.9	591.0	615.4
10	S96T004977 X	63460.	106900.	69320.	66320.	67890.	69760.
11	CCV	4.927	4.909	5.202	5.062	5.050	5.186
12	CCB	.0037	.0125	-.0007	.0053	.0001	.0002
13	S96T004978 L	21.57	35240.	-75.65	71.50	.3127	.9352
14	S96T004978	20.02	41120.	-44.31	68.02	.1892	.6696
15	S96T004978 D	17.31	34720.	-36.45	55.18	.1711	.4818
16	S96T004979 L	18.43	37410.	-43.39	59.83	.2184	.6700
17	S96T004979	18.63	38750.	-48.05	64.81	.2524	.4294
18	S96T004979 D	18.25	37240.	-47.30	63.65	.1737	.5619
19	IGSA	.0034	242.9	-.0407	-.0015	.0000	.0003
20	IGSAB	.9519	242.6	-.0502	-.0033	.4801	.4809
21	CCV	5.015	4.988	5.239	5.091	5.192	5.229
22	CCB	.0001	.0146	-.0030	.0053	-.0000	.0002

#	Sample Name	Bi	Ca	Cd	Ce	Co	Cr
1	ICV	5.054	4.810	4.935	4.932	4.941	4.956
2	ICB	-.0112	.0005	.0011	-.0092	.0012	-.0004
3	LLS	.2106	.2010	.0110	.1925	.0395	.0200
4	IGSA	-.0010	241.5	.0014	.0067	.0029	.0084
5	IGSAB	-.0183	242.2	.9208	.0105	.4595	.4713
6	S96T004977 L	-77.54	55.69	3.956	3.180	2.466	327.3
7	S96T004977	5.943	15.85	1.947	-1.608	1.006	373.6
8	S96T004977 D	1.350	14.83	1.054	-3.169	.7947	321.8
9	S96T004977 A	600.6	609.4	594.4	600.1	592.9	939.2
10	S96T004977 X	68020.	65540.	65320.	66240.	100.9	66130.
11	CCV	5.144	4.966	4.968	4.985	4.988	5.009
12	CCB	-.0026	.0007	.0009	-.0053	.0011	.0015
13	S96T004978 L	10.61	84.41	6.143	12.11	-5.161	301.5
14	S96T004978	5.836	20.01	1.262	-9.370	.2658	348.9
15	S96T004978 D	-22.94	19.64	1.324	-4036	.7808	298.2
16	S96T004979 L	-63.02	63.35	2.986	-16.03	2.481	321.1
17	S96T004979	-6.566	11.85	7323	-1.390	.7119	332.0
18	S96T004979 D	-11.36	15.05	1.965	-.2629	-.3752	319.0
19	IGSA	-.0281	243.3	.0019	.0090	.0028	.0082
20	IGSAB	-.0190	245.3	9186	-.0002	.4628	.4726
21	CCV	5.184	5.087	5.029	5.104	5.056	5.090
22	CCB	-.0141	-.0002	.0020	-.0016	.0008	-.0005

#	Sample Name	Cu	Eu	Fe	K	La	Li
1	ICV	5.216	-.0032	4.962	4.802	5.016	5.183
2	ICB	.0012	-.0014	-.0006	.0473	-.0004	-.0014
3	LLS	.0209	-.0004	.1019	.4847	.1013	.0209
4	ICSA	-.0098	-.0329	92.66	.0393	-.0047	.0020
5	ICSAB	.4800	-.0322	92.31	.2242	-.0039	1.055
6	S96T004977_L	13.54	-3.269	14.26	6145.	1.589	24.46
7	S96T004977_	4.485	-3.597	12.73	7442.	-1.570	18.58
8	S96T004977_D	9.261	-.2095	10.61	6293.	-.2057	28.74
9	S96T004977_A	622.7	-.6605	605.1	7233.	608.8	648.2
10	S96T004977_X	2.070	6.582	65910.	70670.	67410.	69540.
11	CCV	5.215	-.0031	5.015	4.907	5.063	5.144
12	CCB	.0009	-.0006	-.0006	.1782	-.0004	-.0004
13	S96T004978_L	7.431	-4.467	9.826	6536.	2.147	2.645
14	S96T004978_	9.132	-1.021	11.06	7078.	-.6369	9.557
15	S96T004978_D	4.930	-.9150	8.413	5980.	.1353	7.300
16	S96T004979_L	9.473	-3.182	9.318	6462.	.1696	11.67
17	S96T004979_	5.735	-.6896	10.86	6506.	.2006	15.05
18	S96T004979_D	5.866	-.7220	10.50	6329.	.4268	13.02
19	ICSA	-.0084	-.0359	92.87	.1468	-.0049	.0014
20	ICSAB	.4793	-.0372	92.90	.0549	-.0049	1.051
21	CCV	5.296	-.0028	5.093	4.927	5.210	5.218
22	CCB	.0009	-.0009	-.0005	-.0461	-.0002	-.0010

#	Sample Name	Mg	Mn	Mo	Na	Nd	Ni
1	ICV	4.872	4.814	4.990	4.943	5.023	4.931
2	ICB	.0068	-.0004	.0016	-.0103	-.0009	.0048
3	LLS	.2020	.0193	.0993	.2045	.1943	.0379
4	ICSA	255.3	-.0071	-.0084	196.5	.0074	-.0119
5	ICSAB	254.0	.4357	-.0073	195.9	.0060	.9042
6	S96T004977_L	44.62	.6160	83.61	251300.	4.066	.0452
7	S96T004977_	2.918	1.704	91.86	288400.	.9068	1.522
8	S96T004977_D	.7985	1.612	78.06	244300.	.5932	.8232
9	S96T004977_A	577.7	569.9	685.1	262900.	608.7	590.6
10	S96T004977_X	67890.	65420.	64480.	346000.	67530.	64910.
11	CCV	4.865	4.871	5.026	4.924	5.069	4.958
12	CCB	.0054	.0000	.0028	-.0021	-.0012	.0041
13	S96T004978_L	34.29	-1.157	74.02	240900.	-3.170	-12.63
14	S96T004978_	.0532	-.1076	84.29	281300.	-1.163	4.763
15	S96T004978_D	6.000	-.1544	72.49	235800.	.3910	3.244
16	S96T004979_L	19.51	1.212	73.54	248900.	3.539	-.5914
17	S96T004979_	3.220	2.252	79.85	256600.	1.408	.0725
18	S96T004979_D	6.371	2.130	77.44	246700.	.9833	3.865
19	ICSA	255.3	-.0072	-.0099	197.0	.0059	-.0031
20	ICSAB	255.1	.4369	-.0101	196.2	.0029	.8979
21	CCV	4.921	4.935	5.096	5.001	5.205	5.021
22	CCB	.0078	-.0002	.0038	-.0017	-.0006	-.0010

HNF-SD-WM-DP-226, REV. 0

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#	Sample Name	P	Pb	S	Sb	Se	Si
1	ICV	5.074	4.879	4.937	4.792	4.863	4.865
2	ICB	-.0098	.0180	-.0109	.0078	.0246	-.1048
3	LLS	.3903	.2264	.1986	.1061	.2243	-.102
4	ICSA	.0336	.0455	-.0383	.0034	-.0156	-.0100
5	ICSA B	-.0005	.9801	-.0417	.0224	-.0307	-.0112
6	S96T004977_L	905.9	82.25	1106	30.34	99.88	304.9
7	S96T004977	1130.	70.65	1307.	12.29	30.96	357.8
8	S96T004977_D	937.4	53.51	1103.	-1.571	31.79	316.8
9	S96T004977_A	1607.	655.1	1816	582.9	623.2	897.6
10	S96T004977_X	69290.	66530.	67730.	65700.	64630.	68720.
11	CCV	4.977	4.950	4.933	4.812	4.890	4.918
12	CCB	-.0405	.0158	-.0175	.0092	.0442	.0114
13	S96T004978_L	840.7	74.35	1011.	7.026	108.4	238.5
14	S96T004978	1024.	59.87	1209.	4.542	27.51	362.6
15	S96T004978_D	859.6	76.73	1037.	6.117	30.59	263.4
16	S96T004979_L	933.1	98.69	1091.	-18.19	99.43	226.2
17	S96T004979	959.0	54.27	1141.	-1.004	22.18	244.5
18	S96T004979_D	887.9	54.46	1096.	3.832	27.25	218.8
19	ICSA	-.0157	.0458	-.0401	.0005	-.0373	-.0091
20	ICSA B	.0080	.9706	-.0342	.0207	-.0220	-.0057
21	CCV	4.962	5.019	4.920	4.880	4.876	4.971
22	CCB	.0020	.0138	.0029	.0046	.0487	.0038

#	Sample Name	Sm	Sr	Th	Ti	Tl	U
1	ICV	4.876	4.915	.0218	4.861	4.765	9.584
2	ICB	-.0148	-.0002	.0100	.0000	-.0113	-.0650
3	LLS	.2007	.0202	.0024	.0197	.3952	.4776
4	ICSA	-.0006	.0021	-.0018	.0005	-.0266	.0348
5	ICSA B	-.0062	.0021	-.0050	.0005	-.0036	.0202
6	S96T004977_L	-41.42	-.6177	18.98	8281	-10.48	-154.6
7	S96T004977	-3.825	-.0617	2.525	.1621	-4.747	-20.72
8	S96T004977_D	-1.413	.0308	-.9573	.4360	2.351	1.753
9	S96T004977_A	584.7	592.3	3.888	584.9	566.3	1146.
10	S96T004977_X	65700.	66240.	346.7	59890.	63180.	4570.
11	CCV	4.917	4.955	.0327	4.892	4.852	9.641
12	CCB	-.0026	.0001	.0029	.0000	.0146	-.0103
13	S96T004978_L	-55.98	-.7710	29.30	2.351	-54.30	-211.4
14	S96T004978	-14.61	-.1541	2.403	.0104	-8.475	-44.30
15	S96T004978_D	-9.066	-.0921	3.302	-.1308	-4.237	-34.30
16	S96T004979_L	-30.58	-.3047	7.999	.0565	-87.39	-138.7
17	S96T004979	-7.506	-.0609	.2143	.1514	4.280	-27.51
18	S96T004979_D	-7.242	-.0613	4.273	.0184	-9.449	-25.03
19	ICSA	-.0081	.0022	-.0071	.0010	-.0233	.0003
20	ICSA B	-.0012	.0022	-.0053	.0012	-.0137	.0136
21	CCV	5.050	5.096	.0199	4.979	4.865	9.882
22	CCB	-.0114	-.0000	.0071	.0003	-.0240	-.0420

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#	Sample Name	V	Y	Zn	Zr
1	ICV	4.951	.0054	4.963	4.883
2	ICB	-.0036	-.0008	.0004	-.0031
3	LLS	.0995	.0002	.0232	.0197
4	ICSA	-.0031	.0065	.0056	-.0030
5	ICSAB	.4608	.0065	.9405	-.0028
6	S96T004977 L	-9.341	-2.290	98.58	4.075
7	S96T004977	-1.319	-3.681	24.15	11.73
8	S96T004977 D	-.4418	-.1421	23.98	11.11
9	S96T004977 A	594.6	.5495	623.6	601.5
10	S96T004977 X	32.87	89.92	-3.207	66410.
11	CCV	4.990	.0057	4.994	4.923
12	CCB	-.0011	-.0002	.0015	-.0013
13	S96T004978 L	-12.59	-2.501	102.6	-5.132
14	S96T004978	-3.154	-.6878	25.66	5.380
15	S96T004978 D	-2.381	-.5036	20.00	4.662
16	S96T004979 L	-9.881	-2.061	94.97	-.4607
17	S96T004979	-1.506	-.4123	20.78	5.942
18	S96T004979 D	-1.740	-.4604	21.81	5.854
19	ICSA	-.0037	.0060	.0059	-.0054
20	ICSAB	.4631	.0067	.9402	-.0025
21	CCV	5.073	.0060	5.042	5.046
22	CCB	-.0029	-.0007	.0011	-.0019

LABCORE Data Entry Template for Worklist# 14127

Analyst: J. WORRELL Instrument: ICP012 Book# 528488

Method: LA-505-151/161 Rev/Mod B-1

Worklist Comment: ICP AN-104 (SOLID ACID DIGEST)

S Type	Sample#	R A	Test	Matrix	Group#	Project
1	ICV		@ICP-QC	QC		
2	ICB		@ICP-QC	QC		
3	LLS		@ICP-QC	QC		
4	ICSA		@ICP-QC	QC		
5	ICSAB		@ICP-QC	QC		
6	PREPSTDJJA		@ICP-A01	SOLID		
7	PREPBLKTJA		@ICP-A01	SOLID		
8	SERDIL	S96T004797 0 A	@ICP-A01	SOLID		
9	SAMPLE	S96T004797 0 A	@ICP-A01	SOLID	96001174	AN-104
Analytes Requested: AG-A-01, AL-A-01, AS-A-01, B-A-01, BA-A-01, BE-A-01, BI-A-01, CA-A-01, CD-A-01, CE-A-01, CO-A-01, CR-A-01, CU-A-01, FE-A-01, K-A-01, LA-A-01, LI-A-01, MG-A-01, MN-A-01, MO-A-01, NA-A-01, ND-A-01, NI-A-01, P-A-01, PB-A-01, S-A-01, SB-A-01, SE-A-01, SI-A-01, SM-A-01, SR-A-01, TI-A-01, TL-A-01, U-A-01, V-A-01, ZN-A-01, ZR-A-01						
10	DUP	S96T004797 0 A	@ICP-A01	SOLID		
11	SPK-PREDIG	S96T004797 0 A	@ICP-A01	SOLID		
12	CCV		@ICP-QC	QC		
13	CCB		@ICP-QC	QC		
14	SERDIL	S96T004798 0 A	@ICP-A01	SOLID		
15	SAMPLE	S96T004798 0 A	@ICP-A01	SOLID	96001174	AN-104
Analytes Requested: AG-A-01, AL-A-01, AS-A-01, B-A-01, BA-A-01,						

Data Entry Comments:

Sample result calculation:

$$S96T004797 \quad C_r = 5.529 \frac{\mu g}{\mu L} \times \frac{1}{7.104 \frac{g}{L} \times \frac{12}{1000 \text{ mL}}} = 7.78 \frac{\mu g}{g} \quad 7.78 \times 2 \frac{\mu g}{g}$$

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

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LABCORE Data Entry Template for Worklist# 14127

S Type	Sample#	R A	Test	Matrix	Group#	Project
			BE-A-01	BI-A-01	CA-A-01	CD-A-01, CE-A-01, CO-A-01,
			CR-A-01	CU-A-01	FE-A-01	K-A-01, LA-A-01, LI-A-01,
			MG-A-01	MN-A-01	MO-A-01	NA-A-01, ND-A-01, NI-A-01,
			P-A-01	PB-A-01	S-A-01	SB-A-01, SE-A-01, SI-A-01,
			SM-A-01	SR-A-01	TI-A-01	TL-A-01, U-A-01, V-A-01,
			ZN-A-01	ZR-A-01		

16 DUP S96T004798 0 A @ICP-A01 SOLID

17 SPK-PREDIG S96T004798 0 A @ICP-A01 SOLID

18 SAMPLE S96T005040 0 A @ICP-A01 SOLID 96001174 AN-104

Analytes Requested: AG-A-01, AL-A-01, AS-A-01, B-A-01, BA-A-01, BE-A-01, BI-A-01, CA-A-01, CD-A-01, CE-A-01, CO-A-01, CR-A-01, CU-A-01, FE-A-01, K-A-01, LA-A-01, LI-A-01, MG-A-01, MN-A-01, MO-A-01, NA-A-01, ND-A-01, NI-A-01, P-A-01, PB-A-01, S-A-01, SB-A-01, SE-A-01, SI-A-01, SM-A-01, SR-A-01, TI-A-01, TL-A-01, U-A-01, V-A-01, ZN-A-01, ZR-A-01

19 DUP S96T005040 0 A @ICP-A01 SOLID

20 SAMPLE S96T005042 0 A @ICP-A01 SOLID 96001174 AN-104

Analytes Requested: AG-A-01, AL-A-01, AS-A-01, B-A-01, BA-A-01, BE-A-01, BI-A-01, CA-A-01, CD-A-01, CE-A-01, CO-A-01, CR-A-01, CU-A-01, FE-A-01, K-A-01, LA-A-01, LI-A-01, MG-A-01, MN-A-01, MO-A-01, NA-A-01, ND-A-01, NI-A-01, P-A-01, PB-A-01, S-A-01, SB-A-01, SE-A-01, SI-A-01, SM-A-01, SR-A-01, TI-A-01, TL-A-01, U-A-01, V-A-01, ZN-A-01, ZR-A-01

21 DUP S96T005042 0 A @ICP-A01 SOLID

22 SAMPLE S96T005043 0 A @ICP-A01 SOLID 96001174 AN-104

Analytes Requested: AG-A-01, AL-A-01, AS-A-01, B-A-01, BA-A-01, BE-A-01, BI-A-01, CA-A-01, CD-A-01, CE-A-01, CO-A-01, CR-A-01, CU-A-01, FE-A-01, K-A-01, LA-A-01, LI-A-01, MG-A-01, MN-A-01, MO-A-01, NA-A-01, ND-A-01, NI-A-01, P-A-01, PB-A-01, S-A-01, SB-A-01, SE-A-01, SI-A-01, SM-A-01, SR-A-01, TI-A-01, TL-A-01, U-A-01, V-A-01, ZN-A-01, ZR-A-01

23 DUP S96T005043 0 A @ICP-A01 SOLID

Data Entry Comments:

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

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A-0004-1

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LABCORE Data Entry Template for Worklist# 14127

S Type	Sample#	R A	Test	Matrix	Group#	Project
24-CCV	<i>W/11-21-96</i>		ICP-QC	QC		
25-ESB			ICP-QC	QC		
26 SAMPLE	S96T005061 0 A	@ICP-A01	SOLID	96001174	AN-104	
Analytes Requested: AG-A-01, AL-A-01, AS-A-01, B-A-01, BA-A-01, BE-A-01, BI-A-01, CA-A-01, CD-A-01, CE-A-01, CO-A-01, CR-A-01, CU-A-01, FE-A-01, K-A-01, LA-A-01, LI-A-01, MG-A-01, MN-A-01, MO-A-01, NA-A-01, ND-A-01, NI-A-01, P-A-01, PB-A-01, S-A-01, SB-A-01, SE-A-01, SI-A-01, SM-A-01, SR-A-01, TI-A-01, TL-A-01, U-A-01, V-A-01, ZN-A-01, ZR-A-01						
27 DUP	S96T005061 0 A	@ICP-A01	SOLID			
28 ICSA		@ICP-QC	QC			
29 ICSAB		@ICP-QC	QC			
30 CCV		@ICP-QC	QC			
31 CCB		@ICP-QC	QC			

Final page for worklist # 14127

Analyst Signature *W/11-21-96*
PREPSTD TJA DIRECT
PREPBLK TJA DIRECT
 S96T004797
 DIL SX 3-7-2-8 16.65
 SAM 3-7 3.33
 DUP 3-7 3.33
 DIGSPK 3-7 3.33
 SAMPLE X .250-9.75 40
 10PPM RSPK .250-1-1-7.75 40
 S96T004798
 DIL SX 3-7-2-8 16.65
 SAM 3-7 3.33
 DUP 3-7 3.33
 DIGSPK 3-7 3.33
 SAMPLE X .250-9.75 40
 10PPM RSPK .250-1-1-7.75 40

Revised by:
Sam H. Pang 12/2/96
Analyst Signature *Date*
 S96T005040 SAM 3-7 3.33
 DUP 3-7 3.33
 S96T005042 SAM 3-7 3.33
 DUP 3-7 3.33
 S9T005043 SAM 3-7 3.33
 DUP 3-7 3.33
 S96T005061 SAM 3-7 3.33
 DUP 3-7 3.33

Data Entry Comments:

Spike recovery calculation:

S96T004797 Cr = 10.28 - 5.529 x 100 = 95.0 %

J

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

Spike true value is 5.0 ppb for all elements except for Ag = 1.0 and U = 10.0

Post Spike :

HNF-SD-WM-DP-226, REV. 0

S96T004797 — Al, Na, P and Si failed in the pre-digestion spike. A post spike was made and the results are:

$$Na = \frac{\left(\frac{1822}{40}\right) - \left(\frac{1407}{40}\right)}{10} \times 100 = 103.75\%$$

$$Al = \frac{\left(\frac{544.9}{40}\right) - \left(\frac{149.0}{40}\right)}{10} \times 100 = 98.98\%$$

$$P = \frac{\left(\frac{440.2}{40}\right) - \left(\frac{14.71}{40}\right)}{10} \times 100 = 106.37\%$$

$$Si = \frac{\left(\frac{437.2}{40}\right) - \left(\frac{6.905}{40}\right)}{10} \times 100 = 107.57\%$$

S96T004798 — Al, K, P and Si failed in the pre-digestion spike. A post spike was made and the results are:

$$Na = \frac{\left(\frac{1745}{40}\right) - \left(\frac{1338}{40}\right)}{10} \times 100 = 101.75\%$$

$$Al = \frac{\left(\frac{552.4}{40}\right) - \left(\frac{158.7}{40}\right)}{10} \times 100 = 99.18\%$$

$$K = \frac{\left(\frac{436.8}{40}\right) - \left(\frac{29.35}{40}\right)}{10} \times 100 = 101.86\%$$

$$P = \frac{\left(\frac{435.7}{40}\right) - \left(\frac{14.13}{40}\right)}{10} \times 100 = 105.35\%$$

$$Si = \frac{\left(\frac{428.4}{40}\right) - \left(\frac{7.465}{40}\right)}{10} \times 100 = 105.23\%$$

Analysis Report

Summary

Thu 11-21-96 10:46:14 PM

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#	Sample Name	File	Method	Date	Time	OpID	Type	Mode
1	ICV	961121B	ICP2	11/21/96	19:18	JHW	Q	CONC
2	ICB	961121B	ICP2	11/21/96	19:21	JHW	Q	CONC
3	LLS	961121B	ICP2	11/21/96	19:27	JHW	Q	CONC
4	ICSA <i>2 11-21-96</i>	961121B	ICP2	11/21/96	19:41	JHW	Q	CONC
5	ICSA	961121B	ICP2	11/21/96	19:46	JHW	Q	CONC
6	ICSA B	961121B	ICP2	11/21/96	19:50	JHW	Q	CONC
7	PREPSTDTJA	961121B	ICP2	11/21/96	19:54	JHW	S	CONC
8	PREPBLKTJA	961121B	ICP2	11/21/96	19:58	JHW	S	CONC
9	S96T004797 L	961121B	ICP2	11/21/96	20:06	JHW	S	CONC
10	S96T004797	961121B	ICP2	11/21/96	20:11	JHW	S	CONC
11	S96T004797 D	961121B	ICP2	11/21/96	20:15	JHW	S	CONC
12	S96T004797 S	961121B	ICP2	11/21/96	20:18	JHW	S	CONC
13	S96T004797 X	961121B	ICP2	11/21/96	20:23	JHW	S	CONC
14	S96T004797 10PPM	961121B	ICP2	11/21/96	20:27	JHW	S	CONC
15	CCV	961121B	ICP2	11/21/96	21:20	JHW	Q	CONC
16	CCB	961121B	ICP2	11/21/96	21:24	JHW	Q	CONC
17	S96T004798 L	961121B	ICP2	11/21/96	21:28	JHW	S	CONC
18	S96T004798	961121B	ICP2	11/21/96	21:32	JHW	S	CONC
19	S96T004798 D	961121B	ICP2	11/21/96	21:35	JHW	S	CONC
20	S96T004798 S	961121B	ICP2	11/21/96	21:38	JHW	S	CONC
21	S96T004798 X	961121B	ICP2	11/21/96	21:43	JHW	S	CONC
22	S96T004798 10PPM	961121B	ICP2	11/21/96	21:47	JHW	S	CONC
23	S96T005040	961121B	ICP2	11/21/96	21:53	JHW	S	CONC
24	S96T005040 D	961121B	ICP2	11/21/96	21:56	JHW	S	CONC
25	S96T005042	961121B	ICP2	11/21/96	21:59	JHW	S	CONC
26	S96T005042 D	961121B	ICP2	11/21/96	22:02	JHW	S	CONC
27	CCV	961121B	ICP2	11/21/96	22:06	JHW	Q	CONC
28	CCB	961121B	ICP2	11/21/96	22:15	JHW	Q	CONC
29	S96T005043	961121B	ICP2	11/21/96	22:18	JHW	S	CONC
30	S96T005043 D	961121B	ICP2	11/21/96	22:21	JHW	S	CONC
31	S96T005061	961121B	ICP2	11/21/96	22:24	JHW	S	CONC
32	S96T005061 D	961121B	ICP2	11/21/96	22:27	JHW	S	CONC
33	ICSA	961121B	ICP2	11/21/96	22:31	JHW	Q	CONC
34	ICSA B	961121B	ICP2	11/21/96	22:34	JHW	Q	CONC
35	CCV	961121B	ICP2	11/21/96	22:37	JHW	Q	CONC
36	CCB	961121B	ICP2	11/21/96	22:41	JHW	Q	CONC

John Waneell
11-21-96

FILE NO: 961121B.TXT
WORKLIST # 14127

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1687 TO 1693.

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HNF-SD-WM-DP-226, REV. 0

Analysis Report

Averages

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#	Sample Name	Ag	Al	As	B	Ba	Be
1	ICV	5.053	4.956	5.207	5.076	5.124	5.171
2	ICB	-.0004	.0034	-.0060	.0005	.0003	-.0000
3	LLS	.0215	.1032	.2042	.1057	.1018	.0100
4	ICSA <i>Q 11-21-96</i>	.0018	Q244.3	-.0782	-.0007	.0003	-.0003
5	ICSA	.0005	243.6	-.0107	.0001	.0004	-.0000
6	ICSA B	.9597	241.6	.0139	.0020	.4755	.4735
7	PREPSTD TJJA	.9130	4.581	4.699	5.193	4.559	4.783
8	PREPBLKTJJA	.0000	.0899	.0083	.5515	.0006	-.0003
9	S96T004797 L	.0807	147.9	-.1734	1.053	.0163	-.0030
10	S96T004797	.0972	144.5	-.1394	1.034	.0165	.0009
11	S96T004797 D	.1002	145.0	-.1423	.8520	.0161	.0004
12	S96T004797 S	1.050	154.6	4.853	5.621	4.671	4.730
13	S96T004797 X	.0830	149.0	-.3462	1.067	.0234	-.0054
14	S96T004797 10PPM	363.7	544.9	419.9	403.5	418.9	422.6
15	CCV	5.009	4.937	5.202	5.065	5.074	5.155
16	CCB	.0008	.0079	-.0043	.0040	.0003	-.0001
17	S96T004798 L	.0983	153.7	-.0737	1.143	.0920	-.0015
18	S96T004798	.1000	150.0	-.1610	1.053	.0886	.0008
19	S96T004798 D	.0997	161.3	-.1807	.8805	.0959	.0010
20	S96T004798 S	1.047	164.7	4.710	5.543	4.807	4.745
21	S96T004798 X	.1108	155.7	.4103	1.166	.0945	-.0036
22	S96T004798 10PPM	335.0	552.4	422.2	406.1	421.7	423.8
23	S96T005040	.1021	155.3	-.1991	.8290	.0248	.0009
24	S96T005040 D	.0997	160.9	-.1400	.9490	.0253	.0010
25	S96T005042	.0962	152.2	-.1484	.8357	.0448	.0014
26	S96T005042 D	.1001	150.8	-.1341	.9261	.0437	.0006
27	CCV	5.056	4.950	5.215	5.067	5.149	5.180
28	CCB	-.0001	.0035	-.0019	.0059	.0001	-.0003
29	S96T005043	.1026	152.0	-.1500	1.056	.0446	.0006
30	S96T005043 D	.1009	146.0	-.1703	.8834	.0416	.0006
31	S96T005061	.1002	144.9	-.1061	1.092	.0275	.0007
32	S96T005061 D	.1028	148.0	-.1477	.8899	.0285	.0012
33	ICSA	.0025	242.5	-.0175	-.0020	.0004	-.0001
34	ICSA B	.9568	241.9	-.0410	-.0069	.4786	.4726
35	CCV	5.077	4.973	5.214	5.079	5.184	5.177
36	CCB	.0000	-.0005	.0108	.0074	.0001	-.0001

#	Sample Name	Bi	Ca	Cd	Ce	Co	Cr
1	ICV	5.262	5.099	5.097	5.142	5.119	5.140
2	ICB	-.0028	-.0003	-.0008	.0012	-.0035	-.0018
3	LLS	.2461	.2141	.0113	.2062	.0362	.0201
4	ICSA <i>Q 11-21-96</i>	-.0052	Q250.6	.0020	.0168	-.0029	.0072
5	ICSA	-.0110	249.8	.0022	.0027	-.0031	.0077
6	ICSA B	.0554	249.8	.9348	.0171	.4625	.4779
7	PREPSTD TJJA	4.547	4.493	4.465	4.692	4.611	4.485
8	PREPBLKTJJA	.0099	.0722	-.0003	-.0027	-.0031	-.0005
9	S96T004797 L	.0180	1.377	.0278	-.1352	-.0707	5.618
10	S96T004797	-.0251	1.015	.0308	.0097	-.0034	5.529
11	S96T004797 D	.0970	.9355	.0331	.0187	-.0038	5.535
12	S96T004797 S	4.691	5.521	4.687	4.847	4.762	10.28
13	S96T004797 X	.3397	1.726	-.0053	.0016	-.1643	5.602

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HNF-SD-WM-DP-226, REV. 0

Averages

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#	Sample Name	Cu	Eu	Fe	K	La	Li
1	ICV	5.297	-.0022	5.085	4.961	5.204	5.135
2	ICB	.0002	.0005	.0003	-.1041	.0006	.0006
3	LLS	.0217	.0009	.1010	.4037	.1044	.0220
4	ICSA <i>9/11-21-96</i>	-.0084	-.0458	093.67	.1565	-.0046	.0034
5	ICSA	-.0094	-.0403	93.22	-.0390	-.0054	.0023
6	ICSAB	4.785	-.0027	92.82	.1646	-.0036	1.021
7	PREPSTDITJA	4.598	-.0027	4.475	4.612	4.708	4.700
8	PREPBKLTJA	.0039	-.0004	.0094	.0714	-.0005	-.0008
9	S96T004797_L	.0547	.0009	4366	25.26	-.0010	.0119
10	S96T004797_	.0379	.0024	4129	26.28	.0112	.0103
11	S96T004797_D	.0410	.0026	3611	26.33	.0119	.0103
12	S96T004797_S	4.687	.0007	5.000	31.21	4.883	4.854
13	S96T004797_X	.0973	.0064	4.121	30.86	.0333	.0095
14	S96T004797_10PPM	-.0903	.0643	404.4	435.4	418.1	418.1
15	CCV	5.281	-.0026	5.033	4.931	5.134	5.160
16	CCB	.0014	-.0001	.0013	.1194	.0016	-.0004
17	S96T004798_L	.0676	-.0070	1.345	24.76	.0114	.3524
18	S96T004798_	.0486	.0024	1.297	26.29	.0234	.3603
19	S96T004798_D	.0503	.0023	1.585	28.06	.0249	.4819
20	S96T004798_S	4.736	-.0019	5.850	32.73	4.930	5.303
21	S96T004798_X	.1734	-.0009	1.528	29.35	.0251	.3662
22	S96T004798_10PPM	-.0373	.0480	405.6	436.8	419.0	422.8
23	S96T005040_	.0357	.0014	.3943	27.47	.0175	.0835
24	S96T005040_D	.0425	.0013	.3793	28.82	.0126	.0867
25	S96T005042_	.1333	.0028	.6849	26.84	.0175	.1544
26	S96T005042_D	.0394	.0037	.6744	26.94	.0201	.1520
27	CCV	5.276	-.0020	5.096	5.122	5.178	5.093

11/22/96 08:28 3509 372 2929 WESTINGHOUSE ->-> MO-924 200W 006

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#	Sample Name	Cu	Eu	Fe	K	La	Li
28	CCB	.0004	.0015	-.0021	.1448	.0000	.0013
29	S96T005043	.0402	.0040	.7585	26.87	.0203	.0692
30	S96T005043 D	.0391	.0013	.7520	25.81	.0222	.0649
31	S96T005061	.0343	.0018	.4766	25.88	.0153	.0863
32	S96T005061_D	.0418	.0013	.5700	26.78	.0174	.0879
33	ICSA	-.0075	-.0414	92.98	.3078	-.0034	.0027
34	ICSAB	.4797	-.0403	92.60	.1379	-.0042	1.026
35	CCV	5.306	-.0018	5.075	4.994	5.214	5.144
36	CCB	.0009	.0005	-.0018	-.1321	-.0003	.0002

#	Sample Name	Mg	Mn	Mo	Na	Nd	Ni
1	ICV	4.874	4.968	5.132	4.951	5.218	5.062
2	ICB	-.0037	.0006	.0025	.0009	-.0036	-.0038
3	ILS	.1982	.0199	.0997	.2124	.2031	.0383
4	ICSA 0/11-21-96	Q254.2	-.0060	-.0077	196.9	.0058	-.0092
5	ICSA	252.5	-.0062	-.0082	196.9	.0038	-.0025
6	ICSAB	250.4	.4400	-.0131	193.8	.0060	.9172
7	PREPSTD TJJA	4.227	4.381	4.359	5.329	4.624	4.599
8	PREPBLK TJJA	.0019	.0003	.0003	.7558	.0001	.0001
9	S96T004797 L	.0199	.0578	.3081	1405.5	-.0031	.2105
10	S96T004797 S	.0250	.0584	.3011	1365.	.0209	.2183
11	S96T004797 D	.0313	.0587	.3089	1381.	.0199	.1932
12	S96T004797 S	4.350	4.521	5.025	1320.	4.755	4.957
13	S96T004797 X	-.1642	.0638	.3884	1407.	.0473	.4276
14	S96T004797 10PPM	410.3	403.6	399.8	1822.	418.8	402.0
15	CCV	4.864	4.908	5.083	4.930	5.152	4.990
16	CCB	.0068	.0000	-.0005	-.0043	.0018	.0005
17	S96T004798 L	-.1080	.2705	.2845	1332.	.0232	1.185
18	S96T004798	.0121	.2686	.3074	1287.	.0415	1.015
19	S96T004798 D	.0125	.2870	.3392	1316.	.0402	1.113
20	S96T004798 S	4.314	4.728	5.074	1292.	4.842	5.849
21	S96T004798 X	.0112	.2764	.3525	1338.	.0449	1.355
22	S96T004798 10PPM	414.0	403.3	399.4	1745.	420.8	401.4
23	S96T005040	.0215	.0778	.3275	1312.	.0306	.2737
24	S96T005040 D	-.0027	.0770	.3496	1344.	.0284	.2879
25	S96T005042	-.0120	.1332	.3157	1342.	.0241	.5115
26	S96T005042_D	.0167	.1303	.3049	1311.	.0256	.4912
27	CCV	4.883	4.993	5.166	4.889	5.177	5.068
28	CCB	.0014	.0007	.0025	.0077	.0029	-.0033
29	S96T005043	-.0151	.1948	.3164	1413.	.0366	.6449
30	S96T005043 D	-.0001	.1828	.3085	1351.	.0281	.6272
31	S96T005061	.0110	.1032	.2959	1338.	.0289	.3606
32	S96T005061_D	-.0007	.1059	.3126	1376.	.0265	.3849
33	ICSA	252.6	-.0062	-.0099	194.7	.0099	-.0108
34	ICSAB	251.3	.4378	-.0106	193.8	.0063	.9183
35	CCV	4.870	4.983	5.169	4.932	5.233	5.071
36	CCB	-.0088	.0003	.0041	.0000	-.0009	.0063

Analysis Report

Averages

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#	Sample Name	P	Pb	S	Sb	Se	Si
1	ICV	5.117	5.092	5.010	4.880	4.911	4.920
2	ICB	.0055	-.0116	-.0021	.0072	.0132	.0054
3	LLS	.3997	.1963	.2030	.1172	.1977	.1401
4	ICSA <i>11-21-96</i>	.0120	.0164	-.0324	.0220	-.0281	.0013
5	ICSA	.0091	.0341	-.0462	.0226	-.0241	-.0025
6	ICSAB	.0149	.9881	-.0440	.0068	-.0258	-.0003
7	PREPSTD TJ A	4.781	4.359	4.630	4.547	4.309	7.161
8	PREPBLKTJ A	.0089	-.0137	.0611	.0075	.0165	.5146
9	S96T004797 L	15.63	-.1051	18.32	-.0325	.0747	6.357
10	S96T004797	14.71	.2595	17.77	.0303	.0694	6.304
11	S96T004797 D	12.52	.1925	17.91	.0361	.0603	6.342
12	S96T004797 S	17.95	4.785	23.10	4.807	4.464	10.25
13	S96T004797 X	14.71	-.4512	18.34	.5885	.0103	6.905
14	S96T004797 10PPM	440.2	414.5	431.1	403.8	395.2	437.2
15	CCV	5.156	5.027	5.007	4.849	4.898	4.883
16	CCB	.0034	-.0135	.0031	.0151	.0016	.0014
17	S96T004798 L	13.85	.1791	19.16	.1395	-.0401	7.145
18	S96T004798	13.72	.2665	19.13	.0262	.0176	7.163
19	S96T004798 D	13.73	.2868	19.97	.0301	.0682	6.628
20	S96T004798 S	12.66	4.807	24.26	4.850	4.487	10.16
21	S96T004798 X	14.13	-.2077	19.33	.5599	.2208	7.465
22	S96T004798 10PPM	435.7	414.1	427.7	404.9	397.3	428.4
23	S96T005040	5.557	.1589	22.42	.0319	.0460	5.411
24	S96T005040 D	4.870	.2386	22.36	.0335	.0512	7.502
25	S96T005042	6.957	3.049	22.91	.0016	.0988	2.813
26	S96T005042 D	8.146	4.903	22.73	.0414	.0346	3.801
27	CCV	5.212	5.131	5.063	4.878	4.934	4.980
28	CCB	-.0077	-.0121	-.0023	.0088	.0146	.0208
29	S96T005043	5.728	.2263	28.46	.0302	.0539	5.146
30	S96T005043 D	5.668	.2447	26.39	.0125	.0372	4.549
31	S96T005061	6.623	.1927	23.36	.0223	.0672	3.907
32	S96T005061 D	8.280	.2200	23.99	.0268	.0374	3.748
33	ICSA	.0206	.0427	-.0460	.0105	-.0143	-.0003
34	ICSAB	.0276	.9947	-.0434	-.0014	-.0152	.0021
35	CCV	5.156	5.116	5.056	4.897	4.928	4.942
36	CCB	-.0067	-.0064	.0026	.0091	-.0035	.0075

#	Sample Name	Sm	Sr	Th	Ti	Tl	U
1	ICV	5.042	5.057	.0278	4.990	4.909	9.827
2	ICB	.0067	.0003	-.0014	.0000	-.0054	.0131
3	LLS	.2143	.0207	-.0003	.0208	.4145	.5369
4	ICSA <i>11-21-96</i>	.0078	.0022	-.0085	.0015	.0129	.0598
5	ICSA	.0020	.0022	-.0045	.0012	.0028	.0389
6	ICSAB	.0094	.0022	-.0009	.0023	.0154	.0451
7	PREPSTD TJ A	4.547	4.538	.0182	4.212	4.281	8.860
8	PREPBLKTJ A	-.0088	.0001	-.0018	.0010	-.0066	-.0299
9	S96T004797 L	-.0511	.0044	-.0181	.0123	-.3907	.2278
10	S96T004797	.0196	.0045	.0103	.0048	.0410	.6193
11	S96T004797 D	.0210	.0047	.0047	.0090	-.0274	.6191
12	S96T004797 S	4.680	4.657	.0310	4.330	4.470	9.711
13	S96T004797 X	1.499	.0062	.0407	.0301	-.3793	1.173

Analysis Report

Averages

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#	Sample Name	Sm	Sr	Th	Ti	Tl	U
14	S96T004797_10PPM	405.3	407.0	2.160	370.4	393.1	32.24
15	CCV	4.985	4.995	.0288	4.940	4.919	9.738
16	CCB	-.0036	.0000	.0055	.0005	.0128	-.0120
17	S96T004798 L	-.1125	.0096	.0581	.0165	-.0513	.8356
18	S96T004798	.0081	.0105	.0086	.0103	.0222	1.364
19	S96T004798 D	.0091	.0110	.0261	.0095	.0639	1.402
20	S96T004798 S	4.690	4.700	.0627	4.354	4.422	10.48
21	S96T004798 X	-.1020	.0062	.1693	.0303	-.0196	1.083
22	S96T004798 10PPM	407.7	408.7	2.002	369.8	391.9	32.06
23	S96T005040	.0097	.0052	.0143	.0047	.0138	.7999
24	S96T005040 D	.0112	.0052	.0120	.0055	-.0698	.7889
25	S96T005042	.0252	.0075	.0045	.0062	-.0091	1.113
26	S96T005042 D	.0253	.0073	.0174	.0063	-.0242	1.097
27	CCV	5.014	5.026	.0259	4.993	4.905	9.790
28	CCB	.0202	.0002	-.0029	.0010	.0081	.0769
29	S96T005043	.0348	.0094	-.0084	.0078	-.0268	1.252
30	S96T005043 D	.0037	.0086	.0112	.0079	-.0310	1.087
31	S96T005061	.0158	.0065	.0110	.0063	-.0098	.9057
32	S96T005061 D	.0036	.0065	.0189	.0055	-.0333	.9064
33	ICSA	.0065	.0022	.0012	.0020	-.0101	.0492
34	ICSA B	.0058	.0023	-.0071	.0017	.0272	.0550
35	CCV	5.049	5.068	.0215	4.998	4.928	9.851
36	CCB	.0014	.0000	-.0030	.0002	-.0082	.0042

#	Sample Name	V	Y	Zn	Zr
1	ICV	5.134	.0068	5.153	5.061
2	ICB	.0017	.0002	.0010	.0016
3	LLS	.1054	.0006	.0220	.0225
4	ICSA 11-21-96	.0026	.0074	.0054	-.0010
5	ICSA	.0011	.0070	.0044	-.0020
6	ICSA B	.4710	.0073	.9540	-.0017
7	PREPSTDITJA	4.518	.0047	4.433	4.676
8	PREPBLKTJA	-.0007	-.0003	.0173	.0009
9	S96T004797 L	-.0075	-.0014	.8032	.0559
10	S96T004797	.0092	.0023	.2093	.0706
11	S96T004797 D	.0079	.0023	.2088	.0673
12	S96T004797 S	4.663	.0087	4.804	4.147
13	S96T004797 X	.0201	.0026	1.099	.0834
14	S96T004797 10PPM	.3501	.5820	-.2660	411.6
15	CCV	5.082	.0061	5.117	5.003
16	CCB	-.0006	-.0001	.0002	-.0011
17	S96T004798 L	-.0183	-.0017	.9356	.1293
18	S96T004798	.0153	.0046	.4542	.1495
19	S96T004798 D	.0131	.0051	.2723	.1567
20	S96T004798 S	4.657	.0099	4.931	4.985
21	S96T004798 X	-.0186	-.0005	1.087	.1037
22	S96T004798 10PPM	.2970	.5758	.0110	412.4
23	S96T005040	.0031	.0028	.2053	.0872
24	S96T005040 D	.0031	.0025	.1481	.0886
25	S96T005042	.0095	.0045	.2600	.1087
26	S96T005042 D	.0101	.0045	.2227	.1087
27	CCV	5.144	.0069	5.178	5.060

Analysis Report

Averages

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#	Sample Name	V	Y	Zn	Zr
28	CCB	.0045	.0008	.0015	.0027
29	S96T005043	.0092	.0057	.1590	.1264
30	S96T005043_D	.0050	.0040	.2140	.1167
31	S96T005061	.0042	.0033	.1233	.0947
32	S96T005061_D	.0048	.0025	.2293	.0966
33	IGSA	.0007	.0070	.0060	.0020
34	IGSAB	.4687	.0073	.9521	.0008
35	CCV	5.147	.0067	5.172	5.076
36	CCB	.0004	.0002	.0012	.0006

LABCORE Data Entry Template for Worklist# 14135

Analyst: J. NORRELL Instrument: ICP01 Book# 64845A

Method: LA-505-151/464 Rev/Mod D-3

Worklist Comment: ICP AN-104 (SOLID ACID DIGEST)

S Type	Sample#	R A	Test	Matrix	Group#	Project
1	ICV		@ICP-QC	QC		
2	ICB		@ICP-QC	QC		
3	LLS		@ICP-QC	QC		
4	ICSA		@ICP-QC	QC		
5	ICSAB		@ICP-QC	QC		
6	PREPSTD STA <u>ARL</u>		@ICP-A01	SOLID		
7	PREPBLK STA <u>ARL</u>		@ICP-A01	SOLID		
8	SERDIL	S96T005041 0 A	@ICP-A01	SOLID		
9	SAMPLE	S96T005041 0 A	@ICP-A01	SOLID	96001174	AN-104
Analytes Requested: AG-A-01, AL-A-01, AS-A-01, B-A-01, BA-A-01, BE-A-01, BI-A-01, CA-A-01, CD-A-01, CE-A-01, CO-A-01, CR-A-01, CU-A-01, FE-A-01, K-A-01, LA-A-01, LI-A-01, MG-A-01, MN-A-01, MO-A-01, NA-A-01, ND-A-01, NI-A-01, P-A-01, PB-A-01, S-A-01, SB-A-01, SE-A-01, SI-A-01, SM-A-01, SR-A-01, TT-A-01, TL-A-01, U-A-01, V-A-01, ZN-A-01, ZR-A-01						
10	DUP	S96T005041 0 A	@ICP-A01	SOLID		
11	SPK-FREDIG	S96T005041 0 A	@ICP-A01	SOLID		
12	CCV		@ICP-QC	QC		
13	CCB		@ICP-QC	QC		
14	SAMPLE	S96T005044 0 A	@ICP-A01	SOLID	96001174	AN-104
Analytes Requested: AG-A-01, AL-A-01, AS-A-01, B-A-01, BA-A-01, BE-A-01, BI-A-01, CA-A-01, CD-A-01, CE-A-01, CO-A-01, CR-A-01, CU-A-01, FE-A-01, K-A-01, LA-A-01, LI-A-01,						

Data Entry Comments:

Sample result calculation:

$$S96T005041 \quad Cr = 13.887 \text{ ug} \times \frac{1}{6.580 \text{ g}} \times \frac{1 \text{ L}}{1,000 \text{ mL}} = 2.12 \text{ ug} \times \frac{3}{2}$$

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

10/21/96 11:25
A-0004-1

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LABCORE Data Entry Template for Worklist# 14135

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	S96T005044	0	A	@ICP-A01	SOLID				
16 SAMPLE	S96T005045	0	A	@ICP-A01	SOLID	96001174	AN-104		
	Analytes Requested:								
				AG-A-01	AL-A-01	AS-A-01	B-A-01	BA-A-01	
				BE-A-01	BI-A-01	CA-A-01	CD-A-01	CE-A-01	CO-A-01
				CR-A-01	CU-A-01	FE-A-01	K-A-01	LA-A-01	LI-A-01
				MG-A-01	MN-A-01	MO-A-01	NA-A-01	ND-A-01	NI-A-01
				P-A-01	PB-A-01	S-A-01	SB-A-01	SE-A-01	SI-A-01
				SM-A-01	SR-A-01	TI-A-01	TL-A-01	U-A-01	V-A-01
				ZN-A-01	ZR-A-01				
17 DUP	S96T005045	0	A	@ICP-A01	SOLID				
18 SAMPLE	S96T005062	0	A	@ICP-A01	SOLID	96001174	AN-104		
	Analytes Requested:								
				AG-A-01	AL-A-01	AS-A-01	B-A-01	BA-A-01	
				BE-A-01	BI-A-01	CA-A-01	CD-A-01	CE-A-01	CO-A-01
				CR-A-01	CU-A-01	FE-A-01	K-A-01	LA-A-01	LI-A-01
				MG-A-01	MN-A-01	MO-A-01	NA-A-01	ND-A-01	NI-A-01
				P-A-01	PB-A-01	S-A-01	SB-A-01	SE-A-01	SI-A-01
				SM-A-01	SR-A-01	TI-A-01	TL-A-01	U-A-01	V-A-01
				ZN-A-01	ZR-A-01				
19 DUP	S96T005062	0	A	@ICP-A01	SOLID				
20 SAMPLE	S96T005063	0	A	@ICP-A01	SOLID	96001174	AN-104		
	Analytes Requested:								
				AG-A-01	AL-A-01	AS-A-01	B-A-01	BA-A-01	
				BE-A-01	BI-A-01	CA-A-01	CD-A-01	CE-A-01	CO-A-01
				CR-A-01	CU-A-01	FE-A-01	K-A-01	LA-A-01	LI-A-01
				MG-A-01	MN-A-01	MO-A-01	NA-A-01	ND-A-01	NI-A-01
				P-A-01	PB-A-01	S-A-01	SB-A-01	SE-A-01	SI-A-01
				SM-A-01	SR-A-01	TI-A-01	TL-A-01	U-A-01	V-A-01
				ZN-A-01	ZR-A-01				
21 DUP	S96T005063	0	A	@ICP-A01	SOLID				
22 CCV				@ICP-QC	QC				
23 CCB				@ICP-QC	QC				

Data Entry Comments:

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist# 14135

S Type	Sample#	R	A	Test	Matrix	Group#	Project
24 SAMPLE	S96T005064	0	A	@ICP-A01	SOLID	96001174	AN-104
Analytes Requested:				AG-A-01 , AL-A-01 , AS-A-01 , B-A-01 , BA-A-01 , BE-A-01 , BI-A-01 , CA-A-01 , CD-A-01 , CE-A-01 , CO-A-01 , CR-A-01 , CU-A-01 , FE-A-01 , K-A-01 , LA-A-01 , LI-A-01 , MG-A-01 , MN-A-01 , MO-A-01 , NA-A-01 , ND-A-01 , NI-A-01 , P-A-01 , PB-A-01 , S-A-01 , SB-A-01 , SE-A-01 , SI-A-01 , SM-A-01 , SR-A-01 , TI-A-01 , TL-A-01 , U-A-01 , V-A-01 , ZN-A-01 , ZR-A-01			
25 DUP	S96T005064	0	A	@ICP-A01	SOLID		
26 ICSA				@ICP-QC	QC		
27 ICSAB				@ICP-QC	QC		
28 CCV				@ICP-QC	QC		
29 CCB				@ICP-QC	QC		

Final page for worklist # 14135

[Signature]
 Analyst Signature Date 12-4-96
 PREPBLKARL DIRECT
 PREPBLKARL DIRECT
 967005041
 DILSX 1-9-2-8
 SAM 1-9
 DUP 1-9
 BIG-SPK 1-9
 DIL-X .250-9.75
 10PPM P.SPK .250-1-1-7.75
 967005044
 SAM 1-9
 DUP 1-9
 967005045
 SAM 1-9
 DUP 1-9

Revised by:
[Signature]
 Analyst Signature Date 12/6/96
 59670062
 SAM 1-9
 DUP 1-9
 59670063
 SAM 1-9
 DUP 1-9
 59670064
 SAM 1-9
 DUP 1-9

Data Entry Comments:

Spike recovery calculation:

$$3967005041 \quad C_r = \frac{13.887}{15.468 - 13.887} \times 100 = 91.6\%$$

80 12/6/96

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

Note: Spike true value is 5.0 ppb - for all standards except for Ag = 1.0 ppb and U = 10.0 ppb.

Al, Ce, K, and Na failed in the pre-digestion spike.
A post spike was made and the results are:

$$Al = \frac{\left(\frac{560.970}{40}\right) - \left(\frac{143.670}{40}\right)}{10} \times 100 = 104.3\%$$

$$Ce = \frac{\left(\frac{412.085}{40}\right) - 0}{10} \times 100 = 103.0\%$$

$$K = \frac{\left(\frac{429.919}{40}\right) - \left(\frac{18.519}{40}\right)}{10} \times 100 = 101.35\%$$

$$Na = \frac{\left(\frac{1764.754}{40}\right) - \left(\frac{1361.987}{40}\right)}{10} \times 100 = 100.69\%$$

Identity 1: ICV Identity 2: Quality Control 1:11 PM December 4, 1996
 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	5.036	5.173	5.202	4.959	5.040	5.055	5.277	5.335
S.D.	0.019	0.033	0.044	0.027	0.030	0.024	0.031	0.054
% R.S.D.	0.372	0.630	0.842	0.547	0.593	0.480	0.588	1.004
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.038	4.981	5.135	4.960	5.156	4.983	5.260	10.324
S.D.	0.022	0.030	0.022	0.023	0.028	0.026	0.030	0.032
% R.S.D.	0.446	0.608	0.421	0.454	0.537	0.514	0.565	0.308
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	5.265	5.338	5.269	5.217	5.205	4.978	5.180	5.256
S.D.	0.022	0.024	0.035	0.040	0.050	0.023	0.034	0.054
% R.S.D.	0.414	0.458	0.655	0.769	0.958	0.460	0.660	1.034
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	5.112	4.745	4.962	4.855	5.059	5.020	5.088	5.032
S.D.	0.033	0.067	0.017	0.038	0.032	0.019	0.020	0.037
% R.S.D.	0.638	1.408	0.335	0.786	0.627	0.376	0.397	0.743
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	4.948	4.967	5.071	5.164	5.301			
S.D.	0.015	0.072	0.023	0.015	0.036			
% R.S.D.	0.301	1.454	0.463	0.299	0.684			

J. W. Howell
 12-49C

FILE No. 961204B.DAT

WORKLIST NO. 14135

S96T80 5041, 44, 45, 62, 63, 64

AN-104 ACID DIGEST

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1698 TO 1727

Identity 1: ICB Identity 2: Quality Control

1:14 PM December 4, 1996

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	0.002	-0.000	0.009	0.006	-0.007	-0.011	-0.001	-0.001
S.D.	0.000	0.000	0.005	0.000	0.003	0.002	0.000	0.000
% R.S.D.	22.762	299.920	63.539	4.703	36.835	21.707	27.736	19.355

	Zn	Ni	La	Fe	Ca	Cr	Nd	U
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	0.000	-0.001	0.001	0.000	0.000	-0.002	-0.003	0.078
S.D.	0.000	0.003	0.002	0.004	0.000	0.001	0.003	0.028
% R.S.D.	116.579	269.396	113.340	5461.513	56.773	45.686	95.132	36.477

	Ce	Sm	Ba	P	S	Mg	As	Na
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	-0.025	0.014	-0.000	-0.005	0.001	0.001	-0.003	-0.001
S.D.	0.008	0.005	0.000	0.012	0.004	0.000	0.006	0.005
% R.S.D.	32.227	36.028	23.593	217.022	298.244	19.233	173.684	456.455

	Mo	Se	Ag	Pb	Ti	Cd	B	K
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	0.004	-0.011	-0.002	0.012	0.001	0.001	0.001	0.045
S.D.	0.001	0.005	0.001	0.008	0.000	0.000	0.002	0.002
% R.S.D.	14.246	45.413	47.803	68.316	27.513	43.172	154.486	3.872

	Mn	Sb	V	Be	Tl
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	-0.000	-0.007	-0.001	0.001	-0.034
S.D.	0.000	0.013	0.001	0.000	0.015
% R.S.D.	316.914	182.171	125.061	0.884	42.744

Identity 1: LLS Identity 2: Quality Control 1:17 PM December 4, 1996

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	0.020	0.206	0.142	0.083	0.032	0.017	0.018
S.D.	0.001	0.000	0.004	0.004	0.007	0.002	0.000	0.000
% R.S.D.	5.238	0.517	2.004	3.079	8.629	7.204	0.608	1.179

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.021	0.043	0.103	0.101	0.210	0.018	0.182	0.552
S.D.	0.000	0.002	0.002	0.001	0.001	0.001	0.006	0.047
% R.S.D.	2.377	5.518	1.511	1.269	0.420	7.623	3.344	8.437

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.115	0.252	0.099	0.394	0.209	0.209	0.196	0.191
S.D.	0.018	0.008	0.000	0.014	0.007	0.000	0.011	0.002
% R.S.D.	15.446	3.318	0.244	3.537	3.440	0.232	5.571	1.013

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.097	0.169	0.013	0.190	0.021	0.009	0.103	0.727
S.D.	0.002	0.032	0.001	0.016	0.001	0.001	0.001	0.009
% R.S.D.	2.288	18.856	7.152	8.643	2.419	11.642	0.796	1.188

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.019	0.073	0.099	0.010	0.375
S.D.	0.000	0.021	0.001	0.000	0.020
% R.S.D.	2.090	28.582	1.098	1.353	5.256

OVER CORRECTION
ON ~ 6 ELEMENTS

Identity 1: ICSA

Identity 2: Quality Control

1:21 PM December 4, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.008	0.001	0.019	0.055	201.130	-0.002	-0.002	-0.001
S.D.	0.001	0.000	0.006	0.005	0.974	0.004	0.001	0.000
% R.S.D.	16.931	8.248	29.510	8.980	0.484	164.494	29.886	28.021
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.006	0.008	0.015	94.486	98.723	-0.006	-0.031	0.308
S.D.	0.000	0.000	0.002	0.119	0.216	0.002	0.003	0.052
% R.S.D.	7.706	5.682	10.307	0.126	0.219	37.269	9.308	16.759
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Hg (ppm)	As (ppm)	Na (ppm)
Mean	-0.071	0.162	0.002	0.002	0.223	94.891	0.010	195.673
S.D.	0.016	0.009	0.000	0.005	0.006	0.385	0.005	1.439
% R.S.D.	22.923	5.430	10.137	297.396	2.617	0.406	49.441	0.736
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	-0.002	-0.130	-0.001	-0.050	0.003	0.002	0.010	-0.047
S.D.	0.001	0.029	0.001	0.022	0.001	0.001	0.001	0.009
% R.S.D.	26.952	21.992	82.635	45.075	17.728	87.674	6.367	19.394
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	-0.001	-0.008	-0.004	0.002	-0.015			
S.D.	0.001	0.034	0.001	0.000	0.029			
% R.S.D.	78.428	418.425	17.101	12.581	193.956			

Identity 1: ICSAB Identity 2: Quality Control

1:25 PM December 4, 1996

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	-0.026	0.047	198.677	0.469	0.502	0.984
S.D.	0.001	0.000	0.009	0.001	0.928	0.002	0.001	0.005
% R.S.D.	112.994	5.679	36.841	2.474	0.467	0.521	0.199	0.507
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.948	0.936	0.012	93.070	97.968	0.469	-0.020	0.065
S.D.	0.001	0.002	0.001	0.364	0.333	0.003	0.004	0.027
% R.S.D.	0.125	0.199	6.681	0.391	0.340	0.537	21.284	40.969
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.020	0.092	0.513	0.028	0.192	91.913	-0.005	196.262
S.D.	0.010	0.007	0.001	0.016	0.007	0.286	0.011	0.718
% R.S.D.	49.174	7.533	0.257	57.838	3.562	0.311	250.813	0.366
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	-0.001	-0.089	0.984	0.931	0.001	0.947	0.008	-0.161
S.D.	0.003	0.014	0.001	0.015	0.000	0.003	0.002	0.024
% R.S.D.	213.197	16.239	0.136	1.586	74.350	0.307	26.038	14.985
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	0.475	0.058	0.483	0.492	-0.022			
S.D.	0.000	0.016	0.001	0.001	0.011			
% R.S.D.	0.072	27.300	0.292	0.260	48.269			

Identity 1: prepblkarl Identity 2: direct

1:34 PM December 4, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.007	-0.000	0.015	2.138	0.126	-0.014	-0.001	-0.001
S.D.	0.000	0.000	0.001	0.012	0.002	0.002	0.000	0.000
% R.S.D.	5.505	0.000	5.068	0.541	1.745	16.082	60.712	11.748

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.018	0.005	-0.000	0.013	0.072	-0.001	-0.017	0.184
S.D.	0.000	0.003	0.001	0.004	0.000	0.001	0.004	0.015
% R.S.D.	2.210	62.860	367.595	27.432	0.574	146.984	26.065	8.159

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.053	0.040	-0.001	0.014	0.073	0.010	-0.001	1.112
S.D.	0.004	0.004	0.000	0.011	0.008	0.000	0.001	0.002
% R.S.D.	7.788	11.312	22.876	77.942	10.785	2.239	138.344	0.174

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	-0.000	0.015	0.025	0.017	0.002	-0.001	0.809	0.043
S.D.	0.001	0.016	0.000	0.012	0.000	0.000	0.003	0.003
% R.S.D.	492.719	103.680	0.419	70.479	17.648	49.591	0.313	8.105

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.000	-0.069	-0.002	0.000	-0.030
S.D.	0.000	0.009	0.000	0.000	0.006
% R.S.D.	54.407	13.764	6.120	0.752	20.637

Identity 1: s96t005041_L Identity 2: 1ml-9ml-2ml-8ml

1:37 PM December 4, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 50.00

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	0.434	-0.035	0.055	4.686	145.161	-0.318	0.011	-0.070
S.D.	0.091	0.013	0.239	0.321	0.685	0.197	0.031	0.027
% R.S.D.	20.846	38.188	437.547	6.848	0.472	62.011	290.714	38.831
<hr/>								
	Zn	Ni	La	Fe	Ca	Cr	Nd	U
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	0.309	0.638	0.348	0.223	1.753	13.936	-1.321	15.715
S.D.	0.015	0.088	0.104	0.147	0.006	0.137	0.277	3.598
% R.S.D.	4.773	13.836	29.886	65.853	0.349	0.985	20.946	22.896
<hr/>								
	Ce	Sm	Ba	P	S	Mg	As	Na
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	-3.750	2.308	-0.039	11.102	27.852	0.101	-0.020	1362.310
S.D.	1.329	0.699	0.021	0.870	0.651	0.012	0.095	12.548
% R.S.D.	35.448	30.293	53.929	7.836	2.337	11.540	485.091	0.921
<hr/>								
	Mo	Se	Ag	Pb	Ti	Cd	B	K
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	0.317	2.341	-0.107	0.300	0.161	0.011	0.750	21.602
S.D.	0.040	0.450	0.037	0.529	0.047	0.036	0.025	0.997
% R.S.D.	12.597	19.239	34.778	176.523	29.548	334.417	3.305	4.613
<hr/>								
	Mn	Sb	V	Be	Tl			
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)			
Mean	0.135	-2.119	-0.275	-0.014	-1.259			
S.D.	0.009	1.064	0.066	0.019	1.816			
% R.S.D.	6.895	50.242	23.903	129.535	144.258			

HNF-SD-WM-DP-226, REV. 0

Identity 1: s96t005041 Identity 2: 1ml-9ml

1:41 PM December 4, 1996

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	0.116	0.007	0.081	3.719	142.686	0.343	0.051	0.030
S.D.	0.009	0.001	0.113	0.023	0.136	0.024	0.003	0.002
% R.S.D.	7.517	13.857	140.157	0.608	0.095	6.910	6.467	5.436

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.207	0.553	0.027	0.237	1.423	13.887	-0.000	0.241
S.D.	0.002	0.029	0.021	0.013	0.003	0.059	0.023	0.081
% R.S.D.	0.886	5.330	76.383	5.394	0.213	0.425	4857.726	33.663

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.193	-0.150	0.034	9.381	26.557	0.042	-0.082	1307.615
S.D.	0.031	0.032	0.002	0.187	0.211	0.001	0.066	2.837
% R.S.D.	16.185	21.306	6.844	1.988	0.794	3.210	79.625	0.217

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.312	1.396	0.035	0.246	0.006	0.089	0.828	22.919
S.D.	0.017	0.085	0.001	0.077	0.004	0.002	0.004	0.113
% R.S.D.	5.421	6.101	2.953	31.443	64.320	1.990	0.512	0.495

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.139	0.006	0.016	0.005	0.059
S.D.	0.002	0.200	0.015	0.003	0.002
% R.S.D.	1.380	3520.510	94.316	63.709	2.881

Identity 1: s96t005041_d Identity 2: 1ml-9ml

1:45 PM December 4, 1996

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	0.140	0.002	0.158	4.069	144.569	0.297	0.034	0.022
S.D.	0.011	0.001	0.134	0.039	0.409	0.024	0.003	0.002
% R.S.D.	7.924	76.380	84.688	0.959	0.283	8.054	8.902	7.239
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.117	0.584	0.000	0.373	1.354	14.239	-0.102	0.943
S.D.	0.001	0.026	0.021	0.007	0.002	0.113	0.008	0.315
% R.S.D.	1.078	4.529	5229.776	1.787	0.149	0.792	7.864	33.407
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.269	0.577	0.025	6.956	26.991	0.042	-0.145	1281.270
S.D.	0.083	0.053	0.001	0.061	0.198	0.001	0.033	5.092
% R.S.D.	30.998	9.216	2.387	0.873	0.733	3.209	22.811	0.397
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.318	1.847	-0.002	0.378	0.020	0.078	0.804	25.124
S.D.	0.000	0.116	0.002	0.038	0.002	0.005	0.018	0.210
% R.S.D.	0.001	6.263	127.315	10.179	12.399	6.856	2.205	0.836
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	0.143	-0.118	-0.017	0.001	-0.428			
S.D.	0.004	0.044	0.007	0.001	0.164			
% R.S.D.	2.665	36.964	42.496	109.084	38.337			

Identity 1: s96r005041_s Identity 2: 1ml-9ml

2:00 PM December 4, 1996

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	4.954	4.710	4.861	9.353	151.070	5.039	4.654	4.763
S.D.	0.026	0.003	0.142	0.011	0.180	0.023	0.005	0.019
% R.S.D.	0.530	0.065	2.924	0.113	0.119	0.455	0.109	0.409

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	4.663	5.265	4.839	4.697	6.024	18.468	4.577	11.241
S.D.	0.006	0.025	0.021	0.051	0.004	0.080	0.059	0.193
% R.S.D.	0.135	0.479	0.430	1.076	0.066	0.431	1.296	1.717

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	3.960	5.112	4.753	13.728	31.871	4.580	4.716	1352.947
S.D.	0.072	0.034	0.001	0.061	0.156	0.008	0.077	4.165
% R.S.D.	1.828	0.664	0.021	0.443	0.490	0.176	1.623	0.308

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	4.965	6.097	0.897	4.523	4.376	4.665	5.559	28.989
S.D.	0.005	0.113	0.006	0.011	0.010	0.020	0.031	0.270
% R.S.D.	0.107	1.847	0.714	0.241	0.224	0.420	0.565	0.931

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	4.717	4.537	4.592	4.711	4.181
S.D.	0.012	0.067	0.009	0.009	0.027
% R.S.D.	0.248	1.475	0.204	0.195	0.644

10 ppm spike 92/12/6/96

HNF-SD-WM-DP-226, REV. 0

Identity 1: s96t005041 Identity 2: .250ml-9.75ml

2:04 PM December 4, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 40.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	401.012	401.239	406.939	410.728	560.970	-1.092	-0.175	409.018
S.D.	0.026	0.148	0.566	0.561	0.945	0.157	0.020	1.910
% R.S.D.	0.007	0.037	0.139	0.137	0.168	14.385	11.217	0.467

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	1.387	385.547	405.458	391.489	404.511	404.606	416.977	0.390
S.D.	0.010	0.635	0.885	0.410	0.229	0.914	1.429	1.053
% R.S.D.	0.742	0.165	0.218	0.105	0.057	0.226	0.343	270.295

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	412.085	415.604	410.315	417.342	435.546	386.105	405.066	1764.754
S.D.	0.975	0.485	0.125	2.620	2.064	1.058	0.839	7.192
% R.S.D.	0.237	0.117	0.030	0.628	0.474	0.274	0.207	0.408

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	387.265	370.461	235.928	385.156	364.595	391.064	396.421	424.919
S.D.	1.378	1.675	0.985	1.523	0.765	0.915	0.568	3.283
% R.S.D.	0.356	0.452	0.417	0.396	0.210	0.234	0.143	0.773

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	388.793	380.861	2.663	405.449	398.224
S.D.	1.144	2.067	0.057	0.072	1.119
% R.S.D.	0.294	0.543	2.155	0.018	0.281

40x dilution 89 12/6/96

Identity 1: s96t005041 10ppm Identity 2: .25ml-1ml-1ml-7.75ml

2:09 PM December 4, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 40.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.327	0.249	1.028	4.163	143.670	-0.242	0.038	0.249
S.D.	0.085	0.005	0.665	0.132	0.248	0.095	0.042	0.009
% R.S.D.	25.989	2.141	64.729	3.161	0.173	39.156	111.592	3.512

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.220	0.781	0.254	0.571	1.721	14.085	-0.182	-0.529
S.D.	0.033	0.131	0.109	0.043	0.018	0.040	0.139	3.574
% R.S.D.	15.238	16.832	42.967	7.543	1.037	0.284	76.320	675.337

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-1.607	-0.256	0.260	9.583	27.206	0.298	0.067	1361.987
S.D.	1.063	0.487	0.007	0.546	0.575	0.005	0.211	16.349
% R.S.D.	66.149	190.469	2.600	5.701	2.113	1.804	315.813	1.200

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.753	0.552	0.616	0.386	0.240	0.346	1.252	19.519
S.D.	0.068	0.627	0.000	0.683	0.033	0.038	0.038	0.301
% R.S.D.	9.006	113.589	0.073	176.916	13.745	10.943	3.018	1.544

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.362	-0.923	-0.054	0.251	0.885
S.D.	0.008	0.987	0.065	0.006	2.088
% R.S.D.	2.187	106.977	120.809	2.202	235.859

Identity 1: CCV Identity 2: Quality Control

2:12 PM December 4, 1996

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	4.936	4.962	5.115	4.903	4.913	5.061	5.048	4.968
S.D.	0.014	0.019	0.022	0.033	0.020	0.035	0.006	0.007
% R.S.D.	0.275	0.392	0.425	0.680	0.409	0.700	0.128	0.139
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.091	4.968	5.001	4.966	4.984	5.015	5.028	9.839
S.D.	0.035	0.012	0.024	0.029	0.009	0.018	0.016	0.028
% R.S.D.	0.680	0.244	0.477	0.578	0.182	0.364	0.317	0.287
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	5.034	5.084	5.015	4.956	5.022	4.992	5.124	4.913
S.D.	0.046	0.011	0.015	0.092	0.072	0.032	0.018	0.020
% R.S.D.	0.909	0.217	0.306	1.866	1.441	0.633	0.343	0.399
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	5.055	4.649	4.985	4.897	4.906	5.009	5.011	5.064
S.D.	0.048	0.051	0.014	0.017	0.027	0.020	0.014	0.023
% R.S.D.	0.949	1.097	0.276	0.345	0.560	0.399	0.286	0.459
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	4.972	4.867	5.036	5.084	5.201			
S.D.	0.012	0.035	0.018	0.012	0.007			
% R.S.D.	0.236	0.713	0.352	0.239	0.126			

HNF-SD-WM-DP-226, REV. 0

Identity 1: CCB Identity 2: Quality Control 2:16 PM December 4, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.004	-0.001	0.010	0.008	-0.014	-0.013	-0.003	-0.002
S.D.	0.001	0.000	0.008	0.001	0.004	0.000	0.001	0.000
% R.S.D.	38.410	27.152	79.965	12.987	25.863	0.124	18.229	19.825

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	-0.001	-0.002	0.004	-0.004	-0.001	-0.006	-0.003	0.226
S.D.	0.000	0.001	0.001	0.002	0.000	0.002	0.012	0.072
% R.S.D.	15.911	52.559	19.455	53.510	3.149	35.140	344.457	32.004

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.073	0.045	-0.001	0.003	0.009	0.000	-0.007	-0.013
S.D.	0.024	0.013	0.000	0.019	0.002	0.000	0.006	0.007
% R.S.D.	32.548	27.832	25.552	713.924	17.618	57.682	88.212	52.029

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.002	-0.005	0.019	-0.005	0.002	-0.001	-0.000	0.005
S.D.	0.001	0.029	0.003	0.005	0.000	0.000	0.001	0.006
% R.S.D.	43.991	615.326	14.160	101.652	26.963	0.244	681.523	126.323

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.001	-0.037	-0.003	-0.000	-0.028
S.D.	0.000	0.008	0.001	0.000	0.040
% R.S.D.	0.836	21.800	36.579	69.804	143.852

HNF-SD-WM-DP-226, REV. 0

Identity 1: s96t005044 Identity 2: 1ml-9ml

2:20 PM December 4, 1996

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	0.119	0.003	0.222	4.628	152.145	0.222	0.044	0.000
S.D.	0.015	0.001	0.145	0.033	0.706	0.021	0.001	0.004
% R.S.D.	12.452	38.189	65.277	0.713	0.464	9.484	3.335	839.732

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.247	0.346	0.073	-0.015	1.164	8.872	0.086	1.704
S.D.	0.025	0.030	0.016	0.022	0.006	0.052	0.039	0.464
% R.S.D.	10.011	8.803	21.718	149.396	0.517	0.583	44.567	27.193

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.299	0.151	0.018	7.416	24.573	0.040	-0.112	1349.841
S.D.	0.117	0.091	0.002	0.205	0.280	0.001	0.070	11.656
% R.S.D.	39.250	60.203	12.272	2.767	1.138	3.399	63.168	0.863

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.321	0.866	0.043	0.211	0.019	0.043	0.923	23.952
S.D.	0.007	0.223	0.008	0.084	0.001	0.002	0.015	0.212
% R.S.D.	2.313	25.764	18.444	39.864	5.666	4.095	1.678	0.887

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.107	0.087	-0.015	0.003	-0.281
S.D.	0.002	0.140	0.008	0.003	0.296
% R.S.D.	1.755	160.141	54.926	76.493	105.423

Identity 1: s96t005044_D Identity 2: 1ml-9ml

2:24 PM December 4, 1996

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	0.091	0.003	0.173	4.097	148.931	0.316	0.035	0.002
S.D.	0.010	0.002	0.203	0.055	0.352	0.002	0.004	0.005
% R.S.D.	10.919	75.500	116.924	1.333	0.236	0.498	12.290	292.990

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.091	0.295	-0.018	-0.021	1.075	8.606	-0.042	0.252
S.D.	0.003	0.042	0.000	0.018	0.002	0.036	0.046	0.482
% R.S.D.	3.245	14.281	1.252	84.936	0.155	0.417	109.084	191.090

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.071	0.001	0.018	7.401	24.014	0.033	-0.113	1301.164
S.D.	0.147	0.077	0.003	0.308	0.107	0.003	0.027	6.689
% R.S.D.	206.281	10070.759	18.500	4.160	0.446	8.256	23.699	0.514

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.311	1.234	0.041	0.259	0.009	0.052	0.768	24.620
S.D.	0.012	0.296	0.004	0.007	0.009	0.002	0.001	0.210
% R.S.D.	3.743	23.988	8.948	2.585	106.166	3.382	0.097	0.854

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.104	-0.337	0.006	-0.002	0.236
S.D.	0.004	0.067	0.008	0.000	0.270
% R.S.D.	3.647	19.975	134.296	4.625	114.315

Identity 1: s96t005045 Identity 2: 1ml-9ml

2:27 PM December 4, 1996

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	0.114	0.003	0.316	4.234	157.147	0.326	0.031	0.053
S.D.	0.002	0.001	0.122	0.036	0.265	0.024	0.001	0.004
% R.S.D.	2.178	34.642	38.594	0.860	0.169	7.205	3.738	7.560

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.145	0.457	0.041	0.219	1.225	12.837	-0.040	0.530
S.D.	0.003	0.029	0.028	0.012	0.003	0.035	0.051	0.135
% R.S.D.	1.919	6.442	69.165	5.474	0.264	0.270	125.766	25.449

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.329	0.274	0.018	5.948	24.288	-0.040	-0.132	1287.700
S.D.	0.048	0.033	0.001	0.171	0.178	0.001	0.033	4.591
% R.S.D.	14.490	12.165	8.230	2.875	0.731	3.335	24.958	0.357

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.359	1.631	-0.015	0.340	0.014	0.076	0.826	27.458
S.D.	0.014	0.354	0.002	0.084	0.002	0.006	0.015	0.062
% R.S.D.	4.006	21.729	12.158	24.685	12.125	8.448	1.843	0.227

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.145	-0.020	-0.006	0.004	-0.133
S.D.	0.003	0.183	0.006	0.001	0.181
% R.S.D.	2.286	918.357	97.647	37.454	135.892

Identity 1: s96t005045_d Identity 2: 1ml-9ml

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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	0.156	-0.002	-0.021	4.604	158.249	0.198	0.024	0.065
S.D.	0.008	0.001	0.042	0.019	0.154	0.024	0.004	0.004
% R.S.D.	5.448	76.373	201.269	0.416	0.097	11.903	18.142	5.872

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.139	0.527	0.051	0.356	1.419	14.730	-0.162	2.068
S.D.	0.005	0.008	0.014	0.034	0.003	0.053	0.118	0.498
% R.S.D.	3.511	1.573	26.923	9.517	0.214	0.362	72.633	24.060

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.972	0.651	0.013	5.663	27.909	0.051	-0.138	1359.033
S.D.	0.153	0.100	0.003	0.105	0.072	0.001	0.059	2.180
% R.S.D.	15.785	15.351	24.646	1.859	0.259	2.625	42.620	0.160

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.322	1.502	-0.016	0.147	0.027	0.080	0.908	26.472
S.D.	0.000	0.241	0.011	0.027	0.006	0.004	0.006	0.035
% R.S.D.	0.001	16.049	69.361	18.381	21.971	4.466	0.648	0.131

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.166	0.202	-0.069	-0.008	-0.555
S.D.	0.004	0.304	0.009	0.002	0.216
% R.S.D.	2.349	150.376	13.653	19.840	38.931

Identity 1: s96t005062 Identity 2: 1ml-9ml

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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	0.143	-0.003	0.311	3.166	157.842	0.182	0.008	0.003
S.D.	0.019	0.001	0.034	0.031	0.174	0.023	0.008	0.006
% R.S.D.	13.457	29.999	11.028	0.985	0.110	12.734	98.314	210.988

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.079	0.319	0.069	-0.094	0.947	8.237	-0.094	2.645
S.D.	0.006	0.032	0.044	0.019	0.001	0.044	0.063	0.483
% R.S.D.	7.081	10.057	63.493	20.366	0.129	0.535	66.746	18.275

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.647	0.289	0.007	4.596	21.712	0.031	-0.196	1292.995
S.D.	0.146	0.102	0.002	0.193	0.123	0.001	0.013	5.999
% R.S.D.	22.531	35.448	35.457	4.197	0.567	4.332	6.689	0.464

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.324	1.289	0.013	0.132	0.020	0.033	0.939	25.398
S.D.	0.013	0.219	0.009	0.110	0.008	0.004	0.020	0.170
% R.S.D.	4.069	17.011	71.727	83.161	40.248	10.783	2.133	0.670

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.076	-0.618	-0.030	-0.003	-0.400
S.D.	0.002	0.206	0.007	0.001	0.218
% R.S.D.	2.449	33.305	22.864	46.014	54.549

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Identity 1: s96t005062.D Identity 2: 1ml-9ml

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	0.079	-0.003	-0.002	3.511	161.012	0.201	0.017	0.003
S.D.	0.013	0.001	0.133	0.017	0.221	0.023	0.005	0.004
% R.S.D.	16.328	38.489	5457.397	0.495	0.137	11.693	29.679	150.380

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.083	0.365	0.027	0.099	1.112	9.169	-0.183	-0.069
S.D.	0.004	0.024	0.029	0.017	0.002	0.035	0.042	0.732
% R.S.D.	4.585	6.555	105.676	17.446	0.144	0.381	22.937	1056.389

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.768	0.073	0.007	4.754	24.544	0.041	-0.080	1370.692
S.D.	0.263	0.087	0.003	0.082	0.144	0.000	0.042	3.306
% R.S.D.	34.205	119.674	41.301	1.719	0.587	0.002	52.411	0.241

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.293	0.784	0.027	0.291	0.000	0.036	0.764	25.599
S.D.	0.005	0.229	0.007	0.180	0.006	0.005	0.007	0.361
% R.S.D.	1.812	29.162	24.800	62.018	18981.025	13.059	0.956	1.410

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.083	-0.628	-0.024	-0.004	-0.358
S.D.	0.004	0.055	0.004	0.002	0.365
% R.S.D.	4.516	8.835	16.292	41.219	101.993

Identity 1: s96t005063 Identity 2: 1ml-9ml 2:39 PM December 4, 1996

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	0.092	-0.001	0.031	2.276	162.710	0.252	0.024	0.025
S.D.	0.011	0.001	0.067	0.054	0.845	0.041	0.005	0.001
% R.S.D.	12.267	115.460	216.029	2.351	0.519	16.423	20.440	2.430
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.103	0.374	-0.027	0.069	1.163	10.722	-0.048	0.269
S.D.	0.006	0.015	0.035	0.005	0.005	0.086	0.043	0.523
% R.S.D.	5.899	3.939	126.972	7.615	0.419	0.804	88.977	194.407
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.432	-0.035	0.013	10.554	24.331	0.032	-0.133	1362.701
S.D.	0.163	0.057	0.003	0.186	0.258	0.000	0.062	8.797
% R.S.D.	37.684	160.856	22.744	1.765	1.059	0.001	46.339	0.646
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.348	1.130	-0.008	0.152	0.008	0.069	1.022	27.336
S.D.	0.029	0.025	0.010	0.054	0.008	0.005	0.003	0.193
% R.S.D.	8.280	2.254	123.696	35.623	102.237	7.755	0.276	0.704
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	0.104	-0.357	0.001	0.004	-0.126			
S.D.	0.002	0.147	0.011	0.003	0.119			
% R.S.D.	1.849	41.044	1816.876	75.206	94.338			

Identity 1: s96t005063.D Identity 2: 1ml-9ml

2:42 PM December 4, 1996

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	0.175	-0.003	0.011	2.166	167.161	0.256	0.014	0.017
S.D.	0.014	0.002	0.059	0.036	0.183	0.000	0.005	0.003
% R.S.D.	7.820	59.998	551.974	1.680	0.109	0.066	32.657	16.146

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.101	0.443	0.020	0.090	1.270	11.336	-0.155	3.308
S.D.	0.003	0.024	0.008	0.003	0.002	0.009	0.004	0.434
% R.S.D.	3.169	5.313	40.921	3.226	0.193	0.082	2.770	13.125

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.893	0.521	0.007	6.028	24.682	0.040	-0.280	1375.617
S.D.	0.116	0.067	0.002	0.084	0.135	0.001	0.121	0.876
% R.S.D.	12.988	12.770	33.487	1.395	0.548	3.333	43.015	0.064

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.357	1.273	-0.028	0.043	0.027	0.062	0.848	28.464
S.D.	0.014	0.273	0.004	0.100	0.003	0.005	0.009	0.259
% R.S.D.	4.023	21.439	13.687	230.571	11.118	7.624	1.053	0.911

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.107	-0.389	-0.042	0.001	-0.491
S.D.	0.002	0.123	0.012	0.003	0.132
% R.S.D.	1.837	31.509	29.266	240.736	26.929

Identity 1: CCV Identity 2: Quality Control 3:14 PM December 4, 1996

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	5.032	5.238	5.303	5.070	5.097	5.184	5.240	5.359
S.D.	0.007	0.017	0.016	0.014	0.020	0.021	0.020	0.041
% R.S.D.	0.146	0.318	0.311	0.280	0.386	0.406	0.373	0.766

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.151	5.021	5.135	4.908	5.123	5.033	5.128	10.357
S.D.	0.012	0.016	0.013	0.012	0.012	0.031	0.018	0.021
% R.S.D.	0.234	0.314	0.255	0.240	0.241	0.610	0.352	0.206

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	5.357	5.277	5.306	5.353	5.413	5.096	5.259	5.301
S.D.	0.027	0.003	0.016	0.046	0.018	0.016	0.015	0.032
% R.S.D.	0.509	0.054	0.300	0.852	0.331	0.323	0.291	0.606

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	5.245	4.859	4.990	4.890	5.139	5.061	5.083	5.074
S.D.	0.026	0.089	0.007	0.035	0.015	0.005	0.006	0.023
% R.S.D.	0.503	1.833	0.138	0.719	0.298	0.090	0.108	0.460

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	4.959	5.044	5.110	5.125	5.216
S.D.	0.010	0.035	0.011	0.009	0.025
% R.S.D.	0.199	0.700	0.210	0.184	0.471

Identity 1: CCB Identity 2: Quality Control 3:17 PM December 4, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.004	-0.001	0.004	0.012	-0.017	-0.015	-0.003	-0.002
S.D.	0.000	0.000	0.010	0.001	0.004	0.002	0.000	0.000
% R.S.D.	8.914	10.714	262.247	9.302	23.253	15.793	12.215	10.585

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	-0.001	0.004	0.003	-0.005	-0.001	-0.004	0.002	0.221
S.D.	0.000	0.001	0.002	0.002	0.000	0.002	0.006	0.014
% R.S.D.	31.742	39.141	73.672	32.438	3.093	42.306	256.568	6.236

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.071	0.026	-0.001	-0.008	-0.001	0.000	0.009	-0.019
S.D.	0.007	0.005	0.000	0.011	0.003	0.000	0.001	0.007
% R.S.D.	10.195	18.444	13.453	141.559	293.519	57.702	12.403	35.287

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.004	0.016	-0.001	-0.010	0.002	-0.001	0.000	-0.090
S.D.	0.002	0.005	0.001	0.010	0.001	0.001	0.001	0.006
% R.S.D.	44.912	28.262	47.152	100.692	30.965	139.229	136.918	6.920

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.000	-0.057	-0.005	-0.001	-0.004
S.D.	0.000	0.022	0.000	0.000	0.008
% R.S.D.	41.184	39.769	5.624	20.230	205.228

Identity 1: s96t005064 Identity 2: 1ml-9ml

3:22 PM December 4, 1996

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	0.130	0.008	0.268	4.166	138.135	0.326	0.042	0.323
S.D.	0.014	0.002	0.069	0.044	0.908	0.048	0.003	0.002
% R.S.D.	10.740	23.130	25.850	1.053	0.657	14.623	7.406	0.563

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.155	0.543	-0.004	0.533	1.481	13.423	0.092	0.587
S.D.	0.007	0.045	0.027	0.036	0.008	0.135	0.038	0.491
% R.S.D.	4.580	8.303	639.574	6.749	0.574	1.009	41.447	83.628

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.152	-0.065	0.028	12.275	27.100	0.051	-0.030	1296.816
S.D.	0.191	0.063	0.002	0.019	0.177	0.001	0.121	7.111
% R.S.D.	126.167	96.644	5.666	0.151	0.654	2.625	400.248	0.548

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.308	1.613	0.036	0.111	0.010	0.064	0.969	22.898
S.D.	0.017	0.091	0.005	0.125	0.004	0.012	0.020	0.120
% R.S.D.	5.499	5.645	13.586	112.650	42.549	19.603	2.057	0.523

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.180	0.031	0.028	0.003	0.522
S.D.	0.011	0.322	0.003	0.003	0.150
% R.S.D.	5.894	1045.749	11.505	86.421	28.790

Identity 1: s96t005064_D Identity 2: 1ml-9ml

3:26 PM December 4, 1996

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	0.152	-0.003	-0.019	3.383	141.435	0.167	0.022	0.340
S.D.	0.006	0.001	0.041	0.016	0.328	0.043	0.001	0.004
% R.S.D.	4.068	29.999	220.493	0.477	0.232	25.597	2.499	1.071

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.157	0.518	0.042	0.869	1.716	13.596	-0.065	1.625
S.D.	0.004	0.013	0.016	0.029	0.009	0.042	0.054	0.390
% R.S.D.	2.373	2.468	37.579	3.307	0.541	0.308	83.762	24.020

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-1.020	0.529	0.012	9.372	28.426	0.055	-0.214	1353.417
S.D.	0.106	0.049	0.002	0.272	0.178	0.000	0.016	13.034
% R.S.D.	10.362	9.178	19.721	2.907	0.626	0.003	7.264	0.963

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.274	1.438	-0.023	0.170	0.021	0.063	0.868	23.278
S.D.	0.002	0.320	0.004	0.098	0.003	0.005	0.008	0.175
% R.S.D.	0.771	22.276	18.041	57.725	14.462	8.535	0.882	0.754

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.183	-0.173	-0.036	0.002	-0.604
S.D.	0.008	0.376	0.004	0.002	0.296
% R.S.D.	4.203	216.933	12.035	99.292	48.946

Identity 1: ICSA Identity 2: Quality Control

3:33 PM December 4, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.001	0.002	-0.012	0.039	200.235	0.001	0.001	0.001
S.D.	0.002	0.000	0.019	0.003	1.490	0.005	0.001	0.001
% R.S.D.	460.441	8.555	155.466	8.347	0.744	346.874	82.084	86.963

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.006	0.005	0.009	92.024	96.997	-0.002	-0.022	-0.058
S.D.	0.001	0.003	0.004	0.242	0.488	0.001	0.018	0.088
% R.S.D.	10.162	56.570	46.364	0.263	0.503	30.538	80.862	151.803

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.071	0.072	0.004	0.026	94.713	-0.013	197.498
S.D.	0.034	0.014	0.000	0.010	0.912	0.009	1.040
% R.S.D.	47.636	19.880	9.836	37.905	0.963	65.209	0.527

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	-0.003	-0.159	0.005	-0.016	0.000	0.003	0.010	-0.040
S.D.	0.001	0.019	0.001	0.008	0.001	0.001	0.001	0.023
% R.S.D.	41.771	11.966	27.280	46.120	290.916	27.232	14.856	56.278

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.001	0.059	0.005	0.002	0.031
S.D.	0.000	0.023	0.000	0.000	0.054
% R.S.D.	43.606	38.454	9.966	12.267	174.383

Identity 1: ICSAB Identity 2: Quality Control

3:36 PM December 4, 1996

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	0.003	0.002	0.016	0.043	196.666	0.483	0.480	0.938
S.D.	0.001	0.000	0.016	0.002	2.392	0.011	0.004	0.008
% R.S.D.	40.126	5.774	100.568	5.487	1.216	2.305	0.798	0.885

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.977	0.942	0.011	92.348	95.920	0.477	-0.024	0.067
S.D.	0.008	0.011	0.004	0.421	0.821	0.002	0.011	0.056
% R.S.D.	0.833	1.117	30.564	0.456	0.856	0.364	45.751	83.503

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.005	0.113	0.497	0.019	0.227	95.802	0.006	189.778
S.D.	0.014	0.012	0.005	0.009	0.012	1.240	0.010	2.159
% R.S.D.	251.697	10.530	1.018	44.228	5.511	1.295	174.287	1.138

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	-0.003	-0.113	0.988	0.932	0.002	0.958	0.013	0.173
S.D.	0.001	0.031	0.007	0.004	0.000	0.006	0.001	0.019
% R.S.D.	20.580	27.413	0.717	0.419	21.498	0.576	6.910	10.818

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.479	0.040	0.482	0.482	0.027
S.D.	0.002	0.026	0.003	0.003	0.013
% R.S.D.	0.368	65.190	0.702	0.580	46.935

Identity 1: CCV Identity 2: Quality Control

3:40 PM December 4, 1996

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	4.918	4.992	5.129	4.874	4.902	5.006	5.062	5.039
S.D.	0.019	0.034	0.028	0.031	0.014	0.033	0.022	0.048
% R.S.D.	0.385	0.687	0.546	0.641	0.278	0.650	0.435	0.949

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.013	4.910	4.994	4.905	4.974	4.931	5.032	10.020
S.D.	0.023	0.027	0.022	0.019	0.019	0.016	0.017	0.016
% R.S.D.	0.457	0.547	0.443	0.378	0.388	0.317	0.329	0.158

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	5.033	5.136	5.055	5.073	5.111	4.937	5.064	4.997
S.D.	0.039	0.011	0.033	0.083	0.049	0.028	0.037	0.051
% R.S.D.	0.766	0.223	0.651	1.640	0.961	0.576	0.731	1.024

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	5.016	4.642	4.908	4.815	4.902	4.949	4.974	5.002
S.D.	0.046	0.052	0.018	0.065	0.031	0.025	0.013	0.035
% R.S.D.	0.914	1.122	0.360	1.349	0.625	0.505	0.254	0.690

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	4.892	4.847	4.988	5.047	5.114
S.D.	0.020	0.011	0.021	0.016	0.032
% R.S.D.	0.405	0.225	0.415	0.324	0.627

Identity 1: CCB Identity 2: Quality Control

3:43 PM December 4, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.006	-0.001	0.021	0.011	-0.012	-0.008	-0.002	-0.002
S.D.	0.002	0.000	0.011	0.004	0.005	0.002	0.001	0.001
% R.S.D.	34.334	50.518	51.288	31.838	38.791	29.243	22.667	36.029

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	-0.001	-0.005	0.005	-0.002	0.000	-0.005	-0.016	0.232
S.D.	0.000	0.003	0.001	0.002	0.000	0.001	0.013	0.092
% R.S.D.	39.013	65.304	27.506	91.192	173.205	28.052	84.295	39.576

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.070	0.041	-0.001	0.001	0.005	0.002	-0.003	-0.000
S.D.	0.027	0.015	0.001	0.020	0.005	0.001	0.004	0.008
% R.S.D.	38.882	36.741	43.078	1396.051	87.340	28.863	139.919	228732.328

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.003	-0.006	-0.002	0.019	0.002	0.001	-0.001	-0.025
S.D.	0.001	0.013	0.002	0.012	0.001	0.001	0.001	0.016
% R.S.D.	34.323	222.365	85.141	60.617	28.728	190.464	163.718	61.743

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.000	-0.027	-0.004	-0.000	-0.037
S.D.	0.000	0.040	0.001	0.000	0.038
% R.S.D.	89.313	151.883	28.214	68.250	104.268

10/21/96 11:43
A-0004-1

File # 941106E.7YT

HNF-SD-WM-DP-226, REV. 0

Page: 1

LABCORE Data Entry Template for Worklist# 14144

Analyst: BK Seib Instrument: ICP01-2 N-6-96 Book# 64848Q

Method: LA-505-151/161 Rev/Mod B-1

Worklist Comment: ICP AN-104 (DIRECT)

S Type	Sample#	R A	Test	Matrix	Group#	Project
1	ICV		@ICP-QC	QC		
2	ICB		@ICP-QC	QC		
3	LLS		@ICP-QC	QC		
4	ICSA		@ICP-QC	QC		
5	ICSAB		@ICP-QC	QC		
6	SERDIL	S96T005253 0 D	@ICP-D01 LIQUID	N-6-96		
7	SAMPLE	S96T005253 0 D	@ICP-D01 LIQUID		96001174	AN-104
	Analytes Requested: AG-D-01 , AL-D-01 , AS-D-01 , B-D-01 , BA-D-01 , BE-D-01 , BI-D-01 , CA-D-01 , CD-D-01 , CE-D-01 , CO-D-01 , CR-D-01 , CU-D-01 , FE-D-01 , K-D-01 , LA-D-01 , LI-D-01 , MG-D-01 , MN-D-01 , MO-D-01 , NA-D-01 , ND-D-01 , NI-D-01 , P-D-01 , PB-D-01 , S-D-01 , SB-D-01 , SE-D-01 , SI-D-01 , SM-D-01 , SR-D-01 , TI-D-01 , TL-D-01 , U-D-01 , V-D-01 , ZN-D-01 , ZR-D-01					
8	DUP	S96T005253 0 D	@ICP-D01 LIQUID			
9	SPK	S96T005253 0 D	@ICP-D01 LIQUID	N-6-96		
10	CCV		@ICP-QC	QC		
11	CCB		@ICP-QC	QC		
	<u>SERDIL</u>	<u>596T005255</u>	<u>N-6-96</u>			
12	SAMPLE	S96T005255 0 D	@ICP-D01 LIQUID		96001283	AN-104
	Analytes Requested: AG-D-01 , AL-D-01 , AS-D-01 , B-D-01 , BA-D-01 , BE-D-01 , BI-D-01 , CA-D-01 , CD-D-01 , CE-D-01 , CO-D-01 , CR-D-01 , CU-D-01 , FE-D-01 , K-D-01 , LA-D-01 , LI-D-01 , MG-D-01 , MN-D-01 , MO-D-01 , NA-D-01 , ND-D-01 , NI-D-01 , P-D-01 , PB-D-01 , S-D-01 , SB-D-01 , SE-D-01 , SI-D-01 , SM-D-01 , SR-D-01 , TI-D-01 , TL-D-01 , U-D-01 , V-D-01 , ZN-D-01 , ZR-D-01					

Data Entry Comments:

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

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LABCORE Data Entry Template for Worklist# 14144

S Type	Sample#	R A	Test	Matrix	Group#	Project
13 DUP	S96T005255	0 D	@ICP-D01	LIQUID		
SPK, Sample X, Spike QX JK 12-04-96						
14 SAMPLE	S96T005256	0 D	@ICP-D01	LIQUID	96001283	AN-104
Analytes Requested: AG-D-01, AL-D-01, AS-D-01, B-D-01, BA-D-01, BE-D-01, BI-D-01, CA-D-01, CD-D-01, CE-D-01, CO-D-01, CR-D-01, CU-D-01, FE-D-01, K-D-01, LA-D-01, LI-D-01, MG-D-01, MN-D-01, MO-D-01, NA-D-01, ND-D-01, NI-D-01, P-D-01, PB-D-01, S-D-01, SE-D-01, SE-D-01, SI-D-01, SM-D-01, SR-D-01, TI-D-01, TL-D-01, U-D-01, V-D-01, ZN-D-01, ZR-D-01						
15 DUP	S96T005256	0 D	@ICP-D01	LIQUID		
16 ICSA			@ICP-QC	QC		
17 ICSAB			@ICP-QC	QC		
18 CCV			@ICP-QC	QC		
19 CCB			@ICP-QC	QC		

Final page for worklist # 14144

JK LD 12-06-96

Analyst Signature	Date
S96T005253, direct, DF1	
S96T005253-D direct, 1	
S96T005253-L, 0.25-15-2.8, DF 3605	
S96T005253, 0.25-15, 601	
S96T005253-D, 0.25-15, 601	
S96T005253-Q, 0.25-15, 601, 0.25 ml sample + 3 ml SST3 + 12 ml HNO3	
S96T005253-X, 0.25-17.5, DF 7001	
S96T005253-QX, 0.25-17.5, 7001, 0.25 ml sample + 17.5 ml conc HCl + 2 + 140 ml HNO3	
S96T005256, 0.25-15, DF 601	
S96T005256-D, 0.25-15, 601	

Revised by: Sal M. Pung 12/6/96

Analyst Signature	Date

Data Entry Comments:

Spike recovery calculation:

$$C_r = \left(\frac{958.4}{601} \right) - \left(\frac{357.5}{621} \right) \times 100 = 105.0 \%$$

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

Note: Spike true value is 1.0 ppb for all elements except for U = 2.0 ppb.

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#	Sample Name	File	Method	Date	Time	OpID	Type	Mode
1	ICV	961206E	ICP2	12/06/96	16:17	DKS	Q	CONC
2	ICB	961206E	ICP2	12/06/96	16:22	DKS	Q	CONC
3	LLS	961206E	ICP2	12/06/96	16:25	DKS	Q	CONC
4	ICSA	961206E	ICP2	12/06/96	16:29	DKS	Q	CONC
5	ICSAB	961206E	ICP2	12/06/96	16:32	DKS	Q	CONC
6	S96T005253	961206E	ICP2	12/06/96	16:39	DKS	S	CONC
7	S96T005253_D	961206E	ICP2	12/06/96	16:42	DKS	S	CONC
8	CCV	961206E	ICP2	12/06/96	16:48	DKS	Q	CONC
9	CCB	961206E	ICP2	12/06/96	16:52	DKS	Q	CONC
10	S96T005255 L	961206E	ICP2	12/06/96	16:56	DKS	S	CONC
11	S96T005255	961206E	ICP2	12/06/96	16:59	DKS	S	CONC
12	S96T005255 D	961206E	ICP2	12/06/96	17:04	DKS	S	CONC
13	S96T005255 A	961206E	ICP2	12/06/96	17:08	DKS	S	CONC
14	S96T005255 X	961206E	ICP2	12/06/96	17:14	DKS	S	CONC
15	S96T005255 AX	961206E	ICP2	12/06/96	17:19	DKS	S	CONC
16	S96T005256	961206E	ICP2	12/06/96	17:25	DKS	S	CONC
17	S96T005256_D	961206E	ICP2	12/06/96	17:28	DKS	S	CONC
18	ICSA	961206E	ICP2	12/06/96	17:36	DKS	Q	CONC
19	ICSAB	961206E	ICP2	12/06/96	17:39	DKS	Q	CONC
20	CCV_1	961206E	ICP2	12/06/96	17:46	DKS	Q	CONC
21	CCB_1	961206E	ICP2	12/06/96	17:53	DKS	Q	CONC

JK *[Signature]*

S96T005253

11-06-96

S96T005255

GN-104

S96T005256

Worklist # 14144

Na, K, and Al failed in the first port spike. A second port spike was made and the results are:

$$Na = \frac{\left(\frac{339200}{7001}\right) - \left(\frac{261700}{7001}\right)}{10} \times 100 = 110.7\%$$

$$K = \frac{\left(\frac{79600}{7001}\right) - \left(\frac{7270}{7001}\right)}{10} \times 100 = 103.3\%$$

$$Al = \frac{\left(\frac{109600}{7001}\right) - \left(\frac{39120}{7001}\right)}{10} \times 100 = 100.7\%$$

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1720 TO 1724

#	Sample Name	Ag	Al	As	B	Ba	Be
1	ICV	5.031	4.945	5.245	5.061	5.023	5.189
2	ICB	.0001	-.0076	.0066	-.0040	-.0002	-.0005
3	LLS	.0213	.0917	.2249	.1040	.1017	.0098
4	ICSA	.0016	244.3	-.0327	-.0071	.0000	-.0002
5	ICSAB	.9764	246.2	-.0362	-.0033	.4792	.4821
6	S96T005253	.0001	.0131	-.0031	1.624	.0163	-.0004
7	S96T005253_D	.0001	.0035	.0022	1.617	.0166	-.0004
8	CCV	5.113	5.010	5.331	5.110	5.125	5.231
9	CCB	.0009	-.0110	-.0126	.0010	-.0000	-.0004
10	S96T005255_L	19.03	40050.	-51.83	71.64	.0094	-1.368
11	S96T005255	19.32	40950.	-44.38	67.05	.1917	.1954
12	S96T005255_D	20.20	43250.	-46.73	71.30	.1853	.2241
13	S96T005255_A	593.4	42720.	597.7	667.5	603.4	616.0
14	S96T005255_X	33.59	39120.	13.27	67.49	.0925	-4.153
15	S96T005255_AX	69780.	109600.	74990.	70580.	73410.	73830.
16	S96T005256	19.05	37480.	-38.01	65.83	.1703	.1398
17	S96T005256_D	19.89	40570.	-39.05	68.57	.1710	.1397
18	ICSA	.0033	245.4	-.0227	.0001	.0001	-.0003
19	ICSAB	.9782	244.4	-.0074	-.0081	.4787	.4793
20	CCV_1	5.158	4.999	5.343	5.094	5.149	5.217
21	CCB_1	.0011	-.0165	.0064	-.0025	-.0001	-.0006

#	Sample Name	Bi	Ca	Cd	Ce	Co	Cr
1	ICV	5.191	5.029	5.083	5.062	5.070	5.102
2	ICB	-.0406	-.0014	-.0000	-.0023	-.0019	-.0015
3	LLS	.2093	.2045	.0103	.2048	.0441	.0196
4	ICSA	.0131	248.0	.0013	.0084	-.0009	.0071
5	ICSAB	.0065	249.9	.9506	.0128	.4750	.4837
6	S96T005253	.0250	13.89	-.0004	.0038	-.0011	-.0009
7	S96T005253_D	-.0151	13.74	-.0001	.0038	-.0012	-.0011
8	CCV	5.216	5.126	5.166	5.164	5.159	5.186
9	CCB	-.0149	-.0005	-.0009	.0024	-.0019	-.0012
10	S96T005255_L	17.11	10.65	-3.815	-5.814	-1.924	348.1
11	S96T005255	15.56	3.787	.8188	1.668	-1.078	357.5
12	S96T005255_D	9.472	2.433	.4033	-2.342	.9260	377.5
13	S96T005255_A	596.2	623.5	616.0	616.5	612.6	988.4
14	S96T005255_X	-297.4	3.077	-2.941	5.770	-12.53	337.2
15	S96T005255_AX	73190.	72490.	72390.	72740.	125.0	72910.
16	S96T005256	-2.559	5.549	.7420	4.283	-.7604	331.5
17	S96T005256_D	-13.87	6.149	.4945	4.529	-1415	359.3
18	ICSA	.0024	255.4	.0020	.0159	.0008	.0076
19	ICSAB	.0246	254.8	.9602	.0190	.4750	.4860
20	CCV_1	5.305	5.226	5.224	5.182	5.213	5.234
21	CCB_1	.0003	.0001	-.0005	.0051	.0005	-.0010

#	Sample Name	Cu	Eu	Fe	K	La	Li
1	ICV	5.301	-.0038	5.088	5.140	5.143	5.203
2	ICB	.0012	-.0002	.0159	.1100	-.0005	-.0004
3	LLS	.0219	.0003	.1063	Q.6667	.1043	.0219
4	ICSA	-.0101	-.0453	93.89	-.0118	-.0054	.0026
5	ICSAB	.4879	-.0440	94.47	.2808	-.0041	1.044
6	S96T005253	-.0003	.0096	-.0022	.7709	.0004	.0097
7	S96T005253_D	-.0006	.0098	-.0017	.7854	.0009	.0094
8	CCV	5.368	-.0034	5.152	5.125	5.243	5.235
9	CCB	.0009	.0001	.0155	.1418	.0006	-.0001
10	S96T005255_L	9.720	.6444	90.54	7595	-.0406	20.76
11	S96T005255	4.355	.1797	33.30	7243	-.2160	21.21
12	S96T005255_D	4.641	.0587	14.71	7713	-.2934	22.54
13	S96T005255-A	632.0	-.0261	624.1	8189	628.9	650.4
14	S96T005255-X	1.478	3.259	14.88	7278	3.190	23.32
15	S96T005255-AX	-19.95	1.660	71930	79600	73830	73300
16	S96T005256	2.664	.5537	12.44	6679	.3266	12.46
17	S96T005256_D	3.068	.6391	13.82	7195	.7232	14.68
18	ICSA	-.0103	-.0354	95.57	.1696	-.0042	.0031
19	ICSAB	.4804	-.0332	95.08	.2554	-.0038	1.020
20	CCV_1	5.335	-.0027	5.185	5.083	5.246	5.170
21	CCB_1	.0014	-.0000	.0152	.1790	.0008	-.0004

#	Sample Name	Mg	Mn	Mo	Na	Nd	Ni
1	ICV	4.875	4.933	5.088	5.001	5.195	5.058
2	ICB	-.0039	-.0002	-.0061	-.0067	.0023	-.0015
3	LLS	.1932	.0199	.0990	.2072	.2072	.0422
4	ICSA	255.3	-.0068	-.0163	200.1	.0044	-.0066
5	ICSAB	256.7	.4466	-.0140	200.4	.0072	.9327
6	S96T005253	2.897	.1080	-.0021	5.428	.0051	.0014
7	S96T005253_D	2.897	.1080	-.0041	5.403	.0023	-.0010
8	CCV	4.922	5.021	5.163	5.065	5.288	5.169
9	CCB	.0012	.0000	-.0047	-.0063	.0038	-.0016
10	S96T005255_L	-.8788	-.6677	71.38	273700	4.844	2895
11	S96T005255	-.8564	.1513	84.26	273200	5.742	3.157
12	S96T005255_D	-2.450	.0823	89.56	289300	1.240	-1.698
13	S96T005255-A	571.3	585.3	705.7	281400	632.3	610.0
14	S96T005255-X	79.30	-.2918	45.41	261700	4.722	8.491
15	S96T005255-AX	72440	71720	70960	339200	74410	71920
16	S96T005256	4.712	.2462	77.02	247800	1.545	-2.453
17	S96T005256_D	4.714	.3487	85.35	268000	2.569	.2742
18	ICSA	255.8	-.0065	-.0115	199.4	.0056	-.0101
19	ICSAB	255.1	.4514	-.0140	197.2	.0061	.9415
20	CCV_1	4.927	5.070	5.218	5.037	5.296	5.205
21	CCB_1	.0036	-.0003	-.0063	-.0054	.0051	-.0018

#	Sample Name	P	Pb	S	Sb	Se	Si
1	ICV	5.046	5.058	4.950	4.830	4.921	4.890
2	ICB	.0158	-.0035	-.0025	-.0040	-.0047	-.0031
3	LLS	.4020	.2343	.2042	.1167	.1983	.1652
4	ICSA	.0098	.0541	-.0299	-.0009	-.0278	-.0081
5	ICSAB	.0396	1.011	-.0349	.0050	-.0452	-.0075
6	S96T005253	.4306	.0098	6.966	.0161	.0284	6.115
7	S96T005253_D	.4361	-.0077	7.081	-.0020	.0162	6.087
8	CCV	5.113	5.138	5.046	4.916	5.021	5.046
9	CCB	.0072	-.0070	.0203	.0013	.0039	.0220
10	S96T005255_L	965.1	76.87	1233.	-24.70	-3.703	259.8
11	S96T005255	1028.	66.95	1220.	.9631	10.75	230.2
12	S96T005255_D	1069.	65.50	1276.	1.650	15.30	241.9
13	S96T005255-A	1669.	679.6	1855.	590.6	623.5	850.3
14	S96T005255-X	1040.	-3.002	1324.	-.9879	35.63	295.9
15	S96T005255-AX	74890.	74100.	72430.	71950.	70140.	73340.
16	S96T005256	862.2	56.90	1208.	-.7912	10.85	202.4
17	S96T005256_D	953.9	64.28	1314.	3.178	21.04	220.2
18	ICSA	.0205	.0665	-.0385	-.0080	-.0288	.0007
19	ICSAB	.0291	1.041	-.0310	.0171	-.0231	.0062
20	CCV_1	5.231	5.244	5.087	4.957	4.994	5.003
21	CCB_1	.0005	-.0032	.0048	-.0043	-.0086	-.0004

#	Sample Name	Sm	Sr	Th	Ti	Tl	U
1	ICV	4.971	5.026	.0095	4.913	4.871	9.719
2	ICB	-.0017	-.0001	-.0010	.0005	-.0070	-.0191
3	LLS	.2136	.0208	-.0001	.0216	.4276	.5152
4	ICSA	-.0020	.0021	-.0060	.0025	.0014	.0613
5	ICSAB	-.0019	.0021	-.0046	.0017	-.0067	.0644
6	S96T005253	.0120	.0593	-.0042	.0004	-.0016	.1475
7	S96T005253_D	.0097	.0587	-.0061	.0002	.0133	.1510
8	CCV	5.050	5.108	.0092	4.987	4.937	9.884
9	CCB	.0031	.0000	-.0009	.0010	.0145	.0092
10	S96T005255_L	6.405	-.3272	-1.638	.7563	104.6	16.72
11	S96T005255	2.259	-.0341	-1.587	.1411	5.863	16.71
12	S96T005255_D	-2.052	-.0654	-3.202	.2882	5.440	2.537
13	S96T005255-A	604.7	606.9	-3.245	592.3	595.0	1200.
14	S96T005255-X	62.76	3686	-7.706	1.777	72.83	117.3
15	S96T005255-AX	71210.	72030.	276.0	65080.	70080.	5260.
16	S96T005256	6.017	.0617	-1.730	.5930	19.39	36.29
17	S96T005256_D	6.499	.1261	-.3916	.5948	12.65	44.07
18	ICSA	.0074	.0020	-.0049	.0015	.0377	.0510
19	ICSAB	.0174	.0021	.0003	.0025	.0146	.0800
20	CCV_1	5.049	5.105	.0062	4.987	5.132	9.861
21	CCB_1	-.0036	-.0001	.0015	.0018	.0216	-.0212

#	Sample Name	V	Y	Zn	Zr
1	ICV	5.072	.0059	5.109	4.981
2	ICB	-.0009	.0000	.0008	-.0010
3	LLS	.1057	.0007	.0237	.0221
4	ICSA	-.0016	.0069	.0050	-.0030
5	ICSAB	.4713	.0069	.9656	-.0029
6	S96T005253	.0029	.0011	.6841	.0012
7	S96T005253_D	.0031	.0010	.7864	.0013
8	CCV	5.154	.0063	5.185	5.077
9	CCB	.0002	.0002	.0009	.0004
10	S96T005255_L	1.012	.9351	2.823	6.668
11	S96T005255	.2004	.0400	4.073	8.011
12	S96T005255_D	-.1190	-.1895	4.012	8.130
13	S96T005255-A	612.5	.9035	623.4	617.0
14	S96T005255-X	11.82	2.694	202.4	15.76
15	S96T005255-AX	60.42	102.6	-227.1	73090.
16	S96T005256	1.677	.3615	8.996	7.980
17	S96T005256_D	1.418	.3110	9.901	8.307
18	ICSA	-.0001	.0073	.0058	-.0011
19	ICSAB	.4776	.0078	.9794	-.0009
20	CCV_1	5.188	.0069	5.250	5.097
21	CCB_1	.0000	-.0001	.0001	.0003

JK

12-06-96

LABCORE Data Entry Template for Worklist# 14151

Analyst: JK Seto Instrument: ICP012 12-4-96 Book# 64848QMethod: LA-505-151/161 Rev/Mod B-1Worklist Comment: ICP AN-104 (DIRECT)

S Type	Sample#	R A	Test	Matrix	Group#	Project
1	ICV		@ICP-QC	QC		
2	ICB		@ICP-QC	QC		
3	LLS		@ICP-QC	QC		
4	ICSA		@ICP-QC	QC		
5	ICSAB		@ICP-QC	QC		
6	SERDIL	S96T005260 0 D	@ICP-D01	LIQUID		
7	SAMPLE	S96T005260 0 D	@ICP-D01	LIQUID	96001283	AN-104
Analytes Requested: AG-D-01 , AL-D-01 , AS-D-01 , B-D-01 , BA-D-01 , BE-D-01 , BI-D-01 , CA-D-01 , CD-D-01 , CE-D-01 , CO-D-01 , CR-D-01 , CU-D-01 , FE-D-01 , K-D-01 , LA-D-01 , LI-D-01 , MG-D-01 , MN-D-01 , MO-D-01 , NA-D-01 , ND-D-01 , NI-D-01 , P-D-01 , PB-D-01 , S-D-01 , SB-D-01 , SE-D-01 , SI-D-01 , SM-D-01 , SR-D-01 , TI-D-01 , TL-D-01 , U-D-01 , V-D-01 , ZN-D-01 , ZR-D-01						
8	DUP	S96T005260 0 D	@ICP-D01	LIQUID		
9	SPK	S96T005260 0 D	@ICP-D01	LIQUID		
10	CCV	<u>12-4-96</u>	@ICP-QC	QC		
11	CCB		@ICP-QC	QC		
12	SAMPLE	S96T005257 0 D	@ICP-D01	LIQUID	96001283	AN-104
Analytes Requested: AG-D-01 , AL-D-01 , AS-D-01 , B-D-01 , BA-D-01 , BE-D-01 , BI-D-01 , CA-D-01 , CD-D-01 , CE-D-01 , CO-D-01 , CR-D-01 , CU-D-01 , FE-D-01 , K-D-01 , LA-D-01 , LI-D-01 , MG-D-01 , MN-D-01 , MO-D-01 , NA-D-01 , ND-D-01 , NI-D-01 , P-D-01 , PB-D-01 , S-D-01 , SB-D-01 , SE-D-01 , SI-D-01 , SM-D-01 , SR-D-01 , TI-D-01 , TL-D-01 , U-D-01 , V-D-01 , ZN-D-01 , ZR-D-01						

Data Entry Comments:

LABCORE Data Entry Template for Worklist# 14151

S Type	Sample#	R A Test	Matrix	Group#	Project
13 DUP	S96T005257	0 D	@ICP-D01 LIQUID		
14 SAMPLE	S96T005258	0 D	@ICP-D01 LIQUID	96001283	AN-104
Analytes Requested: AG-D-01, AL-D-01, AS-D-01, B-D-01, BA-D-01, BE-D-01, BI-D-01, CA-D-01, CD-D-01, CE-D-01, CO-D-01, CR-D-01, CU-D-01, FE-D-01, K-D-01, LA-D-01, LI-D-01, MG-D-01, MN-D-01, MO-D-01, NA-D-01, ND-D-01, NI-D-01, P-D-01, PB-D-01, S-D-01, SB-D-01, SE-D-01, SI-D-01, SM-D-01, SR-D-01, TI-D-01, TL-D-01, U-D-01, V-D-01, ZN-D-01, ZR-D-01					
15 DUP	S96T005258	0 D	@ICP-D01 LIQUID		
16 ICSA			@ICP-QC	QC	
17 ICSAB			@ICP-QC	QC	
18 CCV			@ICP-QC	QC	
19 CCB			@ICP-QC	QC	

Final page for worklist # 14151

KJA 12-04-96
Analyst Signature Date
S96T005260-L, 025-15-18, JF 3005
S96T005260, 025-15 601
S96T005260-D, 025-15 601
S96T005260-Q, 025-15 601
S96T005260-X, 025-175 7001
S96T005260-QX, 025-175 7001
S96T005257, 025-15, JF 601
S96T005257-D, 025-15 601
S96T005258, 025-15 601
S96T005258-D, 025-15 601

Reviewed by:
Sail M. Pasang 12/9/96
Analyst Signature Date

Data Entry Comments: *spike recovery calculation:*

$$Cr = \left(\frac{941.1}{601} \right) - \left(\frac{348.1}{601} \right) \times 100 = 98.67\%$$

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

Note: spike true value is 1.0 ppm for all elements except for U = 2.0 ppm

1736

#	Sample Name	File	Method	Date	Time	OpID	Type	Mode
1	ICV	961206F	ICP2	12/06/96	18:07	DKS	Q	CONC
2	ICB	961206F	ICP2	12/06/96	18:12	DKS	Q	CONC
3	LLS	961206F	ICP2	12/06/96	18:15	DKS	Q	CONC
4	ICSA	961206F	ICP2	12/06/96	18:18	DKS	Q	CONC
5	ICSAB	961206F	ICP2	12/06/96	18:20	DKS	Q	CONC
6	S96T005260_L	961206F	ICP2	12/06/96	18:25	DKS	S	CONC
7	S96T005260_-	961206F	ICP2	12/06/96	18:28	DKS	S	CONC
8	S96T005260_D	961206F	ICP2	12/06/96	18:31	DKS	S	CONC
9	S96T005260_A	961206F	ICP2	12/06/96	18:35	DKS	S	CONC
10	S96T005260_X	961206F	ICP2	12/06/96	18:38	DKS	S	CONC
11	S96T005260_AX	961206F	ICP2	12/06/96	18:42	DKS	S	CONC
12	CCV	961206F	ICP2	12/06/96	18:48	DKS	Q	CONC
13	CCB	961206F	ICP2	12/06/96	18:52	DKS	Q	CONC
14	S96T005257	961206F	ICP2	12/06/96	18:56	DKS	S	CONC
15	S96T005257_D	961206F	ICP2	12/06/96	18:59	DKS	S	CONC
16	S96T005258	961206F	ICP2	12/06/96	19:02	DKS	S	CONC
17	S96T005258_D	961206F	ICP2	12/06/96	19:05	DKS	S	CONC
18	ICSA	961206F	ICP2	12/06/96	19:10	DKS	Q	CONC
19	ICSAB	961206F	ICP2	12/06/96	19:13	DKS	Q	CONC
20	CCV_1	961206F	ICP2	12/06/96	19:18	DKS	Q	CONC
21	CCB_1	961206F	ICP2	12/06/96	19:22	DKS	Q	CONC

JK

596T005260

12-06-96

596T005257

AH-104

596T005258

Worklist # 14151

Na, Al, and K failed in the first port spike. A second port spike was made and the result are:

$$Na = \frac{\left(\frac{328900}{7001}\right) - \left(\frac{268800}{7001}\right)}{10} \times 100 = 85.8\%$$

$$Al = \frac{\left(\frac{107300}{7001}\right) - \left(\frac{39970}{7001}\right)}{10} \times 100 = 96.2\%$$

$$K = \frac{\left(\frac{79320}{7001}\right) - \left(\frac{7644}{7001}\right)}{10} \times 100 = 102.4\%$$

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1737 TO 1741

#	Sample Name	Ag	Al	As	B	Ba	Be
1	ICV	5.039	4.958	5.264	5.115	5.076	5.182
2	ICB	.0003	-.0224	-.0023	-.0015	.0000	-.0007
3	LLS	.0228	.0916	.2293	.1045	.1021	.0096
4	ICSA	.0021	246.6	-.0081	-.0045	.0000	-.0005
5	ICSAB	.9763	246.9	-.0300	-.0042	.4838	.4826
6	S96T005260_L	16.86	40930.	-25.16	47.23	-1524	-1.637
7	S96T005260_	19.24	40170.	-50.24	70.09	.1332	.0584
8	S96T005260_D	17.79	37520.	-45.98	63.38	.1297	.0317
9	S96T005260_A	584.3	39500.	593.5	669.6	598.1	613.6
10	S96T005260_X	36.92	39970.	64.72	102.9	-.0137	-5.105
11	S96T005260_AX	69090.	107300.	74050.	70840.	72700.	73100.
12	CCV	5.106	5.019	5.322	5.157	5.167	5.223
13	CCB	.0040	-.0092	.0004	-.0020	-.0001	-.0007
14	S96T005257	17.71	36790.	-35.05	66.12	.1542	.0036
15	S96T005257_D	18.41	37670.	-33.14	66.12	.1838	.0584
16	S96T005258_	19.56	39210.	-45.55	67.04	.1079	.1411
17	S96T005258_D	17.88	37460.	-45.40	65.21	.1079	.0860
18	ICSA	.0024	244.0	-.0653	-.0039	.0001	-.0006
19	ICSAB	.9744	245.0	-.0194	-.0028	.4784	.4775
20	CCV 1	5.086	4.983	5.314	5.109	5.083	5.209
21	CCB_1	-.0003	-.0138	.0005	-.0015	-.0001	-.0007

#	Sample Name	Bi	Ca	Cd	Ce	Co	Cr
1	ICV	5.111	5.011	5.074	5.090	5.059	5.085
2	ICB	.0234	-.0018	-.0010	.0015	-.0018	-.0012
3	LLS	.1744	.2086	.0110	.2115	.0418	.0217
4	ICSA	-.0217	247.7	.0011	.0029	-.0003	.0081
5	ICSAB	-.0242	250.3	.9489	.0058	.4736	.4830
6	S96T005260_L	-80.22	-6.393	-1.418	-29.47	2.670	348.8
7	S96T005260_	-4.710	5.783	.0510	1.413	-1.162	348.1
8	S96T005260_D	-19.85	2.409	.8195	-6.114	-.0066	327.7
9	S96T005260_A	613.1	607.7	603.2	604.2	598.5	941.1
10	S96T005260_X	180.8	24.40	-6.873	-13.83	-7.246	335.5
11	S96T005260_AX	72080.	71070.	70720.	71880.	95.84	71520.
12	CCV	5.183	5.080	5.130	5.155	5.133	5.142
13	CCB	.0085	-.0036	-.0006	-.0059	-.0014	-.0007
14	S96T005257	-16.00	3.460	-.0510	-2.129	-.7049	317.2
15	S96T005257_D	-15.06	5.776	.8150	1.175	.6892	326.6
16	S96T005258_	9.547	.8033	-.1717	-2.812	.7732	341.1
17	S96T005258_D	2.085	1.873	.5123	-3.284	-1.080	327.2
18	ICSA	-.0369	251.4	.0015	.0184	.0008	.0083
19	ICSAB	.0217	250.6	.9438	.0094	.4715	.4820
20	CCV 1	5.160	5.089	5.120	5.093	5.115	5.132
21	CCB_1	.0022	-.0042	-.0008	-.0016	-.0008	-.0013

#	Sample Name	Cu	Eu	Fe	K	La	Li
1	ICV	5.330	-.0041	5.080	5.197	5.165	5.265
2	ICB	.0000	-.0002	.0147	.0703	.0003	.0000
3	LLS	.0230	.0004	.1067	Q.6906	.1056	.0221
4	ICSA	-.0106	-.0433	94.23	.1928	-.0049	.0017
5	ICSAB	.4895	-.0442	94.67	.2049	-.0050	1.054
6	S96T005260_L	3.453	-.0231	66.61	7034.	-5.189	5.566
7	S96T005260	2.539	-.0187	16.09	7201.	.1594	7.192
8	S96T005260_D	2.976	-.1761	14.97	6686.	-.4257	6.006
9	S96T005260_A	632.8	-.6242	613.8	7562.	618.4	642.1
10	S96T005260_X	9.819	-1.309	46.96	7644.	-1.039	.8732
11	S96T005260_AX	-24.63	-1.258	70870.	79320.	728830.	73980.
12	CCV	5.392	-.0043	5.136	5.195	5.235	5.329
13	CCB	.0021	-.0005	.0154	.1776	-.0001	-.0007
14	S96T005257	3.125	-.2195	12.42	6643.	.4254	5.932
15	S96T005257_D	3.257	-.1590	11.79	6819.	.2702	6.451
16	S96T005258	1.838	.0881	13.28	7139.	-.0790	8.972
17	S96T005258_D	.9929	.0590	12.90	6589.	-.3253	8.897
18	ICSA	-.0106	-.0508	94.48	.2888	-.0035	.0031
19	ICSAB	.4837	-.0473	94.28	.1611	-.0038	1.039
20	CCV 1	5.335	-.0033	5.105	5.131	5.156	5.266
21	CCB_1	.0007	-.0006	.0156	.0649	-.0006	-.0009

#	Sample Name	Mg	Mn	Mo	Na	Nd	Ni
1	ICV	4.868	4.929	5.096	5.053	5.243	5.074
2	ICB	-.0023	-.0004	-.0027	-.0094	.0020	-.0007
3	LLS	.2119	.0198	.0970	.2148	.2132	.0430
4	ICSA	257.0	-.0073	-.0165	203.6	.0069	-.0026
5	ICSAB	256.9	.4476	-.0095	202.4	.0063	.9351
6	S96T005260_L	-14.15	-.6429	78.36	273700.	-1.016	7.394
7	S96T005260	4.266	-.0636	83.18	270900.	.0488	3.596
8	S96T005260_D	4.458	-.1367	77.54	251900.	.9350	3.015
9	S96T005260_A	576.3	574.3	689.5	262400.	627.2	606.6
10	S96T005260_X	519.5	-.6892	75.49	268800.	1.662	-3.436
11	S96T005260_AX	71960.	70440.	70020.	328900.	73980.	70850.
12	CCV	4.924	5.009	5.167	5.109	5.304	5.154
13	CCB	.0026	-.0002	-.0020	-.0098	.0022	.0037
14	S96T005257	.5022	-.1573	73.00	247000.	.4071	4.489
15	S96T005257_D	2.910	-.0196	78.62	252100.	2.407	.9594
16	S96T005258	-.6186	-.0411	80.36	270600.	.3730	-1.324
17	S96T005258_D	-2.231	.0588	77.88	255400.	-.8802	.9479
18	ICSA	254.5	-.0065	-.0129	199.4	.0051	.0048
19	ICSAB	255.4	.4454	-.0173	199.6	.0061	.9454
20	CCV 1	4.888	4.971	5.135	5.052	5.245	5.157
21	CCB_1	.0054	-.0003	-.0036	-.0156	-.0007	-.0056

#	Sample Name	P	Pb	S	Sb	Se	Si
1	ICV	5.079	5.050	4.974	4.846	4.912	4.869
2	ICB	.0081	.0030	.0022	.0064	.0088	-.0033
3	LLS	.3999	.2270	.2110	.1087	.1928	.1631
4	ICSA	.0194	.0365	-.0446	.0083	-.0386	-.0090
5	ICSAB	.0391	1.020	-.0438	.0001	-.0440	-.0048
6	S96T005260_L	1009.	73.78	1217.	-18.38	-33.72	225.1
7	S96T005260_-	1003.	61.50	1200.	-.2464	4.801	233.7
8	S96T005260_D	937.8	69.49	1123.	8768	5.622	221.9
9	S96T005260_A	1616.	656.7	1752.	589.3	617.8	833.1
10	S96T005260_X	1044.	214.6	1791.	39.32	-39.87	249.7
11	S96T005260_AX	76020.	72540.	72900.	70890.	69270.	72820.
12	CCV	5.201	5.117	5.023	4.911	4.944	4.950
13	CCB	.0010	.0079	.0019	-.0019	-.0113	.0007
14	S96T005257	835.4	45.67	1112.	-8.033	6.812	235.9
15	S96T005257_D	850.4	66.71	1128.	-.7791	7.965	248.5
16	S96T005258	875.7	60.83	1184.	3.129	8.674	220.0
17	S96T005258_D	859.9	53.45	1134.	-1.147	13.88	217.3
18	ICSA	.0331	.0579	-.0442	.0184	-.0209	-.0009
19	ICSAB	.0190	1.016	-.0509	-.0062	-.0085	.0007
20	CCV 1	5.151	5.077	5.025	4.899	4.948	4.942
21	CCB_1	.0254	.0127	.0033	.0018	-.0180	-.0037

#	Sample Name	Sm	Sr	Th	Ti	Tl	U
1	ICV	4.985	5.044	.0034	4.914	4.951	9.734
2	ICB	-.0027	-.0001	.0021	.0013	.0266	-.0317
3	LLS	.2117	.0208	.0051	.0224	.4281	.5091
4	ICSA	-.0055	.0021	-.0068	.0017	.0540	.0522
5	ICSAB	-.0069	.0021	-.0076	.0020	.0081	.0607
6	S96T005260_L	-12.10	-.3171	-6.055	2.291	-11.20	-91.64
7	S96T005260_-	-.9518	-.0654	-2.797	1.398	15.18	1.082
8	S96T005260_D	-3.293	-.0645	-3.244	7485	6.493	-7.676
9	S96T005260_A	588.2	600.6	-1.202	584.2	587.7	1148.
10	S96T005260_X	-9.261	-.7436	8.412	3.657	37.79	-175.0
11	S96T005260_AX	70230.	71330.	213.1	64370.	69410.	4826.
12	CCV	5.038	5.108	.0002	4.954	4.938	9.887
13	CCB	-.0066	-.0001	.0014	.0015	.0237	-.0435
14	S96T005257	-4.940	-.0642	-3.413	.4428	6.490	-11.61
15	S96T005257_D	-3.089	-.0644	-.3615	.7608	-.0158	-9.713
16	S96T005258	.1811	-.0653	-2.660	.4459	-3.041	2.607
17	S96T005258_D	.1909	-.0333	-3.442	.1354	9.953	8.114
18	ICSA	.0076	.0021	-.0060	.0022	-.0208	.0869
19	ICSAB	.0046	.0021	-.0085	.0025	.0167	.0937
20	CCV 1	4.973	5.047	.0041	4.922	4.968	9.735
21	CCB_1	-.0098	-.0002	.0018	.0008	.0191	-.0628

Analysis Report

Averages

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#	Sample Name	V	Y	Zn	Zr
1	ICV	5.080	.0057	5.102	4.997
2	ICB	-.0003	.0000	.0002	-.0009
3	LLS	.1053	.0006	.0238	.0209
4	ICSA	-.0029	.0066	.0037	-.0030
5	ICSA _B	.4716	.0067	.9676	-.0031
6	S96T005260 L	-3.394	-1.139	9.556	6.037
7	S96T005260	-.3400	-.0476	7.735	6.780
8	S96T005260 D	-.8919	-.2323	7.255	6.166
9	S96T005260 A	602.9	.5485	620.0	604.5
10	S96T005260 X	-6.561	-2.670	2416.	4.413
11	S96T005260 AX	51.98	99.48	-230.0	72070.
12	CCV	5.144	.0059	5.161	5.064
13	CCB	-.0018	-.0004	.0011	-.0019
14	S96T005257	-.9929	-.2306	7.747	3.537
15	S96T005257 D	-1.011	-.2314	8.748	3.300
16	S96T005258	-.4534	-.0953	7.655	3.897
17	S96T005258 D	-.1118	-.0506	7.382	3.952
18	ICSA	-.0003	.0073	.0060	-.0009
19	ICSA _B	.4713	.0071	.9710	-.0016
20	CCV 1	5.111	.0064	5.173	5.014
21	CCB 1	-.0026	-.0004	.0005	-.0023

OK
12-06-96

LABCORE Data Entry Template for Worklist# 14154

Analyst: B. GORRINE Instrument: ICP01 Book# 64844

Method: LA-505-151/161 Rev/Mod B-1

Worklist Comment: ICP AN-104 (FUSION)

S Type	Sample#	R A	Test	Matrix	Group#	Project
1	ICV		@ICP-QC	QC		
2	ICB		@ICP-QC	QC		
3	LLS		@ICP-QC	QC		
4	ICSA		@ICP-QC	QC		
5	ICSAB		@ICP-QC	QC		
6	PREPBLKTJA		@ICP-F01	SOLID		
7	SERDIL	S96T004795 0 F	@ICP-F01	SOLID		
8	SAMPLE	S96T004795 0 F	@ICP-F01	SOLID	96001174	AN-104
			Analytes Requested: AG-F-01, AL-F-01, AS-F-01, B-F-01, BA-F-01, BE-F-01, BI-F-01, CA-F-01, CD-F-01, CE-F-01, CO-F-01, CR-F-01, CU-F-01, FE-F-01, K-F-01, LA-F-01, LI-F-01, MG-F-01, MN-F-01, MO-F-01, NA-F-01, ND-F-01, NI-F-01, P-F-01, PB-F-01, S-F-01, SB-F-01, SE-F-01, SI-F-01, SM-F-01, SR-F-01, TI-F-01, TL-F-01, U-F-01, V-F-01, ZN-F-01, ZR-F-01			
9	DUP	S96T004795 0 F	@ICP-F01	SOLID		
10	SPK	S96T004795 0 F	@ICP-F01	SOLID		
11	CCV		@ICP-QC	QC		
12	CCB		@ICP-QC	QC		
13	SERDIL	S96T004796 0 F	@ICP-F01	SOLID		
14	SAMPLE	S96T004796 0 F	@ICP-F01	SOLID	96001174	AN-104
			Analytes Requested: AG-F-01, AL-F-01, AS-F-01, B-F-01, BA-F-01, BE-F-01, BI-F-01, CA-F-01, CD-F-01, CE-F-01, CO-F-01, CR-F-01, CU-F-01, FE-F-01, K-F-01, LA-F-01, LI-F-01,			

Data Entry Comments:

Sample result calculation:

$$S96T004795 \text{ Al} = 45.80 \text{ ug} \times \frac{1}{2007 \frac{\text{g}}{\text{ml}} \times \frac{1 \text{ L}}{1 \text{ mL}}} = 2.28 \text{ e-4 ug}$$

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

HNF-SD-WM-DP-226, REV. 0

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A-0004-1

LABCORE Data Entry Template for Worklist# 14154

S Type	Sample#	R A	Test	Matrix	Group#	Project
			MG-F-01 ,	MN-F-01 ,	MO-F-01 ,	NA-F-01 , ND-F-01 , NI-F-01 ,
			P-F-01 ,	PB-F-01 ,	S-F-01 ,	SB-F-01 , SE-F-01 , SI-F-01 ,
			SM-F-01 ,	SR-F-01 ,	TI-F-01 ,	TL-F-01 , U-F-01 , V-F-01 ,
			ZN-F-01 ,	ZR-F-01		
15 DUP	S96T004796	0 F	@ICP-F01	SOLID		
16 SPK	S96T004796	0 F	@ICP-F01	SOLID		
17 SAMPLE	S96T005030	0 F	@ICP-F01	SOLID	96001174	AN-104
	Analytes Requested:					
			AG-F-01 ,	AL-F-01 ,	AS-F-01 ,	B-F-01 , BA-F-01 ,
			BE-F-01 ,	BI-F-01 ,	CA-F-01 ,	CD-F-01 , CE-F-01 , CO-F-01 ,
			CR-F-01 ,	CU-F-01 ,	FE-F-01 ,	K-F-01 , LA-F-01 , LI-F-01 ,
			MG-F-01 ,	MN-F-01 ,	MO-F-01 ,	NA-F-01 , ND-F-01 , NI-F-01 ,
			P-F-01 ,	PB-F-01 ,	S-F-01 ,	SB-F-01 , SE-F-01 , SI-F-01 ,
			SM-F-01 ,	SR-F-01 ,	TI-F-01 ,	TL-F-01 , U-F-01 , V-F-01 ,
			ZN-F-01 ,	ZR-F-01		
18 DUP	S96T005030	0 F	@ICP-F01	SOLID		
19 SAMPLE	S96T005035	0 F	@ICP-F01	SOLID	96001174	AN-104
	Analytes Requested:					
			AG-F-01 ,	AL-F-01 ,	AS-F-01 ,	B-F-01 , BA-F-01 ,
			BE-F-01 ,	BI-F-01 ,	CA-F-01 ,	CD-F-01 , CE-F-01 , CO-F-01 ,
			CR-F-01 ,	CU-F-01 ,	FE-F-01 ,	K-F-01 , LA-F-01 , LI-F-01 ,
			MG-F-01 ,	MN-F-01 ,	MO-F-01 ,	NA-F-01 , ND-F-01 , NI-F-01 ,
			P-F-01 ,	PB-F-01 ,	S-F-01 ,	SB-F-01 , SE-F-01 , SI-F-01 ,
			SM-F-01 ,	SR-F-01 ,	TI-F-01 ,	TL-F-01 , U-F-01 , V-F-01 ,
			ZN-F-01 ,	ZR-F-01		
20 DUP	S96T005035	0 F	@ICP-F01	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 # 14154

Revised by:

Sal M. Pang 12/3/96

Data Entry Comments:

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

1743

10/21/96 12:23

A-0004-1

HNF-SO-WM-DP-226, REV. 0

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LABCORE Data Entry Template for Worklist# 14154

S Type	Sample#	R A Test	Matrix	Group#	Project	Date
Analyst Signature		Date		Analyst Signature		
				D.F.		
	PREPBLKTJST	.250ml-10ml		1		
596T00	4785-L	.250ml-10ml-2ml-8ml		205		
	4785	.250ml-10ml		41		
	4785-D	.250ml-10ml		41		
	4785-A	.250ml-2.05ml(SSIT)-2.95ml		41		
	4785-X	.250ml-1.025ml-1.025ml(WHK102)-2.95ml		41		
596T00	4786-L	.250ml-10ml-2ml-8ml		205		
	4786	.250ml-10ml		41		
	4786-D	.250ml-10ml		41		
	4786-A	.250ml-2.05ml(SSIT)-2.95ml		41		
	4786-X	.250ml-1.025ml-1.025ml(WHK102)-2.95ml		41		
596T00	5030	.250ml-10ml		41		
	5030-D	.250ml-10ml		41		
596T00	5035	.250ml-10ml		41		
	5035-D	.250ml-10ml		41		

596T00 4996 - Na failed in the first post spike. A second post spike was made and the result is:

$$Na = \frac{(82.3)}{41} - \frac{(462.7)}{41} \times 100 = 88.4\%$$

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Data Entry Comments:

Spike recovery calculation:

$$596T00 4785 \text{ Al} = \frac{(85.85)}{41} - \frac{(45.60)}{41} \times 100 = 97.7\%$$

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

Note: Spike true value is 1.0 ppm for all elements except for U=2.0 ppm.

HNF-SD-WM-DP-226, REV. 0

Analysis Report

Summary

Mon 12-02-96 02:39:12 PM

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#	Sample Name	File	Method	Date	Time	OpID	Type	Mode
1	ICV	961202C	ICP2	12/02/96	13:05	BJG	Q	CONC
2	ICB	961202C	ICP2	12/02/96	13:08	BJG	Q	CONC
3	LLS	961202C	ICP2	12/02/96	13:10	BJG	Q	CONC
4	ICSA	961202C	ICP2	12/02/96	13:13	BJG	Q	CONC
5	ICSAB	961202C	ICP2	12/02/96	13:17	BJG	Q	CONC
6	PREPBLKTJA	961202C	ICP2	12/02/96	13:23	BJG	S	CONC
7	S96T004795 L	961202C	ICP2	12/02/96	13:27	BJG	S	CONC
8	S96T004795	961202C	ICP2	12/02/96	13:31	BJG	S	CONC
9	S96T004795 D	961202C	ICP2	12/02/96	13:34	BJG	S	CONC
10	S96T004795 A	961202C	ICP2	12/02/96	13:37	BJG	S	CONC
11	S96T004795 X	961202C	ICP2	12/02/96	13:41	BJG	S	CONC
12	CCV	961202C	ICP2	12/02/96	13:45	BJG	Q	CONC
13	CCB	961202C	ICP2	12/02/96	13:48	BJG	Q	CONC
14	S96T004796 L	961202C	ICP2	12/02/96	13:52	BJG	S	CONC
15	S96T004796	961202C	ICP2	12/02/96	13:55	BJG	S	CONC
16	S96T004796 D	961202C	ICP2	12/02/96	13:59	BJG	S	CONC
17	S96T004796 A	961202C	ICP2	12/02/96	14:02	BJG	S	CONC
18	S96T004796 X	961202C	ICP2	12/02/96	14:06	BJG	S	CONC
19	S96T005030	961202C	ICP2	12/02/96	14:10	BJG	S	CONC
20	S96T005030 D	961202C	ICP2	12/02/96	14:13	BJG	S	CONC
21	S96T005035	961202C	ICP2	12/02/96	14:16	BJG	S	CONC
22	S96T005035 D	961202C	ICP2	12/02/96	14:19	BJG	S	CONC
23	ICSA	961202C	ICP2	12/02/96	14:22	BJG	Q	CONC
24	ICSAB	961202C	ICP2	12/02/96	14:25	BJG	Q	CONC
25	CCV	961202C	ICP2	12/02/96	14:32	BJG	Q	CONC
26	CCB	961202C	ICP2	12/02/96	14:36	BJG	Q	CONC

Sf Bonch

12-02-96

AN-104 Fusion

, 2RD - 1 - 10m

S96T00 4795, 4796, 5030, 5035

FILE # 0861202C.FRT

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1746 TO 1749

HNF-SD-WM-DP-226, REV. 0

Analysis Report

Averages

Mon 12-02-96 02:39:12 PM

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#	Sample Name	Ag	Al	As	B	Ba	Be
1	ICV	5.027	5.023	5.247	5.029	5.088	5.241
2	ICB	.0002	.0169	.0061	-.0024	.0001	.0007
3	LLS	.0214	.1238	.2130	.1008	.1005	.0110
4	ICSA	.0015	245.5	-.0129	-.0072	.0018	.0006
5	ICSAB	.9629	244.4	.0013	-.0011	.4750	.4797
6	PREPBLKTJA	.0008	.0214	.0186	-.0034	.0001	.0005
7	S96T004795 L	-.0789	47.80	1.851	-.8770	.0001	.1258
8	S96T004795	-.0359	45.80	.2769	-.0783	.0149	.0200
9	S96T004795 D	.0250	44.89	.2997	-.0786	.0125	.0236
10	S96T004795 A	39.09	85.85	43.71	40.30	40.74	42.21
11	S96T004795 X	379.8	440.2	430.7	393.5	411.9	423.9
12	CCV	5.009	4.735	5.080	4.709	4.790	4.957
13	CCB	Q.0215	.0054	.0127	.0019	.0001	.0007
14	S96T004796 L	.2357	48.90	2.920	.2935	.0289	.0898
15	S96T004796	.0182	45.78	.1087	.0193	.0254	.0290
16	S96T004796 D	-.0793	43.11	.1763	-.1557	.0225	.0182
17	S96T004796 A	38.35	84.57	43.48	39.39	40.36	41.25
18	S96T004796 X	361.0	433.1	422.8	386.8	406.4	416.1
19	S96T005030	.2747	45.78	.8244	.1560	.0295	.0380
20	S96T005030 D	.1109	43.84	-.2583	-.0192	.0142	.0164
21	S96T005035	.0941	44.98	.6877	-.0585	.0118	.0146
22	S96T005035 D	-.0551	40.12	-.0194	.0195	-.0025	.0018
23	ICSA	.0170	240.1	.0267	-.0054	.0018	.0207
24	ICSAB	.9476	237.5	-.0017	-.0036	.4618	.4663
25	CCV	5.016	4.851	5.142	4.802	4.961	5.057
26	CCB	-.0007	.0025	-.0040	.0010	.0001	.0007

#	Sample Name	Bi	Ca	Cd	Ce	Co	Cr
1	ICV	5.159	5.007	5.032	5.118	4.981	5.091
2	ICB	-.0092	.0032	.0010	-.0001	-.0008	-.0000
3	LLS	.1863	.2085	.0113	.2103	.0419	.0211
4	ICSA	-.0054	247.9	.0020	.0116	.0017	.0103
5	ICSAB	-.0270	249.5	.9312	.0203	.4595	.4791
6	PREPBLKTJA	.0159	.0031	.0008	.0017	-.0005	-.0004
7	S96T004795 L	1.556	-.0756	.2005	-.1492	.4758	3.968
8	S96T004795	.1618	.3892	.0468	-.1548	.0104	3.761
9	S96T004795 D	.0448	.3447	.0864	-.0480	.0970	3.637
10	S96T004795 A	42.58	42.77	41.97	41.78	40.99	45.78
11	S96T004795 X	417.0	415.3	408.1	408.0	450.8	415.3
12	CCV	5.008	5.126	5.002	4.794	4.941	5.047
13	CCB	-.0234	.0020	.0007	-.0010	-.0002	-.0002
14	S96T004796 L	-.1.063	.8491	.3902	1.550	.1242	7.391
15	S96T004796	-.2142	.6226	.0797	.0757	-.0405	7.154
16	S96T004796 D	-.2241	.3508	.0464	-.4750	-.0026	7.075
17	S96T004796 A	41.10	42.26	41.33	40.83	40.62	48.57
18	S96T004796 X	412.4	410.9	402.2	399.4	.7901	412.7
19	S96T005030	.1435	.2947	.0879	.0778	-.0295	2.035
20	S96T005030 D	-.1.175	.1507	-.0077	-.0582	-.0263	2.010
21	S96T005035	-.1.379	.1214	.0195	.1238	-.0411	1.663
22	S96T005035 D	.6499	.1873	-.0244	-.6151	.0212	1.543
23	ICSA	.0209	253.6	.0032	.0244	.0030	.0121

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#	Sample Name	Bi	Ca	Cd	Ce	Co	Cr
24	ICSAB	.0102	247.6	.9176	.0093	.4525	.4718
25	CCV	5.155	5.209	5.073	4.959	5.022	5.142
26	CCB	.0082	.0018	.0003	-.0096	-.0019	-.0016

#	Sample Name	Cu	Eu	Fe	K	La	Li
1	ICV	5.238	-.0024	5.052	4.888	5.209	5.226
2	ICB	.0002	-.0013	-.0008	-.0443	.0008	-.0008
3	LLS	.0209	-.0005	.1013	.3888	.1050	.0207
4	ICSA	-.0084	-.0281	93.31	.0463	-.0043	.0022
5	ICSAB	.4722	-.0287	93.07	.0724	-.0044	1.032
6	PREPBLKTJA	.0020	-.0010	.0062	424.4	.0003	-.0009
7	S96T004795 L	.5315	-.0219	.5264	19640.	-.1418	.0235
8	S96T004795	.0808	.0217	.2585	19310.	-.0512	.0854
9	S96T004795 D	.1166	.0039	.2759	19640.	-.0074	.0713
10	S96T004795 A	42.08	-.0087	41.58	18990.	42.30	41.06
11	S96T004795 X	-.0065	.1511	404.1	19080.	415.9	409.5
12	CCV	4.836	.0016	4.924	Q4.495	4.861	4.674
13	CCB	.0002	.0017	.0002	.2369	.0000	.0022
14	S96T004796 L	.3503	.0925	1.000	18140.	.1669	.1419
15	S96T004796	.0708	.0182	.3741	17920.	-.0113	.1139
16	S96T004796 D	.0781	.0567	.3295	15600.	-.0519	.1896
17	S96T004796 A	41.16	.0140	41.15	17490.	41.41	40.16
18	S96T004796 X	-.0512	.1610	398.3	17550.	406.7	399.2
19	S96T005030	.0442	.0522	.2556	16680.	.0417	.0854
20	S96T005030 D	.0621	.0827	.2488	18230.	-.0046	.1137
21	S96T005035	.0359	.0530	.1609	18770.	.0006	.0806
22	S96T005035 D	.0804	.0514	.1190	15330.	-.1144	.0711
23	ICSA	-.0087	-.0419	92.98	.3493	-.0035	.0040
24	ICSAB	.4551	-.0335	91.31	.0896	-.0044	.9806
25	CCV	4.954	.0009	5.010	4.711	5.024	4.786
26	CCB	-.0009	.0018	.0001	-.0383	-.0009	.0024

#	Sample Name	Mg	Mn	Mo	Na	Nd	Ni
1	ICV	4.913	4.929	4.992	4.945	5.163	5.023
2	ICB	.0064	-.0000	.0040	-.0091	.0003	.0007
3	LLS	.2078	.0198	.0965	.2014	.1989	.0361
4	ICSA	234.3	-.0066	-.0058	195.8	.0092	-.0007
5	ICSAB	252.7	.4420	-.0058	193.8	.0050	.9156
6	PREPBLKTJA	.0079	.0013	.0027	2.601	-.0019	.2315
7	S96T004795 L	1.223	.1173	.4626	505.8	.5178	12.50
8	S96T004795	-.3497	.0970	.3256	497.2	-.0356	11.68
9	S96T004795 D	.0606	.0826	.1828	489.1	.1008	8.766
10	S96T004795 A	39.53	39.94	41.73	530.1	41.64	53.19
11	S96T004795 X	404.4	405.2	397.7	872.6	410.3	415.5
12	CCV	4.630	4.899	4.923	4.541	4.784	5.001
13	CCB	-.0063	.0011	.0034	.0195	.0007	.0021
14	S96T004796 L	.7201	.1762	.7493	466.7	-.0782	11.98
15	S96T004796	.0190	.1316	.2263	462.7	-.1406	12.31
16	S96T004796 D	-.3647	.1398	.2276	448.8	.0527	8.858
17	S96T004796 A	39.09	39.48	41.10	493.4	40.63	53.22

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#	Sample Name	Mg	Mn	Mo	Na	Nd	Ni
18	S96T004796 X	399.4	399.2	392.1	825.3	400.3	410.1
19	S96T005030	.0560	.1269	.2557	467.3	-.1472	12.12
20	S96T005030 D	-.4047	.1199	.1852	469.4	-.0789	5.887
21	S96T005035	.2128	.1018	.0920	477.7	-.1656	3.216
22	S96T005035_D	-.5434	.0789	.1137	473.8	-.0440	11.69
23	ICSA	248.7	-.0055	-.0023	186.9	.0115	-.0093
24	ICSAAB	246.2	.4335	-.0051	185.4	.0060	.9052
25	CCV	4.700	4.947	5.007	4.650	4.934	5.082
26	CCB	-.0117	.0011	.0011	.0174	-.0046	.0001

#	Sample Name	P	Pb	S	Sb	Se	Si
1	ICV	4.948	5.027	4.895	4.760	4.925	4.762
2	ICB	-.0169	.0009	.0110	-.0024	.0455	-.0128
3	LLS	.3690	.2062	.2101	.0956	.2474	.1238
4	ICSA	-.0094	.0280	.0046	-.0093	.0041	-.0157
5	ICSAAB	-.0105	.9957	-.0162	.0154	.0016	-.0142
6	PREPBLKTJA	-.0249	-.0057	.0073	-.0029	.0559	.0153
7	S96T004795 L	-1.330	3.289	8.577	-1.065	14.13	-.8840
8	S96T004795	1.457	1.652	6.979	-.3581	2.917	.6010
9	S96T004795 D	.4369	1.124	6.397	.1134	2.923	.5659
10	S96T004795-A	41.66	43.30	47.68	39.90	43.77	40.32
11	S96T004795-X	408.8	424.6	413.1	404.6	403.2	407.5
12	CCV	4.762	5.084	4.816	4.665	4.819	4.697
13	CCB	-.0299	-.0109	.0084	-.0064	.0802	.0032
14	S96T004796 L	-2.879	-2.769	7.592	-1.037	12.47	1.485
15	S96T004796	.8987	-.2486	5.421	-1.450	2.633	2.174
16	S96T004796 D	2.021	.2784	6.165	-.3143	3.136	1.991
17	S96T004796-A	41.62	41.66	45.71	38.77	43.25	41.55
18	S96T004796-X	404.4	418.7	406.5	398.8	393.8	403.2
19	S96T005030	.4759	-.8997	6.605	-.2534	3.570	3.497
20	S96T005030 D	1.544	.1712	6.857	-.0993	3.059	2.016
21	S96T005035	1.912	-.3896	5.403	-.3270	3.326	2.612
22	S96T005035_D	3.462	-.4972	5.480	-.4195	3.074	2.473
23	ICSA	-.0048	.0484	-.0200	-.0019	.0191	-.0046
24	ICSAAB	-.0214	.9887	-.0296	-.0021	.0214	-.0119
25	CCV	4.920	5.165	4.897	4.735	4.846	4.755
26	CCB	-.0386	-.0242	.0070	-.0025	.0798	.0034

#	Sample Name	Sm	Sr	Th	Ti	Ti	U
1	ICV	5.058	5.041	.0677	4.892	4.923	9.709
2	ICB	-.0164	-.0000	.0051	.0000	-.0187	-.0415
3	LLS	.1983	.0203	.0070	.0196	.4070	.4808
4	ICSA	-.0082	.0017	.0017	.0012	.0037	-.0659
5	ICSAAB	-.0050	.0020	.0023	.0007	.0015	-.0435
6	PREPBLKTJA	-.0161	.0014	.0125	-.0006	-.0117	-.1395
7	S96T004795 L	.0740	.0740	.0612	-.0012	-1.842	3.034
8	S96T004795	.4688	.0808	.0549	-.0078	-.0320	-2.265
9	S96T004795 D	.0406	.0788	.2635	.0026	.9164	-2.957
10	S96T004795-A	40.72	40.75	1.080	40.22	39.97	74.28
11	S96T004795-X	403.8	402.4	2.876	368.2	393.6	27.29

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#	Sample Name	Sm	Sr	Th	Ti	T1	U
12	CCV	4.712	4.685	.0573	4.656	4.831	9.071
13	CCB	.0267	.0006	-.0091	-.0001	-.0017	.1136
14	S96T004796 L	1.568	.0844	.4381	-.1468	-4.938	5.451
15	S96T004796	.3741	.0744	.0999	-.0176	-.9673	-2.292
16	S96T004796 D	.8690	.0699	-.0995	-.0192	-.1998	.7439
17	S96T004796 A	40.21	39.85	.7661	39.28	40.50	74.74
18	S96T004796 X	395.0	393.7	2.636	359.5	387.4	28.27
19	S96T005030	.7852	.0891	.2329	-.0372	-.0176	-.5357
20	S96T005030 D	1.211	.0827	-.1193	-.0385	-.9020	.7218
21	S96T005035	.7866	.0807	.1818	-.0372	-.0161	-.9029
22	S96T005035 D	.7362	.0679	-.2306	-.0196	-.4167	.1217
23	ICSA	.0155	.0017	.0155	.0015	-.0170	-.0380
24	ICSA B	.0057	.0018	.0016	.0012	.0050	-.0331
25	CCV	4.860	4.847	.0605	4.753	4.906	9.338
26	CCB	.0254	.0007	-.0106	-.0010	-.0115	.1204

#	Sample Name	V	Y	Zn	Zr
1	ICV	5.005	.0060	4.968	4.920
2	ICB	-.0038	-.0011	.0005	-.0017
3	LLS	.1004	-.0002	.0224	.0192
4	ICSA	-.0019	.0064	.0049	-.0048
5	ICSA B	.4608	.0068	.9324	-.0036
6	PREPBLKTJA	-.0029	-.0009	.0011	-.0025
7	S96T004795 L	.0314	-.0334	.4387	-.0089
8	S96T004795	.0938	.0074	.0553	.0698
9	S96T004795 D	.0194	-.0052	.1844	-.0021
10	S96T004795 A	41.20	.0456	41.55	40.28
11	S96T004795 X	.3976	.6022	-1.247	407.2
12	CCV	4.866	.0081	4.999	4.710
13	CCB	.0048	.0010	.0010	.0047
14	S96T004796 L	.2890	.0138	.2787	.1030
15	S96T004796	.0562	.0106	.1160	.0667
16	S96T004796 D	.1718	.0382	.1288	.1638
17	S96T004796 A	40.53	.0679	41.19	39.56
18	S96T004796 X	.4474	.6018	-1.241	398.7
19	S96T005030	.1506	.0259	.0702	.1120
20	S96T005030 D	.2171	.0511	.0561	.1650
21	S96T005035	.1742	.0357	.0540	.0876
22	S96T005035 D	.1584	.0321	.0513	.1458
23	ICSA	.0032	.0078	.0058	-.0017
24	ICSA B	.4527	.0073	.9255	-.0013
25	CCV	4.964	.0080	5.049	4.833
26	CCB	.0051	.0010	.0009	.0045

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LABCORE Data Entry Template for Worklist# 14158

Analyst: J. WORRELL Instrument: ICP01 _____ Book# 52B48BMethod: LA-505-151/161 Rev/Mod D-3

Worklist Comment: ICP AN-104 (FUSION)

S Type	Sample#	R A	Test	Matrix	Group#	Project
1	ICV		@ICP-QC	QC		
2	ICB		@ICP-QC	QC		
3	LLS		@ICP-QC	QC		
4	ICSA		@ICP-QC	QC		
5	ICSAB		@ICP-QC	QC		
6	PREPBLK ICV <u>ICV</u>		@ICP-F01	SOLID		
7	SERDIL <u>S96T005032</u>	0 F	@ICP-F01	SOLID		
8	SAMPLE <u>S96T005032</u>	0 F	@ICP-F01	SOLID	96001174	AN-104
Analytes Requested: AG-F-01, AL-F-01, AS-F-01, B-F-01, BA-F-01, BE-F-01, BI-F-01, CA-F-01, CD-F-01, CE-F-01, CO-F-01, CR-F-01, CU-F-01, FE-F-01, K-F-01, LA-F-01, LI-F-01, MG-F-01, MN-F-01, MO-F-01, NA-F-01, ND-F-01, NI-F-01, P-F-01, PB-F-01, S-F-01, SB-F-01, SE-F-01, SI-F-01, SM-F-01, SR-F-01, TI-F-01, TL-F-01, U-F-01, V-F-01, ZN-F-01, ZR-F-01						
9	DUP	S96T005032	0 F	@ICP-F01	SOLID	
10	SPK	S96T005032	0 F	@ICP-F01	SOLID	
11	CCV		@ICP-QC	QC		
12	CCB		@ICP-QC	QC		
13	SAMPLE	S96T005033	0 F	@ICP-F01	SOLID	96001174 AN-104
Analytes Requested: AG-F-01, AL-F-01, AS-F-01, B-F-01, BA-F-01, BE-F-01, BI-F-01, CA-F-01, CD-F-01, CE-F-01, CO-F-01, CR-F-01, CU-F-01, FE-F-01, K-F-01, LA-F-01, LI-F-01, MG-F-01, MN-F-01, MO-F-01, NA-F-01, ND-F-01, NI-F-01, P-F-01, PB-F-01, S-F-01, SB-F-01, SE-F-01, SI-F-01						

Data Entry Comments:

Sample weight calculation:

$$S96T005032 \quad \text{Al} = 43.968 \text{ ug} \times \frac{1}{2.027 \text{ g}} \times \frac{1 \text{ g}}{1 \text{ mmol}} = 2.17 \text{ ug/g}$$

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

Note: 2.027 g is sample prep dilution factor

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LABCORE Data Entry Template for Worklist# 14158

S Type	Sample#	R	A	Test	Matrix	Group#	Project
				SM-F-01, SR-F-01, TI-F-01, TL-F-01, U-F-01, V-F-01, ZN-F-01, ZR-F-01			
14 DUP	S96T005033	0	F	@ICP-F01	SOLID		
15 SAMPLE	S96T005036	0	F	@ICP-F01	SOLID	96001174	AN-104
Analytes Requested: AG-F-01, AL-F-01, AS-F-01, B-F-01, BA-F-01, BE-F-01, BI-F-01, CA-F-01, CD-F-01, CE-F-01, CO-F-01, CR-F-01, CU-F-01, FE-F-01, K-F-01, LA-F-01, LI-F-01, MG-F-01, MN-F-01, MO-F-01, NA-F-01, ND-F-01, NI-F-01, P-F-01, PB-F-01, S-F-01, SB-F-01, SE-F-01, SI-F-01, SM-F-01, SR-F-01, TI-F-01, TL-F-01, U-F-01, V-F-01, ZN-F-01, ZR-F-01							
16 DUP	S96T005036	0	F	@ICP-F01	SOLID		
17 SAMPLE	S96T005037	0	F	@ICP-F01	SOLID	96001174	AN-104
Analytes Requested: AG-F-01, AL-F-01, AS-F-01, B-F-01, BA-F-01, BE-F-01, BI-F-01, CA-F-01, CD-F-01, CE-F-01, CO-F-01, CR-F-01, CU-F-01, FE-F-01, K-F-01, LA-F-01, LI-F-01, MG-F-01, MN-F-01, MO-F-01, NA-F-01, ND-F-01, NI-F-01, P-F-01, PB-F-01, S-F-01, SB-F-01, SE-F-01, SI-F-01, SM-F-01, SR-F-01, TI-F-01, TL-F-01, U-F-01, V-F-01, ZN-F-01, ZR-F-01							
18 DUP	S96T005037	0	F	@ICP-F01	SOLID		
19 ICSA				@ICP-QC	QC		
20 ICSAB				@ICP-QC	QC		
21 CCV				@ICP-QC	QC		
22 CCB				@ICP-QC	QC		

Final page for worklist # 14158

Analyst Signature	Date	DF	Analyst Signature	Date	DF
<i>[Signature]</i>	11-19-96		<i>[Signature]</i>	11/20/96	
S96T005032	DIL SX .250-9.75-2-8	200	S96T005033	SAM .250-9.75	40
	SAM .250-9.75	40	DUP .250-9.75	40	
	DUP .250-9.75	40	S96T005036	SAM .250-9.75	40
	PSPK .250-2-7.5	40	DUP .250-9.75	40	
	10APMSPK .250-1-1-7.5	40			
S96T005037	SAM .250-9.75	40			
	DUP .250-9.75	40			

Data Entry Comments: Spike Recovery Calculation:

$$S96T005032 \quad \text{AL} = \left(\frac{86.206}{40} \right) - \left(\frac{43.968}{40} \right) \times 100 = 106.0 \%$$

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

Note: Spike true value is 1.0 ppm for all elements except for U = 2.0 ppm

HNF-SD-WM-DP-226, REV. 0

Identity 1: ICV

Identity 2: Quality Control

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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	5.103	5.017	5.269	4.816	4.846	5.119	4.999	4.642
S.D.	0.020	0.029	0.005	0.022	0.030	0.022	0.019	0.026
% R.S.D.	0.397	0.569	0.101	0.454	0.621	0.428	0.386	0.562
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.234	5.057	5.035	5.153	4.909	5.115	5.103	9.936
S.D.	0.026	0.019	0.016	0.019	0.018	0.019	0.021	0.027
% R.S.D.	0.488	0.383	0.313	0.360	0.372	0.365	0.414	0.275
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	5.016	4.973	4.985	5.123	4.992	5.123	5.146	4.610
S.D.	0.038	0.008	0.027	0.088	0.068	0.028	0.044	0.024
% R.S.D.	0.754	0.168	0.535	1.722	1.354	0.548	0.857	0.511
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	5.119	4.798	5.053	5.000	4.831	5.097	5.072	5.215
S.D.	0.042	0.020	0.017	0.038	0.028	0.026	0.014	0.015
% R.S.D.	0.827	0.409	0.337	0.765	0.588	0.515	0.267	0.295
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	5.093	4.851	5.189	5.184	4.723			
S.D.	0.015	0.044	0.017	0.011	0.007			
% R.S.D.	0.286	0.909	0.325	0.211	0.151			

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 172 TO 174

J. R. Worell

11-16-96

FILE No: 961119C.DAT

WORKLIST No: 14158

5967005032, 5033, 5036, 5037

AN-104 FUSION

NOTE: Na failed in the first post spike. A second post spike
was made and the result is:

$$Na = \frac{(895.722)}{40} - \frac{(486.325)}{40} \times 100 = 102.4\%$$

Identity 1: ICB

Identity 2: Quality Control

7:57 PM November 19, 1996

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	0.005	0.000	0.019	0.012	0.014	-0.005	0.001	0.001
S.D.	0.000	0.000	0.005	0.002	0.004	0.002	0.000	0.000
% R.S.D.	4.442	31.225	26.987	17.265	27.650	43.682	4.718	16.220

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.000	0.007	0.002	-0.003	-0.002	0.001	-0.005	0.218
S.D.	0.000	0.002	0.001	0.002	0.000	0.002	0.002	0.016
% R.S.D.	113.186	25.976	81.633	73.986	6.030	132.135	46.213	7.126

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.042	0.011	0.001	0.023	0.014	-0.000	0.007	0.013
S.D.	0.006	0.000	0.000	0.010	0.005	0.000	0.005	0.001
% R.S.D.	14.781	3.455	15.236	43.358	34.338	218848.853	71.947	11.550

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	-0.002	-0.001	0.002	0.020	0.002	0.002	0.001	0.025
S.D.	0.001	0.007	0.000	0.008	0.000	0.001	0.001	0.004
% R.S.D.	56.719	886.749	11.662	41.582	6.218	38.877	79.136	16.427

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.001	0.003	0.002	0.000	0.079
S.D.	0.000	0.012	0.001	0.000	0.009
% R.S.D.	72.274	451.474	60.445	338.354	11.049

HNF-SD-WM-DP-226, REV. 0

Identity 1: LLS

Identity 2: Quality Control

8:00 PM November 19, 1996

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	0.214	0.185	0.093	0.038	0.022	0.020
S.D.	0.001	0.000	0.016	0.004	0.007	0.002	0.000	0.000
% R.S.D.	5.539	0.356	7.462	2.024	7.134	5.420	1.854	1.083

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.020	0.047	0.106	0.095	0.217	0.020	0.200	0.530
S.D.	0.000	0.002	0.002	0.002	0.000	0.001	0.003	0.052
% R.S.D.	1.369	4.394	1.843	2.202	0.165	4.514	1.499	9.717

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.197	0.208	0.103	0.435	0.200	0.208	0.206	0.199
S.D.	0.013	0.006	0.000	0.020	0.004	0.000	0.007	0.001
% R.S.D.	6.605	2.930	0.018	4.629	1.814	0.175	3.346	0.740

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.096	0.191	0.020	0.220	0.021	0.010	0.105	0.582
S.D.	0.001	0.008	0.001	0.013	0.000	0.001	0.000	0.008
% R.S.D.	1.061	4.064	3.313	6.074	1.703	5.609	0.113	1.341

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.021	0.079	0.102	0.010	0.443
S.D.	0.000	0.038	0.001	0.000	0.029
% R.S.D.	2.384	48.079	0.764	2.515	6.641

HNF-SD-WM-DP-226, REV. 0

Identity 1: ICSA Identity 2: Quality Control

8:04 PM November 19, 1996

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	0.007	0.003	-0.006	0.009	195.068	-0.002	0.002	0.001
S.D.	0.002	0.000	0.008	0.006	1.846	0.003	0.001	0.000
% R.S.D.	28.241	5.161	125.681	68.855	0.946	162.005	52.761	21.923
<hr/>								
	Zn	Ni	La	Fe	Ca	Cr	Nd	U
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	0.006	0.011	0.006	98.295	102.204	-0.001	-0.030	0.190
S.D.	0.000	0.002	0.004	0.098	0.478	0.000	0.007	0.084
% R.S.D.	6.126	18.577	70.516	0.100	0.468	23.052	24.896	44.289
<hr/>								
	Ce	Sm	Ba	P	S	Mg	As	Na
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	0.074	0.095	0.003	0.040	0.033	95.256	0.106	177.450
S.D.	0.023	0.017	0.000	0.004	0.003	0.583	0.005	2.785
% R.S.D.	30.811	18.129	17.238	8.856	8.534	0.612	4.786	1.570
<hr/>								
	Mo	Se	Ag	Pb	Ti	Cd	B	K
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	0.001	0.028	0.002	-0.019	0.003	0.002	0.015	0.179
S.D.	0.002	0.016	0.001	0.016	0.001	0.000	0.001	0.011
% R.S.D.	177.717	55.113	59.751	82.043	22.807	16.785	6.746	6.096
<hr/>								
	Mn	Sb	V	Be	Tl			
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)			
Mean	-0.000	-0.021	0.003	0.003	0.076			
S.D.	0.001	0.021	0.001	0.000	0.036			
% R.S.D.	1622.758	100.406	38.227	5.497	47.350			

HNF-SD-WM-DP-226, REV. 0

Identity 1: ICSAB

Identity 2: Quality Control

8:08 PM November 19, 1996

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	-0.015	0.005	199.114	0.493	0.492	0.896
S.D.	0.000	0.000	0.005	0.004	1.078	0.005	0.001	0.002
% R.S.D.	16.978	1.575	37.151	72.899	0.541	1.083	0.180	0.181

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	1.023	0.997	0.004	99.459	103.561	0.503	-0.042	0.156
S.D.	0.003	0.004	0.001	0.214	0.344	0.002	0.010	0.021
% R.S.D.	0.313	0.442	17.454	0.215	0.332	0.461	24.229	13.489

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.008	0.110	0.506	0.019	0.047	98.450	0.089	181.541
S.D.	0.004	0.003	0.002	0.022	0.015	0.671	0.005	0.429
% R.S.D.	48.340	3.121	0.365	113.016	32.366	0.681	5.433	0.236

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	-0.003	0.088	1.040	0.962	0.002	1.004	0.015	0.204
S.D.	0.003	0.028	0.002	0.013	0.000	0.000	0.000	0.020
% R.S.D.	90.890	31.954	0.145	1.314	2.853	0.044	1.874	9.768

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.501	-0.052	0.511	0.505	0.067
S.D.	0.002	0.009	0.002	0.001	0.004
% R.S.D.	0.491	16.897	0.337	0.113	6.532

HNF-SD-WM-DP-226, REV. 0

8:12 PM November 19, 1996

Identity 1: prepbilkarl Identity 2: .250ml-9.75ml

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	0.005	0.002	0.008	0.018	0.006	-0.006	0.001	0.001
S.D.	0.001	0.000	0.004	0.005	0.004	0.004	0.001	0.000
% R.S.D.	24.325	6.030	48.442	25.258	79.164	63.911	61.725	40.425

	Zn	Ni	La	Fe	Ca	Cr	Nd	U
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	0.006	0.064	0.002	-0.006	0.015	0.002	-0.009	0.156
S.D.	0.000	0.002	0.001	0.003	0.000	0.001	0.002	0.046
% R.S.D.	4.423	3.717	41.122	47.256	0.960	80.853	19.422	29.654

	Ce	Sm	Ba	P	S	Mg	As	Na
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	0.017	-0.002	0.001	0.020	0.002	0.001	0.002	2.665
S.D.	0.019	0.010	0.000	0.012	0.000	0.000	0.003	0.016
% R.S.D.	110.774	483.205	36.743	61.595	23.841	38.210	140.517	0.582

	Mo	Se	Ag	Pb	Ti	Cd	B	K
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	-0.001	-0.001	0.001	0.001	0.002	0.000	-0.001	442.373
S.D.	0.002	0.010	0.001	0.004	0.001	0.001	0.000	2.763
% R.S.D.	170.299	749.273	165.545	523.099	24.393	1145.437	15.259	0.625

	Mn	Sb	V	Be	Tl
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	0.002	0.029	-0.001	0.000	0.005
S.D.	0.000	0.017	0.001	0.000	0.018
% R.S.D.	0.253	58.408	131.857	119.656	337.611

HNF-SD-WM-DP-226, REV. 0

Identity 1: S96t005032_L Identity 2: .25ml-9.75ml-2ml-8ml

8:17 PM November 19, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 200.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.514	0.125	-1.362	2.636	42.632	-0.335	0.173	0.135
S.D.	0.335	0.046	1.803	0.658	0.920	0.004	0.047	0.090
% R.S.D.	65.229	36.661	132.343	24.947	2.158	1.087	27.051	66.870

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	3.520	10.569	0.259	-1.220	4.253	4.744	1.540	15.805
S.D.	0.096	0.139	0.444	0.003	0.022	0.272	0.462	18.246
% R.S.D.	2.722	1.315	171.607	0.234	0.514	5.742	30.024	115.443

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	1.541	4.287	0.051	7.527	8.672	0.014	-0.053	521.184
S.D.	4.890	3.110	0.084	1.982	0.223	0.000	0.076	1.530
% R.S.D.	317.351	72.538	166.559	26.333	2.567	0.055	143.161	0.294

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	-0.647	2.126	0.371	2.840	0.271	0.154	-0.529	22290.491
S.D.	0.021	2.162	0.213	0.785	0.075	0.058	0.068	48.625
% R.S.D.	3.209	101.684	57.242	27.637	27.502	37.462	12.861	0.218

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.080	3.340	0.017	0.019	7.373
S.D.	0.036	4.734	0.260	0.032	7.191
% R.S.D.	44.465	141.728	1558.811	164.283	97.535

HNF-SD-WM-DP-226, REV. 0

Identity 1: S96t005032 Identity 2: .25ml-9.75ml

8:20 PM November 19, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 40.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.024	0.106	-0.094	1.327	43.968	0.261	0.114	0.078
S.D.	0.005	0.002	0.123	0.057	0.130	0.082	0.004	0.002
% R.S.D.	22.394	1.634	130.841	4.306	0.296	31.275	3.188	2.408

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.641	11.047	-0.002	-0.262	1.664	4.941	0.115	-3.449
S.D.	0.013	0.063	0.051	0.069	0.012	0.061	0.114	0.300
% R.S.D.	1.991	0.569	2717.741	26.330	0.696	1.237	98.919	8.692

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	2.026	-0.529	0.062	0.880	7.935	0.053	0.246	486.325
S.D.	0.216	0.112	0.003	0.119	0.019	0.008	0.197	4.261
% R.S.D.	10.655	21.266	5.670	13.505	0.244	15.799	80.306	0.876

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.149	-0.969	0.062	-0.064	-0.008	0.053	0.160	20555.821
S.D.	0.008	0.522	0.008	0.278	0.011	0.041	0.038	87.314
% R.S.D.	5.581	53.912	12.918	433.309	132.328	77.299	23.509	0.425

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.154	-0.968	0.076	-0.004	3.363
S.D.	0.000	0.501	0.047	0.000	0.631
% R.S.D.	0.021	51.728	62.693	1.426	18.779

HNF-SD-WM-DP-226, REV. 0

Identity 1: S96t005032_D Identity 2: .25ml-9.75ml

8:23 PM November 19, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 40.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.178	0.055	-0.202	1.572	42.645	0.066	0.035	0.027
S.D.	0.104	0.012	0.251	0.200	0.262	0.081	0.032	0.023
% R.S.D.	58.471	22.709	124.215	12.743	0.614	122.735	90.600	86.799

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.855	2.928	0.136	-0.129	1.063	4.839	-0.178	4.114
S.D.	0.013	0.060	0.079	0.217	0.003	0.138	0.522	3.629
% R.S.D.	1.522	2.050	57.665	168.451	0.269	2.851	292.838	88.215

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.348	1.609	0.022	2.697	8.051	0.053	0.422	447.861
S.D.	1.385	0.687	0.018	0.250	0.238	0.000	0.219	4.141
% R.S.D.	398.208	42.727	82.493	9.257	2.957	0.003	51.987	0.925

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.108	1.265	-0.052	0.326	0.055	-0.034	0.136	12884.817
S.D.	0.023	0.308	0.065	0.405	0.033	0.046	0.019	111.022
% R.S.D.	21.390	24.372	123.382	124.381	59.668	135.439	14.115	0.862

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.093	0.980	0.062	-0.009	0.506
S.D.	0.008	0.411	0.050	0.012	2.298
% R.S.D.	8.122	41.889	80.192	128.417	453.720

HNF-SD-WM-DP-226, REV. 0

8:26 PM November 19, 1996

Identity 1: S96t005032_A Identity 2: .25ml-2ml-7.75ml

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 40.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	43.171	42.644	44.148	42.367	86.206	42.046	42.884	37.876
S.D.	0.060	0.056	0.303	0.165	0.531	0.215	0.168	0.137
% R.S.D.	0.139	0.132	0.687	0.389	0.616	0.510	0.391	0.363

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	42.928	52.939	42.596	42.772	41.714	47.392	43.320	88.569
S.D.	0.144	0.278	0.182	0.371	0.093	0.262	0.792	2.568
% R.S.D.	0.335	0.525	0.427	0.868	0.224	0.553	1.828	2.899

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	41.823	43.493	42.350	43.829	49.288	41.832	43.304	552.766
S.D.	0.956	0.410	0.082	0.728	0.502	0.156	0.426	1.466
% R.S.D.	2.286	0.943	0.193	1.661	1.018	0.373	0.983	0.265

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	42.435	40.124	35.150	41.123	40.793	41.923	41.319	21579.597
S.D.	0.109	1.130	0.122	0.324	0.079	0.069	0.077	65.224
% R.S.D.	0.256	2.817	0.347	0.788	0.193	0.164	0.185	0.302

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	42.208	40.485	43.343	42.041	40.837
S.D.	0.221	0.646	0.139	0.000	1.498
% R.S.D.	0.524	1.596	0.320	0.001	3.742

HNF-SD-WM-DP-226, REV. 0

Identity 1: S96t005032_10ppm.spk Identity 2: .25ml-1ml-1ml-7.5ml

8:30 PM November 19, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 40.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	428.154	417.111	434.803	411.802	466.917	-1.095	0.003	379.036
S.D.	1.392	1.700	1.446	1.879	1.274	0.081	0.022	2.708
% R.S.D.	0.325	0.408	0.332	0.456	0.273	7.410	859.585	0.715

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	1.721	414.779	421.933	416.273	415.428	415.418	432.270	9.066
S.D.	0.014	2.095	1.078	1.122	1.348	2.043	2.734	1.488
% R.S.D.	0.832	0.505	0.255	0.270	0.325	0.492	0.632	16.410

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	416.016	415.849	419.402	427.348	417.265	404.554	418.474	895.772
S.D.	3.022	1.508	1.819	3.956	2.632	2.069	2.676	5.863
% R.S.D.	0.727	0.363	0.434	0.926	0.631	0.511	0.639	0.654

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	402.356	387.275	339.941	406.719	370.967	408.138	402.488	21832.494
S.D.	2.564	2.238	1.386	1.996	1.581	1.113	1.540	130.563
% R.S.D.	0.637	0.578	0.408	0.491	0.426	0.273	0.383	0.598

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	409.529	417.186	3.022	412.713	386.822
S.D.	1.162	1.543	0.028	1.294	1.264
% R.S.D.	0.284	0.370	0.924	0.313	0.327

HNF-SD-WM-DP-226, REV. 0

Identity 1: CCV

Identity 2: Quality Control

8:33 PM November 19, 1996

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	5.124	5.043	5.229	4.765	4.887	5.052	5.109	4.778
S.D.	0.014	0.026	0.012	0.007	0.021	0.015	0.036	0.066
% R.S.D.	0.266	0.517	0.223	0.153	0.420	0.305	0.706	1.374
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.149	4.995	5.092	5.201	4.984	5.067	5.269	9.895
S.D.	0.016	0.022	0.011	0.011	0.021	0.017	0.027	0.029
% R.S.D.	0.313	0.433	0.225	0.207	0.413	0.336	0.519	0.291
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	5.017	5.050	5.049	5.068	4.888	5.034	5.105	4.754
S.D.	0.008	0.020	0.032	0.041	0.037	0.012	0.032	0.050
% R.S.D.	0.165	0.387	0.643	0.817	0.764	0.245	0.632	1.042
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	5.046	4.762	5.048	4.978	4.830	5.061	5.118	5.430
S.D.	0.008	0.038	0.009	0.044	0.013	0.010	0.015	0.028
% R.S.D.	0.152	0.791	0.175	0.887	0.280	0.193	0.286	0.524
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	5.066	4.908	5.180	5.231	4.755			
S.D.	0.018	0.019	0.005	0.014	0.057			
% R.S.D.	0.353	0.386	0.100	0.263	1.196			

HNF-SD-WM-DP-226, REV. 0

Identity 1: CCB

Identity 2: Quality Control

8:36 PM November 19, 1996

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	-0.006	-0.005	0.001	0.003	0.002	0.002
S.D.	0.001	0.001	0.001	0.002	0.008	0.002	0.000	0.000
% R.S.D.	59.887	37.192	11.430	42.666	806.721	57.791	13.183	15.455

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.001	0.002	-0.001	-0.004	-0.001	0.004	0.016	-0.090
S.D.	0.001	0.003	0.002	0.003	0.001	0.001	0.005	0.068
% R.S.D.	45.849	109.830	169.662	64.373	119.912	35.311	28.522	75.330

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.039	-0.011	0.002	-0.005	0.005	0.001	0.005	0.020
S.D.	0.012	0.008	0.000	0.012	0.005	0.001	0.006	0.004
% R.S.D.	31.657	75.860	27.983	257.726	96.301	54.698	111.743	22.594

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.002	-0.019	0.021	0.009	0.001	0.001	0.010	0.351
S.D.	0.001	0.004	0.002	0.006	0.000	0.001	0.001	0.008
% R.S.D.	49.181	20.245	8.477	63.785	11.786	99.078	12.919	2.351

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.001	0.029	0.003	0.001	0.050
S.D.	0.001	0.010	0.000	0.001	0.021
% R.S.D.	45.972	34.655	5.470	53.853	42.961

HNF-SD-WM-DP-226, REV. 0

Identity 1: S96t005033 Identity 2: .25ml-9.75ml

8:40 PM November 19, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 40.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.199	0.082	0.302	2.063	47.417	-0.160	0.034	0.023
S.D.	0.061	0.006	0.476	0.105	0.033	0.081	0.020	0.014
% R.S.D.	30.537	7.616	157.766	5.102	0.071	50.622	58.509	59.717
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.718	5.222	0.189	-0.185	0.598	2.615	-0.103	7.902
S.D.	0.014	0.108	0.030	0.044	0.007	0.006	0.103	2.116
% R.S.D.	1.965	2.061	15.892	23.875	1.204	0.211	99.763	26.778
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.411	1.957	0.021	2.640	7.483	0.045	0.195	477.721
S.D.	0.721	0.451	0.011	0.156	0.155	0.008	0.150	4.689
% R.S.D.	175.368	23.038	50.523	5.911	2.067	18.756	76.649	0.982
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.096	0.490	-0.010	-0.048	0.101	0.019	0.202	14848.846
S.D.	0.052	0.388	0.045	0.620	0.020	0.012	0.064	107.681
% R.S.D.	54.027	79.245	431.778	1295.606	19.997	59.674	31.913	0.725
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	0.098	0.019	-0.002	-0.002	2.032			
S.D.	0.007	0.568	0.051	0.010	1.093			
% R.S.D.	7.436	2961.924	2076.855	532.950	53.786			

HNF-SD-WM-DP-226, REV. 0

Identity 1: S96t005033_D Identity 2: .25ml-9.75ml

8:43 PM November 19, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 40.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.084	0.085	-0.092	1.786	48.688	-0.059	0.034	0.035
S.D.	0.050	0.003	0.451	0.066	0.378	0.081	0.024	0.002
% R.S.D.	59.358	4.075	489.961	3.720	0.776	137.565	72.216	5.428

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.236	3.949	0.002	-0.205	0.572	2.808	-0.128	4.911
S.D.	0.007	0.075	0.101	0.034	0.016	0.035	0.156	0.906
% R.S.D.	2.875	1.891	4757.300	16.436	2.759	1.231	122.145	18.453

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.463	0.977	0.019	2.341	7.610	0.020	0.046	508.295
S.D.	0.402	0.246	0.005	0.082	0.187	0.000	0.267	0.970
% R.S.D.	86.760	25.220	28.199	3.497	2.454	0.008	582.603	0.191

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.050	0.347	0.035	-0.129	0.062	0.046	0.082	16945.486
S.D.	0.034	0.246	0.011	0.089	0.021	0.033	0.047	56.824
% R.S.D.	67.370	71.024	30.132	69.266	34.173	71.913	57.908	0.335

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.107	-0.102	0.040	-0.012	2.758
S.D.	0.007	0.853	0.013	0.000	0.217
% R.S.D.	6.939	834.875	32.055	1.401	7.872

HNF-SD-WM-DP-226, REV. 0

Identity 1: S96t005036 Identity 2: .25ml-9.75ml

8:45 PM November 19, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 40.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bf (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.152	0.078	0.030	1.440	44.282	0.074	0.073	0.051
S.D.	0.055	0.005	0.348	0.049	0.206	0.082	0.013	0.010
% R.S.D.	35.935	6.662	1177.074	3.398	0.465	110.921	17.377	20.553

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.857	9.790	0.036	-0.306	3.044	2.717	0.149	6.320
S.D.	0.013	0.031	0.030	0.048	0.009	0.129	0.186	1.914
% R.S.D.	1.511	0.314	81.923	15.811	0.303	4.749	124.997	30.282

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.807	1.029	0.035	1.956	7.118	0.182	-0.138	475.681
S.D.	0.467	0.283	0.010	0.062	0.172	0.005	0.069	0.991
% R.S.D.	57.876	27.447	27.473	3.159	2.423	2.665	50.331	0.208

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.053	0.651	0.102	-0.062	0.069	0.031	0.033	16017.224
S.D.	0.022	0.360	0.037	0.517	0.011	0.061	0.014	21.627
% R.S.D.	40.819	55.277	36.003	830.660	16.449	197.020	41.841	0.135

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.108	-1.393	0.019	-0.002	2.673
S.D.	0.007	0.309	0.036	0.010	0.784
% R.S.D.	6.821	22.153	186.319	463.919	29.322

HNF-SD-WM-DP-226, REV. 0

Identity 1: S96t005036_D Identity 2: .25ml-9.75ml

8:48 PM November 19, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 40.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr	Sr	Bf	Si	Al	Co	Cu	Li
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	-0.090	0.081	-0.008	0.797	46.006	0.024	0.153	0.097
S.D.	0.030	0.005	0.206	0.038	0.083	0.000	0.009	0.007
% R.S.D.	33.237	6.415	2685.385	4.720	0.181	0.415	5.990	6.945
	Zn	Ni	La	Fe	Ca	Cr	Nd	U
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	1.003	6.576	0.015	-0.226	0.906	3.026	0.619	-3.147
S.D.	0.004	0.082	0.078	0.043	0.003	0.065	0.179	1.189
% R.S.D.	0.445	1.243	511.939	19.137	0.316	2.154	28.969	37.788
	Ce	Sm	Ba	P	S	Mg	As	Na
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	3.072	-0.065	0.074	2.525	7.040	0.087	0.414	471.736
S.D.	0.345	0.215	0.005	0.302	0.117	0.008	0.184	1.237
% R.S.D.	11.246	477.914	7.435	11.977	1.665	9.680	44.469	0.262
	Mo	Se	Ag	Pb	Ti	Cd	B	K
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	0.216	-1.285	0.184	0.008	-0.001	0.076	0.054	13858.998
S.D.	0.018	0.578	0.014	0.198	0.008	0.023	0.017	26.328
% R.S.D.	8.384	45.015	7.595	2377.982	682.692	29.984	32.479	0.190
	Mn	Sb	V	Be	Tl			
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)			
Mean	0.107	0.324	0.209	0.006	3.480			
S.D.	0.008	0.498	0.017	0.000	0.269			
% R.S.D.	7.079	153.557	7.923	3.801	7.733			

HNF-SD-WM-DP-226, REV. 0

Identity 1: S96t005037 Identity 2: .25ml-9.75ml

8:51 PM November 19, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 40.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.255	0.092	0.267	1.279	48.809	0.302	0.134	0.072
S.D.	0.038	0.005	0.331	0.116	0.180	0.141	0.009	0.003
% R.S.D.	14.758	4.981	123.888	9.092	0.369	46.770	6.565	4.483

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.495	1.623	0.021	-0.168	1.594	2.918	0.567	8.494
S.D.	0.009	0.048	0.058	0.081	0.002	0.037	0.458	1.573
% R.S.D.	1.810	2.960	282.865	48.099	0.104	1.254	80.658	18.524

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	3.299	0.995	0.068	0.665	7.085	0.034	0.546	446.025
S.D.	0.068	0.238	0.004	0.212	0.106	0.005	0.241	3.521
% R.S.D.	2.070	23.967	5.807	31.918	1.501	14.439	44.199	0.789

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.180	1.222	0.107	0.109	0.116	0.107	0.141	11476.359
S.D.	0.036	0.091	0.033	0.554	0.012	0.026	0.047	64.526
% R.S.D.	20.121	7.487	30.654	507.895	10.702	24.673	33.244	0.562

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.110	0.660	0.145	0.008	3.194
S.D.	0.015	0.625	0.037	0.010	1.021
% R.S.D.	13.595	94.721	25.409	124.729	31.967

HNF-SD-WM-DP-226, REV. 0

Identity 1: S96t005037.D Identity 2: .25ml-9.75ml

8:54 PM November 19, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 40.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.134	0.061	-0.085	1.319	50.089	-0.020	0.069	0.027
S.D.	0.021	0.005	0.557	0.141	0.299	0.081	0.023	0.010
% R.S.D.	16.032	7.512	654.063	10.712	0.597	405.942	34.089	36.128

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	1.387	1.062	-0.099	-0.257	0.974	2.719	0.325	4.886
S.D.	0.026	0.013	0.051	0.057	0.007	0.077	0.077	1.337
% R.S.D.	1.903	1.244	51.479	22.322	0.740	2.833	23.849	27.357

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.126	1.571	0.018	1.875	7.338	0.053	0.160	475.239
S.D.	0.283	0.340	0.009	0.273	0.096	0.008	0.119	1.389
% R.S.D.	224.834	21.634	49.943	14.571	1.310	15.795	74.306	0.292

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.072	-0.464	-0.050	0.313	0.111	0.035	0.128	12081.131
S.D.	0.032	0.562	0.046	0.431	0.026	0.013	0.031	32.414
% R.S.D.	45.023	121.242	90.948	137.757	22.939	38.384	24.194	0.268

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.089	-0.562	-0.022	-0.022	0.603
S.D.	0.000	0.475	0.038	0.010	0.663
% R.S.D.	0.170	84.552	173.949	44.165	109.939

HNE-SD-WM-DP-226, REV. 0

Identity 1: ICSA Identity 2: Quality Control

9:01 PM November 19, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.006	0.003	-0.023	0.014	202.452	-0.007	0.001	0.001
S.D.	0.004	0.000	0.011	0.007	0.734	0.002	0.001	0.001
% R.S.D.	66.875	12.643	46.042	50.628	0.363	21.043	149.663	64.196

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.006	0.012	0.010	98.494	103.952	-0.005	-0.048	0.143
S.D.	0.001	0.001	0.004	0.145	0.157	0.001	0.007	0.139
% R.S.D.	8.221	11.246	37.601	0.147	0.151	23.367	14.580	97.074

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.014	0.099	0.002	0.037	0.021	93.262	0.088	187.304
S.D.	0.038	0.021	0.001	0.015	0.003	0.648	0.002	2.650
% R.S.D.	272.984	20.662	32.929	41.464	16.192	0.695	1.711	1.415

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	-0.002	0.035	0.001	-0.018	0.002	0.002	0.011	0.114
S.D.	0.002	0.017	0.002	0.017	0.001	0.001	0.001	0.028
% R.S.D.	109.036	47.829	180.246	90.471	51.107	40.021	5.091	24.149

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.001	0.013	-0.000	0.002	0.035
S.D.	0.001	0.011	0.002	0.000	0.060
% R.S.D.	98.097	86.453	2001.722	10.655	171.536

HNF-SD-WM-DP-226, REV. 0

Identity 1: ICSAB Identity 2: Quality Control

9:04 PM November 19, 1996

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	0.003	-0.009	-0.001	202.086	0.499	0.502	0.909
S.D.	0.001	0.000	0.007	0.004	0.313	0.000	0.001	0.006
% R.S.D.	151.471	1.293	72.198	295.387	0.155	0.036	0.219	0.650
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	1.002	0.984	0.007	99.316	103.643	0.502	-0.018	0.022
S.D.	0.002	0.000	0.003	0.177	0.124	0.002	0.002	0.033
% R.S.D.	0.229	0.023	45.857	0.178	0.119	0.473	13.706	150.205
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.078	0.069	0.511	0.032	0.025	95.742	0.094	183.274
S.D.	0.010	0.006	0.001	0.004	0.002	0.078	0.002	1.100
% R.S.D.	12.243	9.227	0.130	13.627	8.752	0.082	2.392	0.600
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	-0.001	0.045	1.037	0.968	0.001	0.993	0.013	0.277
S.D.	0.002	0.023	0.002	0.007	0.000	0.001	0.001	0.014
% R.S.D.	104.853	52.453	0.171	0.754	22.352	0.098	7.082	5.008
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	0.499	0.015	0.513	0.506	0.086			
S.D.	0.001	0.013	0.001	0.001	0.012			
% R.S.D.	0.292	89.875	0.216	0.124	14.415			

HNF-SD-WM-DP-226, REV. 0

Identity 1: CCV

Identity 2: Quality Control

9:07 PM November 19, 1996

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	5.177	5.104	5.340	4.899	5.040	5.230	5.095	4.738
S.D.	0.009	0.020	0.027	0.002	0.022	0.009	0.019	0.037
% R.S.D.	0.167	0.394	0.501	0.040	0.440	0.169	0.369	0.786
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.332	5.134	5.111	5.264	4.994	5.230	5.183	9.924
S.D.	0.005	0.005	0.005	0.020	0.009	0.012	0.020	0.018
% R.S.D.	0.097	0.096	0.100	0.382	0.190	0.231	0.379	0.182
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	5.119	5.024	5.074	5.250	5.054	5.226	5.250	4.783
S.D.	0.014	0.008	0.020	0.078	0.045	0.007	0.028	0.030
% R.S.D.	0.279	0.169	0.399	1.478	0.883	0.143	0.528	0.629
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	5.243	4.896	5.143	5.079	4.936	5.190	5.154	5.482
S.D.	0.008	0.044	0.004	0.042	0.013	0.005	0.012	0.013
% R.S.D.	0.153	0.895	0.079	0.831	0.268	0.089	0.229	0.233
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	5.178	4.983	5.285	5.257	4.809			
S.D.	0.011	0.022	0.009	0.004	0.017			
% R.S.D.	0.204	0.433	0.175	0.082	0.364			

HNF-SD-WM-DP-226, REV. 0

Identity 1: CCB

Identity 2: Quality Control

9:11 PM November 19, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr	Sr	Bj	Si	Al	Co	Cu	Li
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	0.004	-0.000	-0.024	0.005	-0.011	-0.006	0.000	0.000
S.D.	0.001	0.000	0.006	0.004	0.003	0.004	0.001	0.000
% R.S.D.	29.046	1492112.888	24.414	94.095	26.188	60.389	169.576	198.786
	Zn	Ni	La	Fe	Ca	Cr	Nd	U
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	-0.000	0.002	-0.001	-0.006	-0.003	0.002	-0.013	0.103
S.D.	0.000	0.001	0.002	0.003	0.000	0.001	0.004	0.033
% R.S.D.	95.716	52.089	243.874	47.655	1.431	49.155	32.259	31.645
	Ce	Sm	Ba	P	S	Mg	As	Na
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	-0.001	0.037	-0.000	0.022	0.016	0.000	0.012	0.011
S.D.	0.009	0.006	0.000	0.009	0.005	0.000	0.009	0.001
% R.S.D.	683.585	17.375	271.138	39.320	28.469	0.014	77.223	13.322
	Mo	Se	Ag	Pb	Ti	Cd	B	K
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	-0.001	0.030	-0.000	0.002	0.001	0.001	0.002	0.148
S.D.	0.001	0.016	0.001	0.001	0.000	0.001	0.001	0.021
% R.S.D.	122.849	53.048	382.616	65.125	31.614	172.079	47.588	14.529
	Mn	Sb	V	Be	Tl			
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)			
Mean	-0.000	-0.044	-0.000	0.000	0.033			
S.D.	0.000	0.016	0.000	0.000	0.023			
% R.S.D.	157.879	37.074	203.683	716.246	70.653			

10/21/96 12:29
 A-0004-1

Page: 1

LABCORE Data Entry Template for Worklist# 14159

Analyst: J. WORRELL Instrument: ICP01 Book# 64648A

Method: LA-505-151461 Rev/Mod D-3

Worklist Comment: ICP AN-104 (FUSION)

S Type	Sample#	R A	Test	Matrix	Group#	Project
1	ICV		@ICP-QC	QC		
2	ICB		@ICP-QC	QC		
3	LIS		@ICP-QC	QC		
4	ICSA		@ICP-QC	QC		
5	ICSAB		@ICP-QC	QC		
6	PREPBLKT ^{ARL}		@ICP-F01	SOLID		
7	SERDIL	S96T005031 0 F	@ICP-F01	SOLID		
8	SAMPLE	S96T005031 0 F	@ICP-F01	SOLID	96001174	AN-104
Analytes Requested: AG-F-01, AL-F-01, AS-F-01, B-F-01, BA-F-01, BE-F-01, BI-F-01, CA-F-01, CD-F-01, CE-F-01, CO-F-01, CR-F-01, CU-F-01, FE-F-01, K-F-01, LA-F-01, LI-F-01, MG-F-01, MN-F-01, MO-F-01, NA-F-01, ND-F-01, NI-F-01, P-F-01, PB-F-01, S-F-01, SB-F-01, SE-F-01, SI-F-01, SM-F-01, SR-F-01, TI-F-01, TL-F-01, U-F-01, V-F-01, ZN-F-01, ZR-F-01						
9	DUP	S96T005031 0 F	@ICP-F01	SOLID		
10	SPK	S96T005031 0 F	@ICP-F01	SOLID		
11	CCV		@ICP-QC	QC		
12	CCB		@ICP-QC	QC		
13	SAMPLE	S96T005034 0 F	@ICP-F01	SOLID	96001174	AN-104
Analytes Requested: AG-F-01, AL-F-01, AS-F-01, B-F-01, BA-F-01, BE-F-01, BI-F-01, CA-F-01, CD-F-01, CE-F-01, CO-F-01, CR-F-01, CU-F-01, FE-F-01, K-F-01, LA-F-01, LI-F-01, MG-F-01, MN-F-01, MO-F-01, NA-F-01, ND-F-01, NI-F-01, P-F-01, PB-F-01, S-F-01, SB-F-01, SE-F-01, SI-F-01						

Data Entry Comments: Sample weight calculation:

$$S96T005031 \quad Al = \frac{37.366}{41} \quad Al = 37.366 \text{ ug} \times \frac{1}{1.8315 \text{ g}} = \frac{16}{1.8315 \text{ g}} = 8.74 \text{ ug/g}$$

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

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A-0004-1

Page: 2

LABCORE Data Entry Template for Worklist# 14159

S Type	Sample#	R A	Test	Matrix	Group#	Project
			SM-F-01 , SR-F-01 , ZN-F-01 ,		TI-F-01 , TL-F-01 , U-F-01 , V-F-01 ,	
14 DUP	S96T005034	0 F	@ICP-F01	SOLID		
15 SAMPLE	S96T005038	0 F	@ICP-F01	SOLID	96001174	AN-104
Analytes Requested: AG-F-01 , AL-F-01 , AS-F-01 , B-F-01 , BA-F-01 , BE-F-01 , BI-F-01 , CA-F-01 , CD-F-01 , CE-F-01 , CO-F-01 , CR-F-01 , CU-F-01 , FE-F-01 , K-F-01 , LA-F-01 , LI-F-01 , MG-F-01 , MN-F-01 , MO-F-01 , NA-F-01 , ND-F-01 , NI-F-01 , P-F-01 , PB-F-01 , S-F-01 , SB-F-01 , SE-F-01 , SI-F-01 , SM-F-01 , SR-F-01 , TI-F-01 , TL-F-01 , U-F-01 , V-F-01 , ZN-F-01 , ZR-F-01						
16 DUP	S96T005038	0 F	@ICP-F01	SOLID		
17 SAMPLE	S96T005039	0 F	@ICP-F01	SOLID	96001174	AN-104
Analytes Requested: AG-F-01 , AL-F-01 , AS-F-01 , B-F-01 , BA-F-01 , BE-F-01 , BI-F-01 , CA-F-01 , CD-F-01 , CE-F-01 , CO-F-01 , CR-F-01 , CU-F-01 , FE-F-01 , K-F-01 , LA-F-01 , LI-F-01 , MG-F-01 , MN-F-01 , MO-F-01 , NA-F-01 , ND-F-01 , NI-F-01 , P-F-01 , PB-F-01 , S-F-01 , SB-F-01 , SE-F-01 , SI-F-01 , SM-F-01 , SR-F-01 , TI-F-01 , TL-F-01 , U-F-01 , V-F-01 , ZN-F-01 , ZR-F-01						
18 DUP	S96T005039	0 F	@ICP-F01	SOLID		
19 ICSA			@ICP-QC	QC		
20 ICSAB			@ICP-QC	QC		
21 CCV			@ICP-QC	QC		
22 CCB			@ICP-QC	QC		

Final page for worklist # 14159

Jeff Howell 12-4-96
 Analyst Signature Date
 PREPBLK ARL .250-9.75
 S96T005031 .250-9.75-2-B 200
 SAM .250-9.75 40
 DUP .250-9.75 40
 P.SPH .250-2-7.75 40
 10 AMSPK .250-1-1-7.75 40
 Data Entry Comments:

Revised by: Sam M. Pansy 12/4/96
 Analyst Signature Date
 S96T005034 SAM .250-9.75
 DUP .250-9.75
 S96T005038 SAM .250-9.75
 DUP .250-9.75
 S96T005039 SAM .250-9.75
 DUP .250-9.75

Spike recovery calculation: $Al = \left(\frac{75.278}{40} \right) - \left(\frac{37.366}{40} \right) \times 100 = 94.8\%$
 S96T005031

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

Note: Spike true value is 1.0 ppm for all elements except for U = 2.0 ppm

HNF-SD-WM-DP-226, REV. 0

Identity 1: ICV Identity 2: Quality Control 1:14 PM December 3, 1996
 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	5.040	5.069	5.224	5.038	4.788	4.860	5.000	4.804
S.D.	0.011	0.013	0.021	0.027	0.014	0.028	0.013	0.029
% R.S.D.	0.221	0.264	0.397	0.538	0.300	0.586	0.252	0.594
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	4.956	4.876	4.956	4.966	4.818	4.833	5.000	10.059
S.D.	0.023	0.037	0.011	0.008	0.011	0.011	0.017	0.058
% R.S.D.	0.470	0.754	0.214	0.162	0.222	0.223	0.338	0.575
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	4.882	5.213	5.056	5.059	4.997	4.943	5.145	4.737
S.D.	0.020	0.016	0.012	0.037	0.025	0.019	0.037	0.038
% R.S.D.	0.400	0.310	0.240	0.726	0.509	0.393	0.728	0.801
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	4.944	4.861	4.897	4.731	4.714	4.912	4.958	4.828
S.D.	0.017	0.006	0.017	0.019	0.018	0.016	0.019	0.042
% R.S.D.	0.336	0.126	0.349	0.401	0.384	0.334	0.391	0.879
	Mn (ppm)	Sb (ppm)	V (ppm)	Se (ppm)	Tl (ppm)			
Mean	4.883	5.074	4.995	5.117	4.770			
S.D.	0.010	0.018	0.016	0.005	0.022			
% R.S.D.	0.195	0.358	0.321	0.089	0.469			

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1777 TO 1779

John W. Hall
 12-8-96

FILE No 961203A.DAT

WORK LOT No: 14159

596780 5031, 34, 38 & 39 FUSION
 AN-104

SSP.5 = 64848A

HNF-SD-WM-DP-226, REV. 0

Identity 1: ICB

Identity 2: Quality Control

1:18 PM December 3, 1996

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	0.002	0.004	-0.005	0.004	0.010	0.002	0.002
S.D.	0.001	0.001	0.005	0.002	0.003	0.004	0.000	0.001
% R.S.D.	26.116	38.837	125.914	50.246	73.272	37.734	17.071	32.533
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Hd (ppm)	U (ppm)
Mean	0.002	-0.002	-0.001	0.005	0.002	0.003	0.012	-0.157
S.D.	0.001	0.002	0.002	0.003	0.001	0.001	0.005	0.046
% R.S.D.	34.403	110.163	213.200	67.644	45.070	31.924	44.069	29.499
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.009	-0.035	0.002	-0.021	0.005	0.002	-0.005	0.001
S.D.	0.008	0.009	0.001	0.014	0.009	0.001	0.008	0.005
% R.S.D.	88.585	27.025	28.943	69.284	173.790	39.973	149.355	520.555
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.007	-0.030	0.003	0.059	0.001	0.002	0.008	0.118
S.D.	0.001	0.006	0.000	0.011	0.000	0.001	0.001	0.009
% R.S.D.	18.952	20.985	11.594	19.151	56.890	43.945	6.653	7.392
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	0.002	0.045	0.004	0.002	0.046			
S.D.	0.001	0.002	0.000	0.001	0.023			
% R.S.D.	33.290	3.588	10.758	40.404	49.792			

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Identity 1: LLS

Identity 2: Quality Control

1:25 PM December 3, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Rf (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.020	0.020	0.197	0.143	0.082	0.043	0.017	0.019
S.D.	0.002	0.000	0.008	0.000	0.005	0.004	0.001	0.000
% R.S.D.	8.252	0.000	3.923	0.199	5.688	9.625	4.321	0.850
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.020	0.037	0.098	0.097	0.194	0.019	0.194	0.442
S.D.	0.000	0.001	0.001	0.001	0.000	0.001	0.006	0.022
% R.S.D.	1.197	1.858	1.278	1.119	0.076	2.992	3.302	4.877
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.144	0.219	0.100	0.364	0.202	0.200	0.181	0.175
S.D.	0.005	0.003	0.000	0.010	0.002	0.000	0.005	0.003
% R.S.D.	3.316	1.328	0.216	2.734	1.216	0.211	2.495	1.925
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Tl (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.095	0.217	0.016	0.237	0.019	0.009	0.100	0.476
S.D.	0.001	0.003	0.001	0.002	0.000	0.001	0.002	0.004
% R.S.D.	1.101	1.465	5.172	0.842	1.077	7.629	2.161	0.870
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	0.020	0.157	0.097	0.010	0.436			
S.D.	0.000	0.021	0.001	0.000	0.019			
% R.S.D.	0.886	13.280	1.034	2.371	4.318			

HNF-SD-WM-DP-226, REV. 0

Identity 1: ICSA Identity 2: Quality Control

1:29 PM December 3, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Rf (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.003	0.003	-0.009	0.028	186.651	0.003	0.001	0.002
S.D.	0.001	0.000	0.010	0.003	1.667	0.002	0.000	0.000
% R.S.D.	33.757	3.191	110.050	11.873	0.893	72.253	7.432	5.445
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.007	-0.002	0.005	93.392	98.385	0.001	-0.014	-0.197
S.D.	0.000	0.002	0.001	0.348	0.565	0.002	0.013	0.015
% R.S.D.	1.638	101.245	27.721	0.373	0.574	463.680	92.693	7.607
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.074	0.070	0.005	-0.024	0.172	101.088	-0.009	174.583
S.D.	0.009	0.003	0.000	0.004	0.011	1.093	0.004	1.130
% R.S.D.	12.755	3.961	2.832	17.521	6.570	1.081	41.094	0.647
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.002	-0.164	0.006	0.043	-0.001	0.003	0.013	0.020
S.D.	0.000	0.029	0.000	0.009	0.000	0.001	0.001	0.008
% R.S.D.	15.809	17.779	1.660	20.676	39.928	39.730	5.627	38.521
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	-0.004	0.121	0.007	0.002	0.106			
S.D.	0.001	0.009	0.001	0.000	0.006			
% R.S.D.	18.360	7.285	10.518	5.764	5.665			

1780

HNF-SD-WM-DP-226, REV. 0

Identity 1: ICSAB Identity 2: Quality Control 1:33 PM December 3, 1996
 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	0.007	0.045	189.256	0.468	0.470	0.872
S.D.	0.001	0.000	0.008	0.003	1.560	0.006	0.003	0.005
% R.S.D.	142.379	5.875	113.229	6.762	0.824	1.204	0.647	0.603
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.964	0.942	0.007	94.363	99.806	0.471	-0.058	0.031
S.D.	0.004	0.006	0.000	0.245	0.518	0.005	0.013	0.060
% R.S.D.	0.364	0.666	1.087	0.260	0.519	1.026	22.937	193.399
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Hg (ppm)	As (ppm)	Na (ppm)
Mean	0.006	0.083	0.494	-0.005	0.201	105.427	-0.014	175.723
S.D.	0.022	0.011	0.003	0.024	0.002	0.852	0.007	1.249
% R.S.D.	386.776	13.196	0.621	446.346	1.141	0.808	50.165	0.711
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	-0.003	-0.093	0.986	0.902	0.001	0.950	0.016	0.094
S.D.	0.001	0.004	0.002	0.011	0.000	0.007	0.001	0.007
% R.S.D.	37.640	4.250	0.225	1.179	23.745	0.723	8.571	7.269
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	0.476	0.070	0.487	0.490	-0.008			
S.D.	0.002	0.042	0.002	0.001	0.018			
% R.S.D.	0.454	59.676	0.398	0.267	234.396			

1781

HNF-SD-WM-DP-226, REV. 0

Identity 1: prepblkarl Identity 2: .250ml-9.75ml 1:37 PM December 3, 1996

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	0.002	0.000	0.004	0.057	0.002	-0.001	0.001
S.D.	0.001	0.000	0.004	0.002	0.029	0.002	0.000	0.000
% R.S.D.	27.040	0.000	3104.119	44.069	50.975	117.450	30.472	5.593
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.000	0.068	-0.003	0.019	0.020	-0.000	0.013	-0.064
S.D.	0.000	0.001	0.003	0.014	0.014	0.002	0.006	0.009
% R.S.D.	236.822	0.736	102.727	73.938	71.163	419.858	45.480	14.101
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Hg (ppm)	As (ppm)	Na (ppm)
Mean	0.012	-0.007	0.000	-0.044	0.007	0.024	-0.009	2.495
S.D.	0.004	0.003	0.000	0.006	0.004	0.015	0.005	0.057
% R.S.D.	37.742	43.667	16.434	13.677	64.160	60.714	49.933	2.292
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.002	-0.001	0.004	0.046	-0.000	-0.001	-0.002	382.325
S.D.	0.001	0.004	0.001	0.002	0.000	0.001	0.000	10.436
% R.S.D.	31.492	285.726	15.344	4.516	84.886	51.400	2.370	2.730
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	0.002	0.067	0.004	-0.000	0.051			
S.D.	0.000	0.018	0.000	0.000	0.013			
% R.S.D.	0.650	27.069	11.159	149.391	25.251			

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HNF-SD-WM-DP-226, REV. 0

Identity 1: s96t005031_L Identity 2: .25ml-9.75ml-2ml-8ml

1:43 PM December 3, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 200.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bf (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.481	0.060	1.845	0.819	37.554	-0.859	0.041	0.043
S.D.	0.397	0.050	1.215	0.766	2.139	0.002	0.139	0.091
% R.S.D.	82.495	83.320	65.874	93.486	5.695	0.198	337.742	211.740
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.252	1.243	-1.104	0.731	0.807	3.213	0.759	-22.287
S.D.	0.045	0.367	0.258	0.427	0.071	0.390	0.897	13.058
% R.S.D.	17.669	29.504	23.343	58.401	8.779	12.153	118.225	58.588
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.824	-8.557	0.031	-6.548	7.608	0.281	-1.812	415.365
S.D.	4.229	2.219	0.076	1.717	1.567	0.084	0.953	3.308
% R.S.D.	513.279	25.934	244.232	26.218	20.592	29.998	52.594	0.796
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.164	-3.148	0.503	5.955	-0.214	-0.170	-0.592	12846.271
S.D.	0.095	0.609	0.171	1.153	0.103	0.086	0.245	142.806
% R.S.D.	58.038	19.338	34.097	19.368	48.161	50.774	41.436	1.112
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	0.186	14.443	0.191	0.028	10.741			
S.D.	0.105	6.855	0.176	0.025	6.942			
% R.S.D.	56.304	47.462	92.251	91.279	64.629			

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HNF-SD-WM-DP-226, REV. 0

Identity 1: s96t005031 Identity 2: .25ml-9.75ml 1:47 PM December 3, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 40.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.049	0.065	1.004	1.122	37.366	0.482	-0.045	0.039
S.D.	0.048	0.002	0.190	0.150	0.226	0.144	0.013	0.004
% R.S.D.	97.333	2.887	18.882	13.327	0.604	29.810	29.431	9.390
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.128	1.013	-0.069	0.176	0.505	3.761	0.174	-3.854
S.D.	0.003	0.050	0.050	0.139	0.004	0.020	0.276	1.340
% R.S.D.	2.152	4.941	72.520	79.225	0.852	0.545	158.248	34.758
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.891	0.359	0.021	1.416	7.446	0.050	-0.299	399.774
S.D.	0.507	0.200	0.005	0.395	0.277	0.005	0.288	0.990
% R.S.D.	56.923	55.758	25.813	27.891	3.726	9.629	96.236	0.248
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.129	-1.002	0.067	1.697	-0.014	0.030	0.125	12237.103
S.D.	0.065	0.846	0.027	0.471	0.017	0.039	0.053	35.134
% R.S.D.	50.204	84.410	41.075	27.754	117.124	130.744	42.830	0.287
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	0.115	0.833	0.057	-0.017	3.339			
S.D.	0.007	0.737	0.044	0.000	0.627			
% R.S.D.	6.077	88.414	76.405	1.509	18.776			

HNF-SD-WM-DP-226, REV. 0

Identity 1: s96t005031_d Identity 2: .25ml-9.75ml 1:50 PM December 3, 1996
 Task name : OPTIMA
 Sample Weight : 1.0000 Solution Volume : 40.00
 On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.046	0.073	-0.289	2.038	40.027	0.011	-0.034	0.027
S.D.	0.095	0.012	0.459	0.135	0.147	0.083	0.021	0.021
% R.S.D.	205.491	16.144	159.161	6.637	0.368	724.839	63.348	77.742
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.395	4.918	0.002	-0.082	1.146	3.769	0.494	4.107
S.D.	0.011	0.086	0.118	0.106	0.011	0.078	0.085	3.852
% R.S.D.	2.849	1.755	6616.314	128.448	0.994	2.080	17.263	93.789
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.809	-0.636	0.034	-0.037	7.564	0.090	-0.133	424.324
S.D.	1.126	0.697	0.017	0.230	0.137	0.008	0.182	3.153
% R.S.D.	139.160	109.527	50.918	625.880	1.809	9.378	136.677	0.743
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.096	2.309	0.124	1.448	0.068	-0.019	-0.013	12620.933
S.D.	0.019	1.048	0.055	0.429	0.039	0.026	0.035	85.010
% R.S.D.	19.838	45.396	44.018	29.628	57.720	139.808	269.596	0.674
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	0.109	2.334	0.069	0.001	2.197			
S.D.	0.000	0.531	0.045	0.006	1.052			
% R.S.D.	0.414	22.733	65.669	936.653	47.855			

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HNF-SD-WM-DP-226, REV. 0

Identity 1: s96t005031_a Identity 2: .25ml-2ml-7.75ml

1:53 PM December 3, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 40.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	40.424	40.755	41.642	41.443	75.278	37.804	40.218	36.650
S.D.	0.123	0.309	0.786	0.170	0.501	0.220	0.265	0.468
% R.S.D.	0.305	0.758	1.889	0.409	0.666	0.581	0.658	1.277
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	38.506	39.109	39.872	39.456	38.557	41.265	40.011	80.007
S.D.	0.222	0.280	0.290	0.148	0.200	0.110	0.220	2.334
% R.S.D.	0.577	0.716	0.728	0.374	0.519	0.266	0.549	2.918
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	37.953	41.056	40.480	40.838	46.438	37.953	39.720	446.652
S.D.	0.341	0.258	0.319	0.373	0.313	0.167	0.154	5.600
% R.S.D.	0.899	0.628	0.789	0.914	0.674	0.439	0.387	1.254
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	38.886	37.246	32.631	38.940	37.315	38.403	38.243	12528.644
S.D.	0.335	0.575	0.063	0.219	0.269	0.237	0.129	109.933
% R.S.D.	0.862	1.543	0.193	0.563	0.722	0.617	0.336	0.877
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	38.518	41.394	39.624	39.744	38.612			
S.D.	0.099	0.415	0.155	0.116	1.387			
% R.S.D.	0.256	1.003	0.392	0.291	3.593			

HNF-SD-WM-DP-226, REV. 0

Identity 1: s96t005031_10ppm spk Identity 2: .25ml-1ml-1ml-7.75ml

1:56 PM December 3, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 40.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	399.592	389.676	404.219	402.497	425.057	-0.750	-0.129	353.463
S.D.	1.337	2.397	2.893	2.885	2.663	0.082	0.006	2.734
% R.S.D.	0.335	0.615	0.716	0.717	0.627	10.913	4.634	0.773
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	1.332	371.677	388.957	388.051	379.473	373.547	398.801	-10.802
S.D.	0.021	2.888	1.328	0.697	1.365	2.012	1.061	0.409
% R.S.D.	1.561	0.777	0.341	0.180	0.360	0.539	0.266	3.791
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	378.924	408.396	390.504	390.152	385.676	377.887	393.421	752.629
S.D.	3.844	0.977	2.152	3.769	3.717	3.019	2.923	6.794
% R.S.D.	1.014	0.239	0.551	0.966	0.964	0.799	0.743	0.903
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	363.251	373.417	287.446	368.904	333.842	374.010	373.489	12759.194
S.D.	3.343	6.305	0.731	1.598	2.303	2.521	2.091	71.540
% R.S.D.	0.920	1.688	0.254	0.433	0.690	0.674	0.560	0.561
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	376.901	378.016	3.018	391.514	356.981			
S.D.	1.516	6.311	0.046	0.530	1.171			
% R.S.D.	0.402	1.670	1.540	0.135	0.328			

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HNF-SD-WM-DP-226, REV. 0

Identity 1: CCV

Identity 2: Quality Control

2:04 PM December 3, 1996

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	5.031	5.046	5.225	5.001	4.703	4.786	4.969	4.704
S.D.	0.024	0.035	0.030	0.035	0.021	0.038	0.019	0.013
% R.S.D.	0.480	0.692	0.567	0.692	0.442	0.787	0.384	0.285
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	4.874	4.823	4.944	4.956	4.789	4.767	5.005	10.161
S.D.	0.035	0.025	0.022	0.015	0.021	0.017	0.014	0.052
% R.S.D.	0.720	0.519	0.437	0.307	0.431	0.348	0.279	0.514
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	4.770	5.264	5.030	4.934	4.883	4.882	5.063	4.631
S.D.	0.049	0.018	0.032	0.080	0.030	0.035	0.053	0.018
% R.S.D.	1.023	0.346	0.642	1.625	0.623	0.724	1.055	0.378
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	S (ppm)	K (ppm)
Mean	4.878	4.867	4.849	4.726	4.654	4.863	4.918	4.764
S.D.	0.047	0.039	0.020	0.057	0.035	0.032	0.018	0.012
% R.S.D.	0.966	0.806	0.413	1.214	0.761	0.650	0.357	0.248
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	4.835	4.989	4.953	5.099	4.671			
S.D.	0.022	0.032	0.023	0.020	0.011			
% R.S.D.	0.463	0.641	0.474	0.386	0.241			

HNF-SD-WM-DP-226, REV. 0

Identity 1: CCB

Identity 2: Quality Control

2:10 PM December 3, 1996

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	-0.003	0.001	0.006	-0.010	0.010	0.002	0.001	0.002
S.D.	0.001	0.000	0.009	0.004	0.003	0.000	0.001	0.000
% R.S.D.	24.063	17.843	143.067	38.554	31.376	0.379	54.400	11.797
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.000	-0.003	-0.003	-0.001	-0.004	0.005	0.025	-0.181
S.D.	0.000	0.003	0.002	0.001	0.000	0.001	0.008	0.048
% R.S.D.	31.917	83.735	55.420	129.639	1.961	22.850	30.977	26.543
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.063	-0.044	0.002	-0.059	0.006	0.000	-0.012	0.020
S.D.	0.013	0.010	0.000	0.011	0.003	0.000	0.000	0.002
% R.S.D.	20.065	23.634	17.469	19.272	39.284	49.515	0.018	8.250
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	S (ppm)	K (ppm)
Mean	0.000	-0.003	0.011	0.033	-0.001	-0.000	0.003	0.038
S.D.	0.002	0.012	0.001	0.003	0.000	0.001	0.001	0.021
% R.S.D.	1604.327	398.949	13.161	10.371	49.415	11911.953	16.401	56.176
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	0.001	0.020	0.005	0.000	0.099			
S.D.	0.000	0.015	0.001	0.000	0.021			
% R.S.D.	11.774	78.730	21.910	547.051	21.274			

HNF-SD-WM-DP-226, REV. 0

Identity 1: s96t0050343 Identity 2: .250ml-9.75ml 2:14 PM December 3, 1996
 Task name : OPTIMA
 Sample Weight : 1.0000 Solution Volume : 40.00
 On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Sf (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.190	0.057	1.076	0.706	40.484	0.095	0.012	0.063
S.D.	0.135	0.006	0.779	0.270	0.094	0.083	0.042	0.026
% R.S.D.	71.357	9.993	72.405	38.235	0.233	86.763	359.964	41.363
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.170	0.714	-0.138	-0.101	0.367	3.489	0.342	-6.897
S.D.	0.005	0.088	0.076	0.146	0.007	0.057	0.073	4.795
% R.S.D.	2.737	12.300	54.833	143.826	1.931	1.629	21.258	69.524
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	1.574	0.352	0.038	0.535	6.429	0.048	-0.395	384.067
S.D.	1.556	0.764	0.021	0.414	0.024	0.000	0.350	4.472
% R.S.D.	98.864	216.897	54.768	77.370	0.377	0.003	88.657	1.164
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.197	1.342	0.148	1.502	-0.000	0.079	0.122	9956.878
S.D.	0.035	0.550	0.067	0.505	0.026	0.026	0.034	107.366
% R.S.D.	17.615	41.025	45.563	33.640	22047.216	33.129	27.948	1.078
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	0.103	-0.535	0.112	-0.001	0.988			
S.D.	0.007	0.790	0.058	0.010	2.126			
% R.S.D.	6.689	147.534	52.263	707.108	215.077			

Identity 1: s96t005034_d Identity 2: .250ml-9.75ml

2:17 PM December 3, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 40.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.007	0.052	0.251	1.249	38.586	0.149	-0.020	0.043
S.D.	0.095	0.010	0.346	0.236	0.239	0.166	0.038	0.021
% R.S.D.	1436.373	19.094	137.919	18.912	0.619	111.785	195.109	47.798
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.092	1.026	0.034	0.039	0.620	3.466	0.221	1.235
S.D.	0.014	0.095	0.135	0.183	0.003	0.026	0.368	4.060
% R.S.D.	15.045	9.291	396.370	464.167	0.455	0.764	166.322	328.691
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.601	0.172	0.031	1.823	6.677	0.050	-0.814	400.550
S.D.	1.254	0.667	0.016	0.861	0.198	0.005	0.086	3.070
% R.S.D.	208.502	387.257	50.839	47.221	2.961	9.627	10.521	0.767
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.190	1.251	0.135	2.479	0.030	0.030	0.047	11993.130
S.D.	0.050	0.709	0.055	0.467	0.025	0.011	0.033	84.196
% R.S.D.	26.212	56.657	40.800	18.851	84.464	37.692	70.563	0.702
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	0.110	1.148	0.059	0.013	3.979			
S.D.	0.000	0.472	0.072	0.010	1.390			
% R.S.D.	0.437	41.119	122.309	76.012	34.928			

HNF-SD-WM-DP-226, REV. 0

Identity 1: s96t005038 Identity 2: .250ml-9.75ml

2:22 PM December 3, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 40.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.001	0.078	0.142	0.730	46.832	-0.082	0.007	0.062
S.D.	0.037	0.008	0.258	0.027	0.080	0.144	0.016	0.017
% R.S.D.	4125.114	10.486	181.910	3.735	0.170	174.280	222.050	27.532
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.092	2.281	-0.083	0.010	0.350	2.802	0.710	3.628
S.D.	0.014	0.084	0.077	0.022	0.002	0.063	0.121	2.527
% R.S.D.	14.769	3.680	93.472	209.636	0.464	2.237	17.042	69.670
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	1.888	0.371	0.055	1.060	5.776	0.048	-0.382	429.870
S.D.	0.730	0.373	0.010	0.093	0.382	0.000	0.140	2.385
% R.S.D.	38.657	100.580	18.261	8.754	6.619	0.003	36.726	0.555
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.073	1.015	0.234	1.732	0.029	0.011	-0.015	12567.681
S.D.	0.070	0.512	0.030	0.241	0.014	0.017	0.026	76.923
% R.S.D.	95.989	50.448	12.695	13.935	49.880	152.037	174.734	0.612
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	0.081	0.929	0.114	0.004	4.273			
S.D.	0.007	0.411	0.044	0.009	0.695			
% R.S.D.	8.986	44.210	38.256	251.267	16.273			

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HNF-SD-WM-DP-226, REV. 0

Identity 1: s96t005038_d Identity 2: .250ml-9.75ml

2:24 PM December 3, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 40.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.143	0.074	0.484	1.224	46.978	0.302	0.008	0.052
S.D.	0.060	0.008	0.480	0.160	0.274	0.083	0.021	0.012
% R.S.D.	41.962	11.103	99.077	13.084	0.582	27.528	270.947	22.997
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Hd (ppm)	U (ppm)
Mean	0.064	1.067	-0.121	0.036	0.552	3.103	0.606	-6.128
S.D.	0.012	0.080	0.101	0.076	0.005	0.055	0.160	2.311
% R.S.D.	18.140	7.456	83.537	211.188	0.884	1.778	26.452	37.715
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	1.679	-2.317	0.050	-0.105	7.086	0.031	-0.382	442.823
S.D.	0.632	0.436	0.013	0.500	0.314	0.008	0.056	1.683
% R.S.D.	37.665	18.841	25.939	474.342	4.428	27.291	14.667	0.380
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.159	-0.178	0.152	1.704	-0.029	-0.000	0.061	11567.625
S.D.	0.033	0.580	0.065	0.283	0.022	0.017	0.024	36.810
% R.S.D.	20.743	325.948	42.538	16.598	74.375	9452.789	40.434	0.318
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	0.094	0.468	0.164	-0.011	4.533			
S.D.	0.007	0.229	0.081	0.015	1.094			
% R.S.D.	7.416	48.859	49.536	135.103	24.128			

HNF-SD-WM-DP-226, REV. 0

Identity 1: s96t005039 Identity 2: .250ml-9.75ml

2:27 PM December 3, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 40.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.118	0.049	0.081	0.528	42.901	0.107	-0.012	0.122
S.D.	0.086	0.009	0.545	0.283	0.381	0.083	0.031	0.023
% R.S.D.	73.112	19.245	676.411	53.684	0.888	77.664	252.407	18.526
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.094	0.961	-0.120	0.021	0.423	4.075	0.533	-4.196
S.D.	0.001	0.099	0.052	0.055	0.006	0.029	0.190	4.102
% R.S.D.	0.628	10.289	43.475	263.492	1.385	0.703	35.694	97.758
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	1.181	0.050	0.035	0.624	8.373	0.031	-0.491	430.955
S.D.	0.979	0.822	0.022	0.455	0.143	0.000	0.222	2.644
% R.S.D.	82.898	1635.896	64.063	72.979	1.710	0.010	45.239	0.613
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.139	-0.585	0.107	1.420	0.000	-0.038	0.052	10107.842
S.D.	0.012	0.934	0.057	0.298	0.025	0.022	0.033	76.030
% R.S.D.	8.323	159.794	53.244	20.980	8073.643	59.528	62.776	0.752
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	0.102	0.376	0.171	-0.007	1.179			
S.D.	0.015	0.537	0.062	0.010	1.591			
% R.S.D.	14.315	142.891	36.269	140.355	135.034			

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Identity 1: s96t005039_0 Identity 2: .250ml-9.75ml
 Task name : OPTIMA
 Sample Weight : 1.0000 Solution Volume : 40.00
 On-Peak Integrations : 3 Off-Peak Integrations : 1

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	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.090	0.047	-0.127	0.829	39.805	0.063	-0.101	0.096
S.D.	0.039	0.003	0.312	0.131	0.416	0.000	0.028	0.009
% R.S.D.	43.241	6.977	246.254	15.808	1.045	0.513	27.564	9.686
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.139	3.958	-0.082	0.900	0.490	3.814	-0.511	4.521
S.D.	0.005	0.080	0.076	0.079	0.005	0.048	0.083	1.773
% R.S.D.	3.550	2.009	93.078	8.732	0.996	1.260	16.223	39.225
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-1.244	0.253	0.003	0.876	7.599	0.036	-0.329	440.612
S.D.	0.600	0.295	0.010	0.561	0.116	0.010	0.388	2.739
% R.S.D.	48.273	116.777	332.942	63.957	1.525	26.664	117.915	0.622
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.051	2.167	0.027	0.713	0.115	0.019	0.030	14361.480
S.D.	0.057	0.865	0.037	0.259	0.022	0.020	0.027	82.564
% R.S.D.	112.271	39.905	136.661	36.247	18.922	104.469	89.476	0.575
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	0.110	0.182	0.007	-0.006	3.094			
S.D.	0.000	1.141	0.039	0.010	0.910			
% R.S.D.	0.189	627.225	597.585	174.894	29.425			

Identity 1: ICSA

Identity 2: Quality Control

2:37 PM December 3, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.002	0.002	-0.016	0.037	186.362	-0.002	0.000	0.002
S.D.	0.001	0.000	0.008	0.003	1.519	0.002	0.000	0.001
% R.S.D.	71.695	7.806	53.110	9.381	0.815	79.829	520.155	32.797

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.005	-0.001	0.008	93.605	98.627	0.000	-0.030	-0.071
S.D.	0.000	0.001	0.001	0.437	0.559	0.002	0.011	0.072
% R.S.D.	3.154	90.252	8.758	0.467	0.567	506.628	35.999	101.560

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.051	0.081	0.004	-0.008	0.181	100.532	-0.002	173.362
S.D.	0.023	0.015	0.000	0.015	0.003	0.468	0.007	1.685
% R.S.D.	44.689	18.019	10.641	194.852	1.907	0.466	328.994	0.972

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	-0.000	-0.249	0.007	0.032	-0.000	0.002	0.012	0.114
S.D.	0.001	0.017	0.001	0.008	0.001	0.001	0.001	0.022
% R.S.D.	132.225	7.023	16.967	25.217	9210.577	72.531	7.025	19.416

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.004	0.029	0.005	0.002	0.147
S.D.	0.000	0.036	0.001	0.000	0.032
% R.S.D.	2.507	121.107	19.263	0.552	21.507

HNF-SD-WM-DP-226, REV. 0

Identity 1: ICSAB Identity 2: Quality Control

2:39 PM December 3, 1996

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	-0.005	0.028	189.366	0.464	0.470	0.866
S.D.	0.002	0.000	0.003	0.002	0.811	0.002	0.003	0.007
% R.S.D.	99.792	10.482	60.593	7.249	0.428	0.478	0.724	0.771
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.963	0.937	0.008	94.436	99.747	0.470	-0.044	-0.108
S.D.	0.003	0.004	0.003	0.150	0.419	0.001	0.005	0.095
% R.S.D.	0.302	0.450	33.110	0.159	0.420	0.140	10.267	88.263
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.064	0.098	0.494	-0.027	0.202	105.393	0.001	174.956
S.D.	0.033	0.016	0.003	0.004	0.011	0.304	0.008	1.444
% R.S.D.	51.273	16.085	0.671	14.637	5.496	0.289	539.271	0.825
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.000	-0.053	0.989	0.954	-0.000	0.955	0.016	0.216
S.D.	0.002	0.047	0.003	0.020	0.000	0.005	0.001	0.019
% R.S.D.	671.624	87.116	0.285	2.078	180.798	0.556	5.744	8.908
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	0.473	0.081	0.490	0.489	0.074			
S.D.	0.001	0.013	0.001	0.002	0.030			
% R.S.D.	0.216	15.836	0.201	0.424	39.975			

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Identity 1: CDV Identity 2: Quality Control 2:43 PM December 3, 1996
 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	5.118	5.136	5.311	5.153	4.829	4.957	5.018	4.729
S.D.	0.015	0.020	0.029	0.019	0.014	0.013	0.030	0.057
% R.S.D.	0.285	0.399	0.547	0.368	0.288	0.261	0.595	1.198

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.058	4.964	5.017	5.078	4.861	4.944	5.004	10.364
S.D.	0.018	0.017	0.018	0.025	0.016	0.017	0.015	0.054
% R.S.D.	0.357	0.345	0.352	0.490	0.334	0.343	0.302	0.521

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	4.863	5.275	5.104	5.206	5.127	5.073	5.221	4.715
S.D.	0.030	0.017	0.024	0.040	0.029	0.022	0.013	0.035
% R.S.D.	0.608	0.331	0.473	0.761	0.562	0.427	0.240	0.740

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	5.062	5.022	4.964	4.848	4.792	5.015	4.997	4.879
S.D.	0.013	0.025	0.013	0.014	0.018	0.012	0.027	0.030
% R.S.D.	0.253	0.495	0.271	0.288	0.371	0.245	0.541	0.610

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	4.968	5.088	5.081	5.169	4.776
S.D.	0.015	0.063	0.017	0.020	0.040
% R.S.D.	0.312	1.232	0.343	0.395	0.847

HNF-SD-WM-DP-226, REV. 0

Identity 1: CCB

Identity 2: Quality Control

2:46 PM December 3, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.000	0.002	0.013	-0.001	0.009	0.005	0.000	0.003
S.D.	0.001	0.001	0.009	0.002	0.003	0.002	0.001	0.001
% R.S.D.	233.341	50.197	67.255	177.670	36.276	43.377	147.740	33.135
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.002	-0.002	0.004	0.006	0.002	0.002	0.007	-0.042
S.D.	0.001	0.001	0.001	0.004	0.002	0.002	0.005	0.024
% R.S.D.	79.935	44.351	38.893	74.931	106.667	74.485	73.785	56.062
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.003	0.005	0.002	-0.046	-0.000	0.006	-0.012	0.004
S.D.	0.012	0.003	0.001	0.008	0.004	0.002	0.009	0.003
% R.S.D.	459.554	53.302	46.246	17.754	8929.862	35.014	79.512	75.029
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.006	0.022	0.006	0.040	0.002	0.002	0.006	-0.017
S.D.	0.002	0.033	0.001	0.005	0.001	0.001	0.002	0.008
% R.S.D.	26.459	149.899	19.521	12.745	33.838	69.060	29.262	46.765
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	0.003	0.043	0.003	0.003	0.045			
S.D.	0.001	0.015	0.001	0.001	0.019			
% R.S.D.	35.174	34.935	27.461	44.452	41.136			

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LABCORE Data Entry Template for Worklist# 14933

Analyst: JX Sc/6 Instrument: ICP013 12-1-76 Book# 64848QMethod: LA-505-151/161 Rev/Mod B-1Worklist Comment: ICP AN-104 (DIRECT)

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 ICV			@ICP-QC	QC		
2 ICB			@ICP-QC	QC		
3 LLS			@ICP-QC	QC		
4 ICSA			@ICP-QC	QC		
5 ICSAB			@ICP-QC	QC		
6 SERDIL	S96T005527	0 D	@ICP-D01	LIQUID		
7 SAMPLE	S96T005527	0 D	@ICP-D01	LIQUID	96001283	AN-104
Analytes Requested: AG-D-01 , AL-D-01 , AS-D-01 , B-D-01 , BA-D-01 , BE-D-01 , BI-D-01 , CA-D-01 , CD-D-01 , CE-D-01 , CO-D-01 , CR-D-01 , CU-D-01 , FE-D-01 , K-D-01 , LA-D-01 , LI-D-01 , MG-D-01 , MN-D-01 , MO-D-01 , NA-D-01 , ND-D-01 , NI-D-01 , P-D-01 , PB-D-01 , S-D-01 , SB-D-01 , SE-D-01 , SI-D-01 , SM-D-01 , SR-D-01 , TI-D-01 , TL-D-01 , U-D-01 , V-D-01 , ZN-D-01 , ZR-D-01						
8 DUP	S96T005527	0 D	@ICP-D01	LIQUID		
9 SPK	S96T005527	0 D	@ICP-D01	LIQUID		
10 CCV			@ICP-QC	QC		
11 CCB			@ICP-QC	QC		
12 SAMPLE	S96T005528	0 D	@ICP-D01	LIQUID	96001283	AN-104
Analytes Requested: AG-D-01 , AL-D-01 , AS-D-01 , B-D-01 , BA-D-01 , BE-D-01 , BI-D-01 , CA-D-01 , CD-D-01 , CE-D-01 , CO-D-01 , CR-D-01 , CU-D-01 , FE-D-01 , K-D-01 , LA-D-01 , LI-D-01 , MG-D-01 , MN-D-01 , MO-D-01 , NA-D-01 , ND-D-01 , NI-D-01 , P-D-01 , PB-D-01 , S-D-01 , SB-D-01 , SE-D-01 , SI-D-01 , SM-D-01 , SR-D-01 , TI-D-01 , TL-D-01 , U-D-01 , V-D-01 , ZN-D-01 , ZR-D-01						

Data Entry Comments:

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist# 14933

S Type	Sample#	R	A	Test	Matrix	Group#	Project
13 DUP	S96T005528	0	D	@ICP-D01	LIQUID		
14 SAMPLE	S96T005554	0	D	@ICP-D01	LIQUID	96001283	AN-104
Analytes Requested: AG-D-01 , AL-D-01 , AS-D-01 , B-D-01 , BA-D-01 , BE-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 , SE-D-01 , SI-D-01 , SM-D-01 , SR-D-01 , TI-D-01 , TL-D-01 , U-D-01 , V-D-01 , ZN-D-01 , ZR-D-01							
15 DUP	S96T005554	0	D	@ICP-D01	LIQUID		
16 SAMPLE	S96T005739	0	D	@ICP-D01	LIQUID	96001283	AN-104
Analytes Requested: AG-D-01 , AL-D-01 , AS-D-01 , B-D-01 , BA-D-01 , BE-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 , SE-D-01 , SI-D-01 , SM-D-01 , SR-D-01 , TI-D-01 , TL-D-01 , U-D-01 , V-D-01 , ZN-D-01 , ZR-D-01							
17 DUP	S96T005739	0	D	@ICP-D01	LIQUID		
18 CCV				@ICP-QC	QC		
19 CCB				@ICP-QC	QC		
20 SAMPLE	S96T005741	0	D	@ICP-D01	LIQUID	96001283	AN-104
Analytes Requested: AG-D-01 , AL-D-01 , AS-D-01 , B-D-01 , BA-D-01 , BE-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 , 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							
21 DUP	S96T005741	0	D	@ICP-D01	LIQUID		
22 SAMPLE	S96T005766	0	D	@ICP-D01	LIQUID	96001283	AN-104
Analytes Requested: AG-D-01 , AL-D-01 , AS-D-01 , B-D-01 , BA-D-01 , BE-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 ,							

Data Entry Comments:

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist# 14933

S Type	Sample#	R A	Test	Matrix	Group#	Project
			MG-D-01	MN-D-01	MO-D-01	NA-D-01
			P-D-01	PB-D-01	S-D-01	SB-D-01
			SM-D-01	SR-D-01	TI-D-01	TL-D-01
			ZN-D-01	ZR-D-01	U-D-01	V-D-01
23 DUP	S96T005766	0 D	ICP-D01	LIQUID		
24 ICSA			ICP-QC	QC		
25 ICSAB			ICP-QC	QC		
26 CCV			ICP-QC	QC		
27 CCB			ICP-QC	QC		

Final page for worklist # 14933

JK
Analyst Signature
Date 12-06-97
5967005527-L, 025-15-28, DF 3005
5967005527, 025-15 601
5967005527-D, 025-15 601
5967005527-Q, 025-15 601
5967005527-X, 025-175 7001
5967005527-QX, 025-175 7001
5967005528, 025-15, DF 601
5967005528-D, 025-15 601
5967005554, 025-15 601
5967005554-D, 025-15 601
5967005739, 025-15 601
5967005739-D, 025-15 601
5967005741, 025-15 601
5967005741-D, 025-15 601
5967005766, 025-15 601
5967005766-D, 025-15 601

Revised by:
Analyst Signature Date 12/9/96

Data Entry Comments:

Spike recovery calculation:
$$Cr = \left(\frac{924.5}{601} \right) - \left(\frac{725.7}{601} \right) \times 100 = 99.6\%$$

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

Note: Spike true values is 1.0 ppm for all elements except for U = 2.0 ppm.

#	Sample Name	File	Method	Date	Time	OpID	Type	Mode
1	ICV	961206G	ICP2	12/06/96	21:15	DKS	Q	CONC
2	ICB	961206G	ICP2	12/06/96	21:18	DKS	Q	CONC
3	LLS	961206G	ICP2	12/06/96	21:21	DKS	Q	CONC
4	IGSA	961206G	ICP2	12/06/96	21:24	DKS	Q	CONC
5	IGSAB	961206G	ICP2	12/06/96	21:27	DKS	Q	CONC
6	S96T005527 L	961206G	ICP2	12/06/96	21:32	DKS	S	CONC
7	S96T005527	961206G	ICP2	12/06/96	21:35	DKS	S	CONC
8	S96T005527 D	961206G	ICP2	12/06/96	21:39	DKS	S	CONC
9	S96T005527 A	961206G	ICP2	12/06/96	21:42	DKS	S	CONC
10	S96T005527 X	961206G	ICP2	12/06/96	21:47	DKS	S	CONC
11	S96T005527 AX	961206G	ICP2	12/06/96	21:51	DKS	S	CONC
12	CCV	961206G	ICP2	12/06/96	21:56	DKS	Q	CONC
13	CCB	961206G	ICP2	12/06/96	22:00	DKS	Q	CONC
14	S96T005528	961206G	ICP2	12/06/96	22:03	DKS	S	CONC
15	S96T005528 D	961206G	ICP2	12/06/96	22:06	DKS	S	CONC
16	S96T005554	961206G	ICP2	12/06/96	22:10	DKS	S	CONC
17	S96T005554 D	961206G	ICP2	12/06/96	22:13	DKS	S	CONC
18	S96T005739	961206G	ICP2	12/06/96	22:16	DKS	S	CONC
19	S96T005739 D	961206G	ICP2	12/06/96	22:19	DKS	S	CONC
20	CCV 1	961206G	ICP2	12/06/96	22:26	DKS	Q	CONC
21	CCB 1	961206G	ICP2	12/06/96	22:29	DKS	Q	CONC
22	S96T005741	961206G	ICP2	12/06/96	22:32	DKS	S	CONC
23	S96T005741 D	961206G	ICP2	12/06/96	22:35	DKS	S	CONC
24	S96T005766	961206G	ICP2	12/06/96	22:38	DKS	S	CONC
25	S96T005766 D	961206G	ICP2	12/06/96	22:41	DKS	S	CONC
26	IGSA	961206G	ICP2	12/06/96	22:46	DKS	Q	CONC
27	IGSAB	961206G	ICP2	12/06/96	22:48	DKS	Q	CONC
28	CCV 2	961206G	ICP2	12/06/96	22:52	DKS	Q	CONC
29	CCB 2	961206G	ICP2	12/06/96	22:56	DKS	Q	CONC

JK *del*

12-06-96

QN-104

596T005527

596T005528

596T005554

596T005739

596T005741

596T005766

Worklist # 14933

Al and Ma failed in the first part spike. A second part spike was made and the results are:

$$Al = \frac{\left(\frac{106800}{7001}\right) - \left(\frac{37630}{7001}\right)}{10} \times 100 = 98.8\%$$

$$Ma = \frac{\left(\frac{328500}{7001}\right) - \left(\frac{253700}{7001}\right)}{10} \times 100 = 106.8\%$$

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1003 TO 1008.

#	Sample Name	Ag	Al	As	B	Ba	Be
1	ICV	5.056	4.919	5.261	5.057	4.988	5.137
2	ICB	.0007	-.0182	-.0021	-.0025	.0001	-.0008
3	LLS	.0223	.0779	.2130	.0999	.1006	.0093
4	ICSA	.0031	243.8	-.0501	.0005	.0002	-.0006
5	IC SAB	.9743	245.0	-.0337	-.0083	.4765	.4799
6	S96T005527_L	17.60	37400.	-30.15	42.67	-.2394	-2.191
7	S96T005527	18.05	37350.	-32.96	61.25	-.1064	-.0506
8	S96T005527_D	18.06	36820.	-37.59	58.20	.1826	.0031
9	S96T005527_A	586.6	36830.	618.0	666.6	595.8	617.6
10	S96T005527_X	32.97	37630.	85.46	35.55	-.2528	-5.109
11	S96T005527_AX	68810.	106800.	74330.	70900.	71890.	73270.
12	CCV	5.118	4.999	5.344	5.142	5.142	5.227
13	CCB	.0029	-.0214	-.0038	.0005	.0001	-.0010
14	S96T005528	17.03	35430.	-39.91	60.95	-.1104	-.1055
15	S96T005528_D	17.35	35930.	-49.96	63.38	.1926	-.0797
16	S96T005554	18.58	38680.	-32.17	63.99	.1918	-.0792
17	S96T005554_D	17.11	38370.	-45.30	61.86	.1669	-.0786
18	S96T005739	17.24	37420.	-37.50	63.69	.1163	-.0244
19	S96T005739_D	16.88	37210.	-27.98	60.95	.1167	.0035
20	CCV_1	5.069	4.898	5.318	5.054	4.998	5.154
21	CCB_1	.0000	-.0247	.0009	.0036	.0001	-.0010
22	S96T005741	18.10	37270.	-30.47	64.00	.1265	-.1350
23	S96T005741_D	18.60	37130.	-36.06	62.78	.1205	-.0529
24	S96T005766	18.26	40370.	-32.67	59.12	.0723	-.0243
25	S96T005766_D	18.99	39960.	-39.70	64.00	.1264	-.0531
26	ICSA	.0006	242.0	-.0270	-.0038	.0002	-.0008
27	IC SAB	.9757	243.5	-.0265	-.0082	.4747	.4751
28	CCV_2	5.079	4.906	5.304	5.065	5.012	5.146
29	CCB_2	.0002	-.0168	.0194	.0005	.0000	-.0009

#	Sample Name	Bi	Ca	Cd	Ce	Co	Cr
1	ICV	5.109	5.066	5.094	5.022	5.076	5.108
2	ICB	.0059	-.0007	-.0002	.0047	-.0006	-.0011
3	LLS	.1716	.2027	.0104	.2024	.0416	.0188
4	ICSA	-.0009	248.2	.0023	.0252	.0027	.0071
5	IC SAB	.0073	250.1	.9474	.0086	.4725	.4848
6	S96T005527_L	-120.5	3.507	-1.109	-6.946	1.561	327.5
7	S96T005527	-12.39	4.368	.1872	-5.170	-.9301	325.7
8	S96T005527_D	-17.95	5.748	.6567	2.339	-.6249	320.8
9	S96T005527_A	614.6	615.1	610.0	607.0	603.8	924.5
10	S96T005527_X	-154.3	21.63	-4.658	-27.14	-8.973	324.5
11	S96T005527_AX	71690.	70910.	70980.	71180.	103.2	71410.
12	CCV	5.258	5.125	5.172	5.151	5.168	5.180
13	CCB	-.0095	-.0043	-.0008	.0016	.0005	-.0007
14	S96T005528	-15.04	1.955	-1.106	-5.852	-1.079	308.1
15	S96T005528_D	-4.319	2.622	-1.185	.7402	-.0729	315.1
16	S96T005554	-8.015	6.620	.0244	.0268	-.7696	337.4
17	S96T005554_D	12.62	4.993	.6426	-6.542	-.7667	335.9
18	S96T005739	-19.43	2.486	.8116	-2.773	.5520	324.3
19	S96T005739_D	11.88	1.735	.7789	-2.998	.0865	322.7
20	CCV_1	5.173	5.116	5.147	5.015	5.132	5.141

Analysis Report

Averages

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#	Sample Name	Bi	Ca	Cd	Ce	Co	Cr
21	CCB_1	-.0339	-.0035	-.0001	.0001	-.0011	-.0029
22	S96T005741	4.389	5.210	.2192	2.433	-.3685	343.5
23	S96T005741_D	.5625	2.346	.4345	3.832	.9413	343.4
24	S96T005766	2.321	4.011	.3666	-1.546	1.026	358.3
25	S96T005766_D	3.228	2.300	.4831	4.327	1.025	353.9
26	ICSA	.0113	253.3	.0010	.0186	.0013	.0074
27	ICSA_B	.0381	253.0	.9540	.0096	.4740	.4879
28	CCV_2	5.150	5.138	5.145	5.031	5.133	5.147
29	CCB_2	-.0004	-.0034	.0005	.0024	-.0001	-.0018

#	Sample Name	Cu	Eu	Fe	K	La	Li
1	ICV	5.254	-.0036	5.089	5.048	5.094	5.171
2	ICB	.0014	.0003	.0162	.2333	.0014	.0001
3	LLS	.0207	.0005	.1059	Q.7210	.1034	.0217
4	ICSA	-.0094	-.0475	94.06	.0999	-.0027	.0026
5	ICSA_B	.4855	-.0470	94.53	.2968	-.0047	1.044
6	S96T005527_L	5.567	1.317	56.01	6577.	-1.393	6.304
7	S96T005527	3.682	.0400	16.56	6518.	-.9370	5.561
8	S96T005527_D	3.687	-.2255	14.65	6633.	.5071	5.339
9	S96T005527_A	634.9	-.4348	615.9	7074.	617.3	642.5
10	S96T005527_X	8.170	2.435	109.5	6764.	-6.836	5.182
11	S96T005527_AX	-21.96	-2.314	70960.	77310.	72120.	74020.
12	CCV	5.366	-.0038	5.175	5.348	5.211	5.286
13	CCB	.0009	.0004	.0150	.0570	-.0000	-.0002
14	S96T005528	3.537	.2713	13.91	6427.	-.9163	4.374
15	S96T005528_D	3.251	.4330	13.65	6475.	-.1004	4.670
16	S96T005554	4.089	.1600	14.55	6848.	.5882	4.745
17	S96T005554_D	3.662	.4232	15.09	6672.	-.5524	5.337
18	S96T005739	3.944	.5179	16.42	6634.	.0706	5.856
19	S96T005739_D	4.371	.6160	15.99	6669.	-.4249	5.708
20	CCV_1	5.243	-.0031	5.120	5.007	5.078	5.120
21	CCB_1	.0007	.0011	.0156	.0584	-.0000	.0010
22	S96T005741	3.795	.7107	20.51	6761.	.9673	3.779
23	S96T005741_D	3.652	.7467	16.31	6662.	.8488	3.631
24	S96T005766	4.059	1.044	14.25	7364.	.4554	5.336
25	S96T005766_D	4.060	.9743	12.66	7077.	.5033	5.187
26	ICSA	-.0104	-.0576	94.64	.1816	-.0039	.0042
27	ICSA_B	.4771	-.0538	94.73	.0967	-.0043	1.025
28	CCV_2	5.245	-.0026	5.102	5.324	5.094	5.122
29	CCB_2	.0007	.0009	.0159	.2161	-.0002	.0001

#	Sample Name	Mg	Mn	Mo	Na	Nd	Ni
1	ICV	4.844	4.940	5.102	5.003	5.186	5.126
2	ICB	.0079	-.0000	-.0041	-.0036	.0042	.0035
3	LLS	.1921	.0197	.0964	.2063	.2032	.0438
4	ICSA	254.6	-.0070	-.0109	200.7	.0065	.0091
5	ICSA_B	255.7	.4461	-.0047	200.5	.0219	.9459
6	S96T005527_L	-14.05	-.1875	72.44	252900.	5.811	-3.702
7	S96T005527	-4.462	.0467	77.55	250600.	-.2654	3.167
8	S96T005527_D	-.1249	-.1182	76.57	248400.	.0919	.0737

Analysis Report

Averages

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#	Sample Name	Mg	Mn	Mo	Na	Nd	Ni
9	S96T005527_A	572.3	579.0	689.3	244500.	629.5	617.8
10	S96T005527_X	168.6	.0221	56.67	253700.	12.50	12.71
11	S96T005527_AX	17100.	70400.	69980.	328500.	73570.	71110.
12	CCV	4.916	5.038	5.186	5.090	5.309	5.213
13	CCB	-.0011	.0002	.0004	-.0013	.0043	-.0041
14	S96T005528	-1.507	.0661	74.42	243300.	5790	1.241
15	S96T005528_D	-.9763	.1511	75.28	245400.	1.151	2.563
16	S96T005554	3.039	-.0130	80.48	255700.	.7189	1.392
17	S96T005554_D	-1.266	.1300	79.73	253000.	-.0934	3.514
18	S96T005739	4.064	.1700	77.35	246200.	.1193	-.3062
19	S96T005739_D	-5.603	.2164	79.62	244700.	1.473	2.347
20	CCV 1	4.848	4.974	5.144	4.975	5.179	5.174
21	CCB 1	-.0056	.0003	-.0043	.0071	-.0008	.0006
22	S96T005741	-1.117	.3286	75.41	247300.	1.213	3.297
23	S96T005741_D	4.097	.3123	79.41	246100.	1.596	2.491
24	S96T005766	.2954	.3085	85.36	262800.	2.336	4.295
25	S96T005766_D	2.353	.3580	84.50	259900.	1.910	3.220
26	ICSA	253.1	-.0063	-.0118	197.0	-.0091	-.0053
27	ICSAB	254.6	.4479	-.0027	198.0	.0155	.9521
28	CCV 2	4.821	4.982	5.142	4.994	5.191	5.167
29	CCB 2	.0005	.0004	-.0011	.0036	-.0010	.0002

#	Sample Name	P	Pb	S	Sb	Se	Si
1	ICV	5.178	5.114	5.019	4.850	4.954	4.924
2	ICB	.0067	.0081	-.0169	.0148	-.0032	.0054
3	LLS	.4291	.2107	.2195	.1087	.2087	.1630
4	ICSA	.0252	.0478	-.0342	-.0036	-.0443	.0036
5	ICSAB	.0476	1.045	.0081	.0063	-.0551	-.0034
6	S96T005527_L	932.7	57.89	1097.	-8.883	19.93	170.7
7	S96T005527	960.4	52.79	1119.	-7.951	2.893	173.2
8	S96T005527_D	942.8	56.18	1079.	2.405	3.119	173.4
9	S96T005527_A	1537.	666.5	1683.	585.7	615.7	779.6
10	S96T005527_X	967.3	89.06	1310.	29.01	-36.63	202.6
11	S96T005527_AX	75200.	72580.	72670.	70800.	69480.	72450.
12	CCV	5.170	5.147	5.010	4.904	4.997	4.960
13	CCB	.0081	.0105	.0083	.0043	.0166	.0055
14	S96T005528	785.1	60.49	1055.	-.0246	16.05	203.9
15	S96T005528_D	804.0	57.51	1092.	-.2607	14.95	207.8
16	S96T005554	991.7	60.21	1145.	-5.476	8.344	200.1
17	S96T005554_D	964.0	60.50	1137.	-1.020	14.86	199.7
18	S96T005739	729.1	64.74	1116.	-3.120	10.90	245.2
19	S96T005739_D	735.8	67.08	1124.	5.009	21.58	242.9
20	CCV 1	5.205	5.140	5.033	4.888	5.016	4.954
21	CCB 1	-.0038	-.0044	.0057	.0065	.0039	.0117
22	S96T005741	558.6	60.08	1468.	4.671	18.24	220.4
23	S96T005741_D	560.6	66.85	1437.	-.3246	25.86	222.7
24	S96T005766	554.0	77.70	1394.	.6264	22.97	157.9
25	S96T005766_D	529.4	68.61	1376.	1.970	11.13	155.3
26	ICSA	.0304	.0510	-.0454	-.0006	-.0196	.0068
27	ICSAB	.0270	1.048	-.0216	.0048	-.0267	.0051
28	CCV 2	5.240	5.126	5.055	4.878	4.950	4.956
29	CCB 2	.0108	.0191	.0100	.0059	.0149	.0092

#	Sample Name	Sm	Sr	Th	Ti	Tl	U
1	ICV	4.899	4.992	-.0046	4.867	4.950	9.600
2	ICB	.0045	.0001	.0008	.0013	.0286	.0042
3	LLS	.2065	.0207	-.0029	.0208	.4497	.4974
4	IGSA	.0008	.0021	-.0057	.0020	.0087	.0784
5	IGSAB	.0007	.0021	-.0104	.0019	.0090	.0820
6	S96T005527_L	20.19	.0013	-17.50	1.495	34.90	-15.86
7	S96T005527_	-.8481	-.0324	-4.720	-.0172	-.0135	-3.751
8	S96T005527_D	-3.895	-.0969	-3.691	.5952	2.969	-10.85
9	S96T005527_A	588.9	601.2	-1.808	586.0	607.6	1157.
10	S96T005527_X	41.14	-.3800	-35.16	3.475	206.4	2.466
11	S96T005527_AX	69550.	70850.	180.1	63780.	69230.	4747.
12	CCV	5.004	5.094	.0027	4.936	5.011	9.827
13	CCB	.0086	.0000	-.0031	.0008	.0149	.0125
14	S96T005528	1.854	.0314	-4.559	.2840	10.47	11.84
15	S96T005528_D	2.851	.0308	-5.114	.4320	12.67	19.08
16	S96T005554	2.304	-.0014	-4.172	.5900	3.948	13.57
17	S96T005554_D	3.698	.0301	-7.186	.4218	18.67	26.16
18	S96T005739	5.840	.0947	-5.620	.2751	4.431	32.10
19	S96T005739_D	6.115	.0949	-7.182	.7278	1.417	30.48
20	CCV_1	4.885	4.974	-.0083	4.864	4.957	9.584
21	CCB_1	.0135	.0002	-.0071	.0012	.0149	.0345
22	S96T005741	12.82	.1260	-6.105	.7343	6.121	45.06
23	S96T005741_D	8.717	.0937	-5.991	.7296	1.383	43.25
24	S96T005766	12.52	.1574	-6.939	.8758	-4.099	59.04
25	S96T005766_D	12.74	.1574	-6.331	.7260	5.369	59.37
26	IGSA	.0214	.0022	-.0128	.0024	.0276	.1359
27	IGSAB	.0160	.0022	-.0098	.0022	-.0163	.1134
28	CCV_2	4.886	4.990	-.0023	4.862	5.059	9.590
29	CCB_2	.0113	.0001	-.0024	.0008	-.0047	.0237

#	Sample Name	V	Y	Zn	Zr
1	ICV	5.073	.0066	5.152	4.962
2	ICB	.0008	.0003	.0002	.0010
3	LLS	.1053	.0007	.0224	.0216
4	IGSA	-.0028	.0069	.0033	-.0027
5	IGSAB	.4715	.0070	.9697	-.0022
6	S96T005527_L	1.692	.9490	3.158	8.972
7	S96T005527_	-.3183	-.1397	1.579	6.933
8	S96T005527_D	-.8841	-.2309	1.830	6.426
9	S96T005527_A	608.2	.7802	619.7	606.3
10	S96T005527_X	5.346	2.194	814.6	12.71
11	S96T005527_AX	53.13	99.51	-226.5	71480.
12	CCV	5.164	.0063	5.211	5.063
13	CCB	.0013	.0004	.0005	.0013
14	S96T005528	.6958	.1363	1.366	3.809
15	S96T005528_D	.4518	.2274	1.873	4.059
16	S96T005554	.2204	.1356	2.162	7.529
17	S96T005554_D	1.014	.2244	2.358	8.401
18	S96T005739	1.118	.2219	2.699	4.742
19	S96T005739_D	1.583	.3168	2.911	4.856
20	CCV_1	5.091	.0067	5.197	4.969

Analysis Report

Averages

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#	Sample Name	V	Y	Zn	Zr
21	CCB-1	.0034	.0008	.0001	.0027
22	S96T005741	2.133	.4991	2.194	8.733
23	S96T005741_D	1.786	.4527	2.528	8.285
24	S96T005766	2.906	.6345	1.126	4.574
25	S96T005766_D	2.445	.5872	1.064	4.308
26	ICSA	.0025	.0082	.0047	.0017
27	ICSAB	.4737	.0079	.9775	.0003
28	CCV-2	5.103	.0069	5.204	4.980
29	CCB-2	.0026	.0005	.0015	.0016

JK *[Signature]*
12-06-96

12/03/96 14:19

A-0004-1

LABCORE Data Entry Template for Worklist# 15381

Analyst: B. Coschke Instrument: ICP01 Book# 64848AMethod: LA-505-151/161 Rev/Mod B-1

Worklist Comment: ICP AN-104 (solid acid digest)

S Type	Sample#	R A	Test	Matrix	Group#	Project
1	ICV		@ICP-QC	QC		
2	ICB		@ICP-QC	QC		
3	LLS		@ICP-QC	QC		
4	ICSA		@ICP-QC	QC		
5	ICSAB		@ICP-QC	QC		
6	PREPSTDJJA		@ICP-A01	SOLID		
7	PREPBLKTJA		@ICP-A01	SOLID		
8	SERDIL	S96T005279 0 A	@ICP-A01	SOLID		
9	SAMPLE	S96T005279 0 A	@ICP-A01	SOLID	96001174	AN-104
Analytes Requested: AG-A-01, AL-A-01, AS-A-01, B-A-01, BA-A-01, BE-A-01, BI-A-01, CA-A-01, CD-A-01, CE-A-01, CO-A-01, CR-A-01, CU-A-01, FE-A-01, K-A-01, LA-A-01, LI-A-01, MG-A-01, MN-A-01, MO-A-01, NA-A-01, ND-A-01, NI-A-01, P-A-01, PB-A-01, S-A-01, SB-A-01, SE-A-01, SI-A-01, SM-A-01, SR-A-01, TI-A-01, TL-A-01, U-A-01, V-A-01, ZN-A-01, ZR-A-01						
10	DUP	S96T005279 0 A	@ICP-A01	SOLID		
11	SPK-PREDIG	S96T005279 0 A	@ICP-A01	SOLID		
12	CCV		@ICP-QC	QC		
13	CCB		@ICP-QC	QC		
14	SAMPLE	S96T005282 0 A	@ICP-A01	SOLID	96001174	AN-104
Analytes Requested: AG-A-01, AL-A-01, AS-A-01, B-A-01, BA-A-01, BE-A-01, BI-A-01, CA-A-01, CD-A-01, CE-A-01, CO-A-01, CR-A-01, CU-A-01, FE-A-01, K-A-01, LA-A-01, LI-A-01,						

Data Entry Comments:

Sample result calculation:

$$S96T005279 \quad Cr = 7.790 \mu g \times \frac{1}{4.410 \mu g \times \frac{16}{1000}} = 1.77e+3 \mu g$$

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

12/03/96 14:19

A-0004-1

LABCORE Data Entry Template for Worklist# 15381

S Type	Sample#	R A	Test	Matrix	Group#	Project
			MG-A-01	MN-A-01	MO-A-01	NA-A-01
			P-A-01	PB-A-01	S-A-01	SB-A-01
			SM-A-01	SR-A-01	TI-A-01	TL-A-01
			ZN-A-01	ZR-A-01		U-A-01
						NI-A-01
						SE-A-01
						SI-A-01
						V-A-01
15 DUP	S96T005282	0 A	@ICP-A01	SOLID		
16 ICSA			@ICP-QC	QC		
17 ICSAB			@ICP-QC	QC		
18 CCV			@ICP-QC	QC		
19 CCB			@ICP-QC	QC		

Final page for worklist # 15381

<i>[Signature]</i>	12-04-96	Revised by:	<i>[Signature]</i>	12/5/96
Analyst Signature	Date	Analyst Signature	Date	
prep STD TTA	DIRECT	DF		
prep BLK TTA	DIRECT	1		
S96T005279-L	5ml-5ml-2ml-2ml	10		
S279	5ml-5ml	2		
S279-B	5ml-5ml	2		
S279-S	5ml-5ml	2		
S279-X	250ml-275ml	40		
S279-AX	250ml-1ml-1ml (water) - 275ml	40		
S96T005282	5ml-5ml	2		
S282-D	5ml-5ml	2		

Data Entry Comments:

Spike recovery calculation:

$$S96T005279 \quad Cr = \frac{13.14 - 7.780}{5} \times 100 = 107.0\%$$

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

Spike true value is 5.0 ppm for all elements except for Ag = 1.0 ppm
 1810
 Lot U = 10.0 ppm

#	Sample Name	File	Method	Date	Time	OpID	Type	Mode
1	ICV	961204G	ICP2	12/04/96	17:33	BJG	Q	CONC
2	ICB	961204G	ICP2	12/04/96	17:36	BJG	Q	CONC
3	LLS	961204G	ICP2	12/04/96	17:39	BJG	Q	CONC
4	ICSA	961204G	ICP2	12/04/96	17:42	BJG	Q	CONC
5	ICSAB	961204G	ICP2	12/04/96	17:45	BJG	Q	CONC
6	PREPSTDITJA	961204G	ICP2	12/04/96	17:49	BJG	S	CONC
7	PREPBLKTJA	961204G	ICP2	12/04/96	17:52	BJG	S	CONC
8	S96T005279_L	961204G	ICP2	12/04/96	17:55	BJG	S	CONC
9	S96T005279	961204G	ICP2	12/04/96	17:59	BJG	S	CONC
10	S96T005279_D	961204G	ICP2	12/04/96	18:03	BJG	S	CONC
11	CCV	961204G	ICP2	12/04/96	19:38	BJG	Q	CONC
12	CCB	961204G	ICP2	12/04/96	19:41	BJG	Q	CONC
13	S96T005279_S	961204G	ICP2	12/04/96	19:44	BJG	S	CONC
14	S96T005279_X	961204G	ICP2	12/04/96	19:48	BJG	S	CONC
15	S96T005279-AX	961204G	ICP2	12/04/96	19:52	BJG	S	CONC
16	S96T005282	961204G	ICP2	12/04/96	19:55	BJG	S	CONC
17	S96T005282_D	961204G	ICP2	12/04/96	19:58	BJG	S	CONC
18	ICSA	961204G	ICP2	12/04/96	20:01	BJG	Q	CONC
19	ICSAB	961204G	ICP2	12/04/96	20:04	BJG	Q	CONC
20	CCV	961204G	ICP2	12/04/96	20:07	BJG	Q	CONC
21	CCB	961204G	ICP2	12/04/96	20:10	BJG	Q	CONC

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1811 TO 1815.

Signature

12-04-96

AN-104 ACID DIGEST

Emi-Sol

S96T005279, S282

FILE# 0961204G.TAT

Al, K, Na, P and S failed in the pre-digestion spike. A post spike was made and the results are:

$$Al = \frac{\left(\frac{468.0}{40}\right) - \left(\frac{84.46}{40}\right)}{10} \times 100 = 95.9\%$$

$$K = \frac{\left(\frac{410.8}{40}\right) - \left(\frac{11.94}{40}\right)}{10} \times 100 = 99.7\%$$

$$Na = \frac{\left(\frac{1370}{40}\right) - \left(\frac{928.0}{40}\right)}{10} \times 100 = 98.0\%$$

$$P = \frac{\left(\frac{408.9}{40}\right) - \left(\frac{6.804}{40}\right)}{10} \times 100 = 100.5\%$$

$$S = \frac{\left(\frac{418.8}{40}\right) - \left(\frac{24.52}{40}\right)}{10} \times 100 = 98.6\%$$

#	Sample Name	Ag	Al	As	B	Ba	Be
1	ICV	5.053	4.960	5.242	4.964	4.983	5.187
2	ICB	.0007	.0022	-.0016	-.0030	.0002	.0003
3	LLS	.0214	.1039	.2126	.1068	.1022	.1066
4	ICSA	.0038	245.5	-.0007	-.0045	.0017	.0002
5	ICSAB	.9779	244.9	.0310	-.0079	.4761	.4815
6	PREPSTDITJA	.9302	4.807	4.907	5.402	4.714	5.086
7	PREPBLKTJA	-.0007	.1459	.0038	.7453	.0010	.0003
8	S96T005279_L	.0679	87.27	-.0298	.8110	.0143	-.0010
9	S96T005279	.0700	84.00	-.0703	.7763	.0144	.0016
10	S96T005279_D	.0744	113.2	-.1425	.9779	.0110	.0019
11	CCV	5.005	4.904	5.185	4.963	4.925	5.133
12	CCB	.0001	.0039	-.0040	.0040	.0000	.0003
13	S96T005279_S	1.044	79.53	4.992	5.314	4.688	4.818
14	S96T005279-X	.0892	84.46	-.3800	.8310	.0097	.0017
15	S96T005279-AX	327.2	468.0	410.2	385.4	396.7	408.7
16	S96T005282	.1344	102.8	-.1042	.8673	.0188	.0016
17	S96T005282_D	.1176	116.4	-.0954	.8890	.0167	.0017
18	ICSA	.0371	242.3	.0110	-.0000	.0017	.0002
19	ICSAB	.9791	242.4	.0284	.0064	.4711	.4751
20	CCV	5.039	4.901	5.185	4.928	4.966	5.130
21	CCB	-.0003	-.0040	-.0014	.0045	.0000	.0003

#	Sample Name	Bi	Ca	Cd	Ce	Co	Cr
1	ICV	5.133	5.125	5.095	4.976	5.022	5.116
2	ICB	.0273	.0007	-.0004	-.0035	.0009	.0008
3	LLS	.1994	.2107	.0106	.2012	.0455	.0220
4	ICSA	-.0259	252.5	.0031	.0070	.0032	.0095
5	ICSAB	-.0092	252.9	.9472	.0066	.4667	.4860
6	PREPSTDITJA	4.715	4.903	4.610	4.850	4.679	4.652
7	PREPBLKTJA	.0377	.4004	.0005	-.0059	.0023	.0202
8	S96T005279_L	-.1069	1.787	.0608	-.0259	.0391	8.263
9	S96T005279	.0274	1.697	.0544	-.0155	.0140	7.790
10	S96T005279_D	.0260	1.741	.0415	-.0063	.0096	6.196
11	CCV	5.075	5.069	5.057	4.956	4.980	5.087
12	CCB	-.0029	.0000	.0007	-.0027	.0020	.0004
13	S96T005279_S	4.946	6.606	4.804	4.846	4.795	13.14
14	S96T005279-X	-.1980	1.811	.0314	-.0429	.0476	8.019
15	S96T005279-AX	403.2	405.6	398.4	393.5	.7910	408.7
16	S96T005282	-.0065	2.538	.0792	-.0006	.0153	12.13
17	S96T005282_D	.0103	1.588	.0689	-.0108	.0099	11.09
18	ICSA	-.0322	255.8	.0003	.0108	.0021	.0100
19	ICSAB	-.0223	254.8	.9495	.0146	.4674	.4877
20	CCV	5.149	5.152	5.103	4.976	5.034	5.127
21	CCB	.0094	.0011	.0006	-.0081	.0024	.0012

#	Sample Name	Cu	Eu	Fe	K	La	Li
1	ICV	5.160	-.0014	5.097	4.957	5.036	5.115
2	ICB	-.0002	-.0001	.0005	-.0789	.0005	.0002
3	LLS	.0218	.0008	.1078	.4186	.1039	.0221
4	ICSA	-.0084	-.0423	94.49	.0334	-.0050	.0028
5	ICSAB	.4771	-.0408	94.32	.0330	-.0055	1.018
6	PREPSTDITJA	4.697	-.0026	4.699	4.793	4.854	4.946
7	PREPBLKTJA	.0092	-.0008	.1260	-.0267	-.0006	-.0005
8	S96T005279_L	.0256	.0020	.5857	14.30	.0213	.0453
9	S96T005279_	.0269	-.0003	.5496	14.68	.0229	.0434
10	S96T005279_D	.0280	.0002	.4083	20.35	.0174	.0454
11	CCV	5.102	-.0016	5.051	4.992	5.014	5.065
12	CCB	.0002	.0002	.0005	-.1021	.0006	.0002
13	S96T005279_S	4.634	.0003	5.294	18.56	4.908	4.982
14	S96T005279_X	.0407	.0304	.5464	11.94	.0542	.0811
15	S96T005279_AX	-.0882	.0855	398.1	410.8	396.8	400.7
16	S96T005282_	.0319	.0020	.6410	18.28	.0187	.0379
17	S96T005282_D	.0296	.0024	.5781	20.98	.0149	.0489
18	ICSA	-.0091	-.0505	94.41	-.0071	-.0052	.0040
19	ICSAB	.4688	-.0460	94.09	.0414	-.0044	.9952
20	CCV	5.087	-.0006	5.064	4.850	5.024	5.014
21	CCB	.0004	.0011	-.0004	-.0336	-.0005	.0008

#	Sample Name	Mg	Mn	Mo	Na	Nd	Ni
1	ICV	4.902	4.961	5.009	4.964	5.061	5.073
2	ICB	-.0038	.0002	.0020	-.0022	-.0001	-.0014
3	LLS	.2004	.0207	.1011	.2141	.2051	.0377
4	ICSA	255.4	-.0058	-.0074	199.2	.0051	-.0062
5	ICSAB	254.8	.4481	-.0058	196.8	.0064	.9380
6	PREPSTDITJA	4.436	4.548	4.577	5.741	4.786	4.762
7	PREPBLKTJA	.0288	.0023	.0021	1.036	-.0007	.0078
8	S96T005279_L	.0095	.0828	.1827	966.7	.0080	.2840
9	S96T005279_	.0247	.0773	.1787	937.3	.0333	.3233
10	S96T005279_D	.0139	.0581	.2295	1017.	.0311	.2347
11	CCV	4.851	4.909	4.970	4.915	5.043	5.046
12	CCB	.0020	.0006	.0049	.0018	-.0019	-.0040
13	S96T005279_S	4.393	4.682	4.830	1125.	4.801	5.196
14	S96T005279_X	-.0596	.1012	.1398	928.0	.0285	.2828
15	S96T005279_AX	401.6	396.0	383.6	1320.	398.9	395.4
16	S96T005282_	.0305	.0903	.2274	967.3	.0299	.4768
17	S96T005282_D	.0133	.0813	.2427	1028.	.0235	.4048
18	ICSA	252.8	-.0050	-.0045	193.2	.0066	.0005
19	ICSAB	252.1	.4501	-.0034	192.9	.0059	.9483
20	CCV	4.832	4.971	5.013	4.859	5.038	5.074
21	CCB	-.0059	.0007	.0035	.0072	-.0010	-.0034

#	Sample Name	P	Pb	S	Sb	Se	Si
1	ICV	5.066	5.063	4.961	4.775	4.927	4.903
2	ICB	.0194	.0013	-.0003	-.0040	.0056	.0000
3	LLS	.4128	.2300	.1929	.1027	.2184	.1661
4	ICSA	.0162	.0370	-.0158	.0013	-.0464	-.0010
5	ICSAB	.0259	1.003	-.0314	-.0019	-.0380	-.0009
6	PREPSTDITJA	4.766	4.477	4.601	4.530	4.468	8.521
7	PREPBLKTJA	.0204	.0123	.0676	-.0063	.0124	2.127
8	S96T005279_L	7.739	.1578	26.19	-.0599	.3512	3.109
9	S96T005279_	7.014	.1727	24.47	-.0077	.0750	2.960
10	S96T005279_D	5.116	.2401	20.90	-.0107	.0153	3.626
11	CCV	5.014	5.053	4.904	4.711	4.827	4.856
12	CCB	.0054	.0042	.0037	.0024	.0333	.0040
13	S96T005279_S	13.34	4.847	32.90	4.728	4.650	8.576
14	S96T005279_X	6.804	.3678	24.52	-.0588	1.257	3.199
15	S96T005279-AX	408.9	409.8	418.8	386.7	385.1	403.7
16	S96T005282_	5.330	.2995	21.11	.0113	.0405	1.808
17	S96T005282_D	5.276	.2155	20.68	.0114	.0744	3.282
18	ICSA	.0141	.0391	-.0210	.0062	-.0082	.0086
19	ICSAB	.0382	1.015	-.0346	.0097	-.0254	.0067
20	CCV	5.022	5.128	4.946	4.734	4.901	4.886
21	CCB	.0073	-.0064	-.0097	.0088	.0249	.0067

#	Sample Name	Sm	Sr	Th	Ti	Tl	U
1	ICV	4.876	4.935	.0737	4.788	4.887	9.414
2	ICB	.0009	.0002	-.0014	.0005	-.0039	-.0123
3	LLS	.2102	.0209	-.0041	.0196	.4087	.5249
4	ICSA	-.0041	.0017	.0029	.0003	.0909	-.1746
5	ICSAB	-.0026	.0020	-.0060	.0010	.0809	-.1751
6	PREPSTDITJA	4.689	4.710	.0652	4.233	4.443	9.020
7	PREPBLKTJA	-.0178	.0003	.0012	.0005	.0142	-.0661
8	S96T005279_L	.0120	.0095	-.0528	-.0010	-.0456	1.510
9	S96T005279_	-.0201	.0082	.0180	.0020	.0272	.9434
10	S96T005279_D	-.0151	.0064	.0107	.0031	.0131	.7188
11	CCV	4.847	4.913	.0729	4.785	4.833	9.331
12	CCB	.0061	.0002	-.0015	.0002	-.0026	.0137
13	S96T005279_S	4.704	4.689	.0790	4.237	4.505	10.17
14	S96T005279-X	.5070	.0147	-.0902	-.0109	1.129	2.948
15	S96T005279-AX	384.2	389.2	2.529	349.5	385.0	34.56
16	S96T005282_	.0054	.0076	.0266	.0045	.0518	.9208
17	S96T005282_D	.0212	.0065	.0105	.0026	.0245	.8674
18	ICSA	.0157	.0017	-.0108	.0005	.0688	-.1376
19	ICSAB	.0099	.0019	.0059	.0011	.0575	-.1612
20	CCV	4.858	4.909	.0704	4.778	4.873	9.341
21	CCB	.0126	.0003	-.0065	.0002	-.0082	.0536

#	Sample Name	V	Y	Zn	Zr
1	ICV	4.977	.0065	5.068	4.852
2	ICB	.0006	-.0002	-.0005	-.0002
3	LLS	.1055	.0007	.0229	.0227
4	ICSA	.0023	.0067	.0052	-.0033
5	ICSAB	.4638	.0069	.9524	-.0016
6	PREPSTDITJA	4.584	.0042	4.466	4.664
7	PREPBLKTJA	-.0026	-.0009	.0262	.0022
8	S96T005279_L	.0085	.0048	.0590	.0962
9	S96T005279	.0001	.0037	.0568	.0829
10	S96T005279_D	.0001	.0028	.0610	.0728
11	CCV	4.944	.0065	5.031	4.823
12	CCB	.0009	.0000	.0008	.0008
13	S96T005279_S	4.642	.0117	4.741	4.839
14	S96T005279_X	.0787	.0176	.0800	.1765
15	S96T005279_AX	.4032	.5716	-1.241	389.1
16	S96T005282	.0062	.0037	.0957	.0880
17	S96T005282_D	.0082	.0037	.0878	.0863
18	ICSA	.0057	.0077	.0060	.0002
19	ICSAB	.4660	.0074	.9575	-.0015
20	CCV	4.974	.0068	5.077	4.842
21	CCB	.0030	.0004	.0012	.0026

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LABCORE Data Entry Template for Worklist# 15382

Analyst: B. GORCINE Instrument: ICP01 Book# 641846A
ICP01
44 R-04-56
 Method: LA-505-151/161 Rev/Mod B-1
12-4-96
 Worklist Comment: ICP AN-104 (solid acid digest)

S Type	Sample#	R A	Test	Matrix	Group#	Project
1	ICV		@ICP-QC	QC		
2	ICB		@ICP-QC	QC		
3	LLS		@ICP-QC	QC		
4	ICSA		@ICP-QC	QC		
5	ICSAB		@ICP-QC	QC		
6	PREPSTD TJA		@ICP-A01	SOLID		
7	PREPBLKTJA		@ICP-A01	SOLID		
8	SERDIL	S96T005287	0 A	@ICP-A01	SOLID	
9	SAMPLE	S96T005287	0 A	@ICP-A01	SOLID	96001283 AN-104
Analytes Requested: AG-A-01, AL-A-01, AS-A-01, B-A-01, BA-A-01, BE-A-01, BI-A-01, CA-A-01, CD-A-01, CE-A-01, CO-A-01, CR-A-01, CU-A-01, FE-A-01, K-A-01, LA-A-01, LI-A-01, MG-A-01, MN-A-01, MO-A-01, NA-A-01, ND-A-01, NI-A-01, P-A-01, PB-A-01, S-A-01, SB-A-01, SE-A-01, SI-A-01, SM-A-01, SR-A-01, TI-A-01, TL-A-01, U-A-01, V-A-01, ZN-A-01, ZR-A-01						
10	DUP	S96T005287	0 A	@ICP-A01	SOLID	
11	SPK-PREDIG	S96T005287	0 A	@ICP-A01	SOLID	
12	CCV	12-4-96		@ICP-QC	QC	
13	CCB	12-4-96		@ICP-QC	QC	
14	SERDIL	S96T005288	0 A	@ICP-A01	SOLID	
15	SAMPLE	S96T005288	0 A	@ICP-A01	SOLID	96001283 AN-104
Analytes Requested: AG-A-01, AL-A-01, AS-A-01, B-A-01, BA-A-01,						

Data Entry Comments:

Sample result calculation:

$$S96T005287 \quad Cu = 6.326 \mu g \times \frac{1}{5.282 \times \frac{14}{140000}} = 1.202 + 3 \mu g$$

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

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A-0004-1

LABCORE Data Entry Template for Worklist# 15382

S Type	Sample#	R A	Test	Matrix	Group#	Project		
			BE-A-01	BI-A-01	CA-A-01	CD-A-01	CE-A-01	CO-A-01
			CR-A-01	CU-A-01	FE-A-01	K-A-01	LA-A-01	LI-A-01
			MG-A-01	MN-A-01	MO-A-01	NA-A-01	ND-A-01	NI-A-01
			P-A-01	PB-A-01	S-A-01	SB-A-01	SE-A-01	SI-A-01
			SM-A-01	SR-A-01	TI-A-01	TL-A-01	U-A-01	V-A-01
			ZN-A-01	ZR-A-01				

16 DUP S96T005288 0 A @ICP-A01 SOLID

17 SPK-PREDIG S96T005288 0 A @ICP-A01 SOLID

SPK 1011-AX
 18 SERDIL S96T005289 0 A @ICP-A01 SOLID

19 SAMPLE S96T005289 0 A @ICP-A01 SOLID 96001283 AN-104

Analytes Requested: AG-A-01, AL-A-01, AS-A-01, B-A-01, BA-A-01, BE-A-01, BI-A-01, CA-A-01, CD-A-01, CE-A-01, CO-A-01, CR-A-01, CU-A-01, FE-A-01, K-A-01, LA-A-01, LI-A-01, MG-A-01, MN-A-01, MO-A-01, NA-A-01, ND-A-01, NI-A-01, P-A-01, PB-A-01, S-A-01, SB-A-01, SE-A-01, SI-A-01, SM-A-01, SR-A-01, TI-A-01, TL-A-01, U-A-01, V-A-01, ZN-A-01, ZR-A-01

20 DUP S96T005289 0 A @ICP-A01 SOLID

21 SPK-PREDIG S96T005289 0 A @ICP-A01 SOLID

SPK 1011-AX
 22 SAMPLE S96T005294 0 A @ICP-A01 SOLID 96001283 AN-104

Analytes Requested: AG-A-01, AL-A-01, AS-A-01, B-A-01, BA-A-01, BE-A-01, BI-A-01, CA-A-01, CD-A-01, CE-A-01, CO-A-01, CR-A-01, CU-A-01, FE-A-01, K-A-01, LA-A-01, LI-A-01, MG-A-01, MN-A-01, MO-A-01, NA-A-01, ND-A-01, NI-A-01, P-A-01, PB-A-01, S-A-01, SB-A-01, SE-A-01, SI-A-01, SM-A-01, SR-A-01, TI-A-01, TL-A-01, U-A-01, V-A-01, ZN-A-01, ZR-A-01

23 DUP. S96T005294 0 A @ICP-A01 SOLID

24 CCV S96T005294 0 A @ICP-QC QC
 * CCV

25 CCB S96T005294 0 A @ICP-QC QC
 * CCB

26 SAMPLE S96T005557 0 A @ICP-A01 SOLID 96001283 AN-104
 Analytes Requested: AG-A-01, AL-A-01, AS-A-01, B-A-01, BA-A-01, BE-A-01, BI-A-01, CA-A-01, CD-A-01, CE-A-01, CO-A-01,

Data Entry Comments:

Spike result calculation:

$$S96T005287 \quad Cr = 10.69 - 6.326 \times 10 = 87.3\%$$

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S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

Note: Spike true value is 5.0 ppm for all elements except for Ag = 1.0 ppm
 and U = 10.0 ppm

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S Type	Sample#	R A	Test	Matrix	Group#	Project
			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		

Analyses 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

35 CCB @ICP-QC, QC

Analyst Signature		Date	DF	Analyst Signature		Date	DF
PREPARED	DIRECT	1	586700-5288-L	5288-Smt-Smt-2nd-Smt	10	586700-5288-Smt-Smt	2
PURCHASE	DIRECT	1	5288	Smt-Smt	2	5288-D Smt-Smt	2
586700-5287-L	Smt-Smt-2nd-Smt	10	5288-D	Smt-Smt	2	586700-5288-L Smt-Smt-2nd-Smt	10
5287	Smt-Smt	2	5288-S	Smt-Smt	2	5288-Smt-Smt	2
5287-D	Smt-Smt	2	5288-X	2nd-Smt-2nd-Smt	40	5288-D Smt-Smt	2
5287-S	Smt-Smt	2	5288-ATX	2nd-Smt-2nd-Smt-2nd-Smt	40	5288-S Smt-Smt	2
5288-X	2nd-Smt-2nd-Smt	40	586700-5288-L	Smt-Smt-2nd-Smt	10	5288-X	40
5287-ATX	2nd-Smt-2nd-Smt-2nd-Smt	40	5288-S	Smt-Smt	2	5288-ATX	40
			5288-D	Smt-Smt	2		
			5288-S	Smt-Smt	2		
			5288-X	2nd-Smt-2nd-Smt	40		
			5288-ATX	2nd-Smt-2nd-Smt-2nd-Smt	40		
			5288-L	Smt-Smt-2nd-Smt	10		
			5288-S	Smt-Smt	2		
			5288-D	Smt-Smt	2		
			5288-S	Smt-Smt	2		
			5288-X	2nd-Smt-2nd-Smt	40		
			5288-ATX	2nd-Smt-2nd-Smt-2nd-Smt	40		
			5288-L	Smt-Smt-2nd-Smt	10		
			5288-S	Smt-Smt	2		
			5288-D	Smt-Smt	2		
			5288-S	Smt-Smt	2		
			5288-X	2nd-Smt-2nd-Smt	40		
			5288-ATX	2nd-Smt-2nd-Smt-2nd-Smt	40		
			5288-L	Smt-Smt-2nd-Smt	10		
			5288-S	Smt-Smt	2		
			5288-D	Smt-Smt	2		
			5288-S	Smt-Smt	2		
			5288-X	2nd-Smt-2nd-Smt	40		
			5288-ATX	2nd-Smt-2nd-Smt-2nd-Smt	40		
			5288-L	Smt-Smt-2nd-Smt	10		
			5288-S	Smt-Smt	2		
			5288-D	Smt-Smt	2		
			5288-S	Smt-Smt	2		
			5288-X	2nd-Smt-2nd-Smt	40		
			5288-ATX	2nd-Smt-2nd-Smt-2nd-Smt	40		
			5288-L	Smt-Smt-2nd-Smt	10		
			5288-S	Smt-Smt	2		
			5288-D	Smt-Smt	2		
			5288-S	Smt-Smt	2		
			5288-X	2nd-Smt-2nd-Smt	40		
			5288-ATX	2nd-Smt-2nd-Smt-2nd-Smt	40		
			5288-L	Smt-Smt-2nd-Smt	10		
			5288-S	Smt-Smt	2		
			5288-D	Smt-Smt	2		
			5288-S	Smt-Smt	2		
			5288-X	2nd-Smt-2nd-Smt	40		
			5288-ATX	2nd-Smt-2nd-Smt-2nd-Smt	40		
			5288-L	Smt-Smt-2nd-Smt	10		
			5288-S	Smt-Smt	2		
			5288-D	Smt-Smt	2		
			5288-S	Smt-Smt	2		
			5288-X	2nd-Smt-2nd-Smt	40		
			5288-ATX	2nd-Smt-2nd-Smt-2nd-Smt	40		
			5288-L	Smt-Smt-2nd-Smt	10		
			5288-S	Smt-Smt	2		
			5288-D	Smt-Smt	2		
			5288-S	Smt-Smt	2		
			5288-X	2nd-Smt-2nd-Smt	40		
			5288-ATX	2nd-Smt-			

S96T005287

Al, Ag, Na and P failed in the pre-digestion spike.
A post spike was made ~~and~~ and the result are:

$$Al = \frac{\left(\frac{488.2}{40}\right) - \left(\frac{115.4}{40}\right)}{10} \times 100 = 95.7\%$$

$$Ag = \frac{\left(\frac{373.7}{40}\right) - 0}{10} \times 100 = 93.4\%$$

$$Na = \frac{\left(\frac{1430}{40}\right) - \left(\frac{1043}{40}\right)}{10} \times 100 = 96.75\%$$

$$P = \frac{\left(\frac{407.7}{40}\right) - \left(\frac{5.952}{40}\right)}{10} \times 100 = 100.4\%$$

S96T005288

Al, Ag, Ca, K, Na, S, and Si' failed in the pre-digestion spike. A post spike was made and the results are:

$$Al = \frac{\left(\frac{464.4}{40}\right) - \left(\frac{79.12}{40}\right)}{10} \times 100 = 96.3\%$$

$$Ag = \frac{\left(\frac{378.5}{40}\right) - 0}{10} \times 100 = 94.6\%$$

$$Ca = \frac{\left(\frac{419.1}{40}\right) - (0)}{10} \times 100 = 104.8\%$$

$$K = \frac{\left(\frac{407.2}{40}\right) - \left(\frac{4.379}{40}\right)}{10} \times 100 = 100.7\%$$

$$Na = \frac{\left(\frac{1278}{40}\right) - \left(\frac{903.5}{40}\right)}{10} \times 100 = 93.6\%$$

$$S = \frac{\left(\frac{410.3}{40}\right) - \left(\frac{8.978}{40}\right)}{10} \times 100 = 100.3\%$$

$$Si' = \frac{\left(\frac{418.0}{40}\right) - \left(\frac{5.278}{40}\right)}{10} \times 100 = 103.2\%$$

S96T005289

Al, Ag, K, Na and S failed in the pre-digestion spike.
A post spike was made and the results are:

$$Al = \frac{\left(\frac{465.3}{40}\right) - \left(\frac{85.95}{40}\right)}{10} \times 100 = 94.8\%$$

$$Ag = \frac{\left(\frac{357.6}{40}\right) - 0}{10} \times 100 = 89.4\%$$

$$K = \frac{\left(\frac{413.5}{40}\right) - \left(\frac{19.13}{40}\right)}{10} \times 100 = 98.6\%$$

$$Na = \frac{\left(\frac{1216}{40}\right) - \left(\frac{844.4}{40}\right)}{10} \times 100 = 92.9\%$$

$$S = \frac{\left(\frac{417.9}{40}\right) - \left(\frac{20.08}{40}\right)}{10} \times 100 = 99.46\%$$

S96T005560

Al, Ag, Cr, K, Na, P, S and Si failed in the pre-digestion spike. A post spike was made and the results are:

$$Al = \frac{\left(\frac{966.0}{40}\right) - \left(\frac{87.55}{40}\right)}{10} \times 100 = 94.6\% \quad S = \frac{\left(\frac{414.1}{40}\right) - \left(\frac{20.18}{40}\right)}{10} \times 100 = 98.5\%$$

$$Ag = \frac{\left(\frac{353.9}{40}\right) - (0)}{10} \times 100 = 88.5\%$$

$$Si = \frac{\left(\frac{410.2}{40}\right) - \left(\frac{5.636}{40}\right)}{10} \times 100 = 101.1\%$$

$$Cr = \frac{\left(\frac{413.0}{40}\right) - \left(\frac{6.615}{40}\right)}{10} \times 100 = 101.6\%$$

$$K = \frac{\left(\frac{394.3}{40}\right) - \left(\frac{14.98}{40}\right)}{10} \times 100 = 94.8\%$$

$$Na = \frac{\left(\frac{1452}{40}\right) - \left(\frac{1072}{40}\right)}{10} \times 100 = 95.0\%$$

$$P = \frac{\left(\frac{428.8}{40}\right) - \left(\frac{29.24}{40}\right)}{10} \times 100 = 99.9\%$$

#	Sample Name	File	Method	Date	Time	OpID	Type	Mode
1	ICV	961204H	ICP2	12/04/96	20:19	BJG	Q	CONC
2	ICB	961204H	ICP2	12/04/96	20:22	BJG	Q	CONC
3	LLS	961204H	ICP2	12/04/96	20:25	BJG	Q	CONC
4	ICSA	961204H	ICP2	12/04/96	20:28	BJG	Q	CONC
5	IC SAB	961204H	ICP2	12/04/96	20:31	BJG	Q	CONC
6	PREPSTDITJA	961204H	ICP2	12/04/96	20:34	BJG	S	CONC
7	PREPBLKTJA	961204H	ICP2	12/04/96	20:37	BJG	S	CONC
8	S96T005287 L	961204H	ICP2	12/04/96	20:40	BJG	S	CONC
9	S96T005287	961204H	ICP2	12/04/96	20:43	BJG	S	CONC
10	S96T005287_D	961204H	ICP2	12/04/96	20:46	BJG	S	CONC
11	CCV	961204H	ICP2	12/04/96	20:49	BJG	Q	CONC
12	CCB	961204H	ICP2	12/04/96	20:51	BJG	Q	CONC
13	S96T005287 S	961204H	ICP2	12/04/96	20:54	BJG	S	CONC
14	S96T005287 X	961204H	ICP2	12/04/96	20:57	BJG	S	CONC
15	S96T005287 AX	961204H	ICP2	12/04/96	21:01	BJG	S	CONC
16	S96T005288 L	961204H	ICP2	12/04/96	21:08	BJG	S	CONC
17	S96T005288	961204H	ICP2	12/04/96	21:11	BJG	S	CONC
18	S96T005288 D	961204H	ICP2	12/04/96	21:14	BJG	S	CONC
19	S96T005288 S	961204H	ICP2	12/04/96	21:17	BJG	S	CONC
20	S96T005288 X	961204H	ICP2	12/04/96	21:21	BJG	S	CONC
21	S96T005288 AX	961204H	ICP2	12/04/96	21:24	BJG	S	CONC
22	CCV	961204H	ICP2	12/04/96	21:27	BJG	Q	CONC
23	CCB	961204H	ICP2	12/04/96	21:30	BJG	Q	CONC
24	S96T005289 L	961204H	ICP2	12/04/96	21:33	BJG	S	CONC
25	S96T005289	961204H	ICP2	12/04/96	21:36	BJG	S	CONC
26	S96T005289 D	961204H	ICP2	12/04/96	21:39	BJG	S	CONC
27	S96T005289 X	961204H	ICP2	12/04/96	21:41	BJG	S	CONC
28	S96T005289 S	961204H	ICP2	12/04/96	21:44	BJG	S	CONC
29	S96T005289 AX	961204H	ICP2	12/04/96	21:47	BJG	S	CONC
30	S96T005294	961204H	ICP2	12/04/96	21:50	BJG	S	CONC
31	S96T005294_D	961204H	ICP2	12/04/96	21:52	BJG	S	CONC
32	CCV	961204H	ICP2	12/04/96	21:55	BJG	Q	CONC
33	CCB	961204H	ICP2	12/04/96	21:58	BJG	Q	CONC
34	S96T005557	961204H	ICP2	12/04/96	22:01	BJG	S	CONC
35	S96T005557 D	961204H	ICP2	12/04/96	22:03	BJG	S	CONC
36	S96T005560 L	961204H	ICP2	12/04/96	22:06	BJG	S	CONC
37	S96T005560	961204H	ICP2	12/04/96	22:09	BJG	S	CONC
38	S96T005560 D	961204H	ICP2	12/04/96	22:11	BJG	S	CONC
39	S96T005560 S	961204H	ICP2	12/04/96	22:14	BJG	S	CONC
40	S96T005560 X	961204H	ICP2	12/04/96	22:17	BJG	S	CONC
41	S96T005560 AX	961204H	ICP2	12/04/96	22:19	BJG	S	CONC
42	ICSA	961204H	ICP2	12/04/96	22:22	BJG	Q	CONC
43	IC SAB	961204H	ICP2	12/04/96	22:25	BJG	Q	CONC
44	CCV	961204H	ICP2	12/04/96	22:28	BJG	Q	CONC
45	CCB	961204H	ICP2	12/04/96	22:30	BJG	Q	CONC

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1821 TO 1828.

[Signature]
12-04-96

AN-104 AND NIGEST
Sml-Sm

S96T005287, S288, S289, S294, S297, S298, S299, S294, S297, S298, S299

FILE # 096120411.TAT

#	Sample Name	Ag	Al	As	B	Ba	Be
1	ICV	5.028	4.872	5.190	4.893	4.955	5.103
2	ICB	.0019	.0040	.0108	.0084	.0002	.0002
3	LLS	.0212	.0953	.2145	.1048	.0991	.0102
4	ICSA	.0034	241.8	.0405	-.0011	.0017	-.0000
5	ICSAB	.9778	242.1	.0347	-.0005	.4702	.4755
6	PREPSTD TJJA	.3478	4.562	4.721	5.126	4.513	4.703
7	PREPBLKTJJA	.0008	.1010	.0054	.9428	.0007	.0001
8	S96T005287 L	.0706	114.0	-.2009	.8908	.0167	.0031
9	S96T005287	.0747	110.4	-.1164	.8195	.0174	.0014
10	S96T005287_D	.0701	104.6	-.0858	.8701	.0164	.0012
11	CCV	5.064	4.956	5.264	4.991	4.992	5.200
12	CCB	.0026	.0105	.0131	.0025	.0002	.0004
13	S96T005287 S	.6602	112.1	4.650	5.247	4.388	4.504
14	S96T005287 X	.0685	115.4	.2152	1.128	.0187	.0035
15	S96T005287 AX	373.7	498.2	411.6	387.4	398.1	410.3
16	S96T005288 L	.0950	79.34	-.0302	1.014	.0086	.0004
17	S96T005288	.0761	76.93	-.0662	.9039	.0092	.0006
18	S96T005288 D	.0866	93.51	-.0897	.9721	.0107	.0010
19	S96T005288 S	.5986	97.14	4.704	5.163	4.488	4.554
20	S96T005288 X	.0181	79.12	-.4583	1.187	.0029	.0018
21	S96T005288 AX	378.5	464.4	415.1	386.0	404.0	409.7
22	CCV	5.288	4.926	5.244	4.934	5.036	5.128
23	CCB	Q.0341	-.0059	-.0026	.0049	.0001	.0001
24	S96T005289 L	.0820	86.68	-.1021	.9839	.0167	.0013
25	S96T005289	.0644	83.77	-.0559	.9354	.0168	.0010
26	S96T005289 D	.0676	97.10	-.0984	.7792	.0150	.0010
27	S96T005289 S	.6207	101.5	4.703	5.313	4.495	4.570
28	S96T005289 X	.0149	85.95	-.2570	1.128	.0144	.0017
29	S96T005289 AX	357.6	465.3	412.4	382.7	395.2	406.0
30	S96T005294	.1871	90.35	-.1293	.7931	.0211	.0020
31	S96T005294_D	.1475	105.9	-.1116	.7862	.0184	.0011
32	CCV	5.126	4.896	5.217	4.895	4.966	5.106
33	CCB	Q.0225	-.0109	-.0009	.0084	.0002	.0001
34	S96T005557	.0827	92.01	-.0776	.8772	.0141	.0012
35	S96T005557 D	.0769	89.42	-.0770	.8347	.0130	.0016
36	S96T005560 L	.0772	86.20	.0163	.7916	.0139	.0008
37	S96T005560	.0801	85.12	-.0821	.7577	.0153	.0009
38	S96T005560 D	.0793	81.84	-.0749	.8377	.0136	.0009
39	S96T005560 S	.6082	75.03	4.770	5.049	4.454	4.591
40	S96T005560 X	.0311	87.55	.1438	.9108	.0128	.0052
41	S96T005560 AX	353.9	466.0	411.3	379.8	396.4	405.3
42	ICSA	.1686	237.1	.0375	.0052	.0022	.0005
43	ICSAB	.9855	238.2	.0382	.0034	.4643	.4670
44	CCV	5.065	4.862	5.201	4.879	4.925	5.081
45	CCB	.0043	-.0148	.0024	.0059	.0003	.0002

#	Sample Name	Bi	Ca	Cd	Ce	Co	Cr
1	ICV	5.106	5.147	5.087	4.954	5.022	5.117
2	ICB	.0131	.0054	.0005	.0036	.0029	.0005
3	LLS	.2015	.2105	.0104	.2013	.0429	.0220
4	ICSA	-.0291	255.9	.0021	.0147	.0019	.0096

#	Sample Name	Bi	Ca	Cd	Ce	Co	Cr
5	ICSAB	.0020	255.6	.9509	.0111	.4672	.4878
6	PREPSTDITJA	4.609	4.556	4.516	4.650	4.577	4.547
7	PREPBLKTJA	-.0112	.1004	-.0005	.0019	.0014	.0014
8	S96T005287 L	.0110	.9350	.0340	-.0842	.0223	6.626
9	S96T005287	.0007	.8965	.0381	-.0140	.0086	6.326
10	S96T005287_D	-.0162	.8190	.0376	-.0197	.0073	5.865
11	CCV	5.196	5.144	5.122	5.005	5.057	5.140
12	CCB	-.0005	.0037	.0011	.0036	.0047	.0029
13	S96T005287 S	4.496	5.329	4.485	4.525	4.487	10.69
14	S96T005287 X	-.0656	.9600	.0499	-.1054	.0478	6.672
15	S96T005287 AX	406.7	405.3	398.5	393.2	.6908	407.7
16	S96T005288 L	-.1659	1.188	.0257	-.0421	.0222	3.408
17	S96T005288	-.0110	1.149	.0163	-.0254	.0068	3.283
18	S96T005288 D	.0043	.5374	.0228	-.0027	.0094	3.822
19	S96T005288 S	4.720	5.060	4.553	4.602	4.554	8.265
20	S96T005288 X	-.8201	1.345	.0101	-.4929	.1569	3.475
21	S96T005288 AX	409.5	419.1	407.1	399.9	.7191	413.7
22	CCV	5.241	5.283	5.183	5.023	5.123	5.219
23	CCB	-.0124	.0022	-.0005	-.0038	.0033	.0013
24	S96T005289 L	-.1849	1.065	.0645	-.0100	.0353	8.826
25	S96T005289	.0167	1.053	.0542	-.0099	.0117	8.498
26	S96T005289 D	.0125	.9239	.0469	.0189	.0112	7.639
27	S96T005289 S	4.633	5.582	4.644	4.605	4.626	12.78
28	S96T005289 X	-.9759	1.096	.0258	-.3034	.0954	8.833
29	S96T005289 AX	409.7	414.7	403.3	391.2	.7322	414.4
30	S96T005294	.0187	1.247	.0711	.0066	.0104	10.99
31	S96T005294_D	.0160	1.179	.0612	-.0161	.0094	10.06
32	CCV	5.203	5.256	5.146	4.948	5.075	5.188
33	CCB	-.0019	.0044	.0009	.0002	.0029	.0010
34	S96T005557	.0127	1.889	.0559	.0044	.0146	7.737
35	S96T005557 D	.0123	1.711	.0522	-.0027	.0084	7.212
36	S96T005560 L	.1035	1.369	.0623	.0151	.0280	6.469
37	S96T005560	-.0312	1.337	.0496	-.0195	.0088	6.296
38	S96T005560 D	-.0078	1.308	.0522	.0037	.0062	6.007
39	S96T005560 S	4.581	5.734	4.629	4.581	4.614	9.711
40	S96T005560 X	-.3172	1.451	.0388	-.0522	.1323	6.615
41	S96T005560 AX	405.5	415.3	403.3	389.9	.6951	413.0
42	ICSAB	-.0032	258.6	.0021	.0115	.0029	.0099
43	ICSAB	.0123	261.0	.9521	.0193	.4728	.4909
44	CCV	5.169	5.255	5.130	4.903	5.072	5.166
45	CCB	-.0159	.0025	-.0000	-.0013	.0052	.0015
#	Sample Name	Cu	Eu	Fe	K	La	Li
1	ICV	5.055	-.0006	5.062	4.765	5.011	4.968
2	ICB	.0011	.0008	.0014	.0944	.0018	.0013
3	LLS	.0211	.0017	.1065	Q.3501	.1019	.0221
4	ICSAB	-.0082	-.0514	94.22	.0992	-.0041	.0038
5	ICSAB	.4672	-.0475	94.06	-.0657	-.0047	.9915
6	PREPSTDITJA	4.430	-.0016	4.577	4.635	4.659	4.589
7	PREPBLKTJA	.0043	-.0007	.0135	-.0035	.0003	-.0006
8	S96T005287 L	.0331	.0092	2.667	19.17	-.0021	.0191
9	S96T005287	.0248	.0012	2.580	18.97	.0125	.0100

#	Sample Name	Cu	Eu	Fe	K	La	Li
10	S96T005287_D	.0210	.0006	2.903	17.85	.0099	.0090
11	CCV	5.155	-.0012	5.098	5.035	5.055	5.124
12	CCB	.0024	.0010	.0018	.1434	.0018	.0008
13	S96T005287_S	4.340	.0000	7.491	23.56	4.561	4.618
14	S96T005287_X	.0142	.0461	2.682	20.79	.0372	.0572
15	S96T005287_AX	-.1058	.0961	399.5	417.3	396.9	402.7
16	S96T005288_L	.0188	.0069	.9494	13.53	.0058	.2174
17	S96T005288_S	.0158	.0011	.8950	13.74	.0024	.2119
18	S96T005288_D	.0169	.0014	.9683	17.08	.0067	.2406
19	S96T005288_X	4.394	-.0009	5.743	20.96	4.657	4.867
20	S96T005288_X	.0421	.0431	.9187	4.379	-.0452	.2674
21	S96T005288_AX	-.0977	.1203	404.5	407.2	402.7	394.1
22	CCV	5.087	-.0003	5.153	5.049	5.070	4.952
23	CCB	.0004	.0010	.0005	-.1124	-.0003	.0010
24	S96T005289_L	.0301	.0087	.3834	16.35	.0229	.0119
25	S96T005289_S	.0205	.0026	.3748	14.88	.0165	.0059
26	S96T005289_D	.0203	.0039	.3171	17.46	.0163	.0074
27	S96T005289_X	4.374	.0012	4.864	21.86	4.650	4.599
28	S96T005289_X	.0396	.0878	.3376	19.13	.0034	.0857
29	S96T005289_AX	-.1001	.1415	399.1	413.5	393.7	386.7
30	S96T005294_S	.0228	.0034	.4924	16.16	.0207	.0260
31	S96T005294_D	.0217	.0041	.4563	18.41	.0150	.0269
32	CCV	5.029	.0002	5.111	4.807	4.999	4.924
33	CCB	.0004	.0017	.0001	.0233	.0006	.0023
34	S96T005557_S	.0232	.0032	.5454	16.16	.0279	.0413
35	S96T005557_D	.0202	.0029	.5360	16.06	.0246	.0408
36	S96T005560_L	.0209	.0280	.7776	14.35	.0187	.0620
37	S96T005560_S	.0166	.0036	.7729	15.16	.0188	.0379
38	S96T005560_D	.0235	.0040	.4949	14.38	.0216	.0348
39	S96T005560_X	4.342	.0024	5.092	18.60	4.629	4.570
40	S96T005560_X	.0123	.0963	.7680	14.98	.0481	.1286
41	S96T005560_AX	-.1269	.1466	400.1	394.3	394.9	385.2
42	ICSA	-.0078	-.0603	93.80	.0824	-.0044	.0061
43	IC SAB	4.502	-.0596	94.09	.0124	-.0035	.9493
44	CCV	4.996	.0009	5.072	4.966	4.964	4.886
45	CCB	.0009	.0020	.0009	.0130	.0003	.0019

#	Sample Name	Mg	Mn	Mo	Na	Nd	Ni
1	ICV	4.816	4.965	5.009	4.850	5.028	5.079
2	ICB	.0081	.0007	.0038	.0072	.0020	-.0011
3	LLS	.1893	.0208	.1019	.2145	.1994	.0395
4	ICSA	251.6	-.0051	-.0028	193.8	.0065	-.0098
5	IC SAB	251.6	.4499	-.0036	193.1	.0088	.9401
6	PREPSTD TJA	4.246	4.437	4.489	5.345	4.575	4.646
7	PREPBLKTJA	.0345	.0005	.0016	.7461	.0000	.0001
8	S96T005287_L	-.0249	.1050	.2588	1039.	.0267	.2231
9	S96T005287_S	.0224	.0949	.2328	1009.	.0235	.2262
10	S96T005287_D	.0255	.0925	.2200	975.6	.0136	.2079
11	CCV	4.893	4.981	5.035	4.935	5.091	5.128
12	CCB	.0079	.0009	.0067	.0063	.0058	-.0021
13	S96T005287_S	4.148	4.401	4.660	1037.	4.476	4.748
14	S96T005287_X	.0544	.1265	.2565	1043.	-.0836	-.0318

#	Sample Name	Mg	Mn	Mo	Na	Nd	Ni
15	S96T005287 AX	402.6	396.0	384.0	1430.	399.6	397.3
16	S96T005288 L	.0349	.0490	.1768	909.4	-.0117	.1135
17	S96T005288	.0382	.0438	.1689	882.5	.0036	.1072
18	S96T005288 D	.0381	.0501	.1966	1050.	.0146	.1283
19	S96T005288 S	4.199	4.420	4.715	948.4	4.535	4.771
20	S96T005288 X	-.1250	.0735	.3077	903.5	.0087	.1018
21	S96T005288 AX	402.9	404.5	392.7	1278.	403.8	405.7
22	CCV	4.881	5.083	5.112	4.860	5.085	5.173
23	CCB	-.0007	.0009	.0071	.0049	-.0010	-.0020
24	S96T005289 L	.0585	.0767	.1717	852.4	.0412	.2465
25	S96T005289	.0200	.0710	.1816	822.5	.0260	.3223
26	S96T005289 D	.0093	.0620	.2099	857.4	.0315	.2967
27	S96T005289 S	4.189	4.484	4.743	900.1	4.549	5.027
28	S96T005289 X	-.2361	.1125	.2286	844.4	-.0048	.3605
29	S96T005289 AX	398.1	399.5	389.3	1216.	394.3	400.4
30	S96T005294	.0136	.0815	.2017	933.1	.0293	.4329
31	S96T005294 D	-.0046	.0721	.2253	1000.	.0211	.3639
32	CCV	4.839	5.016	5.055	4.834	5.010	5.146
33	CCB	.0010	.0009	.0061	.0162	.0029	.0050
34	S96T005557	.0429	.0805	.1963	1066.	.0416	.3277
35	S96T005557 D	.0233	.0754	.1919	1009.	.0412	.2907
36	S96T005560 L	-.0229	.1307	.2034	1048.	.0312	.2344
37	S96T005560	.0104	.1182	.1834	1043.	.0296	.2705
38	S96T005560 D	.0459	.1108	.1772	981.7	.0222	.2423
39	S96T005560 S	4.186	4.504	4.664	895.5	4.529	4.915
40	S96T005560 X	-.0978	.1709	.3093	1072.	.0803	.0810
41	S96T005560 AX	396.4	399.6	389.0	1452.	394.9	401.6
42	ICSA	247.6	-.0035	.0012	186.3	.0061	-.0141
43	ICSAB	248.1	.4538	-.0041	186.7	.0046	.9562
44	CCV	4.797	4.994	5.031	4.803	4.990	5.130
45	CCB	-.0070	.0012	.0039	.0184	.0037	.0018

#	Sample Name	P	Pb	S	Sb	Se	Si
1	ICV	5.038	5.083	4.945	4.731	4.895	4.878
2	ICB	.0047	.0062	.0024	.0085	.0165	.0065
3	LLS	.4147	.2174	.2146	.1091	.2211	.1719
4	ICSA	.0250	.0273	-.0029	-.0084	.0110	.0094
5	ICSAB	.0181	1.037	-.0301	.0030	-.0111	.0033
6	PREPSTD TJJA	4.594	4.434	4.487	4.434	4.306	7.581
7	PREPBLKTJJA	.0279	-.0216	.0515	-.0007	.0274	1.475
8	S96T005287 L	6.126	.2252	18.93	-.0576	.0907	4.413
9	S96T005287	5.921	.1858	18.55	.0111	.0757	4.243
10	S96T005287 D	4.411	.1494	17.44	-.0090	.0671	4.484
11	CCV	5.032	5.123	4.979	4.784	4.939	5.018
12	CCB	.0127	.0158	.0049	.0070	.0347	.0259
13	S96T005287 S	9.373	4.582	23.09	4.464	4.283	8.699
14	S96T005287 X	5.952	-.0025	18.96	.0004	1.258	5.072
15	S96T005287 AX	407.7	408.5	416.6	387.7	387.6	409.7
16	S96T005288 L	6.392	.1671	8.534	.0233	.2298	4.467
17	S96T005288	6.335	.1143	8.449	-.0135	.0720	4.294
18	S96T005288 D	7.410	.1638	10.36	.0126	.0686	4.655
19	S96T005288 S	11.77	4.635	14.94	4.498	4.353	8.008

Analysis Report

Averages

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#	Sample Name	P	Pb	S	Sb	Se	Si
20	S96T005288 X	6.793	.5266	8.978	-.1385	1.388	5.273
21	S96T005288_AX	414.2	421.8	410.3	393.3	389.1	418.0
22	CCV	5.021	5.233	4.965	4.815	4.976	4.972
23	CCB	.0024	.0069	-.0046	-.0051	.0229	.0221
24	S96T005289 L	5.231	.1631	20.07	-.0408	.3934	4.707
25	S96T005289	4.972	.1673	19.60	.0021	.1268	4.456
26	S96T005289 D	4.027	.1745	18.03	.0123	.1024	3.383
27	S96T005289_S	10.43	4.720	23.42	4.570	4.449	8.931
28	S96T005289 X	5.142	.1170	20.08	.1061	1.308	5.901
29	S96T005289_AX	407.5	417.6	417.9	389.7	387.8	410.8
30	S96T005294	5.704	.1866	23.81	-.0072	.0653	3.782
31	S96T005294_D	5.055	.1754	22.08	-.0208	.1108	3.480
32	CCV	4.988	5.185	4.979	4.774	4.888	4.952
33	CCB	-.0073	-.0063	-.0054	-.0056	.0295	.0228
34	S96T005557	7.372	.1798	27.19	.0094	.1315	3.909
35	S96T005557 D	8.015	.8297	25.07	.0086	.1116	3.117
36	S96T005560 L	28.52	.2864	20.00	-.0754	.4387	4.246
37	S96T005560	28.06	.1733	19.59	-.0148	.0699	3.987
38	S96T005560 D	28.83	.1483	18.87	.0138	.0883	4.126
39	S96T005560_S	27.16	4.688	20.99	4.554	4.425	7.569
40	S96T005560 X	29.24	.3851	20.18	-.1521	1.976	5.636
41	S96T005560_AX	428.8	416.9	414.1	389.2	389.5	410.2
42	ICSA	.0434	.0562	-.0174	-.0038	.0270	.0358
43	ICSAB	.0364	1.051	-.0457	-.0009	.0241	.0280
44	CCV	5.089	5.172	4.969	4.738	4.944	4.921
45	CCB	-.0021	.0009	-.0047	.0001	.0445	.0221

#	Sample Name	Sm	Sr	Th	Ti	Tl	U
1	ICV	4.838	4.889	.0731	4.753	4.871	9.319
2	ICB	.0103	.0003	-.0006	.0000	.0154	.0409
3	LLS	.2215	.0205	-.0072	.0198	.4168	.5689
4	ICSA	.0175	.0017	-.0003	.0013	.0921	-.1497
5	ICSAB	.0109	.0019	.0059	.0018	.1095	-.1526
6	PREPSTD TJJA	4.474	4.504	.0593	4.081	4.340	8.611
7	PREPBLKTJJA	-.0100	.0002	-.0003	.0002	.0120	-.0388
8	S96T005287 L	.1294	.0069	-.0525	.0018	.1673	1.172
9	S96T005287	.0139	.0053	.0011	.0016	-.0072	.7603
10	S96T005287_D	-.0035	.0048	.0027	.0041	.0356	.6570
11	CCV	4.900	4.949	.0710	4.822	4.960	9.437
12	CCB	.0120	.0004	.0006	.0012	.0042	.0520
13	S96T005287 S	4.376	4.375	.0723	3.999	4.238	9.102
14	S96T005287 X	.5443	.0147	-.2335	-.0115	-.0968	3.170
15	S96T005287_AX	383.6	389.6	2.563	349.6	382.4	33.90
16	S96T005288 L	.0819	.0037	-.0485	-.0053	.1255	.6205
17	S96T005288	.0048	.0028	-.0037	.0013	.0264	.3168
18	S96T005288 D	.0135	.0030	.0076	.0018	.0381	.4153
19	S96T005288_S	4.471	4.470	.0605	4.068	4.391	8.904
20	S96T005288 X	.7411	.0147	-.4839	-.0028	.7670	3.950
21	S96T005288_AX	387.5	393.6	2.373	354.9	394.2	35.51
22	CCV	4.888	4.935	.0690	4.817	4.965	9.433
23	CCB	.0130	.0004	-.0073	-.0003	-.0001	.0571
24	S96T005289 L	.1298	.0079	-.0484	-.0032	-.0578	1.414

#	Sample Name	Sm	Sr	Th	Ti	Tl	U
25	S96T005289	.0327	.0060	.0022	.0040	.0396	.9649
26	S96T005289 D	.0476	.0057	.0074	.0035	-.0135	.8946
27	S96T005289-S	4.476	4.468	.0685	4.065	4.412	9.367
28	S96T005289-X	1.271	.0231	-.4845	.0167	-.1424	5.624
29	S96T005289-AX	379.5	385.8	2.316	350.0	385.5	37.22
30	S96T005294	.0441	.0078	.0047	.0034	.0340	1.114
31	S96T005294 D	.0473	.0070	-.0024	.0029	-.0611	1.057
32	CCV	4.827	4.886	.0659	4.784	4.942	9.300
33	CCB	.0237	.0005	-.0040	.0005	.0089	.1085
34	S96T005557	.0348	.0101	.0152	.0034	-.0220	1.247
35	S96T005557 D	.0287	.0092	.0138	.0024	.0527	1.170
36	S96T005560-L	.3595	.0131	-.0956	-.0013	.0596	2.931
37	S96T005560	.0480	.0082	-.0107	.0021	-.0099	1.596
38	S96T005560 D	.0467	.0079	.0021	.0003	.0269	1.519
39	S96T005560-S	4.438	4.445	.0618	4.048	4.425	9.740
40	S96T005560-X	1.423	.0294	-.4865	.0063	-.2151	7.220
41	S96T005560-AX	380.0	386.6	1.853	350.7	387.8	39.40
42	ICSA	.0357	.0020	-.0105	.0010	.0663	-.0664
43	ICSAB	.0362	.0020	.0048	.0014	.0557	-.1202
44	CCV	4.790	4.856	.0612	4.748	4.918	9.241
45	CCB	.0307	.0008	-.0127	.0004	.0213	.1224

#	Sample Name	V	Y	Zn	Zr
1	ICV	4.959	.0069	5.062	4.831
2	ICB	.0026	.0003	.0010	.0018
3	LLS	.1085	.0014	.0227	.0244
4	ICSA	.0058	.0077	.0054	-.0006
5	ICSAB	.4676	.0076	.9599	-.0008
6	PREPSTDITJA	4.446	.0051	4.406	4.538
7	PREPBLKTJA	-.0009	-.0007	.0785	.0019
8	S96T005287 L	.0277	.0073	.1510	.0890
9	S96T005287	.0039	.0023	.1385	.0733
10	S96T005287 D	.0013	.0019	.1284	.0668
11	CCV	5.000	.0066	5.099	4.869
12	CCB	.0031	.0005	.0014	.0024
13	S96T005287 S	4.348	.0084	4.530	4.547
14	S96T005287-X	.1163	.0237	.1893	.1723
15	S96T005287-AX	.4035	.5656	-1.134	388.4
16	S96T005288-L	.0177	.0044	.1366	.0533
17	S96T005288	.0040	.0010	.1209	.0410
18	S96T005288 D	.0060	.0017	.0837	.0487
19	S96T005288-S	4.422	.0069	4.585	4.617
20	S96T005288-X	.1694	.0234	.1736	.1898
21	S96T005288-AX	.5562	.6088	-1.176	396.7
22	CCV	5.048	.0075	5.165	4.907
23	CCB	.0032	.0005	.0014	.0026
24	S96T005289 L	.0297	.0080	.0775	.1031
25	S96T005289	.0098	.0043	.0727	.0825
26	S96T005289 D	.0133	.0048	.0683	.0771
27	S96T005289-S	4.472	.0098	4.600	4.636
28	S96T005289-X	.2431	.0509	.1020	.2598
29	S96T005289-AX	.5994	.6049	-1.190	390.4

#	Sample Name	V	Y	Zn	Zr
30	S96T005294	.0129	.0055	.0861	.0945
31	S96T005294_D	.0134	.0052	.0894	.0907
32	CCV	5.007	.0076	5.151	4.852
33	CCB	.0048	.0011	.0004	.0034
34	S96T005557	.0099	.0078	.1271	.1015
35	S96T005557 D	.0101	.0073	.1286	.0959
36	S96T005560-L	.0882	.0183	.1331	.1625
37	S96T005560	.0258	.0056	.1230	.1095
38	S96T005560 D	.0263	.0055	.1221	.1051
39	S96T005560-S	4.471	.0106	4.639	4.627
40	S96T005560-X	.3012	.0565	.1444	.3303
41	S96T005560-AX	.6415	.6103	-1.145	391.2
42	ICSA	.0106	.0087	.0052	.0033
43	ICSAB	.4710	.0088	.9688	.0028
44	CCV	4.978	.0077	5.130	4.825
45	CCB	.0057	.0010	.0007	.0047

LABCORE Data Entry Template for Worklist# 15384

Analyst: B. Goelke Instrument: ICP01 Book# 64848AMethod: LA-505-151/161 Rev/Mod 8-1

Worklist Comment: ICP AN-104 (solid acid digest)

S Type	Sample#	R A	Test	Matrix	Group#	Project
1	ICV		@ICP-QC	QC		
2	ICB		@ICP-QC	QC		
3	LLS		@ICP-QC	QC		
4	ICSA		@ICP-QC	QC		
5	ICSAB		@ICP-QC	QC		
6	PREPSTDITJA		@ICP-A01	SOLID		
7	PREPBLKTJA		@ICP-A01	SOLID		
8	SAMPLE	S96T005749 0 A	@ICP-A01	SOLID	96001283	AN-104
Analytes Requested: AG-A-01 , AL-A-01 , AS-A-01 , B-A-01 , BA-A-01 , BE-A-01 , BI-A-01 , CA-A-01 , CD-A-01 , CE-A-01 , CO-A-01 , CR-A-01 , CU-A-01 , FE-A-01 , K-A-01 , LA-A-01 , LI-A-01 , MG-A-01 , MN-A-01 , MO-A-01 , NA-A-01 , ND-A-01 , NI-A-01 , P-A-01 , PB-A-01 , S-A-01 , SB-A-01 , SE-A-01 , SI-A-01 , SM-A-01 , SR-A-01 , TI-A-01 , TL-A-01 , U-A-01 , V-A-01 , ZN-A-01 , ZR-A-01						
9	DUP	S96T005749 0 A	@ICP-A01	SOLID		
10	SAMPLE	S96T005750 0 A	@ICP-A01	SOLID	96001283	AN-104
Analytes Requested: AG-A-01 , AL-A-01 , AS-A-01 , B-A-01 , BA-A-01 , BE-A-01 , BI-A-01 , CA-A-01 , CD-A-01 , CE-A-01 , CO-A-01 , CR-A-01 , CU-A-01 , FE-A-01 , K-A-01 , LA-A-01 , LI-A-01 , MG-A-01 , MN-A-01 , MO-A-01 , NA-A-01 , ND-A-01 , NI-A-01 , P-A-01 , PB-A-01 , S-A-01 , SB-A-01 , SE-A-01 , SI-A-01 , SM-A-01 , SR-A-01 , TI-A-01 , TL-A-01 , U-A-01 , V-A-01 , ZN-A-01 , ZR-A-01						
11	DUP	S96T005750 0 A	@ICP-A01	SOLID		
12	CCV		@ICP-QC	QC		

Data Entry Comments:

Sample result calculation:

$$S96T005750 \text{ Al} = \frac{154.4 \text{ ug}}{\text{ml}} \times \frac{1}{7.2548 \times \frac{1L}{1000 \text{ ml}}} = 2.13 \text{e}+4 \text{ ug/g}$$

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist# 15384

S Type	Sample#	R A	Test	Matrix	Group#	Project
13 CCB			@ICP-QC	QC		
14 SAMPLE	S96T005778 0 A		@ICP-A01 SOLID		96001283 AN-104	
	Analytes Requested: AG-A-01 , AL-A-01 , AS-A-01 , B-A-01 , BA-A-01 , BE-A-01 , BI-A-01 , CA-A-01 , CD-A-01 , CE-A-01 , CO-A-01 , CR-A-01 , CU-A-01 , FE-A-01 , K-A-01 , LA-A-01 , LI-A-01 , MG-A-01 , MN-A-01 , MO-A-01 , NA-A-01 , ND-A-01 , NI-A-01 , P-A-01 , PB-A-01 , S-A-01 , SB-A-01 , SE-A-01 , SI-A-01 , SM-A-01 , SR-A-01 , TI-A-01 , TL-A-01 , U-A-01 , V-A-01 , ZN-A-01 , ZR-A-01					
15 DUP	S96T005778 0 A		@ICP-A01 SOLID			
16 SAMPLE	S96T005782 0 A		@ICP-A01 SOLID		96001283 AN-104	
	Analytes Requested: AG-A-01 , AL-A-01 , AS-A-01 , B-A-01 , BA-A-01 , BE-A-01 , BI-A-01 , CA-A-01 , CD-A-01 , CE-A-01 , CO-A-01 , CR-A-01 , CU-A-01 , FE-A-01 , K-A-01 , LA-A-01 , LI-A-01 , MG-A-01 , MN-A-01 , MO-A-01 , NA-A-01 , ND-A-01 , NI-A-01 , P-A-01 , PB-A-01 , S-A-01 , SB-A-01 , SE-A-01 , SI-A-01 , SM-A-01 , SR-A-01 , TI-A-01 , TL-A-01 , U-A-01 , V-A-01 , ZN-A-01 , ZR-A-01					
17 DUP	S96T005782 0 A		@ICP-A01 SOLID			
18 SAMPLE	S96T005783 0 A		@ICP-A01 SOLID		96001283 AN-104	
	Analytes Requested: AG-A-01 , AL-A-01 , AS-A-01 , B-A-01 , BA-A-01 , BE-A-01 , BI-A-01 , CA-A-01 , CD-A-01 , CE-A-01 , CO-A-01 , CR-A-01 , CU-A-01 , FE-A-01 , K-A-01 , LA-A-01 , LI-A-01 , MG-A-01 , MN-A-01 , MO-A-01 , NA-A-01 , ND-A-01 , NI-A-01 , P-A-01 , PB-A-01 , S-A-01 , SB-A-01 , SE-A-01 , SI-A-01 , SM-A-01 , SR-A-01 , TI-A-01 , TL-A-01 , U-A-01 , V-A-01 , ZN-A-01 , ZR-A-01					
19 DUP	S96T005783 0 A		@ICP-A01 SOLID			
20 ICSA			@ICP-QC	QC		
21 ICSAB			@ICP-QC	QC		
22 CCV			@ICP-QC	QC		
23 CCB			@ICP-QC	QC		

Data Entry Comments:

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist# 15384

S Type	Sample#	R A	Test	Matrix	Group#	Project
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Final page for worklist # 15384

[Signature]
Analyst Signature 12-06-96
Date

[Signature]
Analyst Signature 12/10/96
Date

PREPBL TSA	DIRECT	0.5
PREPBL TSA	DIRECT	1
556700 5748	3ml - 7ml	2.33
5748-D	3ml - 7ml	3.33
556700 5750	3ml - 7ml	3.33
5750-D	3ml - 7ml	3.33
556700 5774	3ml - 7ml	3.33
5774-D	3ml - 7ml	3.33
556700 5782	3ml - 7ml	3.33
5782-D	3ml - 7ml	3.33
556700 5783	3ml - 7ml	3.33
5783-D	3ml - 7ml	3.33

Data Entry Comments:

#	Sample Name	File	Method	Date	Time	OpID	Type	Mode
1	ICV	961206B	ICP2	12/06/96	10:19	BJG	Q	CONC
2	ICB	961206B	ICP2	12/06/96	10:22	BJG	Q	CONC
3	LLS	961206B	ICP2	12/06/96	10:25	BJG	Q	CONC
4	ICSA	961206B	ICP2	12/06/96	10:27	BJG	Q	CONC
5	ICSAB	961206B	ICP2	12/06/96	10:30	BJG	Q	CONC
6	PREPSTDTJA	961206B	ICP2	12/06/96	10:33	BJG	S	CONC
7	PREPBLKTJA	961206B	ICP2	12/06/96	10:36	BJG	S	CONC
8	S96T005749	961206B	ICP2	12/06/96	10:40	BJG	S	CONC
9	S96T005749_D	961206B	ICP2	12/06/96	10:42	BJG	S	CONC
10	S96T005750	961206B	ICP2	12/06/96	10:46	BJG	S	CONC
11	S96T005750_D	961206B	ICP2	12/06/96	10:49	BJG	S	CONC
12	CCV	961206B	ICP2	12/06/96	10:52	BJG	Q	CONC
13	CCB	961206B	ICP2	12/06/96	10:55	BJG	Q	CONC
14	S96T005778	961206B	ICP2	12/06/96	10:58	BJG	S	CONC
15	S96T005778_D	961206B	ICP2	12/06/96	11:03	BJG	S	CONC
16	S96T005782	961206B	ICP2	12/06/96	11:06	BJG	S	CONC
17	S96T005782_D	961206B	ICP2	12/06/96	11:09	BJG	S	CONC
18	S96T005783	961206B	ICP2	12/06/96	11:13	BJG	S	CONC
19	S96T005783_D	961206B	ICP2	12/06/96	11:15	BJG	S	CONC
20	ICSA	961206B	ICP2	12/06/96	11:18	BJG	Q	CONC
21	ICSAB	961206B	ICP2	12/06/96	11:22	BJG	Q	CONC
22	CCV	961206B	ICP2	12/06/96	11:25	BJG	Q	CONC
23	CCB	961206B	ICP2	12/06/96	11:27	BJG	Q	CONC

[Signature]

12-06-96

AN-104 ACID DIGEST

3rd-7-1

S96T005749, 5750, 5751, 5752, 5753

FILE # 0961206B.TXT

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1832 TO 1836.

#	Sample Name	Ag	Al	As	B	Ba	Be
1	ICV	4.994	4.954	5.237	5.055	5.008	5.192
2	ICB	-.0000	.0031	.0014	.0029	.0002	.0004
3	LLS	.0214	.1075	.1835	.1039	.1001	.0105
4	ICSA	.0021	242.1	-.0414	-.0013	.0003	.0004
5	ICSAB	.9644	243.6	-.0066	.0005	.4748	.4796
6	PREPSTD TJ A	.8125	4.661	4.874	4.692	4.607	4.869
7	PREPBLKT J A	.0000	.0675	-.0086	.4824	.0007	.0004
8	S96T005749	.1029	148.6	-.1854	.6413	.0248	.0025
9	S96T005749 D	.1042	156.8	-.2220	.6822	.0265	.0022
10	S96T005750	.0945	154.4	-.1770	.7522	.0281	.0026
11	S96T005750 D	.0964	158.2	-.2289	.7163	.0279	.0026
12	CCV	4.975	4.812	5.161	4.910	4.876	5.069
13	CCB	-.0009	-.0098	-.0081	.0030	.0000	.0004
14	S96T005778	.0999	123.0	-.1884	.8617	.0166	.0021
15	S96T005778 D	.1092	131.7	-.0957	.7641	.0180	.0026
16	S96T005782	.0896	154.5	-.1733	.7946	.0298	.0028
17	S96T005782 D	.0887	145.3	-.2053	.6919	.0285	.0028
18	S96T005783	.1056	125.9	-.0559	.6725	.0168	.0023
19	S96T005783 D	.1033	122.1	-.1981	.5991	.0165	.0023
20	ICSA	.0002	233.1	-.0001	-.0022	.0002	.0004
21	ICSAB	.9546	236.1	.0029	-.0013	.4562	.4679
22	CCV	4.910	4.728	5.143	4.881	4.746	5.026
23	CCB	-.0007	-.0043	-.0166	.0049	.0003	.0004

#	Sample Name	Bi	Ca	Cd	Ce	Co	Cr
1	ICV	5.096	4.985	5.063	5.030	5.064	5.085
2	ICB	-.0084	-.0025	.0011	-.0120	.0022	-.0005
3	LLS	.2093	.2035	.0119	.2017	.0430	.0210
4	ICSA	.0069	246.1	.0042	.0051	.0011	.0084
5	ICSAB	.0001	248.5	.9409	.0147	.4694	.4805
6	PREPSTD TJ A	4.686	4.525	4.575	4.765	4.690	4.576
7	PREPBLKT J A	-.0011	.0634	-.0006	-.0008	.0000	.0025
8	S96T005749	.0055	.9893	.0531	.0072	.0128	7.828
9	S96T005749 D	.0201	1.030	.0539	-.0190	.0111	8.266
10	S96T005750	.0039	1.094	.0610	-.0416	.0153	9.106
11	S96T005750 D	-.0068	1.073	.0583	-.0076	.0086	9.129
12	CCV	5.037	5.113	5.068	4.891	5.070	5.098
13	CCB	-.0046	-.0030	-.0003	-.0112	-.0007	-.0006
14	S96T005778	-.0132	1.879	.0448	-.0006	.0083	6.829
15	S96T005778 D	.0238	1.999	.0530	.0310	.0059	7.378
16	S96T005782	.0237	.9692	.0584	-.0251	.0108	8.911
17	S96T005782 D	.0335	.9007	.0576	-.0102	.0103	8.501
18	S96T005783	-.0248	2.021	.0430	-.0005	.0024	7.148
19	S96T005783 D	-.0076	2.013	.0457	-.0030	.0050	7.088
20	ICSA	-.0321	249.2	.0025	.0125	.0002	.0091
21	ICSAB	-.0208	251.7	.9378	.0142	.4689	.4788
22	CCV	5.015	5.053	5.014	4.761	5.017	5.027
23	CCB	.0165	-.0019	.0009	-.0082	.0006	-.0006

#	Sample Name	Cu	Eu	Fe	K	La	Li
1	ICV	5.274	-.0018	5.062	4.923	5.096	5.143
2	ICB	.0002	-.0002	.0003	.1291	-.0010	.0002
3	LLS	.0207	.0010	.1054	.5191	.1023	.0222
4	ICSA	-.0101	-.0324	92.86	.0570	-.0047	.0027
5	IC SAB	.4825	-.0314	93.29	.0219	-.0047	1.020
6	PREPSTD TJ A	4.679	-.0024	4.822	4.823	4.767	4.813
7	PREPBLKT J A	.0108	-.0005	.0182	.0089	-.0001	.0000
8	S96T005749	.0321	.0033	.6776	25.69	.0121	.0886
9	S96T005749 D	.0326	.0032	.7651	27.41	.0147	.0960
10	S96T005750	.0301	.0031	.6319	26.50	.0119	.0383
11	S96T005750 D	.0301	.0053	.4563	27.74	.0147	.0367
12	CCV	5.068	.0001	5.009	4.765	4.952	4.869
13	CCB	-.0016	.0017	-.0011	-.0947	-.0019	.0023
14	S96T005778	.0295	.0065	.7419	21.83	.0371	.1049
15	S96T005778 D	.0299	.0083	1.130	23.08	.0419	.1575
16	S96T005782	.0287	.0070	.5529	26.68	.0113	.1855
17	S96T005782 D	.0281	.0066	.5213	24.97	.0127	.1889
18	S96T005783	.0256	.0071	.5462	22.50	.0390	.0320
19	S96T005783 D	.0271	.0079	.5480	21.54	.0362	.0340
20	ICSA	-.0108	-.0451	91.42	.0457	-.0035	.0052
21	IC SAB	.4587	-.0436	92.32	.0079	-.0047	.9614
22	CCV	4.998	.0010	4.924	4.645	4.831	4.788
23	CCB	-.0018	.0016	.0000	-.1341	-.0009	.0020

#	Sample Name	Mg	Mn	Mo	Na	Nd	Ni
1	ICV	4.881	4.911	5.046	4.936	5.110	5.033
2	ICB	-.0008	.0005	.0071	-.0025	-.0002	-.0016
3	LLS	.1905	.0204	.0993	.2136	.1999	.0406
4	ICSA	252.4	-.0062	-.0036	195.7	.0074	-.0068
5	IC SAB	253.1	.4444	-.0064	195.3	.0052	.9180
6	PREPSTD TJ A	4.343	4.473	4.037	5.337	4.681	4.711
7	PREPBLKT J A	.0088	.0006	.0041	.6011	-.0018	.0006
8	S96T005749	-.0159	.0853	.3126	1416.	.0180	.3048
9	S96T005749 D	.0121	.0903	.3364	1401.	.0212	.2911
10	S96T005750	-.0156	.1000	.3281	1330.	.0202	.3372
11	S96T005750 D	-.0142	.0989	.3341	1323.	.0177	.3287
12	CCV	4.745	4.925	5.052	4.712	4.937	5.044
13	CCB	-.0111	.0010	.0074	.0165	-.0045	.0041
14	S96T005778	-.0225	.0926	.2545	1332.	.0511	.2751
15	S96T005778 D	.0052	.1030	.2812	1423.	.0515	.3211
16	S96T005782	.0082	.0950	.3293	1259.	.0077	.3169
17	S96T005782 D	-.0140	.0914	.3079	1213.	.0066	.3222
18	S96T005783	-.0056	.0905	.2669	1379.	.0517	.2582
19	S96T005783 D	-.0112	.0911	.2646	1385.	.0531	.2726
20	ICSA	243.6	-.0048	-.0069	183.1	.0008	-.0061
21	IC SAB	246.2	.4421	-.0098	184.7	.0035	.9152
22	CCV	4.671	4.845	4.973	4.638	4.821	4.982
23	CCB	-.0059	.0012	.0036	.0170	-.0063	-.0049

Analysis Report

Averages

Fri 12-06-96 01:10:05 PM

page 4

#	Sample Name	P	Pb	S	Sb	Se	Si
1	ICV	4.965	5.030	4.932	4.831	4.889	4.920
2	ICB	.0023	-.0078	.0131	.0018	.0104	.0024
3	LLS	.3916	.2201	.2116	.1068	.2060	.1681
4	ICSA	.0249	.0238	-.0237	.0119	-.0301	-.0040
5	IC SAB	.0248	.9796	-.0272	.0045	-.0110	-.0005
6	PREPSTDTJA	4.236	4.445	4.086	4.063	4.391	6.120
7	PREPBLKTJA	-.0105	.0048	.0684	.0063	.0290	.2575
8	S96T005749	6.017	.1958	22.26	-.0137	.0725	1.433
9	S96T005749_D	5.428	.2101	23.14	.0343	.0676	1.461
10	S96T005750	6.939	.1769	24.24	.0227	.1574	4.199
11	S96T005750_D	4.606	.2121	24.39	-.0246	.1047	3.900
12	CCV	4.938	5.062	4.924	4.782	4.817	5.117
13	CCB	.0038	-.0103	.0030	.0028	.0336	.0438
14	S96T005778	8.823	.1599	37.62	.0136	.1316	2.611
15	S96T005778_D	9.261	.2186	40.23	.0219	.1763	2.141
16	S96T005782	11.64	.2337	18.62	.0095	.1787	3.696
17	S96T005782_D	16.23	.1909	17.84	.0124	.1416	3.662
18	S96T005783	8.537	.2283	39.28	.0095	.1905	4.740
19	S96T005783_D	9.362	.1759	39.25	.0092	.1896	4.596
20	ICSA	.0169	.0350	-.0308	.0078	.0149	.0478
21	IC SAB	.0245	1.003	-.0306	.0103	.0148	.0325
22	CCV	4.912	5.010	4.937	4.728	4.740	4.901
23	CCB	-.0080	-.0095	-.0002	.0112	.0525	.0437

#	Sample Name	Sm	Sr	Th	Ti	Tl	U
1	ICV	4.939	4.962	.0433	4.929	4.867	9.656
2	ICB	-.0003	.0001	-.0045	-.0000	.0062	.0051
3	LLS	.2143	.0204	-.0022	.0204	.4091	.5463
4	ICSA	.0036	.0020	-.0143	.0014	.0197	.0016
5	IC SAB	-.0028	.0020	-.0040	.0012	.0330	-.0218
6	PREPSTDTJA	4.599	4.596	.0465	3.754	4.379	8.982
7	PREPBLKTJA	-.0060	.0001	.0004	.0002	-.0025	-.0197
8	S96T005749	.0385	.0058	-.0090	.0028	-.0120	.9159
9	S96T005749_D	.0467	.0061	-.0089	.0020	-.0654	.9868
10	S96T005750	.0357	.0063	-.0168	.0036	-.0608	1.008
11	S96T005750_D	.0770	.0066	-.0194	.0011	-.0604	1.100
12	CCV	4.784	4.807	.0413	4.794	4.891	9.357
13	CCB	.0233	.0004	-.0121	-.0008	-.0140	.0979
14	S96T005778	.0711	.0120	-.0099	-.0001	-.0155	1.828
15	S96T005778_D	.1199	.0131	.0075	.0008	-.0402	2.068
16	S96T005782	.1065	.0064	-.0233	-.0005	-.0635	1.091
17	S96T005782_D	.0912	.0059	-.0158	.0004	-.0702	.9934
18	S96T005783	.1023	.0129	-.0044	-.0008	-.1580	1.879
19	S96T005783_D	.1037	.0129	-.0023	.0024	-.0395	1.898
20	ICSA	.0325	.0020	.0037	.0005	.0045	.0319
21	IC SAB	.0299	.0020	.0002	.0013	-.0025	.0145
22	CCV	4.669	4.706	.0381	4.754	4.775	9.144
23	CCB	.0258	.0004	-.0137	-.0010	-.0177	.0960

#	Sample Name	V	Y	Zn	Zr
1	ICV	5.040	.0065	5.079	4.944
2	ICB	-.0002	-.0001	.0012	.0007
3	LLS	.1060	.0008	.0241	.0226
4	ICSA	-.0001	.0071	.0063	-.0017
5	ICSAB	.4662	.0070	.9572	-.0027
6	PREPSTD TJ A	4.578	.0044	4.497	4.134
7	PREPBLK TJ A	-.0007	-.0004	.0202	.0004
8	S96T005749	.0078	.0040	.0715	.0874
9	S96T005749 D	.0082	.0048	.0733	.0909
10	S96T005750	.0089	.0043	.0557	.0939
11	S96T005750 D	.0150	.0066	.0597	.0999
12	CCV	4.999	.0079	5.119	4.862
13	CCB	.0047	.0010	.0005	.0043
14	S96T005778	.0175	.0125	.0588	.1412
15	S96T005778 D	.0256	.0145	.0730	.1514
16	S96T005782	.0219	.0066	.0745	.1466
17	S96T005782 D	.0227	.0061	.0722	.1283
18	S96T005783	.0199	.0133	.0598	.1395
19	S96T005783 D	.0236	.0138	.0601	.1393
20	ICSA	.0065	.0085	.0063	.0016
21	ICSAB	.4674	.0085	.9613	.0016
22	CCV	4.928	.0077	5.086	4.773
23	CCB	.0053	.0010	.0018	.0045

LABCORE Data Entry Template for Worklist# 15385

Analyst: J. WORRELL Instrument: ICP01 Book# 64848A

Method: LA-505-151/161 Rev/Mod D-3

Worklist Comment: ICP AN-104 (FUSION)
QW 12-4-96

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 ICESA			@ICP-QC	QC		
5 ICSAB			@ICP-QC	QC		
6 PREPBLK	<u>ARL</u>		@ICP-F01	SOLID		
7 SERDIL	<u>S96T005278</u>	0 F	@ICP-F01	SOLID		
8 SAMPLE	<u>S96T005278</u>	0 F	@ICP-F01	SOLID	96001174	AN-104
Analytes Requested: AG-F-01, AL-F-01, AS-F-01, B-F-01, BA-F-01, BE-F-01, BI-F-01, CA-F-01, CD-F-01, CE-F-01, CO-F-01, CR-F-01, CU-F-01, FE-F-01, K-F-01, LA-F-01, LI-F-01, MG-F-01, MN-F-01, MO-F-01, NA-F-01, ND-F-01, NI-F-01, P-F-01, PB-F-01, S-F-01, SB-F-01, SE-F-01, SI-F-01, SM-F-01, SR-F-01, TI-F-01, TL-F-01, U-F-01, V-F-01, ZN-F-01, ZR-F-01						
9 DUP	<u>S96T005278</u>	0 F	@ICP-F01	SOLID		
10 SPK	<u>S96T005278</u>	0 F	@ICP-F01	SOLID		
11 CCV			@ICP-QC	QC		
12 CCB			@ICP-QC	QC		
13 SAMPLE	<u>S96T005281</u>	0 F	@ICP-F01	SOLID	96001174	AN-104
Analytes Requested: AG-F-01, AL-F-01, AS-F-01, B-F-01, BA-F-01, BE-F-01, BI-F-01, CA-F-01, CD-F-01, CE-F-01, CO-F-01, CR-F-01, CU-F-01, FE-F-01, K-F-01, LA-F-01, LI-F-01, MG-F-01, MN-F-01, MO-F-01, NA-F-01, ND-F-01, NI-F-01, P-F-01, PB-F-01, S-F-01, SB-F-01, SE-F-01, SI-F-01						

Data Entry Comments:

Sample result calculation:

$$S96T005278 \text{ Al} = \frac{42.02 \text{ ug}}{\text{ml}} \times \frac{1}{\frac{2.1218 \times 1L}{1000 \text{ ml}}} = 1.98e+4 \text{ ug/g}$$

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist# 15385

S Type	Sample#	R A	Test	Matrix	Group#	Project
			SM-F-01 , SR-F-01 , TT-F-01 , TL-F-01 , U-F-01 , V-F-01 , ZN-F-01 , ZR-F-01			
14 DUP	S96T005281	0 F	@ICP-F01	SOLID		
15 ICSA			@ICP-QC	QC		
16 ICSAB			@ICP-QC	QC		
17 CCV			@ICP-QC	QC		
18 CCB			@ICP-QC	QC		

Final page for worklist # 15385

John Howell
Analyst Signature Date 12-4-96

Reviewed by:
Sam H. Pang 12/6/96
Analyst Signature Date

PRETBLKARL .250-9.75
S96T005281 DLSX .250-9.75-2-8 200
SAM .250-9.75 40
DUP .250-9.75 40
P.SPK .250-2-7.75 40
10PPM P.SPK .250-1-1-7.75 40

S96T005281
SAM .250-9.75 40
DUP .250-9.75 40

Note: He failed in the first post spike. A second post spike was made and the result is:

$$Re = \left(\frac{910.929}{40} \right) - \left(\frac{527.046}{40} \right) \times 100 = 95.97\%$$

Data Entry Comments:

Spike recovery calculation:

$$S96T005281 Al = \left(\frac{80.051}{40} \right) - \left(\frac{42.020}{40} \right) \times 100 = 95.1\%$$

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

Note: Spike true value is 100 ppm for all elements except for U = 2.0 ppm

Identity 1: ICV Identity 2: Quality Control 7:46 PM December 4, 1996
 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	4.853	4.855	5.085	4.869	4.878	4.931	5.023	4.961
S.D.	0.018	0.017	0.048	0.012	0.019	0.010	0.025	0.031
% R.S.D.	0.361	0.352	0.944	0.250	0.391	0.201	0.504	0.624

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	4.971	4.881	4.950	4.889	4.951	4.947	5.089	9.576
S.D.	0.007	0.023	0.024	0.022	0.023	0.009	0.024	0.028
% R.S.D.	0.146	0.469	0.485	0.451	0.464	0.177	0.477	0.291

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	5.027	5.012	4.937	4.840	4.849	4.742	5.036	4.950
S.D.	0.006	0.021	0.020	0.009	0.032	0.005	0.011	0.025
% R.S.D.	0.114	0.415	0.405	0.185	0.651	0.096	0.224	0.511

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	4.951	4.288	4.915	4.888	4.821	4.922	5.001	5.014
S.D.	0.023	0.012	0.015	0.059	0.011	0.012	0.008	0.012
% R.S.D.	0.455	0.279	0.309	1.201	0.223	0.238	0.162	0.242

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	4.903	4.855	4.965	5.054	5.205
S.D.	0.009	0.018	0.009	0.016	0.018
% R.S.D.	0.179	0.372	0.186	0.321	0.337

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1839 TO 1857

J. W. Wall
 12-496

AN-104 FUSION

596700 5278, 5281

FILE No: 961204C.DAT

WORKLIST No: 15385

Identity 1: ICB Identity 2: Quality Control

7:50 PM December 4, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.004	-0.001	-0.008	0.007	-0.011	-0.016	-0.002	-0.001
S.D.	0.001	0.000	0.009	0.003	0.004	0.004	0.000	0.000
% R.S.D.	14.499	10.345	109.695	35.506	35.888	23.094	14.583	3.849

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	-0.000	-0.000	0.006	0.002	-0.000	-0.002	-0.030	0.175
S.D.	0.000	0.003	0.003	0.001	0.000	0.003	0.003	0.032
% R.S.D.	45.156	2548.836	57.070	52.031	0.000	109.315	11.571	18.120

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.093	0.047	-0.001	-0.001	-0.002	-0.000	0.000	-0.021
S.D.	0.007	0.003	0.000	0.013	0.005	0.000	0.002	0.003
% R.S.D.	7.606	5.677	18.320	2632.799	338.524	0.059	505.545	15.005

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.001	0.006	-0.004	0.005	0.001	-0.001	0.002	0.084
S.D.	0.001	0.008	0.001	0.005	0.000	0.001	0.001	0.026
% R.S.D.	74.003	149.453	14.402	95.646	78.562	57.022	37.133	30.838

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.000	0.046	-0.004	-0.000	-0.036
S.D.	0.000	0.023	0.001	0.000	0.002
% R.S.D.	80.105	50.513	24.834	48.965	4.504

Identity 1: LLS Identity 2: Quality Control 7:52 PM December 4, 1996
 Task name : OPTIMA
 Sample Weight : 1.0000 Solution Volume : 1.00
 On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.020	0.020	0.171	0.140	0.086	0.019	0.018	0.018
S.D.	0.002	0.000	0.019	0.006	0.006	0.002	0.000	0.000
% R.S.D.	9.580	0.479	11.263	4.528	7.000	11.596	2.134	1.262

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.021	0.040	0.103	0.102	0.210	0.016	0.182	0.462
S.D.	0.000	0.002	0.002	0.002	0.001	0.001	0.004	0.067
% R.S.D.	0.567	4.816	1.528	2.282	0.489	8.758	2.025	14.523

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.109	0.225	0.101	0.404	0.204	0.199	0.204	0.182
S.D.	0.025	0.013	0.000	0.010	0.007	0.001	0.002	0.004
% R.S.D.	23.284	5.586	0.310	2.482	3.522	0.366	0.931	2.026

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.097	0.168	0.015	0.187	0.019	0.010	0.102	0.534
S.D.	0.002	0.007	0.000	0.012	0.001	0.000	0.001	0.035
% R.S.D.	1.884	3.881	3.308	6.559	3.762	1.755	0.635	6.476

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.020	0.071	0.097	0.010	0.365
S.D.	0.000	0.026	0.000	0.000	0.042
% R.S.D.	1.894	37.117	0.504	2.426	11.462

Identity 1: ICSA Identity 2: Quality Control

7:56 PM December 4, 1996

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	-0.012	0.024	201.390	-0.005	-0.001	-0.000
S.D.	0.001	0.000	0.016	0.006	1.576	0.002	0.000	0.000
% R.S.D.	108.948	6.536	134.386	24.456	0.783	42.322	56.888	347.943

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.006	0.000	0.006	92.806	99.927	-0.007	-0.021	-0.071
S.D.	0.001	0.002	0.002	0.145	0.473	0.000	0.008	0.029
% R.S.D.	10.888	647.974	33.789	0.157	0.474	2.078	37.709	40.361

	Ce (ppm)	Sn (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.047	0.109	0.003	0.017	0.100	98.024	-0.048	200.159
S.D.	0.010	0.008	0.000	0.005	0.004	0.562	0.006	1.493
% R.S.D.	21.702	7.760	4.939	28.909	4.406	0.574	12.614	0.746

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	-0.002	-0.183	0.002	0.007	-0.001	0.001	0.009	-0.198
S.D.	0.001	0.008	0.000	0.014	0.000	0.001	0.001	0.020
% R.S.D.	74.155	4.358	7.854	189.453	37.944	47.303	10.420	9.948

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.001	0.059	-0.001	0.002	-0.049
S.D.	0.001	0.023	0.001	0.000	0.029
% R.S.D.	124.778	38.978	41.148	25.008	58.763

Identity 1: ICSAB Identity 2: Quality Control

8:00 PM December 4, 1996

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	0.002	-0.003	0.020	196.163	0.463	0.484	0.934
S.D.	0.001	0.000	0.012	0.002	1.694	0.006	0.002	0.007
% R.S.D.	46.822	2.887	372.046	9.049	0.864	1.352	0.371	0.731

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.960	0.937	0.010	92.911	98.227	0.475	-0.037	-0.140
S.D.	0.007	0.005	0.003	0.308	0.512	0.005	0.008	0.027
% R.S.D.	0.738	0.530	27.152	0.332	0.522	1.046	22.062	19.526

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.009	0.100	0.492	0.018	0.116	98.177	-0.031	190.102
S.D.	0.003	0.003	0.004	0.007	0.010	0.846	0.008	1.721
% R.S.D.	27.880	3.446	0.742	42.187	8.265	0.862	26.843	0.905

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	-0.002	-0.107	0.991	0.937	-0.001	0.950	0.012	0.017
S.D.	0.002	0.021	0.005	0.014	0.000	0.007	0.000	0.006
% R.S.D.	80.759	19.570	0.467	1.469	38.264	0.748	2.966	37.435

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.478	0.105	0.483	0.488	0.004
S.D.	0.002	0.022	0.002	0.003	0.011
% R.S.D.	0.494	20.493	0.499	0.710	280.986

Identity 1: prepblkarl Identity 2: .250ml-9.75ml

8:04 PM December 4, 1996

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	0.010	0.013	-0.011	-0.008	-0.004	-0.002
S.D.	0.001	0.000	0.005	0.003	0.006	0.000	0.000	0.000
% R.S.D.	27.849	50.916	54.200	23.652	51.177	0.119	5.833	12.402

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.004	0.028	0.000	0.013	0.010	-0.005	-0.022	0.158
S.D.	0.001	0.001	0.004	0.002	0.001	0.001	0.003	0.043
% R.S.D.	12.623	4.317	5456.293	17.911	5.399	24.327	15.560	26.823

	Ce (ppm)	Sn (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.107	0.052	-0.002	-0.018	0.012	0.005	-0.006	1.799
S.D.	0.014	0.004	0.000	0.017	0.004	0.001	0.001	0.008
% R.S.D.	13.412	8.331	10.583	95.261	31.862	12.211	23.980	0.446

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	-0.000	0.014	-0.006	-0.009	0.001	-0.002	-0.002	303.692
S.D.	0.001	0.024	0.001	0.007	0.001	0.000	0.001	0.992
% R.S.D.	562.542	168.012	9.659	80.875	49.539	0.105	41.772	0.327

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.001	0.009	-0.005	-0.001	-0.124
S.D.	0.000	0.020	0.001	0.000	0.010
% R.S.D.	17.397	217.987	12.579	26.557	7.937

Identity 1: s96t005278_L Identity 2: .25ml-9.75ml-2ml-8ml

8:09 PM December 4, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 200.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.369	-0.165	-4.312	2.161	40.947	-2.115	-0.560	-0.273
S.D.	0.148	0.025	1.647	0.167	0.696	0.432	0.064	0.081
% R.S.D.	40.035	15.275	38.195	7.714	1.700	20.442	11.484	29.564

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.788	4.768	1.440	3.098	3.009	3.362	-5.664	19.980
S.D.	0.039	0.140	0.307	0.474	0.018	0.194	1.166	6.198
% R.S.D.	4.994	2.936	21.332	15.287	0.604	5.763	20.578	31.021

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-16.060	3.491	-0.239	5.250	11.304	0.392	0.439	531.974
S.D.	0.978	1.239	0.037	0.257	2.238	0.024	0.958	2.873
% R.S.D.	6.091	35.481	15.567	4.897	19.795	6.184	218.137	0.540

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	-0.093	2.569	-0.750	-0.305	0.144	-0.361	-0.702	11465.961
S.D.	0.308	5.331	0.165	2.102	0.067	0.000	0.298	80.006
% R.S.D.	333.369	207.497	22.018	688.864	46.500	0.055	42.387	0.698

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.094	1.700	-0.918	-0.185	-18.845
S.D.	0.038	5.424	0.078	0.031	4.327
% R.S.D.	40.746	319.046	8.512	16.618	22.958

Identity 1: s96t005278 Identity 2: .25ml-9.75ml

8:12 PM December 4, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 40.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.130	0.015	-1.252	0.951	42.020	-0.420	-0.012	-0.000
S.D.	0.062	0.005	0.401	0.109	0.309	0.085	0.012	0.023
% R.S.D.	48.124	32.733	32.002	11.455	0.734	20.303	95.131	30734.722

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.416	4.079	-0.002	0.481	1.897	3.927	-0.378	-3.710
S.D.	0.013	0.016	0.055	0.008	0.030	0.115	0.224	2.181
% R.S.D.	3.229	0.393	3002.489	1.653	1.568	2.928	59.307	58.793

	Ce (ppm)	Sn (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-1.657	-1.411	-0.010	3.296	12.088	0.050	-0.032	527.046
S.D.	0.564	0.527	0.011	0.193	0.263	0.010	0.288	7.376
% R.S.D.	34.038	37.374	112.583	5.843	2.173	19.247	893.182	1.400

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.066	-0.461	0.019	0.732	-0.073	0.020	-0.192	11215.242
S.D.	0.039	0.315	0.022	0.497	0.015	0.049	0.019	129.158
% R.S.D.	59.052	68.310	117.925	67.923	19.802	245.064	9.933	1.152

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.043	2.596	-0.050	-0.042	-0.187
S.D.	0.007	0.298	0.031	0.010	1.124
% R.S.D.	17.466	11.483	61.116	23.510	601.495

Identity 1: s96t005278_D Identity 2: .25ml-9.75ml

8:16 PM December 4, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 40.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.023	0.023	0.135	1.264	39.757	-0.171	-0.022	-0.025
S.D.	0.042	0.002	0.252	0.132	0.523	0.088	0.013	0.014
% R.S.D.	184.029	8.248	186.644	10.428	1.315	51.338	58.733	56.770

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.187	5.842	0.071	0.268	1.103	3.731	0.085	-1.212
S.D.	0.007	0.129	0.031	0.047	0.003	0.070	0.193	1.365
% R.S.D.	3.700	2.213	44.198	17.559	0.285	1.874	225.998	112.687

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-1.656	0.757	-0.020	3.576	11.593	0.045	-0.088	522.586
S.D.	0.257	0.167	0.004	0.179	0.227	0.005	0.148	3.183
% R.S.D.	15.492	22.022	18.414	5.005	1.962	10.827	169.018	0.609

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.132	-1.639	-0.091	0.196	-0.003	0.012	-0.058	14628.204
S.D.	0.044	0.531	0.004	0.265	0.020	0.032	0.041	38.645
% R.S.D.	33.006	32.404	4.642	135.216	606.595	266.533	71.485	0.264

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.026	3.289	-0.070	-0.038	-0.851
S.D.	0.013	1.582	0.029	0.006	0.314
% R.S.D.	51.850	48.107	41.758	15.994	36.903

Identity 1: s96t005278_A Identity 2: .25ml-2ml-7.75ml

8:19 PM December 4, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 40.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	39.026	38.790	40.558	40.326	80.055	38.535	40.309	37.955
S.D.	0.074	0.131	0.423	0.205	0.268	0.228	0.194	0.330
% R.S.D.	0.189	0.337	1.042	0.508	0.335	0.593	0.481	0.869

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	39.101	42.787	39.711	39.571	40.053	42.758	39.768	80.676
S.D.	0.085	0.249	0.216	0.537	0.129	0.143	0.314	1.694
% R.S.D.	0.217	0.581	0.545	1.357	0.321	0.335	0.789	2.100

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	36.390	41.851	39.244	40.254	50.352	36.717	40.007	554.429
S.D.	0.480	0.254	0.151	0.580	0.424	0.091	0.680	4.790
% R.S.D.	1.319	0.607	0.384	1.441	0.842	0.247	1.700	0.864

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	39.074	32.969	27.111	39.209	38.237	38.865	38.884	11116.147
S.D.	0.335	0.636	0.237	0.371	0.140	0.067	0.231	89.901
% R.S.D.	0.857	1.930	0.874	0.946	0.366	0.172	0.594	0.809

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	38.986	38.811	39.480	39.585	37.304
S.D.	0.046	1.215	0.153	0.107	0.795
% R.S.D.	0.119	3.129	0.387	0.269	2.130

Identity 1: s96t005278_10ppm.spk Identity 2: .25ml-1ml-1ml-7.75ml

8:22 PM December 4, 1996

Task name: OPTIMA

Sample Weight: 1.0000 Solution Volume: 40.00

On-Peak Integrations: 3 Off-Peak Integrations: 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	400.747	391.241	406.882	406.074	452.851	-1.406	-0.185	391.549
S.D.	1.314	1.695	0.981	1.321	1.546	0.001	0.015	2.069
% R.S.D.	0.328	0.433	0.241	0.325	0.341	0.056	8.195	0.528

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	1.268	385.216	401.576	387.118	402.167	391.663	419.507	-18.695
S.D.	0.004	0.868	1.409	0.555	1.516	1.413	2.163	1.488
% R.S.D.	0.278	0.225	0.351	0.143	0.377	0.361	0.516	7.961

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	407.800	407.210	400.767	394.112	405.605	374.304	395.929	910.929
S.D.	1.277	1.837	1.902	1.944	1.892	1.062	0.600	3.993
% R.S.D.	0.313	0.451	0.474	0.493	0.466	0.284	0.152	0.438

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	382.063	336.833	232.335	387.499	360.901	385.363	392.523	11425.903
S.D.	0.837	1.275	0.505	3.329	1.309	0.914	1.472	45.223
% R.S.D.	0.219	0.378	0.217	0.859	0.363	0.237	0.375	0.396

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	386.320	376.717	2.803	397.803	400.176
S.D.	0.768	2.114	0.048	1.243	1.185
% R.S.D.	0.199	0.561	1.702	0.313	0.296

Identity 1: CCV Identity 2: Quality Control

8:40 PM December 4, 1996

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	5.007	5.077	5.258	4.986	5.037	5.003	5.231	5.210
S.D.	0.007	0.022	0.052	0.003	0.006	0.006	0.020	0.046
% R.S.D.	0.142	0.431	0.992	0.058	0.121	0.116	0.376	0.892

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.019	4.964	5.110	4.965	5.123	5.014	5.286	9.963
S.D.	0.004	0.009	0.025	0.007	0.012	0.006	0.013	0.039
% R.S.D.	0.081	0.184	0.488	0.141	0.233	0.119	0.255	0.391

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	5.263	5.202	5.176	5.004	5.033	4.831	5.160	5.190
S.D.	0.014	0.010	0.023	0.034	0.067	0.005	0.023	0.039
% R.S.D.	0.269	0.192	0.447	0.681	1.328	0.097	0.452	0.750

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	5.088	4.456	4.973	4.906	4.992	5.017	5.114	5.031
S.D.	0.003	0.011	0.002	0.038	0.014	0.006	0.010	0.042
% R.S.D.	0.052	0.237	0.037	0.768	0.276	0.112	0.189	0.843

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	4.971	4.919	5.078	5.189	5.283
S.D.	0.003	0.026	0.008	0.007	0.005
% R.S.D.	0.060	0.533	0.158	0.127	0.097

Identity 1: CCB Identity 2: Quality Control

8:44 PM December 4, 1996

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	0.013	0.003	-0.002	-0.011	-0.001	-0.001
S.D.	0.001	0.000	0.001	0.003	0.005	0.002	0.001	0.000
% R.S.D.	1645.899	64.950	10.697	119.564	212.684	19.233	145.865	71.318

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	-0.000	0.003	0.006	0.001	-0.001	-0.001	-0.022	0.028
S.D.	0.000	0.000	0.003	0.001	0.000	0.001	0.009	0.049
% R.S.D.	389.643	12.443	53.538	53.290	9.677	200.241	40.869	174.776

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.032	0.012	-0.000	0.005	-0.005	0.000	0.011	-0.005
S.D.	0.023	0.008	0.000	0.010	0.007	0.000	0.004	0.006
% R.S.D.	71.906	68.124	55.678	199.623	151.111	173.087	36.035	120.153

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.001	-0.012	-0.002	0.011	0.000	-0.000	0.003	0.156
S.D.	0.001	0.017	0.001	0.011	0.001	0.001	0.001	0.018
% R.S.D.	163.942	142.952	33.342	103.633	361.098	173.579	43.381	11.678

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.000	-0.019	0.000	-0.001	-0.019
S.D.	0.000	0.025	0.002	0.000	0.024
% R.S.D.	342.679	131.245	771.000	1.822	121.908

Identity 1: s96t005281 Identity 2: .25ml-9.75ml

8:48 PM December 4, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 40.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.164	0.014	0.510	4.784	40.545	-0.657	-0.067	-0.031
S.D.	0.119	0.012	0.632	0.230	0.345	0.150	0.043	0.020
% R.S.D.	72.203	83.206	124.034	4.811	0.852	22.832	64.065	65.498
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.124	4.872	0.075	0.285	1.000	3.276	-0.540	8.034
S.D.	0.019	0.113	0.084	0.053	0.007	0.039	0.308	3.889
% R.S.D.	15.022	2.319	111.085	18.544	0.655	1.198	57.064	48.404
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-3.098	2.097	-0.035	4.193	11.889	0.020	-0.222	569.179
S.D.	1.275	0.792	0.024	0.495	0.252	0.005	0.284	5.249
% R.S.D.	41.166	37.752	68.592	11.803	2.124	24.758	127.725	0.922
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.127	0.565	-0.054	0.376	0.042	-0.044	-0.027	15094.359
S.D.	0.056	0.458	0.074	0.272	0.034	0.037	0.020	117.967
% R.S.D.	43.705	81.041	136.952	72.338	81.018	83.338	74.482	0.782
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	0.051	0.569	-0.102	-0.040	-3.098			
S.D.	0.013	0.552	0.047	0.011	2.341			
% R.S.D.	25.139	97.071	46.355	27.629	75.560			

Identity 1: s96t005281_D Identity 2: .25ml-9.75ml

8:51 PM December 4, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 40.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.007	0.011	-0.283	1.619	37.416	-0.370	-0.056	-0.032
S.D.	0.035	0.003	0.319	0.109	0.053	0.000	0.015	0.008
% R.S.D.	486.368	30.001	112.605	6.738	0.142	0.060	26.883	25.967

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.124	2.778	0.055	0.114	1.057	2.466	-0.775	2.601
S.D.	0.016	0.021	0.054	0.021	0.002	0.138	0.387	1.268
% R.S.D.	13.088	0.769	99.025	18.808	0.172	5.609	49.966	48.745

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-2.694	1.149	-0.037	11.675	8.130	0.014	0.290	523.054
S.D.	0.508	0.289	0.012	0.841	0.083	0.008	0.187	1.857
% R.S.D.	18.869	25.167	31.749	7.206	1.015	60.069	64.546	0.355

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.101	0.876	-0.033	0.190	0.028	-0.028	-0.104	14624.447
S.D.	0.040	0.730	0.011	0.202	0.015	0.028	0.067	75.822
% R.S.D.	39.701	83.304	33.496	106.391	53.326	99.143	64.926	0.518

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.065	0.927	-0.075	-0.027	-3.319
S.D.	0.013	1.142	0.014	0.006	0.601
% R.S.D.	20.300	123.259	18.501	21.211	18.102

Identity 1: IC5A Identity 2: Quality Control

8:57 PM December 4, 1996

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	-0.010	0.033	196.879	-0.012	-0.001	-0.001
S.D.	0.001	0.000	0.007	0.002	0.462	0.002	0.001	0.000
% R.S.D.	107.343	14.804	70.480	7.284	0.234	17.210	65.720	49.266
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.006	0.003	0.008	93.728	98.383	-0.009	-0.024	0.021
S.D.	0.000	0.001	0.005	0.316	0.294	0.005	0.002	0.052
% R.S.D.	5.151	47.842	63.546	0.337	0.299	56.131	7.204	250.438
	Ce (ppm)	Sn (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.031	0.104	0.003	0.029	0.129	98.555	-0.028	188.888
S.D.	0.024	0.008	0.000	0.013	0.010	0.109	0.002	1.288
% R.S.D.	77.263	8.033	9.498	44.279	8.093	0.110	7.540	0.682
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	-0.007	-0.183	-0.001	-0.034	0.000	0.001	0.012	0.203
S.D.	0.001	0.024	0.001	0.007	0.000	0.001	0.000	0.010
% R.S.D.	11.769	13.221	67.653	21.373	112.468	104.708	1.356	4.743
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	-0.000	0.067	-0.001	0.002	-0.092			
S.D.	0.000	0.009	0.001	0.000	0.023			
% R.S.D.	48.654	13.977	90.838	0.562	25.238			

Identity 1: ICSAB Identity 2: Quality Control

9:00 PM December 4, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.005	0.001	0.028	0.032	200.609	0.478	0.489	0.936
S.D.	0.002	0.000	0.011	0.006	0.708	0.002	0.002	0.004
% R.S.D.	46.001	29.223	38.717	19.676	0.353	0.454	0.378	0.386

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.986	0.964	0.012	94.477	100.286	0.484	-0.035	0.197
S.D.	0.004	0.001	0.001	0.232	0.233	0.005	0.014	0.111
% R.S.D.	0.424	0.115	10.818	0.245	0.232	0.999	40.750	56.271

	Ce (ppm)	Bm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.106	0.127	0.501	0.028	0.137	101.566	-0.016	192.877
S.D.	0.024	0.018	0.002	0.003	0.012	0.091	0.001	0.667
% R.S.D.	23.139	13.885	0.312	10.736	8.564	0.090	8.405	0.346

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	-0.006	-0.137	1.004	0.933	0.002	0.981	0.013	0.175
S.D.	0.001	0.003	0.002	0.006	0.000	0.004	0.001	0.017
% R.S.D.	19.503	1.857	0.186	0.679	26.381	0.383	6.454	9.407

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.491	0.032	0.488	0.496	-0.123
S.D.	0.001	0.019	0.001	0.001	0.046
% R.S.D.	0.141	61.123	0.247	0.282	37.595

Identity 1: CCV Identity 2: Quality Control 9:04 PM December 4, 1996
 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	4.982	5.019	5.220	4.956	4.999	5.014	5.181	5.076
S.D.	0.011	0.016	0.042	0.015	0.028	0.025	0.011	0.017
% R.S.D.	0.225	0.326	0.805	0.306	0.570	0.508	0.206	0.326

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.011	4.956	5.084	4.967	5.091	5.017	5.232	10.073
S.D.	0.013	0.019	0.026	0.026	0.011	0.026	0.022	0.033
% R.S.D.	0.264	0.386	0.502	0.532	0.218	0.520	0.415	0.330

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	5.143	5.218	5.115	4.946	5.000	4.821	5.130	5.086
S.D.	0.024	0.011	0.015	0.040	0.046	0.018	0.020	0.031
% R.S.D.	0.463	0.207	0.292	0.813	0.928	0.364	0.392	0.618

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	5.052	4.370	4.966	4.952	4.958	5.007	5.086	5.043
S.D.	0.020	0.037	0.009	0.023	0.016	0.025	0.007	0.027
% R.S.D.	0.400	0.857	0.181	0.458	0.328	0.505	0.131	0.533

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	4.977	4.904	5.059	5.167	5.253
S.D.	0.011	0.035	0.015	0.006	0.022
% R.S.D.	0.217	0.705	0.297	0.117	0.413

Identity 1: CCB

Identity 2: Quality Control

9:07 PM December 4, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.005	-0.000	0.003	-0.007	0.007	-0.009	-0.001	-0.000
S.D.	0.003	0.000	0.017	0.006	0.005	0.000	0.001	0.000
% R.S.D.	61.854	107.149	517.058	81.912	70.449	0.252	225.447	157.515

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	-0.000	-0.005	-0.003	0.005	-0.002	-0.004	-0.016	-0.202
S.D.	0.000	0.003	0.005	0.000	0.000	0.002	0.004	0.104
% R.S.D.	36.501	51.571	175.589	5.641	19.245	54.835	26.360	51.617

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.042	-0.027	-0.000	-0.003	-0.012	0.002	0.004	0.002
S.D.	0.033	0.017	0.001	0.010	0.006	0.000	0.005	0.009
% R.S.D.	78.207	63.060	133.511	297.099	51.382	10.500	124.892	431.460

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.001	-0.027	0.000	0.038	-0.002	-0.001	-0.000	-0.087
S.D.	0.002	0.013	0.002	0.011	0.001	0.000	0.001	0.019
% R.S.D.	216.550	47.648	336.685	27.483	70.432	90.439	301.062	21.600

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.000	0.029	-0.000	-0.001	-0.011
S.D.	0.000	0.013	0.002	0.000	0.037
% R.S.D.	89.489	45.428	1554.025	22.258	332.701

LABCORE Data Entry Template for Worklist# 15386

Analyst: J. WORRELL Instrument: ICP012^{9/12-5-96} Book# 61B48AMethod: LA-554/161 Rev/Mod B-1Worklist Comment: 9/12-5-96 ICP AN-104 (FUSION)

S Type	Sample#	R A	Test	Matrix	Group#	Project
1	ICV		@ICP-QC	QC		
2	ICB		@ICP-QC	QC		
3	LLS		@ICP-QC	QC		
4	ICSA		@ICP-QC	QC		
5	ICSAB		@ICP-QC	QC		
6	PREPBLKTJA		@ICP-F01	SOLID		
7	SERDIL	S96T005284	0 F	@ICP-F01	SOLID	
8	SAMPLE	S96T005284	0 F	@ICP-F01	SOLID	96001283 AN-104
Analytes Requested: AG-F-01, AL-F-01, AS-F-01, B-F-01, BA-F-01, BE-F-01, BI-F-01, CA-F-01, CD-F-01, CE-F-01, CO-F-01, CR-F-01, CU-F-01, FE-F-01, K-F-01, LA-F-01, LI-F-01, MG-F-01, MN-F-01, MO-F-01, NA-F-01, ND-F-01, NI-F-01, P-F-01, PB-F-01, S-F-01, SB-F-01, SE-F-01, SI-F-01, SM-F-01, SR-F-01, TI-F-01, TL-F-01, U-F-01, V-F-01, ZN-F-01, ZR-F-01						
9	DUP	S96T005284	0 F	@ICP-F01	SOLID	
10	SPK	S96T005284	0 F	@ICP-F01	SOLID	
11	CCV		@ICP-QC	QC		
12	CCB		@ICP-QC	QC		
13	SERDIL	S96T005285	0 F	@ICP-F01	SOLID	
14	SAMPLE	S96T005285	0 F	@ICP-F01	SOLID	96001283 AN-104
Analytes Requested: AG-F-01, AL-F-01, AS-F-01, B-F-01, BA-F-01, BE-F-01, BI-F-01, CA-F-01, CD-F-01, CE-F-01, CO-F-01, CR-F-01, CU-F-01, FE-F-01, K-F-01, LA-F-01, LI-F-01,						

Data Entry Comments:

Sample result calculation:

$$S96T005284 \quad Al = 46.31 \mu g \times \frac{1}{2.134 \mu g \times \frac{1L}{1000ml}} = 2.17e+4 \mu g$$

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist# 15386

S Type	Sample#	R A	Test	Matrix	Group#	Project
			MG-F-01	, MN-F-01	, MO-F-01	, NA-F-01
			P-F-01	, PB-F-01	, S-F-01	, SE-F-01
			SM-F-01	, SR-F-01	, TI-F-01	, TL-F-01
			ZN-F-01	, ZR-F-01	, U-F-01	, V-F-01
15 DUP	S96T005285	0 F	@ICP-F01	SOLID		
16 SPK	S96T005285	0 F	@ICP-F01	SOLID		
10PPM P. SPK						
17 SAMPLE	S96T005293	0 F	@ICP-F01	SOLID	96001283	AN-104
Analytes Requested:						
			AG-F-01	, AL-F-01	, AS-F-01	, B-F-01
			BE-F-01	, BI-F-01	, CA-F-01	, CD-F-01
			CR-F-01	, CU-F-01	, FE-F-01	, K-F-01
			MG-F-01	, MN-F-01	, MO-F-01	, NA-F-01
			P-F-01	, PB-F-01	, S-F-01	, SE-F-01
			SM-F-01	, SR-F-01	, TI-F-01	, TL-F-01
			ZN-F-01	, ZR-F-01	, U-F-01	, V-F-01
18 DUP	S96T005293	0 F	@ICP-F01	SOLID		
19 ICSA			@ICP-QC	QC		
20 ICSAB			@ICP-QC	QC		
21 CCV			@ICP-QC	QC		
22 CCB			@ICP-QC	QC		

Final page for worklist # 15386

John Warell 12-5-96
Analyst Signature Date
PREPBLK TJA .250 - 9.75 1
S96T005284
DL 5X .250 - 9.75 - 2.8 200
SAM .250 - 9.75 40
DUP .250 - 9.75 40
PSPK .250 - 9.75 - 2 40
10PPM SPK .250 - 1 - 1 - 9.75 40

Revised by:
Sam H. Pang 12/6/96
Analyst Signature Date
S96T005285 DL 5X .250 - 9.75 - 2.8 200
SAM .250 - 9.75 40
DUP .250 - 9.75 40
PSPK .250 - 9.75 - 2 40
10PPM SPK .250 - 1 - 1 - 9.75 40
S96T005293
SAM .250 - 9.75 40
DUP .250 - 9.75 40

Data Entry Comments:

Spike recovery calculation:

$$S96T005284 \quad Al = \left(\frac{83.17}{40} \right) - \left(\frac{46.31}{40} \right) \times 100 = 92.15\%$$

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

Note: Spike true value is 100% for all elements except for U = 2.0 ppm.

#	Sample Name	File	Method	Date	Time	OpID	Type	Mode
1	ICV	961205A	ICP2	12/05/96	13:26	JHW	Q	CONC
2	ICB	961205A	ICP2	12/05/96	13:34	JHW	Q	CONC
3	LLS	961205A	ICP2	12/05/96	13:37	JHW	Q	CONC
4	ICSA <i>9/12-5-96</i>	961205A	ICP2	12/05/96	13:45	JHW	Q	CONC
5	ICSA	961205A	ICP2	12/05/96	13:56	JHW	Q	CONC
6	ICSAB	961205A	ICP2	12/05/96	13:59	JHW	Q	CONC
7	PREFBLKTJA	961205A	ICP2	12/05/96	14:02	JHW	S	CONC
8	S96T005284_L	961205A	ICP2	12/05/96	14:07	JHW	S	CONC
9	S96T005284	961205A	ICP2	12/05/96	14:10	JHW	S	CONC
10	S96T005284_D	961205A	ICP2	12/05/96	14:14	JHW	S	CONC
11	S96T005284_A	961205A	ICP2	12/05/96	14:17	JHW	S	CONC
12	S96T005284_10PPM	961205A	ICP2	12/05/96	14:22	JHW	S	CONC
13	CCV	961205A	ICP2	12/05/96	14:30	JHW	Q	CONC
14	CCB	961205A	ICP2	12/05/96	14:33	JHW	Q	CONC
15	S96T005285_L	961205A	ICP2	12/05/96	14:38	JHW	S	CONC
16	S96T005285	961205A	ICP2	12/05/96	14:41	JHW	S	CONC
17	S96T005285_D	961205A	ICP2	12/05/96	14:44	JHW	S	CONC
18	S96T005285_A	961205A	ICP2	12/05/96	14:48	JHW	S	CONC
19	S96T005285_10PPM	961205A	ICP2	12/05/96	14:52	JHW	S	CONC
20	S96T005293	961205A	ICP2	12/05/96	14:55	JHW	S	CONC
21	S96T005293_D	961205A	ICP2	12/05/96	14:58	JHW	S	CONC
22	ICSA	961205A	ICP2	12/05/96	15:04	JHW	Q	CONC
23	ICSAB	961205A	ICP2	12/05/96	15:07	JHW	Q	CONC
24	CCV	961205A	ICP2	12/05/96	15:10	JHW	Q	CONC
25	CCB	961205A	ICP2	12/05/96	15:13	JHW	Q	CONC

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1860 TO 1864.

J. Howell

12-5-96

AN-104 FUSION

WKLST 15386

S96T005284 — Na failed in the first post spike. A second post spike was made and the result is:

$$Na = \frac{\left(\frac{837.6}{40}\right) - \left(\frac{492.9}{40}\right)}{10} \times 100 = 86.18\%$$

$$S96T005285 \quad Na = \frac{\left(\frac{892.6}{40}\right) - \left(\frac{492.0}{40}\right)}{10} \times 100 = 99.9\%$$

Analysis Report

Averages

Fri 12-06-96 08:36:45 AM

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#	Sample Name	Ag	Al	As	B	Ba	Be
1	ICV	5.051	4.958	5.233	5.025	5.064	5.172
2	ICB	.0003	.0078	.0008	.0030	.0001	.0000
3	LLS	.0223	.1085	.2121	.1055	.1010	.0103
4	ICSA <i>12-5-96</i>	.0035	Q198.8	-.0464	.0017	.0002	.0001
5	ICSA	.0020	245.8	-.0384	.0020	.0003	.0001
6	ICSAB	.9787	245.2	-.0327	.0025	.4895	.4803
7	PREPBLKTJA	-.0003	.0140	.0026	-.0015	.0001	.0001
8	S96T005284_L	.0070	47.88	-.5257	-.0001	.0175	-.0454
9	S96T005284_A	.0139	46.31 ✓	-.4931	.1781	.0110	.0020
10	S96T005284_D	.0274	43.40	-.2103	-.0396	.0152	-.0035
11	S96T005284_A	9.977	83.17	41.41	38.38	39.47	39.87
12	S96T005284_10PPM	82.70	421.7	406.4	372.6	400.7	398.8
13	CCV	5.102	4.878	5.167	4.848	5.087	5.075
14	CCB	Q.0119	-.0018	-.0130	.0035	.0001	.0000
15	S96T005285_L	-.2686	36.02	.2441	.1030	.0178	-.0459
16	S96T005285_	-.0068	36.10	.3633	.1395	.0129	.0037
17	S96T005285_D	.0213	28.79	.1811	.0799	.0133	.0110
18	S96T005285_A	10.30	76.23	41.47	38.42	39.95	40.14
19	S96T005285_10PPM	99.62	420.5	412.9	379.9	411.3	405.2
20	S96T005293_	.1616	43.89	-.0427	.5750	.0308	.0146
21	S96T005293_D	.0270	42.96	-.7934	.2381	.0067	.0093
22	ICSA	.0120	238.5	-.0099	.0027	.0002	.0004
23	ICSAB	.9764	240.0	.0243	-.0063	.4825	.4716
24	CCV	5.092	4.847	5.169	4.823	5.081	5.059
25	CCB	-.0002	.0003	.0073	.0060	.0001	.0004

#	Sample Name	Bi	Ca	Cd	Ce	Co	Cr
1	ICV	5.181	5.100	5.104	5.053	5.122	5.136
2	ICB	.0129	-.0009	-.0002	.0055	.0008	.0004
3	LLS	.2060	.2102	.0114	.2179	.0448	.0225
4	ICSA <i>12-5-96</i>	-.0023	205.4	.0012	.0057	.0018	.0074
5	ICSA	.0172	253.2	.0016	.0122	.0025	.0096
6	ICSAB	.0172	254.8	.9529	.0213	.4776	.4893
7	PREPBLKTJA	.0131	.0193	.0006	-.0012	.0018	.0004
8	S96T005284_L	2.447	2.281	-.1801	-.3126	.3644	3.135
9	S96T005284_	1.175	1.063	-.0022	.1719	.1242	3.067
10	S96T005284_D	.8385	.9164	-.0042	-.2475	.0542	2.704
11	S96T005284_A	41.38	42.66	41.10	40.42	41.27	44.53
12	S96T005284_10PPM	405.2	420.5	403.1	394.8	7460	411.3
13	CCV	5.227	5.290	5.169	5.063	5.188	5.218
14	CCB	-.0134	-.0019	-.0016	-.0030	-.0014	.0006
15	S96T005285_L	2.932	2.634	-.2010	-.6607	.5565	1.767
16	S96T005285_	1.758	1.037	.0343	.1794	.1717	1.528
17	S96T005285_D	.5310	.4303	.0424	.0870	.0937	1.269
18	S96T005285_A	40.73	42.71	41.22	40.57	41.35	43.12
19	S96T005285_10PPM	412.5	419.0	405.6	402.8	.7476	411.8
20	S96T005293_	.3927	1.061	.0649	.6604	-.0422	5.056
21	S96T005293_D	.4870	.6467	-.0513	-.2468	-.0714	4.586
22	ICSA	.0109	257.9	.0020	.0145	.0012	.0092
23	ICSAB	-.0014	260.9	.9532	.0151	.4779	.4940
24	CCV	5.193	5.357	5.187	5.043	5.227	5.261

Analysis Report

Averages

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#	Sample Name	Bi	Ca	Cd	Ce	Co	Cr
25	CCB	.0259	.0010	.0010	.0018	.0016	.0008
#	Sample Name	Cu	Eu	Fe	K	La	Li
1	ICV	5.243	-.0024	5.099	5.003	5.116	5.080
2	ICB	.0004	.0007	-.0001	.0325	.0001	.0005
3	LLS	.0218	.0013	.1062	Q.8217	.1035	.0213
4	ICSA <i>12-5-96</i>	-.0076	-.0158	Q77.12	.2944	-.0048	.0019
5	ICSA	-.0091	-.0446	94.59	.0763	-.0050	.0020
6	ICSAB	.4843	-.0456	94.47	.1331	-.0041	1.008
7	PREPBLKTJA	.0010	.0005	.0004	314.7	-.0008	.0000
8	S96T005284 L	.2284	.0774	.8593	11460.	-.1482	-.0473
9	S96T005284	.0920	.0283	.8157	11180.	-.0145	.0095
10	S96T005284 D	.0553	.0605	.8302	14940.	-.0677	.0378
11	S96T005284 A	40.39	.0664	41.50	10750.	40.53	37.65
12	S96T005284 10PPM	-.1094	.1481	397.6	11000.	400.1	372.6
13	CCV	5.113	-.0003	5.115	5.146	5.125	4.812
14	CCB	-.0003	.0018	-.0015	-.1110	-.0015	.0015
15	S96T005285 L	.0812	.4381	1.081	12010.	-.2309	.4945
16	S96T005285	.0448	.1126	1.511	11780.	.0049	.1934
17	S96T005285 D	.0625	.1312	.4379	12080.	-.0083	.1981
18	S96T005285 A	40.73	.0435	41.38	12210.	40.85	38.05
19	S96T005285 10PPM	-.1184	.1008	401.7	12690.	408.5	381.5
20	S96T005293	.0066	.1181	.2549	15920.	.0875	.1085
21	S96T005293 D	.0085	.0719	.5226	14730.	-.1273	.0566
22	ICSA	-.0087	-.0575	93.81	.1033	-.0055	.0039
23	ICSAB	.4664	-.0588	94.55	.2325	-.0063	.9573
24	CCV	5.073	.0007	5.118	5.132	5.113	4.731
25	CCB	.0006	.0025	-.0009	-.0374	-.0013	.0022

#	Sample Name	Mg	Mn	Mo	Na	Nd	Ni
1	ICV	4.892	5.007	5.116	4.944	5.130	5.110
2	ICB	.0091	.0005	-.0002	.0091	-.0002	.0044
3	LLS	.2013	.0208	.1021	.2185	.2026	.0380
4	ICSA <i>12-5-96</i>	206.4	-.0046	-.0082	195.6	.0055	-.0015
5	ICSA	254.0	-.0059	-.0117	198.0	.0063	-.0025
6	ICSAB	253.0	.4521	-.0139	195.3	.0063	.9402
7	PREPBLKTJA	.0137	.0011	.0018	1.756	.0011	.0547
8	S96T005284 L	.1207	.1410	.4040	507.1	-.3681	2.766
9	S96T005284	.4408	.0918	.1452	492.9	.1263	2.329
10	S96T005284 D	.0620	.0768	.2406	510.7	.1582	8.726
11	S96T005284 A	37.93	39.35	41.37	509.9	40.62	43.07
12	S96T005284 10PPM	387.9	401.8	397.7	837.6	398.4	403.4
13	CCV	4.764	5.062	5.162	4.751	5.098	5.164
14	CCB	-.0016	.0012	.0001	.0178	-.0013	.0006
15	S96T005285 L	.0861	.2473	-.0242	508.7	.6579	4.769
16	S96T005285	.3011	.0889	.0890	493.0	.1981	6.155
17	S96T005285 D	.2803	.0901	.0894	481.4	.2133	6.130
18	S96T005285 A	37.76	39.40	41.33	549.5	40.52	46.49
19	S96T005285 10PPM	394.3	404.6	401.9	892.6	406.2	410.1
20	S96T005293	.9450	.1474	.2866	523.6	-.0413	5.371

#	Sample Name	Mg	Mn	Mo	Na	Nd	Ni
21	S96T005293_D	-.0749	.0994	.1099	501.2	-.0420	10.59
22	ICSA	246.6	-.0047	-.0086	187.4	-.0049	-.0108
23	ICSAB	247.8	.4561	-.0128	187.4	.0061	.9401
24	CCV	4.725	5.076	5.195	4.688	5.068	5.163
25	CCB	.0047	.0014	.0001	.0230	.0029	.0030

#	Sample Name	P	Pb	S	Sb	Se	Si
1	ICV	5.148	5.108	5.063	4.836	4.948	4.965
2	ICB	-.0059	-.0061	.0086	-.0018	.0100	.0083
3	LLS	.4015	.2256	.2130	.1030	.2179	.1717
4	ICSA <i>QW 12-5-96</i>	.0191	.0380	-.0343	-.0046	-.0250	.0024
5	ICSA	-.0010	.0415	-.0356	-.0056	-.0292	-.0024
6	ICSAB	-.0177	1.019	-.0307	.0004	-.0247	.0018
7	PREPBLKTJA	-.0039	-.0012	.0048	.0076	.0169	.0089
8	S96T005284_L	3.298	-1.695	10.05	.2911	5.231	2.261
9	S96T005284_	1.811	.3480	9.598	-.1534	.7739	1.839
10	S96T005284_D	2.458	.3273	8.542	-.1941	1.142	2.149
11	S96T005284_A	42.92	42.24	48.58	38.55	39.46	42.07
12	S96T005284_10PPM	405.9	421.5	407.4	395.6	379.3	410.7
13	CCV	4.939	5.243	4.923	4.812	4.828	4.956
14	CCB	-.0062	-.0139	.0004	-.0076	.0349	.0123
15	S96T005285_L	3.976	-1.926	3.919	-.3367	5.358	4.723
16	S96T005285_	2.738	.6671	3.959	-.1901	2.206	2.643
17	S96T005285_D	1.359	.4045	2.954	.3781	1.902	1.671
18	S96T005285_A	42.27	40.83	44.06	39.05	41.23	42.36
19	S96T005285_10PPM	409.5	421.9	406.0	400.3	381.8	413.9
20	S96T005293_	2.733	-.2515	11.29	.3369	2.195	1.643
21	S96T005293_D	2.394	-.1421	10.56	-.3131	1.609	1.266
22	ICSA	.0233	.0472	-.0390	.0055	.0013	.0063
23	ICSAB	.0009	1.058	-.0245	-.0006	.0019	.0098
24	CCV	5.059	5.266	4.975	4.829	4.849	4.967
25	CCB	-.0164	-.0020	-.0046	-.0085	.0474	.0144

#	Sample Name	Sm	Sr	Th	Ti	Tl	U
1	ICV	4.934	4.966	.0271	4.918	4.908	9.658
2	ICB	.0070	.0001	-.0043	.0005	-.0135	.0401
3	LLS	.2142	.0205	-.0020	.0213	.4110	.5623
4	ICSA <i>QW 12-5-96</i>	.0021	.0017	-.0132	.0009	.0320	.1082
5	ICSA	-.0058	.0022	-.0088	.0017	.0268	-.0082
6	ICSAB	-.0025	.0021	-.0025	.0020	.0170	-.0004
7	PREPBLKTJA	.0002	.0009	.0050	.0008	.0189	-.0721
8	S96T005284_L	-.2710	.0428	-.8316	.0463	-.4287	1.496
9	S96T005284_	.1765	.0367	.0488	.0518	.4660	-1.406
10	S96T005284_D	.5888	.0538	-.0845	.0414	.5178	-.8186
11	S96T005284_A	39.71	39.10	3258	38.95	38.65	77.26
12	S96T005284_10PPM	382.7	387.8	1.548	356.8	384.3	33.55
13	CCV	4.923	4.952	.0252	4.911	4.952	9.644
14	CCB	.0269	.0005	-.0103	.0002	.0133	.1165
15	S96T005285_L	5.981	.1268	-2.570	.0874	4.328	25.11
16	S96T005285_	1.429	.0556	-.3343	.0296	.5756	3.103

Analysis Report

Averages

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#	Sample Name	Sm	Sr	Th	Ti	Tl	U
17	S96T005285 D	1.695	.0556	-.2422	.0502	.3119	3.898
18	S96T005285-A	39.40	39.30	.3139	39.23	39.60	76.08
19	S96T005285-10PPM	391.5	395.6	1.904	365.7	391.0	32.06
20	S96T005293-	1.460	.0729	.1462	.0117	.1115	2.180
21	S96T005293 D	.8695	.0580	-.3193	-.0001	.2667	.3291
22	ICSA	.0185	.0020	-.0041	.0015	.0858	.0093
23	ICSA B	.0228	.0021	-.0073	.0018	.0126	.0138
24	CCV	4.908	4.942	.0277	4.899	4.925	9.607
25	CCB	.0290	.0005	-.0083	.0004	-.0090	.1357

#	Sample Name	V	Y	Zn	Zr
1	ICV	5.077	.0064	5.144	4.983
2	ICB	.0017	.0003	.0018	.0017
3	LLS	.1072	.0010	.0240	.0233
4	ICSA <i>2/2-5-96</i>	.0007	.0058	.0046	-.0014
5	ICSA	-.0008	.0068	.0054	-.0025
6	ICSA B	.4759	.0071	.9622	-.0016
7	PREPBLKTJA	.0005	.0000	.0124	.0004
8	S96T005284 L	.2309	-.0006	1.206	.2071
9	S96T005284-	.0871	.0131	.9944	.0709
10	S96T005284 D	.1638	.0317	.1159	.1533
11	S96T005284 A	40.70	.0988	41.57	39.67
12	S96T005284-10PPM	.7030	.6379	-1.077	400.9
13	CCV	5.110	.0078	5.186	5.005
14	CCB	.0058	.0012	.0012	.0050
15	S96T005285 L	1.316	.2872	.7310	1.111
16	S96T005285-	.3200	.0708	.2896	.2547
17	S96T005285 D	.3650	.0767	.2178	.2762
18	S96T005285 A	40.78	.0899	41.58	39.77
19	S96T005285-10PPM	.5860	.6103	-1.121	408.5
20	S96T005293-	.3204	.0743	.5698	.2349
21	S96T005293 D	.2013	.0312	.2037	.1989
22	ICSA	.0063	.0079	.0060	.0008
23	ICSA B	.4793	.0083	.9710	.0023
24	CCV	5.125	.0082	5.205	5.004
25	CCB	.0067	.0014	.0024	.0056

12/03/96 14:57
A-0004-1

LABCORE Data Entry Template for Worklist# 15388

Analyst: J. WORRELL Instrument: ICP012 Book# 64B48AMethod: LA-505-151/161 Rev/Mod D-3Worklist Comment: 9/12-6-96 ICP AN-104 (FUSION)

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 ICV			@ICP-QC	QC		
2 ICB			@ICP-QC	QC		
3 LLS			@ICP-QC	QC		
4 ICSA			@ICP-QC	QC		
5 ICSAB			@ICP-QC	QC		
6 PREPBLKTEJA ALL			@ICP-F01	SOLID		
7 SERDIL	<u>9/12-6-96</u> S96T005286 0 F		@ICP-F01	SOLID		
8 SAMPLE	S96T005286 0 F		@ICP-F01	SOLID	96001283	AN-104
Analytes Requested: AG-F-01, AL-F-01, AS-F-01, B-F-01, BA-F-01, BE-F-01, BI-F-01, CA-F-01, CD-F-01, CE-F-01, CO-F-01, CR-F-01, CU-F-01, FE-F-01, K-F-01, LA-F-01, LI-F-01, MG-F-01, MN-F-01, MO-F-01, NA-F-01, ND-F-01, NI-F-01, P-F-01, PB-F-01, S-F-01, SB-F-01, SE-F-01, SI-F-01, SM-F-01, SR-F-01, TI-F-01, TL-F-01, U-F-01, V-F-01, ZN-F-01, ZR-F-01						
9 DUP	S96T005286 0 F		@ICP-F01	SOLID		
10 SPK	S96T005286 0 F		@ICP-F01	SOLID		
11 CCV	<u>10PM P.SPK</u>		@ICP-QC	QC		
12 CCB			@ICP-QC	QC		
13 SAMPLE	S96T005556 0 F		@ICP-F01	SOLID	96001283	AN-104
Analytes Requested: AG-F-01, AL-F-01, AS-F-01, B-F-01, BA-F-01, BE-F-01, BI-F-01, CA-F-01, CD-F-01, CE-F-01, CO-F-01, CR-F-01, CU-F-01, FE-F-01, K-F-01, LA-F-01, LI-F-01, MG-F-01, MN-F-01, MO-F-01, NA-F-01, ND-F-01, NI-F-01, P-F-01, PB-F-01, S-F-01, SB-F-01, SE-F-01, SI-F-01						

Data Entry Comments:

Sample result calculation:

$$S96T005286 \quad \text{Al} = 42.357 \frac{\mu\text{g}}{\text{ml}} \times \frac{1}{2.0159} \times \frac{1\text{L}}{1000 \text{ ml}} = 2.102 + 4 \frac{\mu\text{g}}{\text{g}}$$

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

12/03/96 14:57
A-0004-1

HNF-SD-WM-DP-226, REV. 0

Page: 2

LABCORE Data Entry Template for Worklist# 15388

S Type	Sample#	R A	Test	Matrix	Group#	Project
			SM-F-01 , SR-F-01 , ZN-F-01 , ZR-F-01		TI-F-01* , TL-F-01 ,	U-F-01 , V-F-01 ,
14 DUP	S96T005556	0 F	@ICP-F01	SOLID		
15 SERDIL	S96T005559	0 F	@ICP-F01	SOLID		
16 SAMPLE	S96T005559	0 F	@ICP-F01	SOLID	96001283	AN-104
Analytes Requested: AG-F-01 , AL-F-01 , AS-F-01 , B-F-01 , BA-F-01 , BE-F-01 , BI-F-01 , CA-F-01 , CD-F-01 , CE-F-01 , CO-F-01 , CR-F-01 , CU-F-01 , FE-F-01 , K-F-01 , LA-F-01 , LI-F-01 , MG-F-01 , MN-F-01 , MO-F-01 , NA-F-01 , ND-F-01 , NI-F-01 , P-F-01 , PB-F-01 , S-F-01 , SB-F-01 , SE-F-01 , SI-F-01 , SM-F-01 , SR-F-01 , TI-F-01 , TL-F-01 , U-F-01 , V-F-01 , ZN-F-01 , ZR-F-01						
17 DUP	S96T005559	0 F	@ICP-F01	SOLID		
18 SPK 10PM P.SPK	S96T005559	0 F	@ICP-F01	SOLID		
19 ICSA			@ICP-QC	QC		
20 IC SAB			@ICP-QC	QC		
21 CCV			@ICP-QC	QC		
22 CCB			@ICP-QC	QC		

Final page for worklist # 15388

Analyst Signature Date 12-6-96

Reviewed by:

Analyst Signature Date 12/10/96

PREPARKAL .250-9.75
S96T005286
DILSY .250-9.75-2.8 200
SAM .250-9.75 40
DUP .250-9.75 40
P.SPK .250-2-7.75 40
10PM SPK .250-1-1-7.75 40

S96T005559
DILSY .250-9.75-2.8
SAM .250-9.75
DUP .250-9.75
P.SPK .250-2-7.75
10PM P.SPK .250-1-1-7.75

S96T005556
SAM .250-9.75 40
DUP .250-9.75 40

Data Entry Comments: spike recovery calculation:

$$S96T005286 \quad Al = \left(\frac{82.799}{40} \right) - \left(\frac{42.337}{40} \right) \times 100 = 101.16\%$$

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

Spike true value is 1.00 for all except for U = 2.00
1866

Identity 1: ICV Identity 2: Quality Control 12:47 PM December 6, 1996
 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	5.065	5.177	5.250	4.852	4.977	5.033	5.145	5.093
S.D.	0.016	0.026	0.035	0.011	0.008	0.008	0.030	0.055
% R.S.D.	0.320	0.501	0.674	0.220	0.157	0.162	0.588	1.088
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.091	4.947	5.041	4.907	4.978	4.973	5.038	10.402
S.D.	0.008	0.005	0.013	0.002	0.022	0.009	0.034	0.009
% R.S.D.	0.152	0.103	0.260	0.037	0.449	0.184	0.671	0.083
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	4.998	5.215	5.201	5.245	5.138	5.001	5.201	5.005
S.D.	0.006	0.020	0.029	0.114	0.053	0.006	0.015	0.050
% R.S.D.	0.122	0.378	0.557	2.181	1.038	0.111	0.290	1.008
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	5.128	4.348	4.956	4.834	4.977	4.997	5.041	4.958
S.D.	0.018	0.040	0.008	0.014	0.019	0.005	0.024	0.022
% R.S.D.	0.350	0.918	0.156	0.285	0.374	0.110	0.485	0.440
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	4.940	5.284	5.083	5.124	5.163			
S.D.	0.004	0.036	0.011	0.021	0.010			
% R.S.D.	0.076	0.674	0.207	0.418	0.194			

J. Howell
 12-6-96

WRLST # 15388

FILE NO. 961206A.DAT

AN-104 FOSION

5967805286, 5556, 5559

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1867 TO 1890

Identity 1: ICB

Identity 2: Quality Control

12:53 PM December 6, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr	Sr	Bi	Si	Al	Co	Cu	Li
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	-0.001	0.000	-0.019	-0.002	-0.015	0.004	-0.000	0.001
S.D.	0.001	0.000	0.012	0.005	0.009	0.002	0.001	0.000
% R.S.D.	249.721	71.320	60.636	307.603	56.900	57.949	1592.035	27.934
	Zn	Ni	La	Fe	Ca	Cr	Nd	U
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	-0.000	0.003	0.004	-0.001	0.000	-0.001	-0.004	-0.009
S.D.	0.001	0.001	0.001	0.003	0.000	0.001	0.002	0.052
% R.S.D.	187.370	30.444	29.998	522.283	86.603	68.514	68.910	553.591
	Ce	Sm	Ba	P	S	Mg	As	Na
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	0.010	-0.003	0.001	0.010	0.009	0.000	0.003	0.002
S.D.	0.021	0.012	0.001	0.008	0.010	0.000	0.002	0.006
% R.S.D.	199.705	434.300	94.359	76.197	112.130	43.292	65.811	260.709
	Mo	Se	Ag	Pb	Ti	Cd	B	K
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	0.004	0.041	0.000	0.022	0.000	0.000	0.006	0.033
S.D.	0.001	0.005	0.001	0.011	0.001	0.000	0.001	0.006
% R.S.D.	17.272	12.647	31863.557	49.637	1362.995	75.230	8.542	18.072
	Mn	Sb	V	Be	Tl			
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)			
Mean	-0.000	-0.003	0.000	0.000	-0.001			
S.D.	0.000	0.045	0.001	0.000	0.023			
% R.S.D.	1.930	1757.536	355.576	104.043	2795.238			

Identity 1: LLS Identity 2: Quality Control

12:59 PM December 6, 1996

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	0.022	0.021	0.206	0.150	0.074	0.028	0.016	0.019
S.D.	0.000	0.000	0.013	0.005	0.002	0.002	0.000	0.000
% R.S.D.	1.699	0.739	6.337	3.031	2.035	8.227	2.728	2.605
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.021	0.048	0.106	0.097	0.208	0.015	0.182	0.571
S.D.	0.001	0.003	0.002	0.003	0.001	0.001	0.010	0.056
% R.S.D.	3.430	6.127	2.201	2.711	0.244	4.222	5.297	9.803
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.072	0.256	0.103	0.410	0.231	0.214	0.196	0.175
S.D.	0.029	0.011	0.000	0.004	0.010	0.001	0.008	0.003
% R.S.D.	40.138	4.205	0.322	1.077	4.146	0.493	4.077	1.829
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.104	0.200	0.012	0.210	0.022	0.011	0.107	0.673
S.D.	0.002	0.006	0.001	0.008	0.000	0.002	0.002	0.003
% R.S.D.	2.195	3.119	6.714	3.864	2.298	14.905	1.501	0.428
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	0.020	0.085	0.098	0.011	0.398			
S.D.	0.000	0.016	0.001	0.000	0.040			
% R.S.D.	0.033	19.249	0.961	3.666	10.000			

Identity 1: IC5A

Identity 2: Quality Control

1:03 PM December 6, 1996

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	0.002	0.004	0.045	200.832	-0.001	-0.002	0.000
S.D.	0.002	0.000	0.011	0.003	0.303	0.004	0.000	0.000
% R.S.D.	60.001	9.462	257.018	7.324	0.151	302.375	15.357	166.646
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.005	0.010	0.018	93.235	99.722	-0.010	-0.045	0.148
S.D.	0.000	0.001	0.003	0.035	0.176	0.001	0.008	0.059
% R.S.D.	6.111	11.698	17.463	0.037	0.177	8.062	18.281	39.510
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.034	0.156	0.003	-0.020	0.210	95.642	0.004	194.019
S.D.	0.020	0.010	0.000	0.007	0.006	0.115	0.003	0.705
% R.S.D.	59.534	6.475	6.481	34.817	2.762	0.120	72.521	0.363
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.001	-0.122	0.001	-0.005	0.001	0.003	0.013	-0.070
S.D.	0.003	0.016	0.001	0.011	0.000	0.001	0.001	0.011
% R.S.D.	322.527	13.411	96.684	196.218	30.755	21.032	5.373	15.462
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	-0.001	0.034	-0.002	0.003	-0.022			
S.D.	0.000	0.012	0.001	0.000	0.022			
% R.S.D.	7.045	36.023	35.522	5.382	99.655			

Identity 1: ICSAB Identity 2: Quality Control

1:06 PM December 6, 1996

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	-0.008	0.037	200.243	0.489	0.495	0.954
S.D.	0.002	0.000	0.019	0.002	0.648	0.002	0.002	0.008
% R.S.D.	192.270	5.728	231.656	4.794	0.324	0.504	0.398	0.848
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.989	0.972	0.016	93.792	99.960	0.483	-0.032	0.011
S.D.	0.002	0.005	0.004	0.044	0.256	0.001	0.007	0.081
% R.S.D.	0.212	0.542	26.153	0.047	0.256	0.256	22.200	728.223
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	Mg (ppm)	As (ppm)	Na (ppm)	
Mean	0.021	0.093	0.518	0.001	0.210	97.003	-0.005	191.272
S.D.	0.021	0.015	0.003	0.003	0.019	0.152	0.013	1.619
% R.S.D.	103.521	16.030	0.534	389.651	8.966	0.156	295.188	0.846
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	-0.001	-0.056	1.004	0.954	-0.000	0.979	0.014	0.002
S.D.	0.000	0.050	0.002	0.004	0.001	0.003	0.002	0.028
% R.S.D.	20.711	89.427	0.223	0.470	307.124	0.295	11.513	1486.474
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	0.486	0.002	0.498	0.494	-0.067			
S.D.	0.001	0.020	0.002	0.002	0.046			
% R.S.D.	0.270	862.411	0.327	0.496	68.990			

Identity 1: ~~064005296~~ *PREPBLKARL* Identity 2: *2502-2751* 11 PM December 6, 1996
 Task name : OPTIMA *SPW 12-6-96*
 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	0.017	0.001	0.000	0.007	0.020	-0.007	-0.000	0.000
S.D.	0.001	0.000	0.015	0.003	0.008	0.002	0.000	0.000
% R.S.D.	8.957	17.843	4682.840	37.239	39.976	30.405	1213.533	126.211
<hr/>								
	Zn	Ni	La	Fe	Ca	Cr	Nd	U
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	0.002	0.131	0.007	0.013	0.012	-0.004	0.009	0.064
S.D.	0.000	0.003	0.003	0.003	0.001	0.001	0.006	0.072
% R.S.D.	15.611	2.341	46.449	19.401	11.441	15.427	70.296	111.958
<hr/>								
	Ce	Sm	Ba	P	S	Mg	As	Na
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	0.005	0.031	0.000	-0.010	0.094	0.005	0.001	1.942
S.D.	0.022	0.012	0.000	0.004	0.000	0.001	0.006	0.005
% R.S.D.	415.975	38.260	464.579	36.964	0.035	27.089	593.646	0.252
<hr/>								
	Mo	Se	Ag	Pb	Ti	Cd	B	K
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	0.068	0.012	-0.001	0.025	0.028	0.001	0.022	315.515
S.D.	0.000	0.005	0.001	0.006	0.001	0.002	0.001	0.844
% R.S.D.	0.476	40.328	36.907	22.152	2.653	150.471	3.968	0.267
<hr/>								
	Mn	Sb	V	Be	Tl			
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)			
Mean	0.001	0.020	0.002	0.000	0.024			
S.D.	0.000	0.024	0.002	0.000	0.041			
% R.S.D.	13.158	119.985	87.703	166.950	171.003			

Identity 1: s96t005286_L Identity 2: .25ml-9.75ml-2ml-8ml

1:16 PM December 6, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 200.00

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	0.145	-0.123	-3.095	3.049	36.507	-1.712	-0.466	-0.249
S.D.	0.329	0.027	1.858	0.337	2.335	0.457	0.078	0.060
% R.S.D.	227.750	21.822	60.015	11.063	6.397	26.692	16.728	24.316
	Zn	Ni	La	Fe	Ca	Cr	Nd	U
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	0.603	5.821	0.187	1.047	1.732	2.183	-1.162	20.650
S.D.	0.049	0.678	0.618	0.849	0.116	0.344	0.614	11.620
% R.S.D.	8.066	11.656	330.038	81.095	6.720	15.755	52.824	56.271
	Ce	Sm	Ba	P	S	Mg	As	Na
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	-21.386	6.503	-0.267	-5.060	10.568	0.399	-3.100	500.517
S.D.	3.867	2.122	0.061	3.339	0.735	0.138	0.830	2.224
% R.S.D.	18.083	32.627	22.896	65.996	6.953	34.612	26.775	0.444
	Mo	Se	Ag	Pb	Ti	Cd	B	K
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	0.141	9.383	-0.850	5.773	0.230	-0.101	-0.258	14003.410
S.D.	0.098	2.756	0.222	3.246	0.046	0.122	0.058	27.607
% R.S.D.	69.249	29.376	26.089	56.229	20.071	120.852	22.590	0.197
	Mn	Sb	V	Be	Tl			
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)			
Mean	-0.114	-4.051	-0.934	0.004	-10.907			
S.D.	0.037	3.739	0.087	0.002	3.893			
% R.S.D.	32.669	92.293	9.324	57.615	35.690			

Identity 1: s96t005286 Identity 2: .25ml-9.75ml

1:20 PM December 6, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 40.00

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	-0.141	0.042	-0.740	1.388	42.337	-0.145	0.037	0.024
S.D.	0.045	0.005	0.206	0.086	0.135	0.000	0.001	0.015
% R.S.D.	32.143	12.729	27.856	6.163	0.319	0.295	3.022	63.293
<hr/>								
	Zn	Ni	La	Fe	Ca	Cr	Nd	U
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	0.110	4.532	-0.021	0.371	1.040	3.235	0.061	-6.568
S.D.	0.017	0.100	0.063	0.127	0.056	0.048	0.190	2.580
% R.S.D.	15.032	2.199	300.997	34.170	5.347	1.490	309.607	39.273
<hr/>								
	Ce	Sm	Ba	P	S	Mg	As	Na
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	-0.283	-0.777	0.014	2.695	8.429	0.107	-0.263	479.932
S.D.	0.878	0.288	0.009	0.342	0.186	0.056	0.063	2.537
% R.S.D.	310.337	37.091	59.655	12.692	2.212	52.145	23.871	0.529
<hr/>								
	Mo	Se	Ag	Pb	Ti	Cd	B	K
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	0.321	2.284	0.016	0.604	-0.069	0.024	-0.043	13218.464
S.D.	0.025	0.637	0.022	0.438	0.017	0.031	0.034	57.252
% R.S.D.	7.892	27.903	137.406	72.580	24.594	127.253	78.535	0.433
<hr/>								
	Mn	Sb	V	Be	Tl			
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)			
Mean	0.057	-1.456	0.038	-0.001	0.092			
S.D.	0.007	1.323	0.039	0.010	1.362			
% R.S.D.	13.176	90.856	101.128	763.861	1474.951			

Identity 1: s96t005286_d Identity 2: .25ml-9.75ml

1:23 PM December 6, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 40.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.132	0.053	-0.161	1.676	41.107	0.279	-0.015	0.009
S.D.	0.045	0.007	0.213	0.087	0.417	0.091	0.014	0.019
% R.S.D.	34.408	13.878	131.950	5.165	1.013	32.714	92.007	204.099

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.329	5.835	0.038	0.582	2.096	3.865	0.063	5.603
S.D.	0.010	0.132	0.081	0.017	0.005	0.041	0.160	1.809
% R.S.D.	3.072	2.268	211.804	2.880	0.222	1.069	252.835	32.291

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.673	-0.360	0.021	1.845	9.580	0.083	-0.021	483.184
S.D.	0.313	0.225	0.011	0.203	0.320	0.005	0.401	3.383
% R.S.D.	46.534	62.361	52.500	10.976	3.344	6.417	1914.541	0.700

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.169	1.817	-0.066	0.849	0.027	0.073	0.094	15122.639
S.D.	0.022	0.610	0.045	0.306	0.017	0.019	0.009	93.911
% R.S.D.	13.216	33.565	68.157	36.005	64.066	25.405	9.278	0.621

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.080	-0.474	-0.035	0.011	0.350
S.D.	0.008	0.746	0.023	0.010	0.945
% R.S.D.	9.496	157.493	65.496	92.498	270.157

Identity 1: s96t005286_a Identity 2: .25ml-2ml-7.75ml

1:26 PM December 6, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 40.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	40.461	41.022	42.075	41.179	82.799	40.266	40.389	37.946
S.D.	0.072	0.143	0.315	0.174	0.683	0.273	0.080	0.170
% R.S.D.	0.178	0.348	0.749	0.423	0.825	0.677	0.198	0.447
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	40.705	44.146	39.856	38.936	39.440	43.220	38.584	88.272
S.D.	0.146	0.222	0.061	0.642	0.097	0.356	0.286	1.379
% R.S.D.	0.358	0.503	0.153	1.649	0.246	0.824	0.740	1.562
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	36.643	41.634	40.717	44.475	49.749	39.774	41.286	527.597
S.D.	0.702	0.187	0.126	0.973	0.558	0.222	0.051	1.923
% R.S.D.	1.915	0.450	0.309	2.187	1.121	0.558	0.124	0.365
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	41.240	36.824	29.609	38.398	39.487	39.658	38.865	13286.671
S.D.	0.269	0.562	0.179	0.608	0.202	0.131	0.026	65.894
% R.S.D.	0.651	1.525	0.604	1.583	0.510	0.331	0.066	0.496
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	39.332	38.475	40.420	39.442	38.838			
S.D.	0.229	0.593	0.133	0.082	0.578			
% R.S.D.	0.581	1.540	0.329	0.207	1.488			

Identity 1: s96t005286_10ppm Identity 2: .25ml-1ml-1ml-7.75ml

1:30 PM December 6, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 40.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	415.847	411.246	420.090	402.952	458.477	-1.363	-0.233	388.134
S.D.	0.468	1.593	0.450	1.239	0.916	0.159	0.032	3.033
% R.S.D.	0.113	0.387	0.107	0.308	0.200	11.630	13.738	0.781

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	1.435	391.718	403.885	390.780	399.467	395.026	408.394	-1.076
S.D.	0.023	0.912	0.970	1.920	0.941	1.155	2.152	4.174
% R.S.D.	1.576	0.233	0.240	0.491	0.235	0.293	0.527	387.739

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	407.474	413.323	414.038	423.728	415.949	391.165	410.924	869.874
S.D.	2.057	1.386	1.798	4.026	1.995	1.436	0.745	5.535
% R.S.D.	0.505	0.335	0.434	0.950	0.480	0.367	0.181	0.636

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	393.227	340.246	263.470	385.943	366.702	392.119	389.454	13509.534
S.D.	2.510	2.195	0.535	2.547	1.437	0.225	0.609	63.749
% R.S.D.	0.638	0.645	0.203	0.660	0.392	0.057	0.156	0.472

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	390.606	408.675	2.846	399.162	392.270
S.D.	0.640	1.886	0.055	0.853	1.113
% R.S.D.	0.164	0.461	1.916	0.214	0.284

Identity 1: CCV Identity 2: Quality Control

1:33 PM December 6, 1996

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	5.061	5.112	5.188	4.762	4.894	4.917	5.116	4.972
S.D.	0.012	0.020	0.024	0.042	0.019	0.034	0.015	0.020
% R.S.D.	0.229	0.394	0.470	0.879	0.391	0.692	0.289	0.411
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	4.993	4.875	5.012	4.952	4.954	4.908	5.106	10.238
S.D.	0.039	0.031	0.026	0.017	0.011	0.035	0.019	0.070
% R.S.D.	0.790	0.637	0.524	0.344	0.228	0.711	0.378	0.685
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	4.930	5.198	5.136	5.105	4.942	4.912	5.108	4.895
S.D.	0.051	0.012	0.017	0.054	0.012	0.038	0.027	0.029
% R.S.D.	1.044	0.228	0.326	1.061	0.249	0.782	0.536	0.595
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	5.006	4.241	4.976	4.832	4.859	4.937	5.020	5.025
S.D.	0.043	0.007	0.016	0.018	0.029	0.026	0.013	0.008
% R.S.D.	0.854	0.154	0.324	0.381	0.601	0.521	0.255	0.152
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	4.915	5.199	5.041	5.130	5.090			
S.D.	0.018	0.035	0.023	0.005	0.049			
% R.S.D.	0.358	0.672	0.465	0.105	0.972			

HNF-SD-WM-DP-226, REV. 0

Identity 1: CCB

Identity 2: Quality Control

1:37 PM December 6, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.002	0.001	0.001	0.005	0.009	-0.004	0.000	0.001
S.D.	0.001	0.000	0.016	0.002	0.003	0.005	0.000	0.000
% R.S.D.	50.479	25.166	2718.500	41.057	35.289	116.146	186.169	28.197
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	-0.000	0.006	0.004	-0.002	0.000	-0.001	0.002	0.107
S.D.	0.000	0.002	0.003	0.001	0.000	0.001	0.005	0.020
% R.S.D.	130.450	36.648	59.329	46.801	99.216	94.126	286.062	18.543
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.046	0.007	0.001	-0.017	0.005	0.001	-0.001	0.010
S.D.	0.009	0.006	0.000	0.004	0.005	0.000	0.003	0.004
% R.S.D.	19.902	77.174	31.893	26.286	95.406	19.257	357.096	38.519
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.009	-0.003	0.025	0.024	0.002	0.001	0.009	0.290
S.D.	0.001	0.013	0.003	0.011	0.001	0.001	0.001	0.005
% R.S.D.	8.194	376.082	11.456	47.679	39.769	85.253	10.778	1.717
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	0.000	-0.032	0.004	0.001	0.086			
S.D.	0.000	0.022	0.000	0.000	0.023			
% R.S.D.	390.281	70.950	11.606	32.492	26.333			

Identity 1: s96t005556 Identity 2: .25ml-9.75ml

1:41 PM December 6, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 40.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.093	0.028	-0.262	0.935	46.899	-0.177	-0.073	-0.001
S.D.	0.059	0.005	0.708	0.126	0.356	0.182	0.018	0.014
% R.S.D.	64.005	19.094	270.346	13.504	0.759	102.538	24.301	979.028
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.171	4.367	0.018	0.358	0.925	6.583	-0.644	1.270
S.D.	0.013	0.127	0.054	0.049	0.002	0.075	0.168	2.496
% R.S.D.	7.365	2.915	296.034	13.632	0.190	1.146	26.034	196.578
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-3.237	0.406	-0.016	3.261	12.030	0.031	-0.290	554.356
S.D.	0.674	0.337	0.010	0.030	0.230	0.005	0.061	3.858
% R.S.D.	20.806	82.973	61.476	0.921	1.913	17.325	20.907	0.696
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.186	1.882	-0.120	0.755	0.035	0.085	0.243	13332.509
S.D.	0.025	0.950	0.018	0.153	0.032	0.025	0.027	78.281
% R.S.D.	13.616	50.478	15.380	20.275	91.220	29.664	11.173	0.587
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	0.056	-0.438	-0.133	0.023	-2.928			
S.D.	0.007	0.280	0.045	0.006	1.377			
% R.S.D.	13.346	64.008	33.564	25.857	47.029			

Identity 1: s96t005556_d Identity 2: .25ml-9.75ml

1:44 PM December 6, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 40.00

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	0.164	0.022	0.855	1.184	36.219	-0.243	-0.054	-0.000
S.D.	0.037	0.004	0.188	0.264	0.135	0.092	0.018	0.017
% R.S.D.	22.701	15.790	21.974	22.254	0.374	37.738	32.800	26293.206
	Zn	Ni	La	Fe	Ca	Cr	Nd	U
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	0.086	8.814	0.234	0.717	0.909	2.858	-0.862	7.569
S.D.	0.026	0.079	0.001	0.482	0.000	0.045	0.229	2.038
% R.S.D.	30.872	0.898	0.375	67.234	0.000	1.558	26.606	26.924
	Ce	Sm	Ba	P	S	Mg	As	Na
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	-2.936	1.437	-0.025	2.903	11.294	0.006	-0.026	501.844
S.D.	0.367	0.316	0.011	0.584	0.404	0.000	0.305	1.112
% R.S.D.	12.500	21.999	43.899	20.109	3.577	0.054	1193.054	0.222
	Mo	Se	Ag	Pb	Ti	Cd	B	K
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
Mean	0.192	2.229	-0.090	-0.040	0.058	-0.024	0.078	12527.914
S.D.	0.049	0.349	0.040	0.476	0.012	0.019	0.036	38.357
% R.S.D.	25.456	15.652	44.307	1196.014	19.708	77.046	46.365	0.306
	Mn	Sb	V	Be	Tl			
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)			
Mean	0.033	-0.664	-0.131	-0.005	-2.337			
S.D.	0.015	0.826	0.045	0.011	1.113			
% R.S.D.	46.369	124.524	34.186	212.214	47.634			

Identity 1: s96t005559_L Identity 2: .25ml-9.75ml-2ml-8ml

1:49 PM December 6, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 200.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.050	0.094	1.568	1.575	36.536	0.644	0.143	0.101
S.D.	0.289	0.035	0.839	0.798	2.110	0.457	0.106	0.111
% R.S.D.	577.455	37.500	53.504	50.641	5.775	70.893	74.200	110.219

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.717	3.332	0.621	3.604	5.896	2.419	1.642	-1.004
S.D.	0.054	0.072	1.224	0.542	0.032	0.324	1.768	15.041
% R.S.D.	7.515	2.151	197.196	15.051	0.538	13.388	107.645	1497.523

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	4.830	5.137	0.103	8.491	9.476	0.184	-0.940	493.883
S.D.	4.525	2.099	0.085	1.766	1.371	0.027	0.259	3.536
% R.S.D.	93.693	40.869	82.500	20.796	14.463	14.435	27.563	0.716

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.845	10.387	0.157	2.685	0.121	0.101	0.283	13198.089
S.D.	0.361	1.933	0.247	2.188	0.101	0.195	0.202	137.506
% R.S.D.	42.717	18.610	157.301	81.506	83.762	194.324	71.527	1.042

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.060	0.115	0.217	0.016	6.482
S.D.	0.002	3.821	0.326	0.031	7.774
% R.S.D.	2.933	3327.113	150.420	190.939	119.930

Identity 1: s96t005559 Identity 2: .25ml-9.75ml

1:54 PM December 6, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 40.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.108	0.033	-0.772	1.697	34.220	0.018	-0.023	0.012
S.D.	0.005	0.004	0.481	0.132	0.242	0.158	0.016	0.006
% R.S.D.	5.029	10.714	62.253	7.757	0.708	880.896	69.636	51.169
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.099	3.009	-0.104	0.197	1.390	2.249	-0.519	5.400
S.D.	0.008	0.075	0.031	0.109	0.012	0.058	0.137	1.640
% R.S.D.	8.263	2.496	29.600	55.466	0.830	2.581	26.395	30.379
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-1.273	1.707	-0.012	10.975	8.126	0.034	-0.857	493.028
S.D.	0.840	0.346	0.006	0.882	0.534	0.009	0.122	3.420
% R.S.D.	65.984	20.268	47.324	8.033	6.575	27.280	14.195	0.694
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.118	0.640	-0.062	0.498	0.047	0.020	0.054	12950.842
S.D.	0.059	0.671	0.030	0.189	0.033	0.046	0.063	67.647
% R.S.D.	49.964	104.909	49.033	38.003	70.535	226.005	117.918	0.522
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	0.064	-0.455	-0.070	0.018	0.090			
S.D.	0.013	0.876	0.048	0.006	0.846			
% R.S.D.	20.355	192.449	68.315	34.287	938.017			

Identity 1: s96t005559_d Identity 2: .25ml-9.75ml

1:57 PM December 6, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 40.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.141	0.013	-0.636	1.252	43.905	-0.135	-0.076	-0.003
S.D.	0.116	0.011	0.608	0.096	0.129	0.157	0.044	0.018
% R.S.D.	82.678	83.320	95.639	7.684	0.293	116.802	57.266	657.464

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.243	6.618	0.182	0.967	1.126	6.196	-0.735	8.551
S.D.	0.002	0.050	0.055	0.052	0.035	0.020	0.136	4.802
% R.S.D.	0.923	0.748	30.079	5.330	3.077	0.319	18.528	56.155

	Ce (ppm)	Sn (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-3.052	1.166	-0.032	1.440	11.346	0.015	-0.196	509.847
S.D.	1.425	0.778	0.021	0.258	0.049	0.009	0.276	6.625
% R.S.D.	46.709	66.704	65.457	17.938	0.429	60.034	140.655	1.299

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.231	2.344	-0.068	0.527	0.058	0.061	-0.060	11114.459
S.D.	0.059	0.431	0.073	0.142	0.032	0.014	0.025	107.717
% R.S.D.	25.669	18.405	106.408	26.828	54.997	23.263	41.726	0.969

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.050	1.635	-0.161	0.008	-2.138
S.D.	0.013	0.900	0.038	0.016	2.510
% R.S.D.	25.405	55.030	23.454	200.550	117.403

Identity 1: s96r005559_a Identity 2: .25ml-2ml-7.75ml

2:04 PM December 6, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 40.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	40.446	40.468	39.559	39.391	73.050	38.896	40.927	37.716
S.D.	0.067	0.177	0.746	0.170	0.186	0.091	0.160	0.351
% R.S.D.	0.166	0.438	1.885	0.433	0.255	0.233	0.390	0.931

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	39.356	41.524	40.066	40.256	40.189	41.313	40.660	81.098
S.D.	0.128	0.164	0.261	0.056	0.167	0.231	0.094	2.804
% R.S.D.	0.326	0.395	0.652	0.140	0.416	0.559	0.232	3.457

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	38.860	41.014	40.445	50.248	47.168	38.451	40.605	531.535
S.D.	0.721	0.413	0.206	1.191	0.210	0.047	0.496	4.993
% R.S.D.	1.854	1.008	0.509	2.370	0.445	0.123	1.221	0.939

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	39.255	34.547	29.019	39.200	38.304	38.906	39.031	13078.084
S.D.	0.163	1.236	0.098	0.542	0.124	0.168	0.242	97.376
% R.S.D.	0.415	3.579	0.339	1.382	0.323	0.431	0.619	0.745

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	39.166	39.634	40.192	40.080	41.920
S.D.	0.062	0.962	0.027	0.199	1.853
% R.S.D.	0.158	2.426	0.066	0.495	4.419

Identity 1: s96t005559_10ppm Identity 2: .25ml-1ml-1ml-7.75ml

2:07 PM December 6, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 40.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	415.211	408.153	421.200	406.449	450.306	-1.257	0.016	381.773
S.D.	0.378	0.055	1.058	0.777	0.511	0.090	0.017	0.965
% R.S.D.	0.091	0.013	0.251	0.191	0.114	7.165	105.673	0.253

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	1.475	393.157	403.655	393.218	398.354	399.011	403.461	0.599
S.D.	0.020	0.377	0.651	1.060	0.613	0.550	1.892	0.168
% R.S.D.	1.362	0.096	0.161	0.270	0.154	0.138	0.469	27.971

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	402.385	409.752	410.169	436.439	420.280	394.487	413.436	890.159
S.D.	0.223	0.579	0.200	2.162	1.986	0.580	1.300	3.208
% R.S.D.	0.055	0.141	0.049	0.495	0.473	0.147	0.314	0.360

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	396.654	339.422	223.944	391.661	367.460	394.519	392.920	13575.292
S.D.	0.269	2.239	0.618	0.264	0.247	0.157	0.452	29.959
% R.S.D.	0.068	0.660	0.276	0.068	0.067	0.040	0.115	0.221

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	393.780	410.363	2.921	400.148	392.551
S.D.	0.079	1.386	0.009	0.413	0.459
% R.S.D.	0.020	0.338	0.317	0.103	0.117

Identity 1: ICSA Identity 2: Quality Control

2:10 PM December 6, 1996

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	0.003	0.003	-0.013	0.043	201.507	-0.003	-0.002	0.000
S.D.	0.003	0.000	0.006	0.004	1.059	0.000	0.001	0.001
% R.S.D.	103.957	11.085	47.416	9.765	0.525	11.266	44.863	176.717

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.006	0.009	0.012	94.170	100.290	-0.006	-0.055	0.084
S.D.	0.000	0.001	0.001	0.157	0.282	0.001	0.004	0.119
% R.S.D.	2.184	15.472	11.709	0.167	0.282	9.205	7.664	141.523

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.061	0.144	0.004	0.021	0.208	95.666	0.018	194.457
S.D.	0.038	0.079	0.001	0.001	0.007	0.314	0.006	1.302
% R.S.D.	62.674	13.091	16.149	5.523	3.279	0.328	35.319	0.669

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.002	-0.100	0.171	-0.012	0.001	0.003	0.019	0.184
S.D.	0.002	0.006	0.029	0.014	0.001	0.001	0.002	0.009
% R.S.D.	110.954	6.278	16.774	116.732	82.595	50.557	10.817	4.699

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.001	0.006	-0.002	0.003	-0.081
S.D.	0.001	0.018	0.001	0.000	0.066
% R.S.D.	62.701	305.388	59.952	7.786	81.516

Identity 1: ICSAB Identity 2: Quality Control 2:13 PM December 6, 1996
 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	0.003	-0.003	0.042	199.447	0.484	0.493	0.944
S.D.	0.002	0.000	0.008	0.003	1.568	0.004	0.003	0.005
% R.S.D.	207.120	6.505	258.710	6.936	0.786	0.872	0.597	0.582

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.988	0.962	0.012	93.965	99.557	0.484	-0.036	-0.006
S.D.	0.006	0.010	0.003	0.217	0.498	0.005	0.003	0.090
% R.S.D.	0.579	1.025	27.321	0.231	0.500	0.953	8.041	1510.948

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.039	0.114	0.518	-0.005	0.229	97.317	0.011	190.210
S.D.	0.026	0.012	0.003	0.009	0.021	0.787	0.007	1.120
% R.S.D.	66.251	10.783	0.560	162.342	9.126	0.809	61.299	0.589

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	-0.002	-0.063	1.014	0.960	0.001	0.973	0.018	0.282
S.D.	0.001	0.029	0.003	0.019	0.000	0.005	0.001	0.025
% R.S.D.	61.181	46.350	0.272	1.951	44.949	0.499	3.402	8.838

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.485	0.104	0.499	0.496	0.027
S.D.	0.001	0.018	0.001	0.001	0.044
% R.S.D.	0.261	17.473	0.268	0.236	160.414

2:17 PM December 6, 1996

Identity 1: CCV Identity 2: Quality Control

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	5.088	5.111	5.252	4.882	4.949	5.076	5.057	4.882
S.D.	0.011	0.021	0.054	0.031	0.039	0.038	0.010	0.028
% R.S.D.	0.213	0.403	1.030	0.638	0.781	0.740	0.199	0.575
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.174	4.993	4.998	5.025	4.922	5.034	4.965	10.266
S.D.	0.032	0.036	0.003	0.009	0.014	0.025	0.006	0.031
% R.S.D.	0.615	0.729	0.056	0.173	0.282	0.506	0.119	0.300
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	4.952	5.129	5.098	5.162	5.084	5.075	5.213	4.886
S.D.	0.048	0.008	0.019	0.075	0.074	0.032	0.027	0.042
% R.S.D.	0.969	0.165	0.366	1.446	1.465	0.630	0.515	0.869
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	5.139	4.384	5.029	4.929	4.913	5.038	5.046	5.168
S.D.	0.055	0.101	0.013	0.072	0.027	0.027	0.015	0.043
% R.S.D.	1.079	2.298	0.263	1.462	0.553	0.541	0.294	0.827
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	5.010	5.245	5.119	5.136	5.092			
S.D.	0.011	0.050	0.019	0.005	0.020			
% R.S.D.	0.210	0.953	0.380	0.107	0.399			

LABCORE Data Entry Template for Worklist# 15389

Analyst: B. G. E. K. L. Instrument: ICP01 Book# 64B48A
 Method: LA-505-151/161 Rev/Mod B-1
 Worklist Comment: ICP AN-104 (FUSION)

S Type	Sample#	R A	Test	Matrix	Group#	Project
1	ICV		@ICP-QC	QC		
2	ICB		@ICP-QC	QC		
3	LLS		@ICP-QC	QC		
4	ICSA		@ICP-QC	QC		
5	ICSAB		@ICP-QC	QC		
6	PREPBLKTJA		@ICP-F01	SOLID		
7	SERDIL	S96T005747 0 F	@ICP-F01	SOLID		
8	SAMPLE	S96T005747 0 F	@ICP-F01	SOLID	96001283	AN-104
Analytes Requested: AG-F-01, AL-F-01, AS-F-01, B-F-01, BA-F-01, BE-F-01, BI-F-01, CA-F-01, CD-F-01, CE-F-01, CO-F-01, CR-F-01, CU-F-01, FE-F-01, K-F-01, LA-F-01, LI-F-01, MG-F-01, MN-F-01, MO-F-01, NA-F-01, ND-F-01, NI-F-01, P-F-01, PB-F-01, S-F-01, SB-F-01, SE-F-01, SI-F-01, SM-F-01, SR-F-01, TI-F-01, TL-F-01, U-F-01, V-F-01, ZN-F-01, ZR-F-01						
9	DUP	S96T005747 0 F	@ICP-F01	SOLID		
10	SPK - A	S96T005747 0 F	@ICP-F01	SOLID		
spk 10ppm - X						
11	CCV		@ICP-QC	QC		
12	CCB		@ICP-QC	QC		
13	SAMPLE	S96T005748 0 F	@ICP-F01	SOLID	96001283	AN-104
Analytes Requested: AG-F-01, AL-F-01, AS-F-01, B-F-01, BA-F-01, BE-F-01, BI-F-01, CA-F-01, CD-F-01, CE-F-01, CO-F-01, CR-F-01, CU-F-01, FE-F-01, K-F-01, LA-F-01, LI-F-01, MG-F-01, MN-F-01, MO-F-01, NA-F-01, ND-F-01, NI-F-01, P-F-01, PB-F-01, S-F-01, SB-F-01, SE-F-01, SI-F-01						

Data Entry Comments:

Sample result calculation:

$$S96T005747 \text{ Al} = 37.01 \mu\text{g} \times \frac{1}{1.8700 \frac{\text{g}}{\text{g}} \times \frac{1}{10000}} = 2.02 \text{e} + 4 \mu\text{g}$$

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist# 15389

S Type	Sample#	R A	Test	Matrix	Group#	Project
			SM-F-01 ,	SR-F-01 ,	TI-F-01 ,	TL-F-01 , U-F-01 , V-F-01 ,
			ZN-F-01 ,	ZR-F-01		
14 DUP	S96T005748	0 F	@ICP-F01	SOLID		
15 SAMPLE	S96T005780	0 F	@ICP-F01	SOLID	96001283	AN-104
	Analytes Requested: AG-F-01 , AL-F-01 , AS-F-01 , B-F-01 , BA-F-01 ,					
	BE-F-01 , BI-F-01 , CA-F-01 , CD-F-01 , CE-F-01 , CO-F-01 ,					
	CR-F-01 , CU-F-01 , FE-F-01 , K-F-01 , LA-F-01 , LI-F-01 ,					
	MG-F-01 , MN-F-01 , MO-F-01 , NA-F-01 , ND-F-01 , NI-F-01 ,					
	P-F-01 , PB-F-01 , S-F-01 , SB-F-01 , SE-F-01 , SI-F-01 ,					
	SM-F-01 , SR-F-01 , TI-F-01 , TL-F-01 , U-F-01 , V-F-01 ,					
	ZN-F-01 , ZR-F-01					
16 DUP	S96T005780	0 F	@ICP-F01	SOLID		
17 ICSA			@ICP-QC	QC		
18 ICSAB			@ICP-QC	QC		
19 CCV			@ICP-QC	QC		
20 CCB			@ICP-QC	QC		

Final page for worklist # 15389

Analyst Signature

Date _____

Analyst Signature

Date _____

[illegible]

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205

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4.

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Data Entry Comments:

Spike recovery calculation:

S96T005747 $al = \left(\frac{77.52}{41} \right) - \left(\frac{37.01}{41} \right) \times 100 = 98.8\%$

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

Note: Spike time value is 1.0 pp - for all elements except for $U = 2.0$ pp.

#	Sample Name	File	Method	Date	Time	OpID	Type	Mode
1	ICV	961206D	ICP2	12/06/96	13:26	BJG	Q	CONC
2	ICB	961206D	ICP2	12/06/96	13:28	BJG	Q	CONC
3	LLS	961206D	ICP2	12/06/96	13:31	BJG	Q	CONC
4	ICSA	961206D	ICP2	12/06/96	13:34	BJG	Q	CONC
5	IC SAB	961206D	ICP2	12/06/96	13:37	BJG	Q	CONC
6	PREPBLKTJA	961206D	ICP2	12/06/96	13:40	BJG	S	CONC
7	S96T005747 L	961206D	ICP2	12/06/96	13:43	BJG	S	CONC
8	S96T005747	961206D	ICP2	12/06/96	13:46	BJG	S	CONC
9	S96T005747 D	961206D	ICP2	12/06/96	13:49	BJG	S	CONC
10	S96T005747 A	961206D	ICP2	12/06/96	13:52	BJG	S	CONC
11	S96T005747 X	961206D	ICP2	12/06/96	13:55	BJG	S	CONC
12	CCV	961206D	ICP2	12/06/96	13:58	BJG	Q	CONC
13	CCB	961206D	ICP2	12/06/96	14:01	BJG	Q	CONC
14	S96T005748	961206D	ICP2	12/06/96	14:04	BJG	S	CONC
15	S96T005748 D	961206D	ICP2	12/06/96	14:07	BJG	S	CONC
16	S96T005780	961206D	ICP2	12/06/96	14:09	BJG	S	CONC
17	S96T005780 D	961206D	ICP2	12/06/96	14:12	BJG	S	CONC
18	ICSA	961206D	ICP2	12/06/96	14:15	BJG	Q	CONC
19	IC SAB	961206D	ICP2	12/06/96	14:17	BJG	Q	CONC
20	CCV	961206D	ICP2	12/06/96	14:20	BJG	Q	CONC
21	CCB	961206D	ICP2	12/06/96	14:23	BJG	Q	CONC

[Signature]

12-06-96

AN-104 FUSION

-2001-10-1

586T00 5747, 5748, 5780

FILE # 08612062.DT

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 189.5 TO 189.7

#	Sample Name	Ag	Al	As	B	Ba	Be
1	ICV	5.029	4.954	5.236	5.047	5.050	5.185
2	ICB	.0013	-.0014	.0063	-.0005	.0002	-.0000
3	LLS	.0215	.0956	.2095	.1091	.1005	.0102
4	ICSA	.0028	242.1	-.0013	-.0011	.0001	.0000
5	ICSAB	.9686	243.3	-.0084	-.0035	.4753	.4785
6	PREPBLKTJA	.0005	-.0014	.0054	-.0051	.0001	-.0004
7	S96T005747 L	.2386	37.59	-1.548	-.5188	.0394	-.0372
8	S96T005747 A	.0248	37.01	.2322	-.0418	.0351	-.0092
9	S96T005747 D	.0381	36.46	-.1451	.1870	.0135	-.0110
10	S96T005747 A	.38.70	77.52	42.43	39.82	40.26	41.30
11	S96T005747 X	374.3	438.5	432.2	334.0	419.8	426.2
12	CCV	5.161	4.906	5.231	4.984	5.014	5.141
13	CCB	Q.0286	-.0070	.0082	.0051	.0001	-.0000
14	S96T005748	.1358	46.06	-.1494	.1249	.0195	.0001
15	S96T005748 D	.0641	44.92	.2445	.0207	.0139	-.0073
16	S96T005780	.0945	46.89	-.9303	.0622	.0153	-.0110
17	S96T005780 D	.0706	46.86	.2825	.1867	.0115	-.0016
18	ICSA	.0052	242.1	-.0113	-.0046	.0001	-.0002
19	ICSAB	.9735	244.8	-.0231	-.0058	.4819	.4800
20	CCV	5.060	4.964	5.282	5.041	5.078	5.190
21	CCB	.0017	-.0041	.0103	-.0036	.0001	-.0000

#	Sample Name	Bi	Ca	Cd	Ce	Co	Cr
1	ICV	5.169	5.054	5.094	5.041	5.098	5.114
2	ICB	.0198	.0023	.0011	.0039	.0006	-.0002
3	LLS	.2098	.2037	.0111	.1997	.0428	.0205
4	ICSA	.0044	249.1	.0012	.0198	.0028	.0089
5	ICSAB	-.0015	250.8	.9475	.0164	.4706	.4830
6	PREPBLKTJA	-.0026	.0076	-.0007	-.0043	.0013	-.0001
7	S96T005747 L	2.813	1.072	-.0980	.4866	-.0532	2.168
8	S96T005747 A	.6548	.5204	-.0095	-.1443	.0182	2.222
9	S96T005747 D	-1.040	.1922	-.0333	-.2236	-.0303	1.954
10	S96T005747 A	41.04	42.12	41.59	41.15	41.58	43.92
11	S96T005747 X	419.3	418.0	414.9	415.1	6123	419.2
12	CCV	5.117	5.107	5.106	5.020	5.106	5.123
13	CCB	-.0277	.0002	.0004	.0001	-.0009	-.0003
14	S96T005748	1.154	.5665	.0403	.5489	.0809	3.242
15	S96T005748 D	.6140	.4703	-.0422	.0359	.0928	2.605
16	S96T005780	-.6427	.3609	-.0316	.1921	-.0648	2.721
17	S96T005780 D	-.3668	.5386	-.0486	-.1129	.0545	2.640
18	ICSA	-.0422	251.4	.0015	.0063	-.0003	.0073
19	ICSAB	-.0015	252.2	.9490	.0036	.4758	.4876
20	CCV	5.169	5.125	5.125	5.100	5.128	5.142
21	CCB	.0001	-.0011	-.0001	.0003	-.0005	-.0008

#	Sample Name	Cu	Eu	Fe	K	La	Li
1	ICV	5.279	-.0026	5.082	5.167	5.132	5.134
2	ICB	.0000	.0002	.0004	.0756	.0006	.0001
3	LLS	.0214	.0008	.1052	.5460	.1026	.0218
4	ICSA	-.0106	-.0463	93.72	.0683	-.0026	.0030
5	ICSAB	.4797	-.0454	93.96	.1418	-.0033	1.014
6	PREPBLKTJA	.0024	.0002	.0108	315.8	-.0003	.0004
7	S96T005747 L	.3344	.1463	2.192	8676.	.1817	.1265
8	S96T005747	.0872	.0158	.4232	8539.	-.0372	.0355
9	S96T005747 D	.0872	.0392	.4089	11910.	-.0148	.0456
10	S96T005747 A	42.34	.0045	41.55	8561.	41.49	40.39
11	S96T005747_X	-.0814	.0428	412.2	9141.	421.8	416.3
12	CCV	5.223	-.0023	5.072	4.811	5.093	5.025
13	CCB	.0007	.0010	.0001	-.1458	-.0004	.0010
14	S96T005748	.1238	.0625	.5510	10460.	.0751	.0809
15	S96T005748 D	.1531	.0579	.4530	11480.	.0159	.0506
16	S96T005780	.0964	.0279	.4450	12360.	.0628	.0861
17	S96T005780_D	.0966	.0245	.3906	12910.	.0192	.0709
18	ICSA	-.0099	-.0507	93.98	.2589	-.0040	.0039
19	ICSAB	.4835	-.0469	94.48	.1400	-.0062	1.020
20	CCV	5.289	-.0026	5.093	5.185	5.163	5.107
21	CCB	.0005	-.0002	.0011	.0623	-.0000	.0001

#	Sample Name	Mg	Mn	Mo	Na	Nd	Ni
1	ICV	4.879	4.972	5.086	4.972	5.140	5.119
2	ICB	.0020	.0000	-.0006	-.0063	.0033	-.0020
3	LLS	.1933	.0199	.0975	.2103	.2027	.0450
4	ICSA	253.1	-.0063	-.0067	195.8	.0133	-.0038
5	ICSAB	254.4	.4462	-.0121	195.5	.0109	.9342
6	PREPBLKTJA	.0119	.0023	-.0040	1.951	.0034	.8843
7	S96T005747 L	1.357	.0466	-.7387	413.2	.5425	5.072
8	S96T005747	.0575	.0600	-.0456	409.1	.0835	6.635
9	S96T005747 D	.0271	.0789	-.0528	424.8	.1224	9.844
10	S96T005747 A	39.45	39.53	41.39	450.4	41.66	48.13
11	S96T005747_X	412.6	410.0	335.8	824.8	422.2	417.7
12	CCV	4.822	4.978	5.098	4.897	5.106	5.104
13	CCB	-.0041	.0005	.0024	.0049	.0010	.0016
14	S96T005748	.4214	.0955	.0882	482.3	.2675	10.13
15	S96T005748 D	.0638	.0916	-.0449	458.4	.3434	6.649
16	S96T005780	.4471	.0789	-.1492	475.9	.1381	3.752
17	S96T005780_D	.4509	.0967	-.0755	470.5	.1008	8.222
18	ICSA	253.1	-.0063	-.0120	195.2	.0116	-.0226
19	ICSAB	255.4	.4476	-.0123	197.1	.0136	.9388
20	CCV	4.876	4.964	5.116	4.948	5.179	5.104
21	CCB	.0035	-.0001	-.0009	-.0071	.0002	-.0010

#	Sample Name	P	Pb	S	Sb	Se	Si
1	ICV	5.072	5.063	4.964	4.859	4.908	4.890
2	ICB	.0045	.0041	-.0036	.0046	-.0047	.0064
3	LLS	.4220	.2136	.2119	.1022	.2054	.1623
4	ICSA	.0245	.0481	-.0338	-.0012	-.0431	-.0058
5	ICSAB	.0555	1.038	-.0243	.0056	-.0352	.0004
6	PREPBLKTJA	.0176	-.0035	.0157	-.0107	.0039	.0038
7	S96T005747 L	4.160	-.6838	6.958	-1.122	.3369	.6199
8	S96T005747	2.440	.2563	6.218	.1476	-.1800	.6650
9	S96T005747 D	2.272	-.0842	5.648	-.1740	.1918	.8736
10	S96T005747 A	42.76	41.86	46.89	39.57	39.81	40.82
11	S96T005747 X	348.0	425.5	349.0	340.9	400.3	345.6
12	CCV	5.026	5.113	4.944	4.834	4.876	4.882
13	CCB	.0187	.0202	.0057	.0016	.0287	.0081
14	S96T005748	1.546	.1778	8.607	.2452	1.395	2.060
15	S96T005748 D	1.800	.0346	7.180	.3432	.4157	2.422
16	S96T005780	4.202	-.2928	6.020	-.0833	.3508	1.865
17	S96T005780 D	3.118	-.0106	6.090	-.1880	.7873	2.442
18	ICSA	-.0020	.0534	-.0197	.0005	-.0308	-.0021
19	ICSAB	.0279	1.031	-.0061	-.0060	-.0293	-.0049
20	CCV	5.094	5.110	4.971	4.896	4.887	4.902
21	CCB	.0067	.0063	.0042	.0055	.0092	-.0022

#	Sample Name	Sm	Sr	Th	Ti	Tl	U
1	ICV	4.966	4.995	.0148	4.953	4.951	9.712
2	ICB	.0000	.0001	.0071	.0008	.0278	-.0154
3	LLS	.2137	.0206	-.0006	.0206	.4438	.5244
4	ICSA	.0066	.0021	.0027	.0015	.0040	.0495
5	ICSAB	.0088	.0021	-.0018	.0020	.0128	.0437
6	PREPBLKTJA	-.0006	.0012	.0073	.0011	-.0012	-.1009
7	S96T005747 L	1.852	.0666	1.784	.0616	.9284	-.2565
8	S96T005747	.1719	.0490	.1457	.0122	-.1363	-1.978
9	S96T005747 D	.4319	.0623	.0742	.0225	.4791	-1.472
10	S96T005747 A	40.20	40.27	.4363	40.00	39.71	76.03
11	S96T005747 X	407.8	411.5	1.608	309.9	401.0	29.48
12	CCV	4.922	4.947	.0226	4.910	4.934	9.609
13	CCB	.0116	.0002	-.0048	.0007	-.0000	.0552
14	S96T005748	.7881	.0554	.2625	.0746	-.0053	.6174
15	S96T005748 D	.6827	.0621	.1949	.0640	.4577	.2365
16	S96T005780	.4294	.0579	.5325	.0142	.3421	-2.283
17	S96T005780 D	.3584	.0623	.4664	.0139	.4095	-2.393
18	ICSA	.0187	.0021	-.0065	.0012	.0573	.0645
19	ICSAB	.0071	.0021	-.0130	.0020	.0166	.0376
20	CCV	4.990	5.027	.0298	4.966	4.957	9.748
21	CCB	-.0063	.0000	.0044	.0003	.0353	-.0303

#	Sample Name	V	Y	Zn	Zr
1	ICV	5.073	.0065	5.112	4.983
2	ICB	-.0002	.0000	-.0005	-.0005
3	LLS	.1047	.0010	.0233	.0214
4	ICSA	.0004	.0073	.0056	-.0026
5	ICSAB	.4703	.0073	.9648	-.0013
6	PREPBLKTJA	-.0002	.0003	-.0001	-.0008
7	S96T005747 L	.1929	.0965	.0880	.0162
8	S96T005747	.0425	.0169	.0785	.0364
9	S96T005747 D	.0811	.0295	.0475	.0408
10	S96T005747 A	41.24	.0705	41.90	40.23
11	S96T005747 X	.3573	.5917	-1.301	343.7
12	CCV	5.062	.0069	5.131	4.959
13	CCB	.0028	.0007	.0008	.0017
14	S96T005748	.1630	.0415	.0532	.0689
15	S96T005748 D	.1641	.0417	.1901	.0594
16	S96T005780	.0736	.0203	.0254	.0077
17	S96T005780 D	.0739	.0203	.0527	.0128
18	ICSA	.0020	.0077	.0044	-.0009
19	ICSAB	.4727	.0073	.9644	-.0012
20	CCV	5.094	.0064	5.136	5.008
21	CCB	-.0001	-.0004	.0008	-.0014

File # 09612413.745

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A-0004-1

HNF-SD-WM-DP-226, REV. 0

Page: 1

LABCORE Data Entry Template for Worklist# 15390

Analyst: B. G. Galt Instrument: ICP01 Book# 64864Method: LA-505-151/161 Rev/Mod 8-1

Worklist Comment: ICP AN-104 (FUSION)

S Type	Sample#	R A	Test	Matrix	Group#	Project
1	ICV		@ICP-QC	QC		
2	ICB		@ICP-QC	QC		
3	LLS		@ICP-QC	QC		32
4	ICSA		@ICP-QC	QC		
5	ICSAB		@ICP-QC	QC		
6	PREPBLK FOR ^{13A} me ₁₂₋₁₀₋₉₆		@ICP-F01	SOLID		
7	SERDIL	S96T005781 0 F	@ICP-F01	SOLID		
8	SAMPLE	S96T005781 0 F	@ICP-F01	SOLID	96001283	AN-104
Analytes Requested: AG-F-01, AL-F-01, AS-F-01, B-F-01, BA-F-01, BE-F-01, BI-F-01, CA-F-01, CD-F-01, CE-F-01, CO-F-01, CR-F-01, CU-F-01, FE-F-01, K-F-01, LA-F-01, LI-F-01, MG-F-01, MN-F-01, MO-F-01, NA-F-01, ND-F-01, NI-F-01, P-F-01, PE-F-01, S-F-01, SE-F-01, SI-F-01, SM-F-01, SR-F-01, TI-F-01, TL-F-01, U-F-01, V-F-01, ZN-F-01, ZR-F-01						
9	DUP	S96T005781 0 F	@ICP-F01	SOLID		
10	SPK	S96T005781 0 F	@ICP-F01	SOLID		
11	CCV		@ICP-QC	QC		
12	CCB		@ICP-QC	QC		
13	SAMPLE	S96T005777 0 F	@ICP-F01	SOLID	96001283	AN-104
Analytes Requested: AG-F-01, AL-F-01, AS-F-01, B-F-01, BA-F-01, BE-F-01, BI-F-01, CA-F-01, CD-F-01, CE-F-01, CO-F-01, CR-F-01, CU-F-01, FE-F-01, K-F-01, LA-F-01, LI-F-01, MG-F-01, MN-F-01, MO-F-01, NA-F-01, ND-F-01, NI-F-01, P-F-01, PE-F-01, S-F-01, SE-F-01, SI-F-01						

Data Entry Comments:

Sample result calculation:

$$S96T005781 \quad Al = 40.17 \mu g \times \frac{1}{1.5789} = 2.142 + 4 \mu g$$

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

12/06/96 07:07
A-0004-1

HNF-SD-WM-DP-226, REV. 0

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LABCORE Data Entry Template for Worklist# 15390

S Type	Sample#	R A	Test	Matrix	Group#	Project
			SM-F-01 , SR-F-01 , ZN-F-01 , ZR-F-01		TI-F-01 , TL-F-01 ,	U-F-01 , V-F-01 ,
14 DUP	S96T005777	0 F	@ICP-F01	SOLID		
15 ICSA			@ICP-QC	QC		
16 ICSAB			@ICP-QC	QC		
17 CCV			@ICP-QC	QC		
18 CCB			@ICP-QC	QC		

Final page for worklist # 15390

S. P. Karl 12-11-96
Analyst Signature Date

Revised by:
Shail M. Pany 12/11/96
Analyst Signature Date

PR2PBLKARL .250-9.75

S96T005781

BLKX .250-9.75-2-8

SAM .250-9.75

DUP .250-9.75

P.SPK .250-2-7.75

10PPM SPK .250-1-1-7.75

$\frac{DF}{1}$

200

40

40

40

40

S96T005777 .250-1-9.75-1

5777-D .250-1-9.75-1

40

40

Data Entry Comments:

Spike recovery calculation:

$$S96T005781 \quad \text{Re} = \left(\frac{73.79}{40} \right) - \left(\frac{40.17}{40} \right) \times 100 = 84.0\%$$

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

Spike true value is 1.0 ppb for all elements except for U = 2.0 ppb.

HNF-SD-WM-DP-226, REV. 0

Analysis Report

Summary

Wed 12-11-96 09:39:46 AM

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#	Sample Name	File	Method	Date	Time	OpID	Type	Mode
1	ICV	961211B	ICP2	12/11/96	08:35	BJG	Q	CONC
2	ICB	961211B	ICP2	12/11/96	08:43	BJG	Q	CONC
3	LLS	961211B	ICP2	12/11/96	08:45	BJG	Q	CONC
4	ICSA	961211B	ICP2	12/11/96	08:49	BJG	Q	CONC
5	ICSAB	961211B	ICP2	12/11/96	08:52	BJG	Q	CONC
6	PREPBLKTJA	961211B	ICP2	12/11/96	08:54	BJG	S	CONC
7	S96T005781_L	961211B	ICP2	12/11/96	08:58	BJG	S	CONC
8	S96T005781_I	961211B	ICP2	12/11/96	09:01	BJG	S	CONC
9	S96T005781_D	961211B	ICP2	12/11/96	09:04	BJG	S	CONC
10	S96T005781_A	961211B	ICP2	12/11/96	09:06	BJG	S	CONC
11	S96T005781_X	961211B	ICP2	12/11/96	09:10	BJG	S	CONC
12	CCV	961211B	ICP2	12/11/96	09:13	BJG	Q	CONC
13	CCB	961211B	ICP2	12/11/96	09:19	BJG	Q	CONC
14	S96T005777	961211B	ICP2	12/11/96	09:22	BJG	S	CONC
15	S96T005777_D	961211B	ICP2	12/11/96	09:25	BJG	S	CONC
16	ICSA	961211B	ICP2	12/11/96	09:28	BJG	Q	CONC
17	ICSAB	961211B	ICP2	12/11/96	09:31	BJG	Q	CONC
18	CCV	961211B	ICP2	12/11/96	09:33	BJG	Q	CONC
19	CCB	961211B	ICP2	12/11/96	09:36	BJG	Q	CONC

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1900 TO 1903.

[Signature]

12-11-96

AN-104 PUSON

S96T005781, 5777

FILE # 081211B.TAT

Na failed in the first post spike. A second post spike was made and the result is:

$$Na = \frac{\left(\frac{910.0}{40}\right) - \left(\frac{597.8}{40}\right)}{10} \times 100 = 78.05\%$$

HNF-SD-WM-DP-226, REV. 0

Analysis Report

Averages

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#	Sample Name	Ag	Al	As	B	Ba	Be
1	ICV	5.015	4.930	5.169	5.057	5.067	5.114
2	ICB	-.0001	-.0014	.0012	.0055	-.0000	-.0002
3	LLS	.0223	.1048	.2065	.1137	.1005	.0101
4	ICSA	.0032	242.1	-.0223	.0048	.0002	.0001
5	ICBAB	.9347	241.2	-.0467	.0003	.4582	.4605
6	PREPBLKTJA	.0011	.0232	.0041	.0050	.0003	-.0003
7	S96T005781_L	.2705	41.84	3.069	.9941	.0289	.0177
8	S96T005781	.0011	40.17	.3143	.1596	.0094	.0003
9	S96T005781_D	.0777	42.54	.0403	.2799	.0147	.0037
10	S96T005781-A	10.60	73.79	39.21	36.69	36.33	37.10
11	S96T005781-X	124.8	386.4	381.5	357.9	366.3	370.3
12	CCV	4.920	4.650	4.992	4.760	4.741	4.821
13	CCB	.0009	-.0126	.0142	.0040	-.0000	.0000
14	S96T005777	.1084	50.43	-.3900	.3580	.0196	.0001
15	S96T005777_D	.0543	38.05	-.0312	.1388	.0168	.0055
16	ICSA	.0026	239.3	.0340	.0041	.0002	.0002
17	ICBAB	.9298	239.3	-.0325	-.0033	.4543	.4578
18	CCV	5.010	4.855	5.123	5.036	4.969	5.080
19	CCB	.0013	-.0036	.0113	.0109	.0002	.0002

#	Sample Name	Bi	Ca	Cd	Ce	Co	Cr
1	ICV	5.163	5.031	5.055	5.042	5.113	5.089
2	ICB	.0046	-.0013	-.0001	-.0012	-.0010	-.0007
3	LLS	.1847	.2054	.0090	.2064	.0412	.0206
4	ICSA	-.0150	246.3	.0009	.0164	.0009	.0111
5	ICBAB	-.0114	247.2	.9057	.0131	.4567	.4651
6	PREPBLKTJA	.0220	.0181	-.0011	.0095	.0021	.0013
7	S96T005781_L	1.867	3.929	.0568	.3869	-.1063	2.449
8	S96T005781	.2417	2.724	-.0607	-.1807	.0288	2.298
9	S96T005781_D	.9213	1.145	-.0152	.1515	.0789	2.441
10	S96T005781-A	37.27	40.27	38.60	36.88	38.94	40.98
11	S96T005781-X	375.5	380.8	370.8	362.1	375.0	376.3
12	CCV	4.992	5.078	4.957	4.732	5.041	4.992
13	CCB	-.0076	.0030	-.0016	-.0028	.0014	.0002
14	S96T005777	-.8913	1.085	-.0320	.2465	-.0323	2.666
15	S96T005777_D	-1.105	1.026	.0050	.4226	.0430	2.245
16	ICSA	.0171	247.8	.0018	.0162	.0005	.0097
17	ICBAB	-.0009	248.0	.9044	.0102	.4585	.4677
18	CCV	5.147	5.117	5.049	4.959	5.117	5.100
19	CCB	-.0090	.0057	-.0001	.0008	-.0010	-.0010

#	Sample Name	Cu	Eu	Fe	K	La	Li
1	ICV	5.293	-.0023	5.055	5.128	5.125	5.109
2	ICB	.0007	-.0005	.0007	.0639	-.0001	-.0008
3	LLS	.0218	.0001	.1006	.5040	.1037	.0203
4	ICSA	-.0080	-.0292	93.01	.2276	-.0037	.0015
5	ICBAB	.4666	-.0289	92.57	.4019	-.0043	1.011
6	PREPBLKTJA	.0021	.0016	.0156	.3200	.0021	.0009
7	S96T005781_L	.0913	.1594	3.066	18360.	.1712	.0945

HNF-SD-WM-DP-226, REV. 0

Analysis Report

Averages

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#	Sample Name	Cu	Eu	Fe	K	La	Li
8	S96T005781	.2029	.0448	3.547	17890.	-.0077	.0380
9	S96T005781_D	.6331	.0542	6.777	17670.	.0662	.0427
10	S96T005781_A	37.78	.0889	38.24	17290.	37.39	35.38
11	S96T005781_X	-.1589	.1833	371.4	17080.	367.6	355.7
12	CCV	4.902	.0016	4.877	4.702	4.795	4.577
13	CCB	-.0003	.0026	.0003	.1471	-.0004	.0020
14	S96T005777	-.0018	.1030	.5725	14090.	.0801	.1370
15	S96T005777_D	.0734	.0647	.6128	16770.	.0608	.0899
16	ICSA	-.0089	-.0345	92.48	3489	-.0037	.0028
17	ICSAB	.4613	-.0323	92.26	2305	-.0039	.9957
18	CCV	5.194	-.0003	5.003	4.907	5.019	4.960
19	CCB	-.0005	.0012	.0018	-.0651	.0011	.0004

#	Sample Name	Mg	Mn	Mo	Na	Nd	Ni
1	ICV	4.850	4.950	5.114	4.950	5.148	5.037
2	ICB	.0003	-.0001	-.0020	-.0026	.0028	.0081
3	LLS	.1901	.0195	.0979	.2052	.2006	.0402
4	ICSA	252.7	-.0067	-.0075	196.7	.0128	-.0122
5	ICSAB	251.1	.4275	-.0046	195.2	.0108	.8960
6	PREPBLKTJA	.0124	.0014	.0021	2.037	.0049	.1774
7	S96T005781_L	1.009	.1342	.1062	615.9	5.148	17.08
8	S96T005781_D	-.1222	.1088	-.0017	597.8	.0695	16.15
9	S96T005781_A	.3499	.1099	.0622	583.0	.1386	5.377
10	S96T005781_X	34.85	36.53	38.94	611.7	37.27	54.12
11	S96T005781_D	359.7	366.0	369.7	910.0	366.4	382.2
12	CCV	4.569	4.838	4.972	4.557	4.773	4.945
13	CCB	-.0069	.0010	-.0017	.0219	.0015	-.0067
14	S96T005777	.2775	.2205	.0367	612.1	-.0525	46.02
15	S96T005777_D	.1082	.6548	.0133	556.2	-.0231	241.2
16	ICSA	249.3	-.0061	-.0062	192.0	.0071	-.0005
17	ICSAB	249.1	.4263	-.0046	192.3	.0158	.9025
18	CCV	4.756	4.918	5.090	4.804	5.019	5.057
19	CCB	-.0009	.0005	-.0037	.0069	-.0005	-.0000

#	Sample Name	P	Pb	S	Sb	Se	Si
1	ICV	4.975	5.053	4.928	4.871	4.852	4.907
2	ICB	-.0278	-.0072	-.0124	-.0079	-.0007	.0029
3	LLS	.4027	.1968	.2251	.1019	.1898	.1659
4	ICSA	-.0044	.0396	-.0292	.0005	-.0485	-.0019
5	ICSAB	-.0121	.9704	-.0252	-.0210	-.0053	-.0033
6	PREPBLKTJA	-.0008	-.0081	.0111	-.0071	.0067	.0120
7	S96T005781_L	2.347	-.5558	13.80	-2.546	3.591	3.703
8	S96T005781_D	1.860	-.5551	12.93	-.3960	1.002	2.375
9	S96T005781_A	2.436	-.2002	13.67	-.1314	7.158	3.095
10	S96T005781_X	40.09	38.87	50.97	36.95	36.83	40.28
11	S96T005781_D	380.8	383.2	387.9	372.9	354.4	382.1
12	CCV	4.758	5.039	4.858	4.715	4.667	4.804
13	CCB	-.0144	-.0093	.0022	-.0084	.0434	.0159
14	S96T005777	2.898	-.2178	15.30	-.3180	1.515	1.753
15	S96T005777_D	2.189	-.4607	13.00	-.1185	1.065	1.523

HNF-SD-WM-DP-226, REV. 0

Analysis Report

Averages

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#	Sample Name	P	Pb	S	Sb	Se	Si
16	ICSA	.0012	.0393	-.0232	.0003	-.0065	.0009
17	ICSAB	-.0076	.9748	-.0136	.0003	-.0217	-.0003
18	CCV	5.052	5.053	5.014	4.842	4.777	4.912
19	CCB	.0017	-.0198	.0069	-.0057	.0095	.0070

#	Sample Name	Sm	Sr	Th	Ti	Tl	U
1	ICV	4.952	4.974	.0346	4.982	4.816	9.765
2	ICB	-.0078	-.0001	.0009	.0003	.0076	-.0282
3	LLS	.2029	.0203	-.0014	.0204	.4468	.4958
4	ICSA	-.0098	.0020	.0040	.0022	.0538	.0111
5	ICSAB	-.0041	.0019	-.0041	.0019	-.0154	.0271
6	PREPBLKTJA	.0201	.0017	.0067	.0011	.0019	-.0273
7	S96T005781_L	1.912	.1144	-.1526	.1005	2.453	1.688
8	S96T005781_	.4962	.0940	.0901	.0321	.3893	-2.502
9	S96T005781_D	.5621	.0919	.1963	.0324	.8224	-2.173
10	S96T005781_A	37.11	36.14	.3164	36.96	36.29	70.51
11	S96T005781_X	353.2	357.1	1.686	337.6	348.2	27.16
12	CCV	4.613	4.635	.0299	4.684	4.669	9.130
13	CCB	.0346	.0004	-.0044	-.0003	.0269	.1332
14	S96T005777	1.477	.0874	.0749	.0112	.0599	2.280
15	S96T005777_D	.7859	.0898	.4412	.0630	.6213	-1.353
16	ICSA	.0019	.0019	.0004	.0017	.0037	.0289
17	ICSAB	.0053	.0020	.0095	.0015	.0186	.0361
18	CCV	4.846	4.883	.0389	4.929	4.780	9.563
19	CCB	.0121	.0003	-.0012	.0005	.0250	.0458

#	Sample Name	V	Y	Zn	Zr
1	ICV	5.098	.0061	5.136	5.017
2	ICB	-.0022	-.0005	-.0009	-.0018
3	LLS	.1036	.0003	.0214	.0206
4	ICSA	-.0030	.0064	.0042	-.0049
5	ICSAB	.4548	.0067	.9350	-.0033
6	PREPBLKTJA	.0030	.0007	.0046	.0009
7	S96T005781_L	.2600	.0463	1.088	.1499
8	S96T005781_	.0939	.0261	.3832	.0528
9	S96T005781_D	.0922	.0260	.4825	.0441
10	S96T005781_A	38.31	1.080	39.92	37.22
11	S96T005781_X	.5473	.5780	-1.097	374.2
12	CCV	4.918	.0084	5.107	4.782
13	CCB	.0062	.0015	-.0001	.0041
14	S96T005777	.2517	.0649	.1779	.1771
15	S96T005777_D	.1593	.0351	.8967	.0683
16	ICSA	.0002	.0070	.0054	-.0032
17	ICSAB	.4543	.0072	.9377	-.0029
18	CCV	5.068	.0071	5.173	4.956
19	CCB	.0020	.0005	-.0011	.0011

12/10/96 06:46

A-0004-1

HNF-SD-WM-DP-226, REV. 0

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LABCORE Data Entry Template for Worklist# 15485

Analyst: J. WORRELL Instrument: ICP01 _____ Book# 64848AMethod: LA-505-151/161 Rev/Mod D-32/12-10-76

Worklist Comment: ICP AN-104 (DIRECT)

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 ICV			@ICP-QC	QC		
2 ICB			@ICP-QC	QC		
3 LLS			@ICP-QC	QC		
4 ICSA			@ICP-QC	QC		
5 ICSAB			@ICP-QC	QC		
6 SERDIL	S96T005979	0 D	@ICP-D01	LIQUID		
7 SAMPLE	S96T005979	0 D	@ICP-D01	LIQUID	96001174	AN-104
Analytes Requested: AG-D-01, AL-D-01, AS-D-01, B-D-01, BA-D-01, BE-D-01, BI-D-01, CA-D-01, CD-D-01, CE-D-01, CO-D-01, CR-D-01, CU-D-01, FE-D-01, K-D-01, LA-D-01, LI-D-01, MG-D-01, MN-D-01, MO-D-01, NA-D-01, ND-D-01, NI-D-01, P-D-01, PB-D-01, S-D-01, SB-D-01, SE-D-01, SI-D-01, SM-D-01, SR-D-01, TI-D-01, TL-D-01, U-D-01, V-D-01, ZN-D-01, ZR-D-01						
8 DUP	S96T005979	0 D	@ICP-D01	LIQUID		
9 SPK SAM-X 100% AX	S96T005979	0 D	@ICP-D01	LIQUID		
10 ICSA			@ICP-QC	QC		
11 ICSAB			@ICP-QC	QC		
12 CCV			@ICP-QC	QC		
13 CCB			@ICP-QC	QC		

Data Entry Comments:

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

12/10/96 06:46

A-0004-1

HNF-SD-WM-DP-226, REV. 0

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LABCORE Data Entry Template for Worklist# 15485

S Type	Sample#	R A Test	Matrix	Group#	Project
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Final page for worklist # 15485

Analyst Signature Date

Reviewed by: Analyst Signature Date

DE

596780.5979

DIL 5X .025ml - 30ml - 2ml SST-5 - 8ml

6005

SAM .025 - 30ml

1201

DVP .025 - 30

1201

P.BPK .025 - 6ml SST-5 - 24ml

1201

SAM-X .025 - 175ml 2M HNO₃

7001

10ppm P.BPK .025 - 175ml H₂O₂(aq) + 140ml 2M HNO₃

7001

Al and Na failed in the first port spike. A second port spike was made and the results are:

$$Al = \frac{\left(\frac{118251.489}{7001} \right) - \left(\frac{41320.067}{7001} \right)}{10} \times 100 = 109.9\%$$

$$Na = \frac{\left(\frac{363063.176}{12010} \right) - \left(\frac{265861.814}{12010} \right)}{10} \times 100 = 80.9\%$$

Data Entry Comments:

Spike recovery calculation:

$$Cr = \frac{\left(\frac{1546.485}{1201} \right) - \left(\frac{364.595}{1201} \right)}{1} \times 100 = 98.4\%$$

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

Note: Spike true value is 1.0 ppb for all elements except for U = 2.0 ppb.

HNF-SD-WM-DP-226, REV. 0

Identity 1: ICV

Identity 2: Quality Control

12:55 PM December 10, 1996

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	5.042	4.964	5.196	4.960	4.815	4.927	4.947	4.755
S.D.	0.007	0.014	0.030	0.003	0.004	0.006	0.018	0.037
% R.S.D.	0.149	0.279	0.583	0.055	0.083	0.123	0.357	0.769
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.001	4.807	4.853	4.967	4.703	4.815	4.968	10.073
S.D.	0.003	0.006	0.017	0.006	0.009	0.010	0.019	0.025
% R.S.D.	0.056	0.132	0.343	0.125	0.199	0.216	0.375	0.250
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	4.990	5.007	4.925	5.097	4.849	4.851	4.956	4.777
S.D.	0.007	0.015	0.016	0.047	0.036	0.004	0.027	0.029
% R.S.D.	0.133	0.300	0.332	0.921	0.744	0.089	0.553	0.607
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	4.943	4.682	4.872	4.955	4.675	4.857	4.929	4.828
S.D.	0.002	0.041	0.005	0.007	0.009	0.008	0.016	0.027
% R.S.D.	0.039	0.875	0.100	0.138	0.202	0.156	0.332	0.566
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	4.870	5.261	4.999	5.061	5.052			
S.D.	0.007	0.076	0.007	0.012	0.020			
% R.S.D.	0.154	1.448	0.141	0.236	0.405			

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1906 TO 1920

J. Wonnell
12-10-96

FILE No. 961210A.DAT

AN-104 (DIRECT)

596700 5979

HNF-SD-WM-DP-226, REV. 0

Identity 1: ICB

Identity 2: Quality Control

12:58 PM December 10, 1996

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	0.004	-0.020	-0.005	0.007	0.011	0.003	0.004
S.D.	0.001	0.001	0.007	0.003	0.004	0.002	0.001	0.001
% R.S.D.	373.326	29.535	35.149	58.230	56.220	21.719	35.544	27.358
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.005	0.003	-0.001	0.002	0.004	0.008	0.029	-0.141
S.D.	0.001	0.000	0.003	0.001	0.001	0.002	0.005	0.036
% R.S.D.	25.665	0.167	527.540	23.163	29.840	21.116	17.324	25.113
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.063	-0.028	0.004	0.003	0.017	0.003	0.016	0.024
S.D.	0.013	0.004	0.001	0.013	0.003	0.001	0.002	0.000
% R.S.D.	20.317	13.852	29.974	432.953	17.097	33.553	15.127	0.002
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.010	0.000	0.005	-0.025	0.002	0.006	0.013	0.123
S.D.	0.003	0.005	0.001	0.012	0.001	0.001	0.003	0.015
% R.S.D.	31.454	7229.502	22.818	47.812	73.994	25.024	20.406	12.125
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	0.002	-0.004	0.008	0.004	0.022			
S.D.	0.001	0.040	0.002	0.001	0.012			
% R.S.D.	49.680	910.213	19.142	29.900	52.097			

HNF-SD-WM-DP-226, REV. 0

Identity 1: LLS Identity 2: Quality Control

1:02 PM December 10, 1996

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	0.016	0.022	0.176	0.141	0.098	0.054	0.020	0.021
S.D.	0.001	0.000	0.007	0.004	0.006	0.002	0.001	0.000
% R.S.D.	7.349	0.606	3.796	2.894	6.400	4.226	3.538	1.568

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.024	0.039	0.100	0.103	0.199	0.024	0.196	0.213
S.D.	0.000	0.003	0.001	0.005	0.000	0.001	0.004	0.045
% R.S.D.	1.671	8.394	0.738	4.964	0.107	5.100	1.860	21.241

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.235	0.189	0.103	0.434	0.221	0.212	0.210	0.214
S.D.	0.017	0.008	0.000	0.020	0.004	0.001	0.002	0.005
% R.S.D.	7.066	4.388	0.198	4.570	1.597	0.350	1.022	2.141

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.101	0.215	0.020	0.197	0.018	0.009	0.106	0.681
S.D.	0.001	0.011	0.000	0.009	0.001	0.001	0.001	0.007
% R.S.D.	1.061	5.058	2.445	4.581	3.370	8.730	1.084	1.055

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.019	0.099	0.108	0.012	0.416
S.D.	0.000	0.003	0.001	0.000	0.014
% R.S.D.	0.027	2.556	1.276	1.180	3.269

HNF-SD-WM-DP-226, REV. 0

Identity 1: ICSA Identity 2: Quality Control

1:16 PM December 10, 1996

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	0.003	-0.049	0.038	183.814	0.012	0.001	0.002
S.D.	0.001	0.000	0.014	0.003	1.492	0.003	0.000	0.000
% R.S.D.	70.517	3.430	29.240	6.661	0.812	23.118	14.223	7.316
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.007	0.001	0.007	94.801	99.708	0.005	-0.027	-0.142
S.D.	0.000	0.003	0.001	0.191	0.349	0.003	0.008	0.050
% R.S.D.	2.128	218.323	10.121	0.202	0.350	55.928	30.780	34.953
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.089	0.058	0.003	-0.004	0.127	103.858	0.004	181.219
S.D.	0.009	0.004	0.000	0.010	0.003	1.024	0.012	1.576
% R.S.D.	10.387	7.769	6.506	278.404	2.042	0.986	262.795	0.870
	Mo (ppm)	Be (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	-0.003	-0.190	0.004	-0.033	-0.001	0.004	0.015	0.094
S.D.	0.000	0.027	0.001	0.007	0.000	0.002	0.001	0.012
% R.S.D.	14.740	14.138	16.993	21.040	11.590	38.776	4.685	13.185
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	-0.001	0.099	0.006	0.003	0.026			
S.D.	0.000	0.015	0.002	0.000	0.016			
% R.S.D.	4.944	15.022	28.371	10.924	60.962			

HNF-SD-WM-DP-226, REV. 0

1:21 PM December 10, 1996

Identity 1: ICSAB Identity 2: Quality Control

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.004	0.002	-0.066	0.029	200.270	0.514	0.487	0.918
S.D.	0.000	0.000	0.015	0.004	0.345	0.002	0.000	0.005
% R.S.D.	6.635	2.138	22.975	13.642	0.172	0.425	0.013	0.506
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	1.029	0.978	0.006	96.186	102.638	0.492	-0.048	-0.199
S.D.	0.002	0.003	0.001	0.228	0.062	0.004	0.004	0.018
% R.S.D.	0.183	0.261	14.161	0.238	0.060	0.808	8.376	9.151
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.035	0.066	0.512	0.018	0.144	111.396	-0.026	189.692
S.D.	0.003	0.003	0.001	0.006	0.006	0.208	0.007	1.085
% R.S.D.	10.024	4.514	0.238	34.854	4.143	0.187	27.141	0.572
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	-0.004	-0.120	1.025	0.978	-0.001	0.994	0.017	0.166
S.D.	0.002	0.018	0.001	0.012	0.000	0.005	0.000	0.004
% R.S.D.	57.061	14.868	0.128	1.184	9.923	0.457	2.737	2.492
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	0.493	0.066	0.510	0.497	0.004			
S.D.	0.001	0.016	0.001	0.001	0.007			
% R.S.D.	0.224	23.901	0.126	0.207	181.929			

HNF-SD-WM-DP-226, REV. 0

Identity 1: S96t005979_1 Identity 2: .025ml-30ml-2ml-8ml

1:27 PM December 10, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 6005.00

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	-10.038	0.693	-28.422	353.174	43974.525	64.106	1.658	13.729
S.D.	6.392	0.000	31.249	10.013	293.635	13.999	2.204	1.687
% R.S.D.	63.682	0.000	109.948	2.835	0.668	21.837	132.938	12.287

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	22.688	3.332	-18.887	80.043	83.373	395.576	56.899	-1051.764
S.D.	0.889	10.904	7.964	17.812	7.879	16.176	46.759	151.806
% R.S.D.	3.919	327.250	42.165	22.253	9.450	4.089	82.180	14.433

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	167.219	-135.427	3.051	1099.586	1357.249	57.295	-0.413	281234.326
S.D.	36.326	27.273	1.101	46.853	41.103	8.912	31.034	814.592
% R.S.D.	21.724	20.138	36.092	4.261	3.028	15.554	7518.503	0.290

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	88.001	-274.841	-2.283	-25.894	-2.958	6.138	69.620	7613.233
S.D.	15.016	159.390	1.687	38.305	1.309	3.217	2.074	32.634
% R.S.D.	17.063	57.994	73.901	147.932	44.247	52.420	2.980	0.429

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-4.687	65.947	19.137	3.346	-225.326
S.D.	2.331	79.175	3.230	0.890	83.840
% R.S.D.	49.728	120.060	16.879	26.592	37.208

HNF-SD-WM-DP-226, REV. 0

Identity 1: S96t005979 Identity 2: .025ml-30ml

1:34 PM December 10, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 1201.00

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	4.170	0.416	-25.952	410.586	42525.311	75.203	2.607	9.939
S.D.	0.880	0.159	4.496	4.541	146.078	3.063	0.398	0.319
% R.S.D.	21.105	38.188	17.325	1.106	0.344	4.073	15.268	3.210

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	6.972	5.803	-5.368	-76.655	26.359	364.595	7.065	-206.555
S.D.	0.468	1.609	1.604	3.523	0.088	2.239	6.786	53.172
% R.S.D.	6.717	27.721	29.876	4.595	0.333	0.614	96.060	25.742

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	52.352	-47.126	0.878	1063.064	1216.797	3.141	-36.411	267032.434
S.D.	11.664	6.873	0.254	9.607	8.645	0.160	5.199	1375.468
% R.S.D.	22.280	14.585	28.912	0.904	0.710	5.092	14.278	0.515

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	88.939	37.860	1.075	16.568	-0.710	1.994	59.145	7018.348
S.D.	3.448	19.336	0.638	11.473	0.281	0.643	1.120	24.914
% R.S.D.	3.877	51.072	59.315	69.246	39.494	32.234	1.894	0.355

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	4.050	19.542	1.902	1.067	-10.249
S.D.	0.839	31.353	0.433	0.300	30.591
% R.S.D.	20.709	160.445	22.768	28.134	298.484

HNF-SD-WM-DP-226, REV. 0

Identity 1: S96t005979_d Identity 2: .025ml-30ml

1:37 PM December 10, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 1201.00

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	3.144	0.312	-22.310	347.273	40944.463	67.348	2.694	7.954
S.D.	0.614	0.060	5.136	0.974	142.194	2.401	0.394	0.278
% R.S.D.	19.526	19.245	23.021	0.281	0.347	3.565	14.622	3.493

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	6.881	11.143	-1.689	-68.052	10.121	357.069	29.638	-221.701
S.D.	0.169	3.329	2.417	3.242	0.176	2.887	5.005	22.964
% R.S.D.	2.462	29.880	143.099	4.764	1.734	0.809	16.886	10.358

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	54.434	-58.999	1.012	995.459	1182.317	2.864	-28.726	255014.426
S.D.	9.597	2.155	0.112	9.360	17.929	0.160	6.619	1457.373
% R.S.D.	17.631	3.652	11.102	0.940	1.516	5.589	23.041	0.571

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	85.010	45.397	1.073	18.684	-1.403	0.754	57.202	6767.164
S.D.	1.889	24.342	0.129	13.202	0.012	0.214	1.475	56.154
% R.S.D.	2.222	53.621	11.980	70.659	0.837	28.390	2.579	0.830

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	2.448	-2.955	3.469	1.268	-22.146
S.D.	0.231	12.295	0.558	0.176	6.591
% R.S.D.	9.454	416.031	16.085	13.860	29.760

HNF-SD-WM-DP-226, REV. 0

Identity 1: S96t005979_a Identity 2: .025ml-6ml-24ml

1:40 PM December 10, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 1201.00

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	1235.123	1222.531	1269.703	1705.021	43187.827	1291.730	1203.162	1103.827
S.D.	2.397	4.341	33.372	6.151	172.087	5.607	3.753	0.843
% R.S.D.	0.194	0.355	2.628	0.361	0.398	0.434	0.312	0.076

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	1229.694	1181.371	1176.594	1125.755	1133.619	1546.485	1187.328	2219.391
S.D.	5.403	8.944	6.869	11.606	2.879	3.171	18.148	31.563
% R.S.D.	0.439	0.757	0.584	1.031	0.254	0.205	1.528	1.422

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	1259.225	1164.345	1204.461	2274.779	2430.043	1181.889	1181.013	263091.457
S.D.	6.299	0.762	4.333	26.199	19.352	4.389	18.770	510.276
% R.S.D.	0.500	0.065	0.360	1.152	0.796	0.371	1.589	0.194

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	1301.644	1144.949	999.945	1244.124	1147.663	1187.855	1233.051	8075.190
S.D.	12.053	25.763	0.546	19.945	4.851	3.371	2.683	41.044
% R.S.D.	0.926	2.250	0.055	1.603	0.423	0.284	0.218	0.508

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	1192.699	1309.054	1226.979	1205.634	1183.480
S.D.	3.863	57.926	2.797	2.729	21.759
% R.S.D.	0.324	4.425	0.228	0.226	1.839

HNF-SD-WM-DP-226, REV. 0

Identity 1: S96t005979_x Identity 2: .025ml-175ml

1:44 PM December 10, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 7001.00

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	-15.294	5.248	-89.160	332.691	41320.067	105.220	13.819	15.595
S.D.	10.156	0.350	104.925	14.919	127.520	15.976	4.531	1.115
% R.S.D.	66.407	6.662	117.682	4.484	0.309	15.183	32.790	7.149
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	32.490	31.813	8.627	75.592	305.653	412.880	123.653	-1251.900
S.D.	4.020	15.150	14.135	26.107	0.887	0.717	9.047	310.103
% R.S.D.	12.374	47.623	163.840	34.536	0.290	0.174	7.317	24.771
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	540.656	-176.509	9.371	1046.089	1261.803	8.081	81.416	265861.814
S.D.	60.282	24.582	0.301	99.787	66.181	0.933	20.878	870.228
% R.S.D.	11.150	13.927	3.207	9.539	5.245	11.540	25.643	0.327
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	84.669	-122.181	62.820	-72.461	-8.200	3.553	86.316	7931.501
S.D.	11.603	152.899	2.623	97.362	4.323	12.495	5.714	104.729
% R.S.D.	13.705	125.141	4.175	134.365	52.719	351.725	6.620	1.320
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	-4.097	803.365	37.066	6.270	118.106			
S.D.	2.372	520.509	6.497	1.762	154.682			
% R.S.D.	57.892	64.791	17.528	28.103	130.969			

HNF-SD-WM-DP-226, REV. 0

Identity 1: S96t005979_10ppm Identity 2: .025-17.5-17.5-140ml

1:50 PM December 10, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 7001.00

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	75183.052	72983.618	77220.544	78532.571	118251.489	-114.129	-20.403	67251.293
S.D.	133.372	217.225	293.295	354.194	349.854	0.348	5.191	176.923
% R.S.D.	0.177	0.298	0.380	0.451	0.296	0.305	25.442	0.263
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	242.210	70127.598	70716.109	71217.994	68839.996	71042.521	70683.170	-3048.731
S.D.	2.526	220.789	75.360	229.198	64.757	198.643	319.936	161.150
% R.S.D.	1.043	0.315	0.107	0.322	0.094	0.280	0.453	5.286
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	74665.270	72149.031	72227.609	78674.806	75090.378	72726.391	73075.851	363063.176
S.D.	403.620	75.480	158.678	153.694	233.033	322.232	389.969	1439.917
% R.S.D.	0.541	0.105	0.220	0.195	0.310	0.443	0.534	0.397
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	72291.331	68529.400	64825.085	72587.767	64705.020	71227.559	70332.274	75884.423
S.D.	396.842	731.268	186.652	449.112	232.629	148.342	148.455	228.609
% R.S.D.	0.549	1.067	0.288	0.619	0.360	0.208	0.211	0.301
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	70709.152	75996.892	552.869	72246.923	70205.730			
S.D.	101.187	395.376	12.399	69.874	137.798			
% R.S.D.	0.143	0.520	2.243	0.097	0.196			

HNF-SD-WM-DP-226, REV. 0

Identity 1: ICSEA Identity 2: Quality Control

1:55 PM December 10, 1996

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.001	0.004	-0.057	0.039	185.144	0.014	0.001	0.003
S.D.	0.001	0.001	0.003	0.003	0.639	0.002	0.000	0.001
% R.S.D.	61.532	27.785	6.075	7.883	0.345	15.304	42.564	42.422
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.007	0.004	0.010	94.949	100.308	-0.003	-0.048	-0.157
S.D.	0.000	0.004	0.003	0.351	0.239	0.001	0.005	0.019
% R.S.D.	4.057	105.099	27.569	0.370	0.238	50.582	9.513	11.996
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.106	0.059	0.004	0.025	0.116	104.037	0.022	183.791
S.D.	0.013	0.006	0.001	0.012	0.002	0.180	0.005	0.483
% R.S.D.	12.601	9.399	24.814	46.469	1.923	0.173	23.740	0.263
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	-0.005	-0.199	0.087	-0.037	0.000	0.004	0.020	0.056
S.D.	0.002	0.038	0.007	0.008	0.001	0.001	0.002	0.010
% R.S.D.	34.780	18.847	8.362	20.977	3887.998	13.902	10.290	17.370
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	-0.001	-0.016	0.005	0.004	0.012			
S.D.	0.002	0.041	0.001	0.001	0.013			
% R.S.D.	296.879	248.912	11.408	33.168	108.170			

HNF-SD-WM-DP-226, REV. 0

Identity 1: ICSAB Identity 2: Quality Control

1:59 PM December 10, 1996

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	0.003	-0.031	0.039	197.371	0.512	0.486	0.901
S.D.	0.001	0.000	0.012	0.003	0.437	0.006	0.001	0.003
% R.S.D.	22.482	1.862	40.177	8.215	0.221	1.257	0.143	0.337

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	1.013	0.971	0.003	96.499	101.958	0.488	-0.055	-0.159
S.D.	0.002	0.006	0.002	0.154	0.122	0.004	0.005	0.010
% R.S.D.	0.242	0.597	74.356	0.160	0.120	0.888	9.082	6.442

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.062	0.075	0.507	0.018	0.129	109.090	0.003	185.660
S.D.	0.013	0.006	0.002	0.016	0.013	0.276	0.005	0.751
% R.S.D.	21.069	7.675	0.300	85.555	10.347	0.253	165.011	0.404

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	-0.000	-0.187	1.029	0.951	-0.000	0.989	0.018	0.174
S.D.	0.002	0.073	0.002	0.001	0.000	0.003	0.001	0.012
% R.S.D.	516.897	38.881	0.197	0.131	55.479	0.304	5.638	7.169

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.491	0.088	0.509	0.498	0.010
S.D.	0.001	0.028	0.001	0.001	0.013
% R.S.D.	0.150	32.199	0.197	0.230	131.565

HNF-SD-WM-DP-226, REV. 0

Identity 1: CCV Identity 2: Quality Control

2:02 PM December 10, 1996

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	5.192	5.151	5.436	5.178	5.083	5.150	5.012	4.743
S.D.	0.012	0.023	0.013	0.023	0.075	0.044	0.010	0.017
% R.S.D.	0.231	0.439	0.248	0.445	1.467	0.852	0.194	0.350

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.211	5.004	4.957	5.191	4.860	4.992	4.963	10.222
S.D.	0.027	0.017	0.020	0.028	0.037	0.026	0.013	0.012
% R.S.D.	0.523	0.343	0.400	0.538	0.769	0.524	0.252	0.116

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	5.226	5.081	5.069	5.291	5.062	5.193	5.162	5.023
S.D.	0.030	0.005	0.021	0.017	0.007	0.052	0.021	0.077
% R.S.D.	0.575	0.107	0.408	0.316	0.148	0.995	0.398	1.539

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	5.200	4.799	5.023	5.120	4.853	5.048	5.002	4.902
S.D.	0.036	0.048	0.016	0.069	0.026	0.012	0.016	0.010
% R.S.D.	0.691	1.009	0.310	1.354	0.546	0.231	0.328	0.210

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	5.018	5.457	5.178	5.157	5.126
S.D.	0.013	0.056	0.017	0.003	0.014
% R.S.D.	0.259	1.020	0.319	0.059	0.270

HNF-SD-WM-DP-226, REV. 0

2:06 PM December 10, 1996

Identity 1: CCB Identity 2: Quality Control

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	0.001	-0.027	-0.004	0.023	0.001	0.001	0.001
S.D.	0.001	0.000	0.009	0.002	0.001	0.002	0.000	0.000
% R.S.D.	24.439	10.497	31.910	49.068	3.658	179.303	41.106	7.217
	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.002	0.000	0.003	0.010	0.005	0.006	0.005	-0.182
S.D.	0.000	0.002	0.002	0.002	0.000	0.001	0.007	0.039
% R.S.D.	5.681	510.696	67.789	19.077	6.688	13.863	156.204	21.215
	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.046	-0.015	0.001	-0.008	0.007	0.005	0.013	0.035
S.D.	0.015	0.007	0.000	0.010	0.005	0.000	0.002	0.003
% R.S.D.	31.896	45.326	11.814	114.381	68.434	5.021	11.600	9.899
	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.003	0.024	0.018	-0.029	0.000	0.001	0.006	0.071
S.D.	0.000	0.015	0.001	0.007	0.000	0.000	0.001	0.013
% R.S.D.	11.175	61.521	3.025	23.719	61.527	38.539	9.091	18.112
	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)			
Mean	-0.001	-0.025	0.004	0.001	-0.038			
S.D.	0.000	0.034	0.001	0.000	0.012			
% R.S.D.	19.228	135.783	24.235	0.821	30.582			

LABCORE Data Entry Template for Worklist# 16156

Analyst: JK540 Instrument: ICP013 11-15-97 Book# 658480

Method: LA-505-154/161 Rev/Mod 1

Worklist Comment: ICP AN-104 ACID DIGEST SOLID

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 PREPSTDITJA			@ICP-A01	SOLID		
7 PREPBLKTJA			@ICP-A01	SOLID		
8 SAMPLE	S96T005976 0 A		@ICP-A01	SOLID	96001174	AN-104
Analytes Requested: AG-A-01 , AL-A-01 , AS-A-01 , B-A-01 , BA-A-01 , BE-A-01 , BI-A-01 , CA-A-01 , CD-A-01 , CE-A-01 , CO-A-01 , CR-A-01 , CU-A-01 , FE-A-01 , K-A-01 , LA-A-01 , LI-A-01 , MG-A-01 , MN-A-01 , MO-A-01 , NA-A-01 , ND-A-01 , NI-A-01 , P-A-01 , PB-A-01 , S-A-01 , SB-A-01 , SE-A-01 , SI-A-01 , SM-A-01 , SR-A-01 , TI-A-01 , TL-A-01 , U-A-01 , V-A-01 , ZN-A-01 , ZR-A-01						
9 DUP	S96T005976 0 A		@ICP-A01	SOLID		
10 ICSA			@ICP-QC	QC		
11 ICSAB			@ICP-QC	QC		
12 CCV			@ICP-QC	QC		
13 CCB			@ICP-QC	QC		

Data Entry Comments: Sample result calculation:

$$Al = \frac{1003.6 \text{ ug}}{ml} \times \frac{1}{5.23 \frac{g}{ml} \times \frac{16}{2} \times \frac{16}{1000 ml}} = 2.0624 \text{ ug/g}$$

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

01/14/97 14:59
A-0004-1

HNF-SD-WM-DP-226, REV. 0

Page: 2

LABCORE Data Entry Template for Worklist# 16156

S Type	Sample#	R A	Test	Matrix	Group#	Project
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Final page for worklist # 16156

JK
Analyst Signature
01-15-97
Date

Prep 54/730, direct
Prep 61/RTA, direct

546700.5976, 4-4 ml, JF 2

546700.5976, 4-4 ml, 2

Revised by:
Sal M. Paur
Analyst Signature
Date 1/16/97

Data Entry Comments:

Prep'd recoveries are low or almost all eluate.

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

#	Sample Name	File	Method	Date	Time	OpID	Type	Mode
1	ICV	970115B	ICP2	01/15/97	09:57	DKS	Q	CONC
2	ICB	970115B	ICP2	01/15/97	10:00	DKS	Q	CONC
3	LLS	970115B	ICP2	01/15/97	10:03	DKS	Q	CONC
4	IGSA	970115B	ICP2	01/15/97	10:06	DKS	Q	CONC
5	IGSAB	970115B	ICP2	01/15/97	10:09	DKS	Q	CONC
6	PREPSTDITJA	970115B	ICP2	01/15/97	10:12	DKS	S	CONC
7	PREPBLKTJA	970115B	ICP2	01/15/97	10:16	DKS	Q	CONC
8	S96T005976	970115B	ICP2	01/15/97	10:19	DKS	S	CONC
9	S96T005976_D	970115B	ICP2	01/15/97	10:23	DKS	S	CONC
10	IGSA	970115B	ICP2	01/15/97	10:27	DKS	Q	CONC
11	IGSAB	970115B	ICP2	01/15/97	10:30	DKS	Q	CONC
12	CCV	970115B	ICP2	01/15/97	10:34	DKS	Q	CONC
13	CCB	970115B	ICP2	01/15/97	10:38	DKS	Q	CONC

JK Ltd

01-15-97

QM-104

Worklist # 16154

5967005976

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1923 TO 1926

#	Sample Name	Ag	Al	As	B	Ba	Be
1	ICV	4.794	4.770	5.112	5.072	4.837	5.033
2	ICB	-.0022	-.0053	-.0151	.0005	.0001	.0001
3	LLS	.0204	.0972	.1962	.1018	.0984	.0102
4	ICSA	.0007	238.9	-.0529	-.0079	.0019	.0000
5	ICSAB	.9522	239.8	-.0172	-.0019	.4736	.4798
6	PREPSTDJTJA	.7018	3.606	3.619	4.790	3.530	3.669
7	PREPBLKTJA	-.0005	Q.1235	-.0101	Q.6508	.0004	.0000
8	S96T005976	.0712	103.6	-.1481	.6676	.0266	.0017
9	S96T005976_D	.0678	105.2	-.1623	.7950	.0240	.0016
10	ICSA	.0009	239.1	-.0439	-.0010	.0019	.0002
11	ICSAB	.9516	239.1	-.0288	.0032	.4697	.4789
12	CCV	4.846	4.804	5.210	5.088	4.862	5.086
13	CCB	-.0020	-.0063	-.0146	.0026	-.0001	.0004

#	Sample Name	Bi	Ca	Cd	Ce	Co	Cr
1	ICV	4.939	4.968	4.967	4.915	5.099	4.954
2	ICB	.0068	-.0009	.0014	-.0042	.0001	.0009
3	LLS	.2246	.2045	.0105	.2118	.0422	.0211
4	ICSA	.0289	249.9	.0006	.0204	-.0003	.0088
5	ICSAB	.0045	251.9	.9405	.0186	.4762	.4863
6	PREPSTDJTJA	3.542	3.949	3.486	3.744	3.681	3.551
7	PREPBLKTJA	.0569	Q.6209	.0022	-.0008	.0010	.0011
8	S96T005976	.0877	1.353	.0664	-.0047	.0104	10.55
9	S96T005976_D	.0889	1.093	.0631	-.0079	.0091	9.510
10	ICSA	.0233	254.2	.0020	.0176	.0001	.0096
11	ICSAB	.0239	252.9	.9387	.0210	.4807	.4854
12	CCV	5.024	5.040	5.026	4.961	5.151	5.008
13	CCB	.0365	-.0017	.0003	-.0119	-.0007	-.0007

#	Sample Name	Cu	Eu	Fe	K	La	Li
1	ICV	5.237	-.0013	4.938	5.140	4.860	4.670
2	ICB	-.0007	.0014	-.0016	.0312	-.0020	.0011
3	LLS	.0216	.0020	.1009	.5049	.1002	.0220
4	ICSA	-.0100	-.0369	93.30	.1630	-.0053	.0033
5	ICSAB	.4827	-.0366	93.90	.1990	-.0045	.9836
6	PREPSTDJTJA	3.588	-.0022	3.535	3.486	3.638	3.534
7	PREPBLKTJA	.0012	.0001	.0180	-.0073	-.0012	-.0004
8	S96T005976	.0267	.0019	.5207	18.25	.0141	.0823
9	S96T005976_D	.0252	.0022	.4764	19.13	.0117	.0684
10	ICSA	-.0102	-.0438	93.95	.3728	-.0045	.0044
11	ICSAB	.4782	-.0394	93.73	.1478	-.0051	.9768
12	CCV	5.282	-.0007	4.981	5.314	4.893	4.701
13	CCB	-.0007	.0013	-.0017	-.1402	-.0028	.0011

HNF-SD-WM-DP-226, REV. 0

#	Sample Name	Mg	Mn	Mo	Na	Nd	Ni
1	ICV	4.887	4.838	5.114	5.003	4.848	4.940
2	ICB	-.0157	.0008	-.0029	.0133	.0034	.0009
3	LLS	.2026	.0201	.0996	.2166	.1988	.0475
4	ICSA	252.4	-.0063	-.0147	189.5	.0061	-.0112
5	ICSAB	253.2	.4456	-.0098	192.2	.0052	.9212
6	PREPSTD TJJA	3.498	3.425	4.074	4.433	3.569	3.611
7	PREPBLKTJJA	.0116	.0005	-.0025	0.9187	.0041	.0023
8	S96T005976	.0253	.1114	.2180	982.4	.0283	.3956
9	S96T005976_D	.0098	.0984	.2187	944.5	.0297	.3541
10	ICSA	252.6	-.0058	-.0067	188.5	.0067	-.0073
11	ICSAB	252.8	.4445	-.0097	191.0	.0057	.9324
12	CCV	4.940	4.885	5.159	5.025	4.883	5.009
13	CCB	-.0161	.0006	-.0028	.0111	-.0009	.0002

#	Sample Name	P	Pb	S	Sb	Se	Si
1	ICV	5.109	4.872	5.007	4.832	4.749	4.847
2	ICB	-.0045	-.0132	-.0024	-.0055	.0557	.0100
3	LLS	.4001	.2068	.2084	.1092	.2352	.1845
4	ICSA	.0037	.0360	-.0270	-.0092	.0145	.0033
5	ICSAB	.0019	1.005	-.0275	-.0138	.0179	.0029
6	PREPSTD TJJA	4.134	3.406	4.022	4.021	3.400	7.557
7	PREPBLKTJJA	-.0058	.0117	0.0560	.0003	.0500	01.942
8	S96T005976	5.035	.2116	21.24	-.0025	.1242	3.462
9	S96T005976_D	3.965	.2103	18.80	.0069	.1177	4.195
10	ICSA	.0150	.0518	-.0325	-.0030	.0424	.0133
11	ICSAB	-.0135	1.019	-.0179	-.0078	.0405	.0093
12	CCV	5.130	4.920	5.033	4.926	4.812	4.902
13	CCB	-.0009	-.0081	-.0171	-.0123	.0672	.0116

#	Sample Name	Sm	Sr	Th	Ti	Tl	U
1	ICV	4.798	4.812	.0001	4.884	4.816	9.598
2	ICB	.0205	.0003	-.0115	.0010	-.0293	.0828
3	LLS	.2188	.0201	-.0060	.0205	.4066	.5960
4	ICSA	.0124	.0016	-.0016	.0009	-.0022	.2028
5	ICSAB	.0168	.0017	.0027	.0015	-.0274	.1856
6	PREPSTD TJJA	3.512	3.518	.0044	3.761	3.382	6.976
7	PREPBLKTJJA	-.0099	.0003	.0006	.0005	-.0212	-.0122
8	S96T005976	.0106	.0069	.0004	.0041	-.0010	.9337
9	S96T005976_D	.0131	.0060	.0075	.0037	-.0009	.8374
10	ICSA	.0239	.0017	-.0010	.0020	-.0323	.2110
11	ICSAB	.0197	.0018	-.0020	.0019	.0007	.2001
12	CCV	4.831	4.845	.0078	4.938	4.841	9.662
13	CCB	.0160	.0001	-.0078	-.0008	-.0313	.0707

#	Sample Name	V	Y	Zn	Zr
1	ICV	5.047	.0063	5.171	4.960
2	ICB	.0035	.0007	.0011	.0037
3	LLS	.1077	.0012	.0225	.0240
4	ICSA	.0021	.0074	.0053	-.0020
5	ICSAB	.4787	.0074	.9766	-.0019
6	PREPSTDITJA	3.579	.0035	3.502	4.165
7	PREPBLKTJA	-.0008	-.0005	Q.0283	.0022
8	S96T005976	.0055	.0038	.0968	.0887
9	S96T005976_D	.0061	.0033	.0725	.0809
10	ICSA	.0046	.0078	.0061	.0000
11	ICSAB	.4791	.0078	.9794	.0000
12	CCV	5.096	.0066	5.234	4.999
13	CCB	.0030	.0005	.0010	.0031

DK 1.8
01-15-97

LABCORE Completed Worklist Report for Worklist# 15008

Analyst: slh Instrument: CARB2

Book# TIC 25N12A
TOC 26N12A

Method: LA344-10 Rev/Mod E-0

Worklist Comment: U-103 & AN-104@TICTOC.

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
----------	---------	-----	------	--------	--------	-------	-------------	------

1 BLNK	0		@TICTOC1 TIC-02	LIQUID	1	2.50E+0	2.500	ug/mL
1 BLNK	0		@TICTOC1 TOC-02	LIQUID	1	4.40E+0	4.400	ug/mL
2 STD	0		@TICTOC1 TIC-02	LIQUID	6.02E+02	6.00E+2	99.668 %	Recovery
2 STD	0		@TICTOC1 TOC-02	LIQUID	3.00E+03	2.84E+3	94.667 %	Recovery
3 SAMPLE	S96T005800	0	@TICTOC1 TIC-02	LIQUID	N/A	6.15E+03	5.000	ug/mL
3 SAMPLE	S96T005800	0	@TICTOC1 TOC-02	LIQUID	N/A	1.44E+04	40.000	ug/mL
4 DUP	S96T005800	0	@TICTOC1 TIC-02	LIQUID	6.15E+3	6.12E+3	0.489	RPD
4 DUP	S96T005800	0	@TICTOC1 TOC-02	LIQUID	1.44E+4	1.44E+4	0.000	RPD
5 SPK	S96T005800	0	@TICTOC1 TIC-02	LIQUID	1.00E+02	9.88E+01	98.800 %	Recovery
5 SPK	S96T005800	0	@TICTOC1 TOC-02	LIQUID	1.00E+02	9.75E+01	97.500 %	Recovery
6 SAMPLE	S96T005978	0	@TICTOC1 TIC-02	LIQUID	N/A	2.29E+03	5.000	ug/mL
6 SAMPLE	S96T005978	0	@TICTOC1 TOC-02	LIQUID	N/A	4.04E+03	40.000	ug/mL
7 DUP	S96T005978	0	@TICTOC1 TIC-02	LIQUID	2.29E+3	2.05E+3	10.624	RPD
7 DUP	S96T005978	0	@TICTOC1 TOC-02	LIQUID	4.04E+3	2.77E+3	37.298	RPD
8 TRIP1	S96T005978	0	@TICTOC1 TIC-02	LIQUID	2.29E+3	2.10E+3	8.219	RPD
8 TRIP1	S96T005978	0	@TICTOC1 TOC-02	LIQUID	4.04E+3	2.52E+3	46.341	RPD

Final page for worklist# 15008

Analyst Signature _____ Date _____

Analyst Signature [Signature] Date 4-8-97

Reviewer Signature [Signature] Date 4/9/97

04/08/97 12:54
A-0004-1

Page: 1

LABCORE Data Entry Template for Worklist# 15008

Analyst: Slh Instrument: CARB2 _____ Book# _____Method: LA-342-100 Rev/Mod E-0

Worklist Comment: U-103 & AN-104 @TICTOC.

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 BLNK			@TICTOC1	LIQUID		
2 STD			@TICTOC1	LIQUID		
3 SAMPLE	S96T005800 0		@TICTOC1	LIQUID	96001425	U-103
	Analytes Requested: TIC-02 , TOC-02					
4 DUP	S96T005800 0		@TICTOC1	LIQUID		
5 SPK	S96T005800 0		@TICTOC1	LIQUID		
6 SAMPLE	S96T005978 0		@TICTOC1	LIQUID	96001174	AN-104
	Analytes Requested: TIC-02 , TOC-02					
7 DUP	S96T005978 0		@TICTOC1	LIQUID		
8 TRIPL	S96T005978 0		@TICTOC1	LIQUID		

Final page for worklist # 15008

Analyst Signature Date

Analyst Signature Date 4-8-97

Data Entry Comments:

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

1928

LABCORE Data Entry Template for Worklist# 15531

Analyst: SLH Instrument: CARB2 Book# TIC 25N12-A
Method: LA-342-100 Rev/Mod TOC 26N12-A

Worklist Comment: @TICTOC1 FOR AN-104

RTS!

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 BLNK			@TICTOC1	LIQUID		
2 STD			@TICTOC1	LIQUID		
3 SAMPLE	S96T005978 0		@TICTOC1	LIQUID	96001174	AN-104
	Analytes Requested: TIC-02 , TOC-02					
4 DUP	S96T005978 0		@TICTOC1	LIQUID		
5 SPK	S96T005978 0		@TICTOC1	LIQUID		

Final page for worklist # 15531

Jandra L. H. Bostyut
Analyst Signature Date
4-8-97

Analyst Signature Date

Data Entry Comments:

added to WL 15008

LABCORE Data Entry Template for Worklist# 15008

Analyst: SLH ~~RS~~ Instrument: CARB2 _____ Book# 25N12-A TIC
Method: LA-342-100 Rev/Mod _____ 26 N12-A TIC

Worklist Comment: U-103 TICTOC. RCJ (SS 0.15ML)

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 BLNK			@TICTOC1	LIQUID		
2 STD			@TICTOC1	LIQUID		
3 SAMPLE	S96T005800 0		@TICTOC1	LIQUID	96001425	U-103
	Analytes Requested: TIC-02 , TOC-02					
4 DUP	S96T005800 0		@TICTOC1	LIQUID		
5 SPK	S96T005800 0		@TICTOC1	LIQUID		

Final page for worklist # 15008

Sandra R. Hord Boatright
Analyst Signature Date
4-8-97

Analyst Signature Date

Data Entry Comments:

added WL #16665 + 15531 to this WL

1000

WORKLIST #	ANALYST INITIALS	ANALYSIS DATE	ANALYSIS TIME	INSTRUMENT CODE
<p>TIC: 200 ml</p> <p>TIC TOC: LA-342-100 (E-0)</p> <p>15008-16657-1331 SLH</p>		4-8-97	0345	
<p>SAMPLE # = 596705978 STD # =</p> <p>SAMPLE WEIGHT (g) 100 ml = 1559g</p> <p>SPIKE STANDARD VOLUME (ml) _____ TIC: _____</p> <p>FINAL COULOMETER READING (u TIC: 233.4 TOC: 435.0</p>	<p>☐ BASELINE ☐ SPIKE</p> <p>☐ BLANK ☐ TRIPPLICATE</p> <p>SAMPLE # = ☐ SAMPLE ☐ STD # =</p> <p>☐ DUPLICATE ☐ TRIPPLICATE</p> <p>SAMPLE WEIGHT (g) _____ TIC: _____</p> <p>SPIKE STANDARD VOLUME (ml) _____ TOC: _____</p>			
<p>SAMPLE # = 596705978 STD # =</p> <p>SAMPLE WEIGHT (g) 100 ml = 1449g</p> <p>SPIKE STANDARD VOLUME (ml) _____ TIC: _____</p> <p>FINAL COULOMETER READING (u TIC: 211.0 TOC: 308.7</p>	<p>☐ BASELINE ☐ SPIKE</p> <p>☐ BLANK ☐ TRIPPLICATE</p> <p>SAMPLE # = ☐ SAMPLE ☐ STD # =</p> <p>☒ DUPLICATE ☐ TRIPPLICATE</p> <p>SAMPLE WEIGHT (g) _____ TIC: _____</p> <p>SPIKE STANDARD VOLUME (ml) _____ TOC: _____</p>			
<p>SAMPLE # = 596705978 STD # =</p> <p>SAMPLE WEIGHT (g) 100 ml = 1461g</p> <p>SPIKE STANDARD VOLUME (ml) _____ TIC: _____</p> <p>FINAL COULOMETER READING (u TIC: 282.7 TOC: 483.7</p> <p>216.0</p>	<p>☐ BASELINE ☐ SPIKE</p> <p>☐ BLANK ☒ TRIPPLICATE</p> <p>SAMPLE # = ☐ SAMPLE ☐ STD # =</p> <p>☐ DUPLICATE ☐ TRIPPLICATE</p> <p>SAMPLE WEIGHT (g) _____ TIC: _____</p> <p>SPIKE STANDARD VOLUME (ml) _____ TOC: _____</p>			
<p>SAMPLE # =</p> <p>SAMPLE WEIGHT (g) _____</p> <p>SPIKE STANDARD VOLUME (ml) _____</p> <p>FINAL COULOMETER READING (u TIC: _____ TOC: _____</p>	<p>☐ BASELINE ☐ SPIKE</p> <p>☐ BLANK ☐ TRIPPLICATE</p> <p>SAMPLE # = ☐ SAMPLE ☐ STD # =</p> <p>☐ DUPLICATE ☐ TRIPPLICATE</p> <p>SAMPLE WEIGHT (g) _____ TIC: _____</p> <p>SPIKE STANDARD VOLUME (ml) _____ TOC: _____</p>			

WORKBOOK PAGE: BLANK1

TIC/TOC : LA-342-100 (E-0)

LIQUIDS

		TIC	TOC
Type	Sample Size in mL (SS)	1.0000	1.0000
BLNK	Dilution Factor (DF)	1	1
Work List	µg of Carbon in Sample (C1)	8.2	35.6
15008	µg of Carbon from Baseline (C2)	5.7	31.2
Test Code			
@TICTOC1			
Matrix			
LIQUID			
Batch Number			
96011615			
Rerun	µg of Carbon = C1-C2		
0			
Sample Prep			
N/A			
Sample #			
BLNK			
Instrument Code			
CARB2			
Prepared By			
GJH			
Chemist			
RWS			
Analyst			
SLH			
Date Complete			
04/08/97			
Analysis Date			
04/08/97			
Analysis Time	Method Detection Limit in µg/mL	TIC	TOC
03:20 AM		5	40
Sample Point	µg of Carbon	2.50E+00	4.40E+00
U-103			

Data Entered By:	GJH	Date:	04/08/97
Signature of Chemist:	<i>RWS</i>	Date:	4/9/97
BLANK.WB1 REV 1.0	342100ML		

WORKBOOK PAGE: STD2.

TIC/TOC : LA-342-100 (E-0)

LIQUIDS

		TIC	TOC
Type	Sample Size in mL (SS)	1.0000	0.2000
STD	Dilution Factor (DF)	1	1
Work List	Final Coulometer Reading in µg (C1)	605.5	598.9
15008	µg of Carbon from Baseline (C2)	5.7	31.2
Test Code	Standard Book Number	25N12A	26N12A
@TICTOC1	Standard Value (µg/ml)	602	3000

Matrix
LIQUIDBatch Number
96011615Rerun
0Sample Prep
N/ASample #
STDInstrument Code
CARB2Prepared By
GJHChemist
RWSAnalyst
SLHDate Complete
04/08/97Analysis Date
04/08/97Analysis Time
03:20 AMSample Point
U-103

QC Actual in µg/mL = Standard Value (µg/mL)

QC Found in µg/mL = (C1 - C2) * DF / SS

QC Found in µg/mL for TIC = 5 if C1 < C2

QC Found in µg/mL for TOC = 40 if C1 < C2

% Recovery = QC Found / QC Actual * 100

		TIC	TOC
Analysis Time	Method Detection Limit in µg/mL	5	40
03:20 AM	QC Actual in µg/mL	6.02E+02	3.00E+03
Sample Point	QC Found in µg/mL	6.00E+02	2.84E+03
U-103	Percent Standard Recovery	99.6	94.6

Data Entered By:

Signature of Chemist:

STANDARD.WB1 REV 1.0

342100ML

GJH

Date: 04/08/97

Date: 4/9/97

1934

WORKBOOK PAGE: SAM6

TIC/TOC : LA-342-100 (E-0)

LIQUIDS

		TIC	TOC
Type	Sample Size in mL (SS)	0.1000	0.1000
SAMPLE	Dilution Factor (DF)	1	1
Work List	µg of Carbon in Sample (C1)	233.4	435
15008	µg of Carbon from Baseline (C2)	5.7	31.2
Test Code			
@TICTOC1			
Matrix			
LIQUID			
Batch Number			
96011615			
Rerun	µg of Carbon/mL = (C1-C2) * DF / SS		
0	µg of Carbon/mL for TIC = 5 if C1 < C2		
Sample Prep	µg of Carbon/mL for TOC = 40 if C1 < C2		
N/A			
Sample #			
S96T005978			
Instrument Code			
CARB2			
Prepared By			
GJH			
Chemist			
RWS			
Analyst			
SLH			
Date Complete			
04/08/97			
Analysis Date			
04/08/97			
Analysis Time	Method Detection Limit in µg/mL	5	40
03:20 AM			
Sample Point	µg of Carbon/mL	2.28E+03	4.04E+03
U-103			

Data Entered By:	GJH	Date:	04/08/97.
Signature of Chemist:	<i>RW Schneider</i>	Date:	4/9/97

SAMPLE.WB1 REV 1.0

342100ML

1935

WORKBOOK PAGE: DUP7

TIC/TOC : LA-342-100 (E-0)

LIQUIDS

		TIC	TOC
Type	Sample Size in mL (SS)	0.1000	0.1000
DUP	Dilution Factor (DF)	1	1
Work List	µg of Carbon in Sample (C1)	211	308.7
15008	µg of Carbon from Baseline (C2)	5.7	31.2
Test Code	Known µg of C from Original Sample	2.28E+3	4.04E+3
@TICTOC1			
Matrix			
LIQUID			
Batch Number			
96011615			
Rerun	µg of Carbon/mL = (C1-C2) * DF / SS		
0	µg of Carbon/mL for TIC = 5 if C1 < C2		
Sample Prep	µg of Carbon/mL for TOC = 40 if C1 < C2		
N/A			
Sample #			
S96T005978			
Instrument Code			
CARB2			
Prepared By			
GJH			
Chemist			
RWS			
Analyst			
SLH			
Date Complete			
04/08/97			
Analysis Date			
04/08/97			
Analysis Time	Method Detection Limit in µg/mL	TIC	TOC
03:20 AM		5	40
Sample Point	µg of Carbon/mL	2.05E+03	2.77E+03
U-103			

Data Entered By:

GJH

Date: 04/08/97

Signature of Chemist:

DeW. Schroeder

Date: 4/9/97

SAMPLE.WB1 REV 1.0

342100ML

1936

WORKBOOK PAGE: TRIPL8

TIC/TOC : LA-342-100 (E-0)

LIQUIDS

		TIC	TOC
Type	Sample Size in mL (SS)	0.1000	0.1000
TRIPL	Dilution Factor (DF)	1	1
Work List	µg of Carbon in Sample (C1)	216	282.7
15008	µg of Carbon from Baseline (C2)	5.7	31.2
Test Code	Known µg of C from Original Sample	2.28E+3	4.04E+3
@TICTOC1	Duplicate Result	2.05E+3	2.77E+3
Matrix			
LIQUID			
Batch Number			
96011615			
Rerun	µg of Carbon/mL = (C1-C2) * DF / SS		
0	µg of Carbon/mL for TIC = 5 if C1 < C2		
Sample Prep	µg of Carbon/mL for TOC = 40 if C1 < C2		
N/A			
Sample #			
S96T005978			
Instrument Code			
CARB2			
Prepared By			
GJH			
Chemist			
RWS			
Analyst			
SLH			
Date Complete			
04/08/97			
Analysis Date			
04/08/97			
Analysis Time	Method Detection Limit in µg/mL	TIC	TOC
03:20 AM		5	40
Sample Point	µg of Carbon/mL	2.10E+03	2.51E+03
U-103			

Data Entered By:	GJH	Date:	04/08/97
Signature of Chemist:	<i>RWS Schneider</i>	Date:	4/9/97

SAMPLE.WB1 REV 1.0

342100ML

1937

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: STD 1

Date: 04/07/97

Time: 22:07:00

Sample Size = 1000 uL

Dil Factor = 1

Blank ID # =

Blank Value = .52 ug/minute C

Analyst : SL HOOD

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==	== Analysis Time ==	== Coulometer ==	== % Difference ==
1	0.51	0.30	0.00
2	1.01	0.60	50.00
3	1.50	0.90	33.33
4	2.00	7.20	87.50
5	2.50	63.90	88.73
6	3.00	187.60	65.94
7	3.50	329.70	43.10
8	4.00	445.50	25.99
9	4.50	517.10	13.85
10	5.00	560.10	7.68
11	5.50	583.80	4.06
12	6.00	594.50	1.80
13	6.50	599.00	0.75
14	7.00	601.00	0.33
15	7.50	602.10	0.18
16	8.00	603.00	0.15
17	8.50	603.40	0.07
18	9.00	603.80	0.07
19	9.50	604.30	0.08
20	10.00	604.90	0.10
21	10.50	605.10	0.03
22	11.00	605.50	0.07

USER INPUT BLANK VALUE

BLANK VALUE = 5.719873 micrograms carbon

BLANK FACTOR = 5.719873 / 10.99976 = +5.2E-01 ug/min Carbon

SAMPLE RESULTS:

(605.5 - 5.717905) (1) / (1000) =

-01
+5.998E+02 ug/L Carbon

(605.5 - 5.717905) (1) / 1000 (12) =

+4.998E+01 Molar Carbon

-02

4-7-97

Sample Run By:

Sandra Hood
SL HOOD

00001

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1930 TO 1950.

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: STD 1

Date: 04/07/97

Time: 22:19:20

Sample Size = 200 uL

Dil Factor = 1

Blank ID # =

Blank Value = 2.84 ug/minute C

Analyst: SL HOOD

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.40	0.00
2	1.01	0.70	42.86
3	1.50	2.40	70.83
4	2.00	51.90	95.38
5	2.50	217.80	76.17
6	3.00	410.10	46.89
7	3.50	511.80	19.87
8	4.00	557.70	8.23
9	4.50	579.80	3.81
10	5.00	588.10	1.41
11	5.50	591.50	0.57
12	6.00	593.10	0.27
13	6.50	594.30	0.20
14	7.00	595.00	0.12
15	7.50	595.70	0.12
16	8.00	596.30	0.10
17	8.50	596.70	0.07
18	9.00	597.30	0.10
19	9.50	597.70	0.07
20	10.00	598.10	0.07
21	10.50	598.60	0.08
22	11.00	598.90	0.05

USER INPUT BLANK VALUE

BLANK VALUE = 31.23931 micrograms carbon

BLANK FACTOR = 31.23931 / 10.99976 = +2.8E+00 ug/min Carbon

SAMPLE RESULTS:

(598.9 - 31.22925) (1) / (200) = +2.838E+00 g/L Carbon
 (598.9 - 31.22925) (1) / (200) (12) = +2.365E-01 Molar Carbon

<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

SL HOOD
 SL HOOD

00001

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT

TICTOC REV 2.0

<<< BLANK ANALYSIS >>>

Sample: BASE 1

Date: 04/07/97

Time: 21:38:52

Sample Size = 1 uL

Dil Factor = 1

Blank ID # = BASE 1

Blank Value = N/A

Analyst : SL HOOD

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==	==== Analysis Time ==	==== Coulometer ==	% Difference ==
1	0.51	0.20	0.00
2	1.01	0.40	50.00
3	1.51	0.60	33.33
4	2.00	0.90	33.33
5	2.50	1.20	25.00
6	3.00	1.60	25.00
7	3.50	1.90	15.79
8	4.00	2.20	13.64
9	4.50	2.50	12.00
10	5.00	2.80	10.71
11	5.50	3.00	6.67
12	6.00	3.30	9.09
13	6.50	3.50	5.71
14	7.00	3.80	7.89
15	7.50	4.00	5.00
16	8.00	4.20	4.76
17	8.50	4.50	6.67
18	9.00	4.70	4.26
19	9.50	5.00	6.00
20	10.00	5.30	5.66
21	10.50	5.50	3.64
22	11.00	5.70	3.51

BLANK VALUE = 5.7 micrograms carbon

BLANK FACTOR = 5.7 / 10.99878 =

+5.2E-01

ug/min Carbon

Sample Run By:

SL HOOD

00001

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT

TICTOC REV 2.0

<<< BLANK ANALYSIS >>>

Sample: BASE 1

Date: 04/07/97

Time: 21:51:49

Sample Size = 1 uL

Dil Factor = 1

Blank ID # = BASE 1

Blank Value = N/A

Analyst : SL HOOD

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==	==== Analysis Time ==	==== Coulometer ==	==== % Difference ==
1	0.51	0.20	0.00
2	1.01	0.50	60.00
3	1.50	3.00	83.33
4	2.01	12.40	75.81
5	2.51	19.40	36.08
6	3.00	23.10	16.02
7	3.50	25.10	7.97
8	4.00	26.10	3.83
9	4.50	26.90	2.97
10	5.00	27.40	1.82
11	5.50	27.80	1.44
12	6.00	28.30	1.77
13	6.50	28.70	1.39
14	7.00	29.00	1.03
15	7.50	29.30	1.02
16	8.00	29.60	1.01
17	8.50	29.90	1.00
18	9.00	30.20	0.99
19	9.50	30.40	0.66
20	10.00	30.60	0.65
21	10.50	30.90	0.97
22	11.00	31.20	0.96

BLANK VALUE = 31.2 micrograms carbon

BLANK FACTOR = 31.2 / 10.99976 =

+2.84E+00 ug/min Carbon

<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

SL HOOD

00001

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLK 1

Date: 04/07/97

Time: 22:31:56

Sample Size = 1 uL

Analyst : SL HOOD

Dil Factor = 1

Min Readings = 22

Blank ID # =

Max Readings = 22

Blank Value = .52 ug/minute C

% Difference = 10

== Reading ==== Analysis Time ==== Coulometer ==== % Difference ==

1	0.51	0.40	0.00
2	1.01	0.70	42.86
3	1.51	1.20	41.67
4	2.00	1.80	33.33
5	2.50	2.50	28.00
6	3.00	3.20	21.88
7	3.50	3.70	13.51
8	4.00	4.20	11.90
9	4.50	4.50	6.67
10	5.00	4.90	8.16
11	5.50	5.10	3.92
12	6.00	5.50	7.27
13	6.50	5.70	3.51
14	7.00	6.00	5.00
15	7.50	6.30	4.76
16	8.00	6.50	3.08
17	8.50	6.80	4.41
18	9.00	7.10	4.23
19	9.50	7.30	2.74
20	10.00	7.60	3.95
21	10.50	7.90	3.80
22	11.00	8.20	3.66

USER INPUT BLANK VALUE

BLANK VALUE = 5.718973 micrograms carbon

BLANK FACTOR = 5.718973 / 10.99976 = +5.2E-01 ug/min Carbon

SAMPLE RESULTS:

(8.2 - 5.718984) (1)/(1) = +2.5E+00 g/L Carbon
 (8.2 - 5.718984) (1)/(1) (12) = +2.1E-01 Molar Carbon

Sample Run By:

SL HOOD

00001

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLK 1

Date: 04/07/97

Time: 22:44:27

Sample Size = 1 uL

Analyst : SL HOOD

Dil Factor = 1

Min Readings = 22

Blank ID # =

Max Readings = 22

Blank Value = 2.84 ug/minute C

% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.30	0.00
2	1.00	0.60	50.00
3	1.50	1.90	68.42
4	2.00	10.90	82.57
5	2.50	20.70	47.34
6	3.00	26.10	20.69
7	3.50	28.90	9.69
8	4.00	30.10	3.99
9	4.50	31.00	2.90
10	5.00	31.70	2.21
11	5.50	32.10	1.25
12	6.00	32.50	1.23
13	6.50	32.70	0.61
14	7.00	33.20	1.51
15	7.50	33.50	0.90
16	8.00	33.80	0.89
17	8.50	34.10	0.88
18	9.00	34.40	0.87
19	9.50	34.70	0.86
20	10.00	35.00	0.86
21	10.50	35.30	0.85
22	11.00	35.60	0.84

USER INPUT BLANK VALUE

BLANK VALUE = 31.23931 micrograms carbon

BLANK FACTOR = 31.23931 / 10.99976 = +2.8E+00 ug/min Carbon

SAMPLE RESULTS:

(35.6 - 31.23168) (1)/(1) = +4.37E+00 g/L Carbon
 (35.6 - 31.23168) (1)/(1) (12) = +3.64E-01 Molar Carbon
 <<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

SL HOOD

00001

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T05800 SPK

Date: 04/07/97

Time: 23:52:54

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = .52 ug/minute C

Analyst : SL HOOD

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==	Analysis Time ==	Coulometer ==	% Difference ==
1	0.51	0.50	0.00
2	1.01	1.00	50.00
3	1.50	1.40	28.57
4	2.00	11.80	88.14
5	2.50	95.20	87.61
6	3.00	292.30	67.43
7	3.50	519.80	43.77
8	4.00	691.90	24.87
9	4.50	788.80	12.28
10	5.00	845.80	6.74
11	5.50	880.10	3.90
12	6.00	898.30	2.03
13	6.50	905.70	0.82
14	7.00	909.20	0.38
15	7.50	911.10	0.21
16	8.00	912.50	0.15
17	8.50	913.60	0.12
18	9.00	914.60	0.11
19	9.50	915.50	0.10
20	10.00	916.30	0.09
21	10.50	917.10	0.09
22	11.00	918.00	0.10

USER INPUT BLANK VALUE

BLANK VALUE = 5.719873 micrograms carbon

BLANK FACTOR = 5.719873 / 10.99976 = +5.2E-01 ug/min Carbon

SAMPLE RESULTS:

(918 - 5.718413) (1)/(1) =

+9.123E+02 g/L Carbon

(918 - 5.718413) (1)/(1) (12) =

+7.602E+01 Molar Carbon

Sample Run By:

SL HOOD

00001

SS .100ml = .1390g

spl. 500 25N12-A

1944

HNF-SD-WM-DP-226, REV. 0
 TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
 TIC/TOC REV 2.0

Sample: S96T05800 SPK

Date: 04/08/97

Time: 01:12:53

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 2.84 ug/minute C

Analyst : SL HOOD

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.80	0.00
2	1.01	1.40	42.86
3	1.50	5.50	74.55
4	2.00	106.90	94.86
5	2.50	469.10	77.21
6	3.00	995.40	52.87
7	3.50	1356.90	26.64
8	4.00	1535.30	11.62
9	4.50	1627.20	5.65
10	5.00	1681.70	3.24
11	5.50	1715.30	1.96
12	6.00	1734.50	1.11
13	%-1433.50	1744.40	0.57
14	%-1433.00	1750.30	0.34
15	%-1432.50	1754.40	0.23
16	%-1432.00	1757.60	0.18
17	%-1431.50	1760.00	0.14
18	%-1431.00	1762.00	0.11
19	%-1430.50	1763.60	0.09
20	%-1430.00	1765.00	0.08
21	%-1429.50	1766.20	0.07
22	%-1429.00	1767.10	0.05

USER INPUT BLANK VALUE

BLANK VALUE = 31.23931 micrograms carbon

BLANK FACTOR = 31.23931 / 10.99976 = +2.8E+00 ug/min Carbon

SAMPLE RESULTS:

(1767.1 --4058.366) (1)/(1) = +5.8255E+03 g/L Carbon
 (1767.1 --4058.366) (1)/(1) (12) = +4.8546E+02 Molar Carbon
 <<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

SL HOOD

00001

SS .100ml = .1350g
 spk .100 26/12-A

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T05978

Date: 04/08/97

Time: 02:25:17

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = .52 ug/minute C

Analyst : SL HOOD

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==	Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.60	0.00
2	1.01	1.00	40.00
3	1.51	1.50	33.33
4	2.00	2.00	25.00
5	2.50	5.10	60.78
6	3.00	15.70	67.52
7	3.50	38.40	59.11
8	4.00	81.90	53.11
9	4.50	131.20	37.58
10	5.00	171.20	23.36
11	5.50	198.20	13.62
12	6.00	214.60	7.64
13	6.50	222.80	3.68
14	7.00	226.90	1.81
15	7.50	228.90	0.87
16	8.00	230.40	0.65
17	8.50	231.20	0.35
18	9.00	231.80	0.26
19	9.50	232.20	0.17
20	10.00	232.70	0.21
21	10.50	233.10	0.17
22	11.00	233.40	0.13

USER INPUT BLANK VALUE

BLANK VALUE = 5.719873 micrograms carbon

BLANK FACTOR = 5.719873 / 10.99976 = +5.2E-01 ug/min Carbon

SAMPLE RESULTS:

(233.4 - 5.71896) (1)/(1) =
 (233.4 - 5.71896) (1)/(1) (12) =

+2.277E+02 g/L Carbon
 +1.897E+01 Molar Carbon

Sample Run By:

SL HOOD

00001

SS .100ml = .1559g

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T05978

Date: 04/08/97

Time: 02:38:58

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 2.84 ug/minute C

Analyst : SL HOOD

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.30	0.00
2	1.01	0.60	50.00
3	1.50	0.90	33.33
4	2.00	5.20	82.69
5	2.50	27.00	80.74
6	3.00	80.00	66.25
7	3.50	160.70	50.22
8	4.00	232.90	31.00
9	4.50	283.90	17.96
10	5.00	318.90	10.98
11	5.50	344.90	7.54
12	6.00	363.00	4.99
13	6.50	375.70	3.38
14	7.00	385.90	2.64
15	7.50	395.00	2.30
16	8.00	403.90	2.20
17	8.50	411.20	1.78
18	9.00	417.90	1.60
19	9.50	423.50	1.32
20	10.00	428.20	1.10
21	10.50	431.70	0.81
22	11.00	435.00	0.76

USER INPUT BLANK VALUE

BLANK VALUE = 31.23931 micrograms carbon

BLANK FACTOR = 31.23931 / 10.99976 = +2.8E+00 ug/min Carbon

SAMPLE RESULTS:

(435 - 31.23432) (1)/(1) = +4.038E+02 g/L Carbon
 (435 - 31.23432) (1)/(1) (12) = +3.365E+01 Molar Carbon

<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

SL HOOD

00001

SS .100ml = .1559g

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T05978 DUP

Date: 04/08/97

Time: 02:52:20

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = .52 ug/minute C

Analyst : SL HOOD

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==	==== Analysis Time ==	==== Coulometer ==	==== % Difference ==
1	0.51	1.70	0.00
2	1.01	2.80	39.29
3	1.51	3.80	26.32
4	2.00	4.80	20.83
5	2.50	9.40	48.94
6	3.00	21.60	56.48
7	3.50	46.10	53.15
8	4.00	83.40	44.72
9	4.50	122.70	32.03
10	5.00	154.60	20.63
11	5.50	177.80	13.05
12	6.00	192.10	7.44
13	6.50	199.70	3.81
14	7.00	203.90	2.06
15	7.50	206.30	1.16
16	8.00	207.70	0.67
17	8.50	208.70	0.48
18	9.00	209.40	0.33
19	9.50	209.80	0.19
20	10.00	210.20	0.19
21	10.50	210.60	0.19
22	11.00	211.00	0.19

USER INPUT BLANK VALUE

BLANK VALUE = 5.719873 micrograms carbon

BLANK FACTOR = 5.719873 / 10.99976 = +5.2E-01 ug/min Carbon

SAMPLE RESULTS:

(211 - 5.718445) (1)/(1) = +2.053E+02 g/L Carbon
 (211 - 5.718445) (1)/(1) (12) = +1.711E+01 Molar Carbon

Sample Run By:

SL HOOD

00001

0.180 ml = .1444g

1948

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T05978 DUP

Date: 04/08/97

Time: 03:05:07

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 2.84 ug/minute C

Analyst : SL HOOD

Min Readings = 22

Max Readings = 22

% Difference = 10

```

== Reading ==== Analysis Time ==== Coulometer ==== % Difference ==
 1          0.51          1.10          0.00
 2          1.01          1.80          38.89
 3          1.50          2.50          28.00
 4          2.00          16.60          84.94
 5          2.50          60.90          72.74
 6          3.00          125.90         51.63
 7          3.50          184.00         31.58
 8          4.00          224.60         18.08
 9          4.50          251.20         10.59
10          5.00          267.70          6.16
11          5.50          277.40          3.50
12          6.00          283.70          2.22
13          6.50          288.40          1.63
14          7.00          292.30          1.33
15          7.50          295.50          1.08
16          8.00          298.20          0.91
17          8.50          300.60          0.80
18          9.00          302.80          0.73
19          9.50          304.60          0.59
20          10.00         306.10          0.49
21          10.50         307.60          0.49
22          11.00         308.70          0.36

```

USER INPUT BLANK VALUE

BLANK VALUE = 31.23931 micrograms carbon

BLANK FACTOR = 31.23931 / 10.99976 = +2.8E+00 ug/min Carbon

SAMPLE RESULTS:

(308.7 - 31.23952) (1)/(1) = +2.775E+02 g/L Carbon
 (308.7 - 31.23952) (1)/(1) (12) = +2.312E+01 Molar Carbon
 <<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

SL HOOD

00001

SS .100ml = .1444g

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S96T05978 TRP

Date: 04/08/97

Time: 03:21:11

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = .52 ug/minute C

Analyst : SL HOOD

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.30	0.00
2	1.00	0.70	57.14
3	1.50	0.90	22.22
4	2.00	1.50	40.00
5	2.50	6.70	77.61
6	3.00	27.40	75.55
7	3.50	70.20	60.97
8	4.00	120.80	41.89
9	4.50	160.00	24.50
10	5.00	186.20	14.07
11	5.50	201.40	7.55
12	6.00	207.80	3.08
13	6.50	210.60	1.33
14	7.00	212.20	0.75
15	7.50	213.20	0.47
16	8.00	213.60	0.19
17	8.50	214.10	0.23
18	9.00	214.50	0.19
19	9.50	215.00	0.23
20	10.00	215.30	0.14
21	10.50	215.70	0.19
22	11.00	216.00	0.14

USER INPUT BLANK VALUE

BLANK VALUE = 5.719873 micrograms carbon

BLANK FACTOR = 5.719873 / 10.99976 = +5.2E-01 ug/min Carbon

SAMPLE RESULTS:

(216 - 5.717913) (1)/(1)	=	+2.103E+02	g/L Carbon
(216 - 5.717913) (1)/(1)(12)	=	+1.752E+01	Molar Carbon

Sample Run By:

SL HOOD

00001

SS .100 ml = .1461g

LABCORE Completed Worklist Report for Worklist# 16264

Analyst: slh

Instrument: CARB2

Book# TIC 25A12A
TOC 24A12F

Method: LA-342-100 Rev/Mod E-0

Worklist Comment: A-101 TICTOC. RCJ, S96T005972 is an AN-104 sample

Seq Type	Sample# R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 BLNK	0	ETICTOC1 TIC-02	SOLID	1	3.10E+0	3.100	ug/g
1 BLNK	0	ETICTOC1 TOC-02	SOLID	1	2.00E+0	2.000	ug/g
2 STD	0	ETICTOC1 TIC-02	SOLID	6.02E+02	5.99E+2	99.502	% Recovery
2 STD	0	ETICTOC1 TOC-02	SOLID	3.00E+03	2.76E+3	92.000	% Recovery
3 SAMPLE	S96T004067 0	ETICTOC1 TIC-02	SOLID	N/A	1.99E+04	5.000	ug/g
3 SAMPLE	S96T004067 0	ETICTOC1 TOC-02	SOLID	N/A	5.61E+03	40.000	ug/g
4 DUP	S96T004067 0	ETICTOC1 TIC-02	SOLID	1.99E+4	2.35E+4	15.530	RPD
4 DUP	S96T004067 0	ETICTOC1 TOC-02	SOLID	5.61E+3	5.92E+3	5.377	RPD
5 SPK	S96T004067 0	ETICTOC1 TIC-02	SOLID	1.00E+02	8.46E+01	84.600	% Recovery
5 SPK	S96T004067 0	ETICTOC1 TOC-02	SOLID	1.00E+02	1.05E+02	105.000	% Recovery
6 SAMPLE	S96T004072 0	ETICTOC1 TIC-02	SOLID	N/A	5.68E+03	5.000	ug/g
6 SAMPLE	S96T004072 0	ETICTOC1 TOC-02	SOLID	N/A	1.22E+04	40.000	ug/g
7 DUP	S96T004072 0	ETICTOC1 TIC-02	SOLID	5.68E+3	6.35E+3	7.686	RPD
7 DUP	S96T004072 0	ETICTOC1 TOC-02	SOLID	1.22E+4	1.28E+4	4.800	RPD
8 SAMPLE	S96T005972 0	ETICTOC1 TIC-02	SOLID	N/A	1.50E+04	5.000	ug/g
8 SAMPLE	S96T005972 0	ETICTOC1 TOC-02	SOLID	N/A	4.65E+03	40.000	ug/g
9 DUP	S96T005972 0	ETICTOC1 TIC-02	SOLID	1.50E+4	1.43E+4	4.778	RPD
9 DUP	S96T005972 0	ETICTOC1 TOC-02	SOLID	4.65E+3	4.60E+3	1.081	RPD
10 SPK	S96T005972 0	ETICTOC1 TIC-02	SOLID	1.00E+02	6.22E+01	62.200	% Recovery
10 SPK	S96T005972 0	ETICTOC1 TOC-02	SOLID	1.00E+02	8.60E+01	86.000	% Recovery

Final page for worklist# 16264

See attached
Analyst Signature Date

See attached
Analyst Signature Date

validated into Labcore by John McClellan 02/03/97
Reviewer Signature Date

note: AN-104 sample S96T005972 had a TIC spk failure. As the chemist I am accepting this failure w/o a rerun because std & dup QC passed, and the spike amt was too small (only 20% of the sample TIC amt) and most spikes less than 25% of the sample analyte (TIC) amount exhibit low recoveries. jmm 02/04/97

Units shown for QC (BLK/BKG) may not reflect the actual units.

1951

Note: There are samples from two tanks on one worklist?

LABCORE Data Entry Template for Worklist# 16264

Analyst: SLH Instrument: CARB2 _____ Book# 25N12A
24N12F

Method: LA-342-100 Rev/Mod E-0

Worklist Comment: A-101 TICTOC. RCJ

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 BLNK			@TICTOC1	SOLID		
2 STD			@TICTOC1	SOLID		
3 SAMPLE	S96T004067 0		@TICTOC1	SOLID	96001016	A-101 (P)
	Analytes Requested: TIC-02 , TOC-02					
4 DUP	S96T004067 0		@TICTOC1	SOLID		
5 SPK	S96T004067 0		@TICTOC1	SOLID		
6 SAMPLE	S96T004072 0		@TICTOC1	SOLID	96001016	A-101 (P)
	Analytes Requested: TIC-02 , TOC-02					
7 DUP	S96T004072 0		@TICTOC1	SOLID		
8 SAMPLE	S96T005972 0		@TICTOC1	SOLID	96001174	AN-104
	Analytes Requested: TIC-02 , TOC-02					
9 DUP	S96T005972 0		@TICTOC1	SOLID		
10 SPK	S96T005972 0		@TICTOC1	SOLID		

Final page for worklist # 16264

SLH
Analyst Signature _____
Date _____

SLH
Analyst Signature _____
Date 2-3-97

Jenvera Howard Boatright

Data Entry Comments:

WORKLIST #	TIC/TOC: LA-342-100 (E-0)	ANALYST INITIALS	ANALYSIS DATE	ANALYSIS TIME	INSTRUMENT CODE
16264	814	12-29-77	1730		
☒ BASELINE BLANK ☐ SAMPLE DUPLICATE ☐ SPIKE TRIPLICATE STD # = _____		☐ BASELINE BLANK ☒ SAMPLE DUPLICATE ☐ SPIKE TRIPLICATE STD # = _____			
SAMPLE # = _____ SAMPLE WEIGHT (g) _____ SPIKE STANDARD VOLUME (mL) _____ TIC: _____ TOC: _____		SAMPLE # = 596704067 SAMPLE WEIGHT (g) 0.7593 SPIKE STANDARD VOLUME (mL) _____ TIC: _____ TOC: _____			
FINAL COULOMETER READING (u) TIC: 3.7 TOC: 27.8		FINAL COULOMETER READING (u) TIC: 1788.3 TOC: 477.4			
☐ STD ☐ BASELINE BLANK ☐ SAMPLE DUPLICATE ☐ SPIKE TRIPLICATE STD # = _____		☐ BASELINE BLANK ☐ SAMPLE DUPLICATE ☒ SPIKE TRIPLICATE STD # = _____			
SAMPLE # = _____ SAMPLE WEIGHT (g) _____ SPIKE STANDARD VOLUME (mL) _____ TIC: 1.0 mL TOC: 0.2 mL FINAL COULOMETER READING (u) TIC: 602.4 TOC: 579.5 (579.5)		SAMPLE # = 596704067 SAMPLE WEIGHT (g) 0.8419 SPIKE STANDARD VOLUME (mL) _____ TIC: 500 TOC: 100 FINAL COULOMETER READING (u) TIC: 1931.0 TOC: 815.6			
☐ STD ☐ BASELINE BLANK ☐ SAMPLE DUPLICATE ☐ SPIKE TRIPLICATE STD # = _____		☐ BASELINE BLANK ☒ SAMPLE DUPLICATE ☐ SPIKE TRIPLICATE STD # = _____			
SAMPLE # = _____ SAMPLE WEIGHT (g) _____ SPIKE STANDARD VOLUME (mL) _____ TIC: _____ TOC: _____		SAMPLE # = 596704072 SAMPLE WEIGHT (g) 0.8539 SPIKE STANDARD VOLUME (mL) _____ TIC: _____ TOC: _____			
FINAL COULOMETER READING (u) TIC: 6.8 TOC: 25.8		FINAL COULOMETER READING (u) TIC: 508.6 TOC: 109.8			
☐ STD ☐ BASELINE BLANK ☐ SAMPLE DUPLICATE ☐ SPIKE TRIPLICATE STD # = _____		☐ BASELINE BLANK ☒ SAMPLE DUPLICATE ☐ SPIKE TRIPLICATE STD # = _____			
SAMPLE # = 596704067 SAMPLE WEIGHT (g) 0.8229 SPIKE STANDARD VOLUME (mL) _____ TIC: _____ TOC: _____		SAMPLE # = 596704072 SAMPLE WEIGHT (g) 1.0719 SPIKE STANDARD VOLUME (mL) _____ TIC: _____ TOC: _____			
FINAL COULOMETER READING (u) TIC: 1618.5 TOC: 483.1		FINAL COULOMETER READING (u) TIC: 683.9 TOC: 1403.4			

WORKLIST #	ANALYST INITIALS	ANALYSIS DATE	INSTRUMENT CODE
added 1008	TIC/TOC: LA-342-100 (E-0)	1-23-97	1730
16008	844		
SAMPLE # = 396705912-STD # =	☐ BASELINE BLANK ☒ SAMPLE DUPLICATE ☐ SPIKE TRIPPLICATE	☐ BASELINE BLANK ☐ SAMPLE DUPLICATE ☐ SPIKE TRIPPLICATE	STD # = SAMPLE WEIGHT (g) _____ SPIKE/STANDARD VOLUME (mL) _____ TIC: _____ TOC: _____ FINAL COULOMETER READING (u) TIC: _____ TOC: _____
SAMPLE # = 396705912-STD # =	☐ BASELINE BLANK ☒ SAMPLE DUPLICATE ☐ SPIKE TRIPPLICATE	☐ BASELINE BLANK ☐ SAMPLE DUPLICATE ☐ SPIKE TRIPPLICATE	STD # = SAMPLE WEIGHT (g) _____ SPIKE/STANDARD VOLUME (mL) _____ TIC: _____ TOC: _____ FINAL COULOMETER READING (u) TIC: _____ TOC: _____
SAMPLE # = 396705912-STD # =	☐ BASELINE BLANK ☒ SAMPLE DUPLICATE ☐ SPIKE TRIPPLICATE	☐ BASELINE BLANK ☐ SAMPLE DUPLICATE ☐ SPIKE TRIPPLICATE	STD # = SAMPLE WEIGHT (g) _____ SPIKE/STANDARD VOLUME (mL) _____ TIC: _____ TOC: _____ FINAL COULOMETER READING (u) TIC: _____ TOC: _____
SAMPLE # = 396705912-STD # =	☐ BASELINE BLANK ☐ SAMPLE DUPLICATE ☒ SPIKE TRIPPLICATE	☐ BASELINE BLANK ☐ SAMPLE DUPLICATE ☐ SPIKE TRIPPLICATE	STD # = SAMPLE WEIGHT (g) _____ SPIKE/STANDARD VOLUME (mL) _____ TIC: _____ TOC: _____ FINAL COULOMETER READING (u) TIC: _____ TOC: _____

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT

TICTOC REV 2.0

HNF-SD-WM-DP-226, REV. 0

Sample: STD 1

Date: 01/29/97

Time: 09:49:12

Sample Size = 1000 uL

Dil Factor = 1

Blank ID # =

Blank Value = .34 ug/minute C

Analyst : SL HOOD

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==== Analysis Time ==== Coulometer ==== % Difference ==

1	0.51	0.10	0.00
2	1.01	0.60	83.33
3	1.51	8.70	93.10
4	2.00	84.30	89.68
5	2.50	250.50	66.35
6	3.00	414.00	39.49
7	3.50	517.30	19.97
8	4.00	566.50	8.68
9	4.50	587.50	3.57
10	5.00	595.20	1.29
11	5.50	597.70	0.42
12	6.00	598.70	0.17
13	6.50	599.40	0.12
14	7.00	599.90	0.08
15	7.50	600.20	0.05
16	8.00	600.60	0.07
17	8.50	601.00	0.07
18	9.00	601.30	0.05
19	9.50	601.60	0.05
20	10.00	601.80	0.03
21	10.50	602.10	0.05
22	11.00	602.40	0.05

USER INPUT BLANK VALUE

BLANK VALUE = 3.739595 micrograms carbon

BLANK FACTOR = 3.739595 / 10.99881 = +3.4E-01 ug/min Carbon

SAMPLE RESULTS:

(602.4 - 3.739253) (1)/(1000) = +5.987E-01 g/L Carbon
 (602.4 - 3.739253) (1)/(1000) (12) = +4.989E-02 Molar Carbon

Sample Run By:

SL HOOD

00001

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1955 TO 1976

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: STD 1

Date: 01/29/97

Time: 10:03:20

Sample Size = 200 uL

Dil Factor = 1

Blank ID # =

Blank Value = 2.53 ug/minute C

Analyst : SL HOOD

Min Readings = 22

Max Readings = 22

% Difference = 10

```

== Reading ==== Analysis Time ==== Coulometer ==== % Difference ==
1          0.51          0.40          0.00
2          1.01          3.40          88.24
3          1.51         104.30         96.74
4          2.01         337.50         69.10
5          2.51         482.60         30.07
6          3.00         541.70         10.91
7          3.50         563.40          3.85
8          4.00         570.40          1.23
9          4.50         573.10          0.47
10         5.00         574.20          0.19
11         5.50         575.10          0.16
12         6.00         575.70          0.10
13         6.50         576.30          0.10
14         7.00         576.80          0.09
15         7.50         577.20          0.07
16         8.00         577.60          0.07
17         8.50         577.90          0.05
18         9.00         578.30          0.07
19         9.50         578.60          0.05
20        10.00         578.90          0.05
21        10.50         579.20          0.05
22        11.00         579.50          0.05

```

USER INPUT BLANK VALUE

BLANK VALUE = 27.82699 micrograms carbon

BLANK FACTOR = 27.82699 / 10.99881 = +2.5E+00 ug/min Carbon

SAMPLE RESULTS:

```

( 579.5 - 27.8317 ) (1) / (200) = +2.758E+00 g/L Carbon
( 579.5 - 27.8317 ) (1) / (200) (12) = +2.299E-01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

```

Sample Run By:

SL HOOD

00001

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT

TICTOC REV 2.0

<<< BLANK ANALYSIS >>>

Sample: BASE 1

Date: 01/29/97

Time: 08:10:21

Sample Size = 1 uL

Dil Factor = 1

Blank ID # = BASE 1

Blank Value = N/A

Analyst : SL HOOD

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.00	0.00
2	1.01	0.10	100.00
3	1.50	0.60	83.33
4	2.00	1.20	50.00
5	2.50	1.60	25.00
6	3.00	1.90	15.79
7	3.50	2.10	9.52
8	4.00	2.20	4.55
9	4.50	2.30	4.35
10	5.00	2.40	4.17
11	5.50	2.50	4.00
12	6.00	2.60	3.85
13	6.50	2.70	3.70
14	7.00	2.90	6.90
15	7.50	2.90	0.00
16	8.00	3.00	3.33
17	8.50	3.10	3.23
18	9.00	3.20	3.13
19	9.50	3.40	5.88
20	10.00	3.40	0.00
21	10.50	3.60	5.56
22	11.00	3.70	2.70

BLANK VALUE = 3.7 micrograms carbon

BLANK FACTOR = 3.7 / 11.00067 =

+3.4E-01 ug/min Carbon

Sample Run By:

SL HOOD

00001

Sample Size = 1 ul

1-29-97

Time 09:30:34

BASE

Dil Factor = 1
 Blank ID # = BASE 1
 Blank Value = N/A

Min Readings = 22
 Max Readings = 22
 % Difference = 10

Analyst SL Hood

<< BIK Analysis >>

```

== Reading ==== Analysis Time ==== Coulometer ==== % Difference ==
  1           0.51                0.10                0.00
  2           1.01                0.20               50.00
  3           1.50                5.70              96.49
  4           2.00               14.30             60.14
  5           2.50               19.40             26.29
  6           3.00               21.90             11.42
  7           3.50               23.40              6.41
  8           4.00               24.10              2.90
  9           4.50               24.60              2.03
 10           5.00               25.10              1.99
 11           5.50               25.50              1.57
 12           6.00               25.90              1.54
 13           6.50               26.20              1.15
 14           7.00               26.40              0.76
 15           7.50               26.60              0.75
 16           8.00               26.90              1.12
 17           8.50               27.00              0.37
 18           9.00               27.10              0.37
 19           9.50               27.30              0.73
 20          10.00               27.50              0.73
 21          10.50               27.70              0.72
 22          11.00               27.80              0.36
  
```

HNF-SD-WM-DP-226, REV. 0

BLANK VALUE = 27.8 micrograms carbon

BLANK FACTOR = 27.8 / 10.99881 = +2.53E+00 ug/min Carbon

<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

SL HOOD

00001

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

HNH-SD-WM-DP-226, REV. 0

Sample: BLK 1

Date: 01/29/97

Time: 10:29:31

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = .34 ug/minute C

Analyst : SL HOOD

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==== Analysis Time ==== Coulometer ==== % Difference ==

1	0.51	0.30	0.00
2	1.01	0.50	40.00
3	1.51	0.90	44.44
4	2.01	1.40	35.71
5	2.50	2.00	30.00
6	3.00	2.50	20.00
7	3.50	2.80	10.71
8	4.00	3.20	12.50
9	4.50	3.40	5.88
10	5.00	3.70	8.11
11	5.50	4.00	7.50
12	6.00	4.20	4.76
13	6.50	4.40	4.55
14	7.00	4.70	6.38
15	7.50	5.00	6.00
16	8.00	5.30	5.66
17	8.50	5.50	3.64
18	9.00	5.70	3.51
19	9.50	6.00	5.00
20	10.00	6.30	4.76
21	10.50	6.50	3.08
22	11.00	6.80	4.41

USER INPUT BLANK VALUE

BLANK VALUE = 3.739595 micrograms carbon

BLANK FACTOR = 3.739595 / 10.99881 = +3.4E-01 ug/min Carbon

SAMPLE RESULTS:

(6.8 - 3.740519) (1)/(1) = +3.1E+00 g/L Carbon
(6.8 - 3.740519) (1)/(1) (12) = +2.5E-01 Molar Carbon

Sample Run By:

SL HOOD

00001

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

HNF-SD-WM-DP-226, REV. 0

Sample: BLK 1

Date: 01/29/97

Time: 10:44:19

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 2.53 ug/minute C

Analyst : SL HOOD

Min Readings = 22

Max Readings = 22

% Difference = 10

```

== Reading ==== Analysis Time ==== Coulometer ==== % Difference ==
  1          0.51          0.20          0.00
  2          1.01          0.60         66.67
  3          1.50          3.20         81.25
  4          2.00          9.50         66.32
  5          2.50         15.00         36.67
  6          3.00         18.10         17.13
  7          3.50         19.60          7.65
  8          4.00         20.50          4.39
  9          4.50         21.20          3.30
 10          5.00         21.80          2.75
 11          5.50         22.20          1.80
 12          6.00         22.70          2.20
 13          6.50         23.00          1.30
 14          7.00         23.50          2.13
 15          7.50         23.70          0.84
 16          8.00         24.10          1.66
 17          8.50         24.30          0.82
 18          9.00         24.70          1.62
 19          9.50         24.90          0.80
 20         10.00         25.20          1.19
 21         10.50         25.50          1.18
 22         11.00         25.80          1.16
  
```

USER INPUT BLANK VALUE

BLANK VALUE = 27.82699 micrograms carbon

BLANK FACTOR = 27.82699 / 10.99881 = +2.5E+00 ug/min Carbon

SAMPLE RESULTS:

(25.8 - 27.8249) (1)/(1) = < 5.00 E-3 g/L Carbon
 (25.8 - 27.8249) (1)/(1) (12) = < 4.17 E-4 Molar Carbon
 <<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

SL HOOD

00001

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

HNF-SD-WM-DP-226, REV. 0

Sample: S96T05972

Date: 01/29/97

Time: 16:00:17

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .34 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.20	0.00
2	1.01	0.50	60.00
3	1.51	28.40	98.24
4	2.00	365.80	92.24
5	2.50	851.10	57.02
6	3.00	1160.40	26.65
7	3.50	1313.70	11.67
8	4.00	1385.10	5.15
9	4.50	1419.60	2.43
10	5.00	1435.10	1.08
11	5.50	1440.30	0.36
12	6.00	1442.70	0.17
13	6.50	1444.20	0.10
14	7.00	1445.50	0.09
15	7.50	1446.50	0.07
16	8.00	1447.40	0.06
17	8.50	1448.30	0.06
18	9.00	1449.10	0.06
19	9.50	1449.80	0.05
20	10.00	1450.30	0.03
21	10.50	1450.90	0.04
22	11.00	1451.50	0.04

USER INPUT BLANK VALUE

BLANK VALUE = 3.739595 micrograms carbon

BLANK FACTOR = 3.739595 / 10.99881 = +3.4E-01 ug/min Carbon

SAMPLE RESULTS:

(1451.5 - 3.739626) (1)/(1) = +1.4478E+03 g/L Carbon
(1451.5 - 3.739626) (1)/(12) = +1.2065E+02 Molar Carbon

Sample Run By:

SL HOOD

00001

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

HNF-SD-WM-DP-226, REV. 0

Sample: S96T05972

Date: 01/29/97

Time: 16:12:29

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 2.53 ug/minute C

Analyst : SL HOOD

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading == Analysis Time == Coulometer == % Difference ==

1	0.51	0.70	0.00
2	1.01	4.30	83.72
3	1.51	115.70	96.28
4	2.00	299.30	61.34
5	2.50	391.20	23.49
6	3.00	432.20	9.49
7	3.50	452.10	4.40
8	4.00	461.10	1.95
9	4.50	465.20	0.88
10	5.00	467.30	0.45
11	5.50	469.10	0.38
12	6.00	470.00	0.19
13	6.50	470.90	0.19
14	7.00	471.70	0.17
15	7.50	472.50	0.17
16	8.00	473.00	0.11
17	8.50	473.50	0.11
18	9.00	474.00	0.11
19	9.50	474.40	0.08
20	10.00	474.80	0.08
21	10.50	475.20	0.08
22	11.00	475.60	0.08

USER INPUT BLANK VALUE

BLANK VALUE = 27.82699 micrograms carbon

BLANK FACTOR = 27.82699 / 10.99881 = +2.5E+00 ug/min Carbon

SAMPLE RESULTS:

(475.6 - 27.82907) (1)/(1) = +4.478E+02 g/L Carbon
(475.6 - 27.82907) (1)/(1) (12) = +3.731E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

SL HOOD

00001

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

HNF-SD-WM-DP-226, REV. 0

Sample: S96T05972 DUP

Date: 01/29/97

Time: 16:28:39

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = .34 ug/minute C

Analyst : SL HOOD

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==	Analysis Time	Coulometer	% Difference ==
1	0.51	0.20	0.00
2	1.01	0.50	60.00
3	1.51	24.90	97.99
4	2.00	306.10	91.87
5	2.50	711.30	56.97
6	3.00	995.30	28.53
7	3.50	1173.20	15.16
8	4.00	1277.00	8.13
9	4.50	1328.50	3.88
10	5.00	1353.80	1.87
11	5.50	1365.20	0.84
12	6.00	1369.70	0.33
13	6.50	1372.30	0.19
14	7.00	1374.10	0.13
15	7.50	1375.40	0.09
16	8.00	1376.50	0.08
17	8.50	1377.40	0.07
18	9.00	1378.20	0.06
19	9.50	1379.00	0.06
20	10.00	1379.70	0.05
21	10.50	1380.30	0.04
22	11.00	1381.00	0.05

USER INPUT BLANK VALUE

BLANK VALUE = 3.739595 micrograms carbon

BLANK FACTOR = 3.739595 / 10.99881 = +3.4E-01 ug/min Carbon

SAMPLE RESULTS:

(1381 - 3.740498) (1)/(1) =

+1.3773E+03 g/L Carbon

(1381 - 3.740498) (1)/(1)(12) =

+1.1477E+02 Molar Carbon

Sample Run By:

SL HOOD

00001

1963

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

HNF-SD-WM-DP-226, REV. 0

Sample: S96T05972 DUP Date: 01/29/97 Time: 16:41:19

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.53 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading ==	==== Analysis Time ==	==== Coulometer ==	==== % Difference ==
1	0.51	0.60	0.00
2	1.01	2.80	78.57
3	1.51	88.60	96.84
4	2.00	271.20	67.33
5	2.50	374.20	27.53
6	3.00	420.90	11.10
7	3.50	443.50	5.10
8	4.00	453.80	2.27
9	4.50	457.90	0.90
10	5.00	460.30	0.52
11	5.50	461.90	0.35
12	6.00	463.20	0.28
13	6.50	464.00	0.17
14	7.00	464.90	0.19
15	7.50	465.60	0.15
16	8.00	466.30	0.15
17	8.50	466.90	0.13
18	9.00	467.40	0.11
19	9.50	467.90	0.11
20	10.00	468.30	0.09
21	10.50	468.80	0.11
22	11.00	469.10	0.06

USER INPUT BLANK VALUE

BLANK VALUE = 27.82699 micrograms carbon

BLANK FACTOR = 27.82699 / 10.99881 = +2.5E+00 ug/min Carbon

SAMPLE RESULTS:

(469.1 - 27.8317) (1)/(1) = +4.413E+02 g/L Carbon
(469.1 - 27.8317) (1)/(1) (12) = +3.677E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

SL HOOD

00001

SS.0960

1964

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

HNF-SD-WM-DP-226, REV. 0

Sample: S96T05972 SPK

Date: 01/29/97

Time: 16:53:20

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = .34 ug/minute C

Analyst : SL HOOD

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==== Analysis Time ==== Coulometer ==== % Difference ==

1	0.51	0.30	0.00
2	1.01	0.60	50.00
3	1.51	60.50	99.01
4	2.00	500.40	87.91
5	2.50	1003.50	50.13
6	3.00	1304.90	23.10
7	3.50	1462.10	10.75
8	4.00	1539.50	5.03
9	4.50	1577.90	2.43
10	5.00	1596.00	1.13
11	5.50	1602.30	0.39
12	6.00	1604.80	0.16
13	6.50	1606.50	0.11
14	7.00	1607.90	0.09
15	7.50	1609.00	0.07
16	8.00	1610.10	0.07
17	8.50	1611.00	0.06
18	9.00	1611.80	0.05
19	9.50	1612.70	0.06
20	10.00	1613.30	0.04
21	10.50	1614.10	0.05
22	11.00	1614.70	0.04

USER INPUT BLANK VALUE

BLANK VALUE = 3.739595 micrograms carbon

BLANK FACTOR = 3.739595 / 10.99881 = +3.4E-01 ug/min Carbon

SAMPLE RESULTS:

(1614.7 - 3.739959) (1)/(1) = +1.6110E+03 g/L Carbon
(1614.7 - 3.739959) (1)/(1) (12) = +1.3425E+02 Molar Carbon

Sample Run By:

SL HOOD

00001

SS 0947
500ml
25N2-A

1965

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

HNF-SD-WM-DP-226, REV. 0

Sample: S96T05972 SPK Date: 01/29/97 Time: 17:05:55

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.53 ug/minute CAnalyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.60	0.00
2	1.01	5.30	88.68
3	1.51	128.10	95.86
4	2.00	398.80	67.88
5	2.51	582.50	31.54
6	3.00	656.60	11.29
7	3.50	690.80	4.95
8	4.00	706.90	2.28
9	4.50	712.60	0.80
10	5.00	715.50	0.41
11	5.50	717.30	0.25
12	6.00	718.70	0.19
13	6.50	719.80	0.15
14	7.00	720.80	0.14
15	7.50	721.50	0.10
16	8.00	722.30	0.11
17	8.50	723.00	0.10
18	9.00	723.70	0.10
19	9.50	724.30	0.08
20	10.00	724.80	0.07
21	10.50	725.30	0.07
22	11.00	725.70	0.06

USER INPUT BLANK VALUE

BLANK VALUE = 27.82699 micrograms carbon

BLANK FACTOR = 27.82699 / 10.99881 = +2.5E+00 ug/min Carbon

SAMPLE RESULTS:

(725.7 - 27.82506) (1)/(1) = +6.979E+02 g/L Carbon
(725.7 - 27.82506) (1)/(1) (12) = +5.816E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

SL HOOD

00001

1966

WORKBOOK PAGE: BLANK1

TIC/TOC : LA-342-100 (E-0)

SOLIDS

		TIC	TOC
Type	Sample Size in g (SS)	0.0000	0.0000
BLNK	Dilution Factor (DF)	1	1
Work List	µg of Carbon in Sample (C1)	6.8	25.8
16264	µg of Carbon from Baseline (C2)	3.7	27.8
Test Code			
@TICTOC1			
Matrix			
SOLID			
Batch Number			
97000117			
Rerun	µg of Carbon = C1-C2		
0			
Sample Prep			
N/A			
Sample #			
BLNK			
Instrument Code			
CARB2			
Prepared By			
RTS			
Chemist			
RWS			
Analyst			
SLH			
Date Complete			
02/03/97			
Analysis Date			
01/28/97			
Analysis Time	Method Detection Limit in ug/g	TIC	TOC
		5	40
Sample Point	µg of Carbon	3.10E+00	2.00E+00
A-101 (P)			

Data Entered By:	RTS	Date:	02/03/97
Signature of Chemist:	<i>John M. C. [Signature]</i>	Date:	02/04/97

BLANK.WB1 REV 1.0

342100ML

1967

WORKBOOK PAGE: STD2

TIC/TOC : LA-342-100 (E-0)

LIQUIDS

		TIC	TOC
Type	Sample Size in mL (SS)	1.0000	0.2000
STD	Dilution Factor (DF)	1	1
Work List	Final Coulometer Reading in µg (C1)	602.4	579.5
16264	µg of Carbon from Baseline (C2)	3.7	27.8
Test Code	Standard Book Number	25N12A	24N12F
@TIC/TOC1	Standard Value (µg/ml)	602	3000
Matrix	QC Actual in µg/mL = Standard Value (µg/mL) QC Found in µg/mL = (C1 - C2) * DF / SS QC Found in µg/mL for TIC = 5 if C1 < C2 QC Found in µg/mL for TOC = 40 if C1 < C2 % Recovery = QC Found / QC Actual * 100		
LIQUID			
Batch Number			
97000117			
Rerun			
0			
Sample Prep			
N/A			
Sample #			
STD			
Instrument Code	% Recovery = QC Found / QC Actual * 100		
CARB2			
Prepared By			
RTS			
Chemist			
RWS			
Analyst			
SLH			
Date Complete			
02/03/97			
Analysis Date			
01/28/97			
Analysis Time	Method Detection Limit in µg/mL	TIC	TOC
	QC Actual in µg/mL	5	40
Sample Point	QC Found in µg/mL	6.02E+02	3.00E+03
A-101 (P)	Percent Standard Recovery	5.99E+02	2.76E+03
		99.5	92.0

Data Entered By:	RTS	Date:	02/03/97
Signature of Chemist:	<i>John Mc Cluskey</i>	Date:	02/04/97

STANDARD.WB1 REV 1.0

342100ML

1968

WORKBOOK PAGE: SAM3

TIC/TOC : LA-342-100 (E-0)

SOLIDS

		TIC	TOC
Type	Sample Size in g (SS)	0.0812	0.0812
SAMPLE	Dilution Factor (DF)	1	1
Work List	µg of Carbon in Sample (C1)	1618.5	483.1
16264	µg of Carbon from Baseline (C2)	3.7	27.8
Test Code			
@TICTOC1			
Matrix			
SOLID			
Batch Number			
97000117			
Rerun			
0			
Sample Prep			
N/A			
Sample #			
S96T004067			
Instrument Code			
CARB2			
Prepared By			
RTS			
Chemist			
RWS			
Analyst			
SLH			
Date Complete			
02/03/97			
Analysis Date			
01/28/97			
Analysis Time	Method Detection Limit in ug/g	5	40
Sample Point	µg of Carbon/g	1.99E+04	5.61E+03
A-101 (P)			

$\mu\text{g of Carbon/g} = (C1 - C2) * DF / SS$
 $\mu\text{g of Carbon/g for TIC} = 5 \text{ if } C1 < C2$
 $\mu\text{g of Carbon/g for TOC} = 40 \text{ if } C1 < C2$

Data Entered By:	RTS	Date:	02/03/97
Signature of Chemist:	<i>John M. O'Connell</i>	Date:	02/04/97

SAMPLE.WB1 REV 1.0

342100ML

1969

I:\342100\OUT\16264.WB1

02/03/97

10:38:31

WORKBOOK PAGE: DUP4

TIC/TOC : LA-342-100 (E-0)

SOLIDS

		TIC	TOC
Type	Sample Size in g (SS)	0.0759	0.0759
DUP	Dilution Factor (DF)	1	1
Work List	µg of Carbon in Sample (C1)	1788.3	477.4
16264	µg of Carbon from Baseline (C2)	3.7	27.8
Test Code	Known µg of C from Original Sample	1.99E+4	5.61E+3
@TICTOC1			
Matrix			
SOLID			
Batch Number			
97000117			
Rerun			
0			
Sample Prep			
N/A			
Sample #			
S96T004067			
Instrument Code			
CARB2			
Prepared By			
RTS			
Chemist			
RWS			
Analyst			
SLH			
Date Complete			
02/03/97			
Analysis Date			
01/28/97			
Analysis Time	Method Detection Limit in ug/g	TIC	TOC
		5	40
Sample Point	µg of Carbon/g	TIC	TOC
A-101 (P)		2.35E+04	5.92E+03

$\mu\text{g of Carbon/g} = (C1 - C2) * DF / SS$
 $\mu\text{g of Carbon/g for TIC} = 5 \text{ if } C1 < C2$
 $\mu\text{g of Carbon/g for TOC} = 40 \text{ if } C1 < C2$

Data Entered By:	RTS	Date:	02/03/97
Signature of Chemist:	<i>John McCloskey</i>	Date:	02/04/97

SAMPLE.WB1 REV 1.0

342100ML

TIC/TOC : LA-342-100 (E-0)

SOLIDS

Type	Sample Vial Data	TIC	TOC
SPK	Sample Size in g (SS)	0.0812	0.0812
Work List	Final Coulometer Reading in µg (C1)	1618.5	483.1
16264	Spiked Vial Data		
Test Code	Sample Size in g (SPK SS)	0.0841	0.0841
@TICTOC1	Amount of Spike Std. in mL (SPK VOL)	0.500	0.100
Matrix	Final Coulometer Reading in µg (C2)	1931	815.6
SOLID	Spike Book Number	25N12A	24N12F
Batch Number	Spike Standard Value in µg/mL (SPK CONC)	602	3000
97000117			
Rerun			
0			
Sample Prep			
N/A			
Sample #	Percent Spike Recovery = (C2 - C1 * (SPK SS) / SS) / ((SPK CONC) * (SPK VOL)) * 1		
S96T004067			
Instrument Code	QC Actual in µg/mL = Spike Value (µg/mL)		
CARB2	QC Found in µg/mL = (Percent Spike Recovery)*(QC Actual) / 100		
Prepared By			
RTS			
Chemist			
RWS			
Analyst			
SLH			
Date Complete			
02/03/97			
Analysis Date			
01/28/97			
Analysis Time			
		TIC	TOC
	QC Actual in µg/mL	6.02E+02	3.00E+03
Sample Point	QC Found in µg/mL	5.09E+02	3.15E+03
A-101 (P)	Percent Spike Recovery	84.6	105.1

Data Entered By:	RTS	Date:	02/03/97
Signature of Chemist:	<i>John M. McCluskey</i>	Date:	02/04/97

SPIKE.WB1 REV 1.1

342100ML

WORKBOOK PAGE: SAM6

TIC/TOC : LA-342-100 (E-0)

SOLIDS

		TIC	TOC
Type	Sample Size in g (SS)	0.0859	0.0859
SAMPLE	Dilution Factor (DF)	1	1
Work List	µg of Carbon in Sample (C1)	508.6	1079.8
16264	µg of Carbon from Baseline (C2)	3.7	27.8
Test Code			
@TICTOC1			
Matrix			
SOLID			
Batch Number			
97000117			
Rerun	µg of Carbon/g = (C1-C2) * DF / SS		
0	µg of Carbon/g for TIC = 5 if C1 < C2		
Sample Prep	µg of Carbon/g for TOC = 40 if C1 < C2		
N/A			
Sample #			
S96T004072			
Instrument Code			
CARB2			
Prepared By			
RTS			
Chemist			
RWS			
Analyst			
SLH			
Date Complete			
02/03/97			
Analysis Date			
01/28/97			
Analysis Time	Method Detection Limit in ug/g	TIC	TOC
		5	40
Sample Point	µg of Carbon/g	5.88E+03	1.22E+04
A-101 (P)			

Data Entered By:	RTS	Date:	02/03/97
Signature of Chemist:	<i>John M. Clendenen</i>	Date:	02/04/97

SAMPLE.WB1 REV 1.0

342100ML

WORKBOOK PAGE: DUP7

TIC/TOC : LA-342-100 (E-0)

SOLIDS

		TIC	TOC
Type	Sample Size in g (SS)	0.1071	0.1071
DUP	Dilution Factor (DF)	1	1
Work List	µg of Carbon in Sample (C1)	683.9	1403.4
16264	µg of Carbon from Baseline (C2)	3.7	27.8
Test Code	Known µg of C from Original Sample	5.88E+3	1.22E+4
@TICTOC1			
Matrix			
SOLID			
Batch Number			
97000117			
Rerun			
0			
Sample Prep			
N/A			
Sample #			
S96T004072			
Instrument Code			
CARB2			
Prepared By			
RTS			
Chemist			
RWS			
Analyst			
SLH			
Date Complete			
02/03/97			
Analysis Date			
01/28/97			
Analysis Time	Method Detection Limit in ug/g	TIC	TOC
		5	40
Sample Point	µg of Carbon/g	TIC	TOC
A-101 (P)		6.35E+03	1.28E+04

$\mu\text{g of Carbon/g} = (C1 - C2) * DF / SS$
 $\mu\text{g of Carbon/g for TIC} = 5 \text{ if } C1 < C2$
 $\mu\text{g of Carbon/g for TOC} = 40 \text{ if } C1 < C2$

Data Entered By:

RTS

Date: 02/03/97

Signature of Chemist:

Date: 02/04/97

SAMPLE.WB1 REV 1.0

342100ML

02/03/97

10:38:51

1973

WORKBOOK PAGE: SAM8

TIC/TOC : LA-342-100 (E-0)

SOLIDS

		TIC	TOC
Type	Sample Size in g (SS)	0.0963	0.0963
SAMPLE	Dilution Factor (DF)	1	1
Work List	µg of Carbon in Sample (C1)	1451.5	475.6
16264	µg of Carbon from Baseline (C2)	3.7	27.8
Test Code			
@TICTOC1			
Matrix			
SOLID			
Batch Number			
97000117			
Rerun	µg of Carbon/g = (C1-C2) * DF / SS		
0	µg of Carbon/g for TIC = 5 if C1 < C2		
Sample Prep	µg of Carbon/g for TOC = 40 if C1 < C2		
N/A			
Sample #			
S96T005972			
Instrument Code			
CARB2			
Prepared By			
RTS			
Chemist			
RWS			
Analyst			
SLH			
Date Complete			
02/03/97			
Analysis Date			
01/28/97			
Analysis Time	Method Detection Limit in ug/g	TIC 5	TOC 40
Sample Point	µg of Carbon/g	1.50E+04	4.65E+03
A-101 (P)			

Data Entered By:	RTS	Date:	02/03/97
Signature of Chemist:		Date:	02/04/97

SAMPLE.WB1 REV 1.0

342100ML

WORKBOOK PAGE: DUP9

TIC/TOC : LA-342-100 (E-0)

SOLIDS

		TIC	TOC
Type	Sample Size in g (SS)	0.0960	0.0960
DUP	Dilution Factor (DF)	1	1
Work List	µg of Carbon in Sample (C1)	1381	469.1
16264	µg of Carbon from Baseline (C2)	3.7	27.8
Test Code	Known µg of C from Original Sample	1.50E+4	4.65E+3
@TICTOC1			
Matrix			
SOLID			
Batch Number			
97000117			
Rerun			
0			
Sample Prep			
N/A			
Sample #			
S96T005972			
Instrument Code			
CARB2			
Prepared By			
RTS			
Chemist			
RWS			
Analyst			
SLH			
Date Complete			
02/03/97			
Analysis Date			
01/28/97			
Analysis Time	Method Detection Limit in ug/g	5	40
Sample Point	µg of Carbon/g	1.43E+04	4.60E+03
A-101 (P)			

µg of Carbon/g = (C1-C2) * DF / SS
 µg of Carbon/g for TIC = 5 if C1 < C2
 µg of Carbon/g for TOC = 40 if C1 < C2

Data Entered By:	RTS	Date:	02/03/97
Signature of Chemist:		Date:	02/04/97

SAMPLE WB1 REV 1.0

342100ML

WORKBOOK PAGE: SPIKE10

TIC/TOC : LA-342-100 (E-0)

SOLIDS

Type	Sample Vial Data	TIC	TOC
SPK	Sample Size in g (SS)	0.0963	0.0963
Work List	Final Coulometer Reading in µg (C1)	1451.5	475.6
16264	Spiked Vial Data		
Test Code	Sample Size in g (SPK SS)	0.0947	0.0947
@TICTOC1	Amount of Spike Std. in mL (SPK VOL)	0.500	0.100
Matrix	Final Coulometer Reading in µg (C2)	1614.7	725.7
SOLID	Spike Book Number	25N12A	24N12F
Batch Number	Spike Standard Value in µg/mL (SPK CONC)	602	3000
97000117			
Rerun			
0			
Sample Prep			
N/A			
Sample #	Percent Spike Recovery = $(C2 - C1 * (SPK SS) / SS) / ((SPK CONC) * (SPK VOL)) * 1$		
S96T005972			
Instrument Code	QC Actual in µg/mL = Spike Value (µg/mL)		
CARB2	QC Found in µg/mL = (Percent Spike Recovery)*(QC Actual) / 100		
Prepared By			
RTS			
Chemist			
RWS			
Analyst			
SLH			
Date Complete			
02/03/97			
Analysis Date			
01/28/97			
Analysis Time			
		TIC	TOC
	QC Actual in µg/mL	6.02E+02	3.00E+03
Sample Point	QC Found in µg/mL	3.75E+02	2.58E+03
A-101 (P)	Percent Spike Recovery	62.2	86.0

Data Entered By:	RTS	Date: 02/03/97
Signature of Chemist:		Date: 02/04/97

SPIKE.WB1 REV 1.1

342100ML

This document was too large to scan as a whole document,
therefore it required breaking into smaller sections.

Document number: SD-WM-DP-226

Section 6 of 6

Title: Tank 241-AN-104 Cores 163 and 164
Analytical Results for the Final Report

Date: 6/5/97 Revision: A030

Originator: STEIN JH

Co: RFSH

Recipient: _____

Co: _____

References: EDT-620405

LABCORE Completed Worklist Report for Worklist# 15506

Analyst: krq

Instrument: U01

Book# 76B56 (LCS Std)
27B55 (spike)

Method: LA-925-009 Rev/Mod A-1

Worklist Comment: @U-01 FOR AN-104 (.1-10 SAMPLE PREP .1ML SPK)

Seq Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD	0	@U-01	U-02	LIQUID		7.66E-02	7.27E-02	94.902 % Recovery	
1 STD	0	@U-01	U-02E	LIQUID		1	3.14E+00	3.140 Ratio	
2 BLNK	0	@U-01	U-02	LIQUID		1	3.93E-03	0.004 ug/mL	
2 BLNK	0	@U-01	U-02E	LIQUID		1	3.36E+00	3.360 Ratio	
3 SAMPLE	S96T005981	0	@U-01	U-02	LIQUID	N/A	3.30E+00	4.07E+002 ug/mL	
3 SAMPLE	S96T005981	0	@U-01	U-02E	LIQUID	N/A	1.38E+00	% Inst Error	
4 DUP	S96T005981	0	@U-01	U-02	LIQUID	3.30E+00	4.06E+00	20.652 RPD	
4 DUP	S96T005981	0	@U-01	U-02E	LIQUID	1	1.58E+00	1.580 Ratio	
5 SPK	S98T005981	0	@U-01	U-02	LIQUID	5.49E+01	4.29E+01	78.142 % Recovery	

Final page for worklist# 15506

See attached
Analyst Signature _____ Date _____

See attached
Analyst Signature _____ Date _____

See attached
Reviewer Signature _____ Date _____

LABCORE Completed RadChem Report for Worklist#: 15506

Analyst: krq Instrument: U01 Book# 76 B56 (LSS std)
Method: LA-925-009 Rev/Mod A-1 27855 (spike)

Worklist Comment: @U-01 FOR AN-104 (.1-10 SAMPLE PREP .1ML SPK)

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD	0	0U-01	U-02	LIQUID	7.66E-02	7.27E-02	94.909	% Recovery
1 STD	0	0U-01	U-02E	LIQUID	1	3.14E+00	3.140	Ratio
2 BLNK	0	0U-01	U-02	LIQUID	1	3.43E-3	43.200E-003	ug/ml
2 BLNK	0	0U-01	U-02E	LIQUID	1	3.56E+00	3.360	Ratio
3 SAMPLE	S96T005981	0	0U-01	U-02	LIQUID	N/A	407.0E-004	ug/mL
3 SAMPLE	S96T005981	0	0U-01	U-02E	LIQUID	N/A	1.38E+00	% Inst Error
4 DUP	S96T005981	0	0U-01	U-02	LIQUID	3.30E+0	4.06E+0	20.692 RPD
4 DUP	S96T005981	0	0U-01	U-02E	LIQUID	1	1.58E+00	1.580 Ratio
5 SPK	S96T005981	0	0U-01	U-02	LIQUID	5.49E+01	4.29E+01	78.142 % Recovery

Final page for worklist# 15506

Analyst Signature See attached Date 01/29/97
Analyst Signature See attached Date 01/29/97
Reviewer Signature John McCluskey Date 01/29/97

* blank value was changed because blank was not run as a 1:111 dilution
jmm 01/29/97

LABCORE Data Entry Template for Worklist# 15506

Analyst: ABQ Instrument: U01 _____ Book# 76B50 (LCS std)

Method: LA-925-009 Rev/Mod A-1

Worklist Comment: @U-01 FOR AN-104 (.1-10 SAMPLE PREP .1ML SPK)

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 STD			@U-01	LIQUID		
2 BLNK			@U-01	LIQUID		
3 SAMPLE	S96T005981 0		@U-01	LIQUID	96001174	AN-104
			Analytes Requested: U-02	, U-02E		
4 DUP	S96T005981 0		@U-01	LIQUID		
5 SPK	S96T005981 0		@U-01	LIQUID		

Final page for worklist # 15506.

Analyst Signature

Date

Analyst Signature

Date

Data Entry Comments:

HNF-SD-WM-DP-226, REV. 0

Date/Time: 1-17-97 / 0300

Spike Volume: 100ml

[illegible]

Sample ID 76B56 Date/Time 01/17/97/03:26:37
Description STANDARD Cal Y=1.11E+08X-1.46E+02
Ref. Ratio 1.074 Intensity 6545 (t= 39 us)
Laser Pulses 1000 Conc 7.27E-05 + 2.28E-06 g/L
Lifetime 252 + .704 us Dilution Factor 1 mL/mL
R2 .9997
Integrated 114832 FINAL RESULT 7.27E-05 + 2.28E-06 g/L
Range: HIGH

Sample ID BLK-PRP Date/Time 01/17/97/03:55:34
Description PREP BLANK Cal Y=8.56E+09X0
Ref. Ratio 1.069 Intensity 291 (t= 39 us)
Laser Pulses 1000 Conc 3.93E-08 + 1.32E-09 g/L
Lifetime 341 + 9.708 us Dilution Factor 1 mL/mL
R2 .9663
Integrated 6337 FINAL RESULT 3.93E-08 + 1.32E-09 g/L
Range: LOW

Sample ID S96T005981 Date/Time 01/17/97/04:05:51
Description SAMPLE Cal Y=8.56E+09X0
Ref. Ratio 1.077 Intensity 19750 (t= 39 us)
Laser Pulses 1000 Conc 3.00E-06 + 4.13E-08 g/L
Lifetime 159 + .558 us Dilution Factor 1 mL/mL
R2 .9995
Integrated 23116 FINAL RESULT 3.00E-06 + 4.13E-08 g/L
Range: LOW

Sample ID S96T005981 Date/Time 01/17/97/04:07:20
Description DUPLICATE Cal Y=8.56E+09X0
Ref. Ratio 1.083 Intensity 26257 (t= 39 us)
Laser Pulses 1000 Conc 3.69E-06 + 5.83E-08 g/L
Lifetime 205 + 1.265 us Dilution Factor 1 mL/mL
R2 .9984
Integrated 377139 FINAL RESULT 3.69E-06 + 5.83E-08 g/L
Range: LOW

Sample ID S96T005981 Date/Time 01/17/97/04:09:25
Description SPIKE Cal Y=8.56E+09X0
Ref. Ratio 1.093 Intensity 93988 (t= 234 us)
Laser Pulses 1000 Conc 4.20E-05 + 6.72E-07 g/L
Lifetime 179 + .678 us Dilution Factor 1 mL/mL
R2 .9994
Integrated 1250262 FINAL RESULT 4.20E-05 + 6.72E-07 g/L
Range: LOW

WORKBOOK PAGE: STD1

Uranium by Phosphorescence: LA-925-009 (A-1) LIQUID/SOLID

Type	STANDARD
STD	76856
Work List	STANDARD BOOK #
15506	VOLUME OF SAMPLE (mL) (SS) 1.00
Test Code	DILUTION FACTOR OF SAMPLE (DF) 1.00
@U-01	PREPARATION FACTOR OF SAMPLE (PF) 1.00
Matrix	LIFETIME IN MICROSECONDS 252.00
LIQUID	R2 VALUE 0.9997
Batch Number	RANGE (HIGH OR LOW) HIGH
96012119	INSTRUMENT UNCERTAINTY (U) 2.28E-06
Result	INSTRUMENT RESULT (IR) 7.27E-06
0	DETECTION LEVEL (ug/mL) 3.70E-05
Sample Prep	
N/A	RESULT (ug/mL) 7.27E-02
Sample #	VALUE OF STANDARD 7.66E-02
WL15506	%RECOVERY 94.91
Instrument Code	RELATIVE % UNCERTAINTY 3.1
U01	
Prepared By	Result = DF * PF * IR * 1000
SEH	
Chemist	Detection Level = 3.70 E-08 * DF * PF * 1000
JMM	
Analyst	% Recovery = (Result / Value of Standard) * 100
KRQ	
Date Complete	Relative % Uncertainty = (U / IR) * 100
01/17/97	
Analysis Date	
01/17/97	
Analysis Time	
03:00 AM	
Sample Point	
AN-104	

Analyst:	KRQ	Date:	17-Jan-97
Signature of Chemist:	JMM	Date:	01/29/97

STANDARD.WB1 REV 2.0 925009ML

WORKBOOK PAGE: BLANK2

Uranium by Phosphorescence: LA-925-009 (A-1) LIQUID/SOLID

Type			BLANK
BLNK			
Work List	VOLUME OF SAMPLE (mL)	(SS)	1.00
15506	DILUTION FACTOR OF SAMPLE	(DF)	1.00
Test Code	PREPARATION FACTOR OF SAMPLE	(PF)	100.00
@U-01	DIGEST DILUTION FACTOR	(DDF)	1.0000
Matrix	LIFETIME IN MICROSECONDS		341.00
LIQUID	R2 VALUE		0.9663
Batch Number	RANGE (HIGH OR LOW)		LOW
96012119	INSTRUMENT UNCERTAINTY	(IU)	1.32E-09
Rerun	INSTRUMENT RESULT	(IR)	3.93E-08
0	DETECTION LEVEL (µg/mL)		3.70E-03
Sample Prep			
N/A			
Sample #	RESULT (µg/mL)		3.93E-03
WL15506	RELATIVE % UNCERTAINTY		3.4
Instrument Code			
U01			
Prepared By	Result = DF * PF * DDF * IR * 1000		
SEH			
Chemist	Detection Level = 3.70 E-08 * DF * PF * DDF * 1000		
JMM			
Analyst	Relative % Uncertainty = IU / IR * 100		
KRQ			
Date Complete			
01/17/97			
Analysis Date			
01/17/97			
Analysis Time			
03:00 AM			
Sample Point			
AN-104			

Analyst:	KRQ	Date:	17-Jan-97
Signature of Chemist:	JMM	Date:	01/28/97

BLANK.WB1 REV 2.0

925009ML

1983

WORKBOOK PAGE: SAM3

Uranium by Phosphorescence: LA-925-009 (A-1) LIQUID/SOLID

Type	SAMPLE	
Work List	VOLUME OF SAMPLE (mL)	(SS) 1.00
15506	DILUTION FACTOR OF SAMPLE	(DF) 11.00
Test Code	PREPARATION FACTOR OF SAMPLE	(PF) 100.00
@U-01	DIGEST DILUTION FACTOR	(DDF) 1.0000
Matrix	LIFETIME IN MICROSECONDS	169.00
LIQUID	R2 VALUE	0.9996
Batch Number	RANGE (HIGH OR LOW)	LOW
96012119	INSTRUMENT UNCERTAINTY	(IU) 4.13E-08
Result	INSTRUMENT RESULT	(IR) 3.00E-06
0	DETECTION LEVEL (µg/mL)	4.07E-02
Sample Prep		
N/A	CONCENTRATION IN SOLUTION (g/L)	3.30E-03
Sample #	RESULT (µg/mL)	3.30E+00
S96T005981	RELATIVE % UNCERTAINTY	1.4
Instrument Code		
U01		
Prepared By	Result = DF * PF * DDF * IR * 1000	
SEN		
Chemist	Detection Level = 3.70 E-08 * DF * PF * DDF * 1000	
JMM		
Analyst	Relative % Uncertainty = IU / IR * 100	
KRQ		
Date Complete		
01/17/97		
Analysis Date		
01/17/97		
Analysis Time		
05:00 AM		
Sample Point		
AN-104		

Analyst:	KRQ	Date:	17-Jan-97
Signature of Chemist:	JMM	Date:	01/28/97
SAMPLE.WB1 REV 2.0		925009ML	

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WORKBOOK PAGE: DUP4

Uranium by Phosphorescence: LA-925-009 (A-1) LIQUID/SOLID

Type		
DUP		DUP
Work List	VOLUME OF SAMPLE (mL)	(SS) 1.00
15506	DILUTION FACTOR OF SAMPLE	(DF) 11.00
Test Code	PREPARATION FACTOR OF SAMPLE	(PF) 100.00
@U-01	DIGEST DILUTION FACTOR	(DDF) 1.0000
Matrix	LIFETIME IN MICROSECONDS	205.00
LIQUID	R2 VALUE	0.9984
Batch Number	RANGE (HIGH OR LOW)	LOW
96012119	INSTRUMENT UNCERTAINTY	(IU) 5.83E-08
Result	INSTRUMENT RESULT	(IR) 3.69E-08
0	DETECTION LEVEL (µg/mL)	4.07E-02
Sample Prep		
N/A	CONCENTRATION IN SOLUTION (g/L)	4.06E-03
Sample #	RESULT (µg/mL)	4.06E+00
S96T005981	RELATIVE % UNCERTAINTY	1.6
Instrument Code		
U01		
Prepared By	Result = DF * PF * DDF * IR * 1000	
SEH		
Chemist	Detection Level = 3.70 E-08 * DF * PF * DDF * 1000	
JMM		
Analyst	Relative % Uncertainty = IU / IR * 100	
KRQ		
Date Complete		
01/17/97		
Analysis Date		
01/17/97		
Analysis Time		
03:00 AM		
Sample Name		
AN-104		

Analyst:	KRQ	Date:	17-Jan-97
Signature of Chemist:	JMM	Date:	5/28/97
SAMPLE.WB1 REV 2.0	925009ML		

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Uranium by Phosphorescence: LA-925-009 (A-1) LIQUID/SOLID

TYPE	SPIKE
SPK	SPIKE BOOK #
Work List	VOLUME OF SAMPLE + SPIKE (mL) (SS) 1.00
15506	DILUTION FACTOR OF SAMPLE + SPIKE (DF) 11.00
Test Code	PREPARATION FACTOR OF SAMPLE + SPIKE (PF) 100.00
@U-01	DIGEST DILUTION FACTOR OF SAMPLE (DDF) 1.0000
Matrix	LIFETIME IN MICROSECONDS 179.00
LIQUID	R2 VALUE 0.9994
Batch Number	RANGE (HIGH OR LOW) LOW
96012119	INSTRUMENT RESULT (IR) 4.20E-05
Result	CONCENTRATION IN SOLUTION (g/L) (CONC) 4.62E-02
0	SPIKE VALUE (g/L) (SV) 5.49E-02
Sample Prep	INITIAL VOLUME OF SPIKE (mL) (IV) 0.10
N/A	ORIGINAL SAMPLE VOLUME BEFORE PREP (mL) (OSV) 0.10
Sample Number	CONCENTRATION IN SOLN (g/L) FROM SAMPLE FORM (SR) 3.30E-03
S96T005981	
Instrument Code	
U01	Concentration = IR * DF * PF
Prepared By	
SEH	QC Actual (µg/mL) = SV (g/L) * 1000
Chemist	
JMM	QC Found (µg/mL) = (CONC - SR) * OSV / IV * 1000
Analyst	
KRQ	% Recovery = QC FOUND / QC ACTUAL
Date Complete	
01/17/97	
Analysis Date	
01/17/97	QC ACTUAL = 5.49E+01 µg/mL
Analysis Time	QC FOUND = 4.29E+01 µg/mL
05:00 AM	% SPIKE RECOVERY = 78.1%
Sample Name	
AN-104	

Analyst:	KRQ	Date:	17-Jan-97
Signature of Chemist:		JMM	Date: 01/26/97

SPIKE.WB1 REV 2.0

925009ML

1986

LABCORE Completed Worklist Report for Worklist# 16219

Analyst: dgg

Instrument: U01

Book# 76B56 (std)
27B55 (spk)

Method: LA-925-009 Rev/Mod A-1

Worklist Comment: 0.1-10 sample prep.Spike:0.1ml. Std: 10ml.

new

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD	0	0U-01	U-02	SOLID	7.66E-02	7.52E-02	98.172 %	Recovery
1 STD	0	0U-01	U-02E	SOLID	1	3.15E+00	3.150	Ratio
2 BLNK-PREP	0	0U-01	U-02	SOLID	1	<2.03E+01		ug/g
2 BLNK-PREP	0	0U-01	U-02E	SOLID	1	N/A		Ratio
3 SAMPLE	S96T005975	0 F	0U-01	U-02	SOLID	N/A	1.74E+02	1.840 ug/g
3 SAMPLE	S96T005975	0 F	0U-01	U-02E	SOLID	N/A	1.40E+00	% Inst Error
4 DUP	S96T005975	0 F	0U-01	U-02	SOLID	1.74E+2	1.87E+2	7.202 RPD
4 DUP	S96T005975	0 F	0U-01	U-02E	SOLID	1	1.39E+00	1.390 Ratio
5 SPK	S96T005975	0 F	0U-01	U-02	SOLID	5.49E+01	4.99E+01	90.893 % Recovery

Final page for worklist# 16219

see attached
Analyst Signature _____ Date _____

see attached
Analyst Signature _____ Date _____

Validated into Labcore by John McCluskey 01/30/97
Reviewer Signature _____ Date _____

LABCORE Completed RadChem Report for Worklist#: 16219

Analyst: dgg

Instrument: U01

Book# 76B56 (Std)
27B55 (Spk)

Method: LA-925-009 Rev/Mod A-1

Worklist Comment: 0.1-10 sample prep.Spike:0.1ml. Std: 10ml.

new

Seq	Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD	0	0U-01	U-02	SOLID	7.66E-02	7.52E-02	98.172	% Recovery
1	STD	0	0U-01	U-02R	SOLID	1	3.15E+00	3.150	Ratio
2	BLNK-PREP	0	0U-01	U-02	SOLID	1	3.15E+00		pg/g
2	BLNK-PREP	0	0U-01	U-02R	SOLID	1	N/A		Ratio
3	SAMPLE	S96T005975	0 F	0U-01	U-02	SOLID	N/A	1.74E+02	184.0E+002 ug/g
3	SAMPLE	S96T005975	0 F	0U-01	U-02R	SOLID	N/A	1.40E+00	0.0E+000 % Inst Error
4	DUP	S96T005975	0 F	0U-01	U-02	SOLID	1.74E+2	1.97E+2	7.202 RPD
4	DUP	S96T005975	0 F	0U-01	U-02R	SOLID	1	1.39E+00	1.390 Ratio
5	SPK	S96T005975	0 F	0U-01	U-02	SOLID	5.49E+01	4.99E+01	90.893 % Recovery

Final page for worklist# 16219

Analyst Signature

Date

Analyst Signature

Date

validated into Labcore by John Mc Cluskey 01/30/97
Reviewer Signature Date

LABCORE Data Entry Template for Worklist# 16219

Analyst: ABB Instrument: U01 _____ Book# 76B56

Method: LA-925-009 Rev/Mod A-1

Worklist Comment: 0.1-10 sample prep.Spike:0.1ml. Std: 10ml. new

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 STD			@U-01	SOLID		
2 BLNK-PREP			@U-01	SOLID		
3 SAMPLE	S96T005975	0 F	@U-01	SOLID	96001174	AN-104
	Analytes Requested: U-02			U-02E		
4 DUP	S96T005975	0 F	@U-01	SOLID		
5 SPK	S96T005975	0 F	@U-01	SOLID		

Final page for worklist # 16219

ABB 1-18-97
Analyst Signature Date

Sharon L. Lulley 1-20-97
Analyst Signature Date

Data Entry Comments:

URANIUM DATA COLLECTION SHEET

WORKLIST# 14219
MATRIX Solid

SPIKE BOOK# 27 B55
SPIKE VOLUME .100 ml

ANALYST MSB
DATE/TIME 1-19-97/0230

[illegible]

URANIUM ANALYSIS

Sample ID 76856	Date/Time 01/19/97/03:23:39
Description LMCS STD	Cal Y=1.25E+08X-1.35E+03
Ref. Ratio 1.066	Intensity 7064 (t= 39 us)
Laser Pulses 1000	Conc 7.52E-05 + 2.37E-06 g/L
Lifetime 291 + 1.216 us	Dilution Factor 1 mL/mL
R2 .9992	
Integrated 133812	FINAL RESULT 7.52E-05 + 2.37E-06 g/L
Range: HIGH	

Sample ID BLANK-PREP	Date/Time 01/19/97/03:33:17
Description AN-104	Cal Y=8.65E+09X0
Ref. Ratio 1.121	Intensity 8 (t= 39 us)
Laser Pulses 1000	Conc + g/L
Lifetime + us	Dilution Factor 1 mL/mL
R2	
Integrated 0	FINAL RESULT
Range: LOW	
Sample (= Blank)	<i>Dilution 1-10</i>

Sample ID 896T005975	Date/Time 01/19/97/03:39:01
Description AN-104	Cal Y=8.65E+09X0
Ref. Ratio 1.127	Intensity 23712 (t= 39 us)
Laser Pulses 1000	Conc 3.49E-06 + 4.88E-08 g/L
Lifetime 182 + .61 us	Dilution Factor 1 mL/mL
R2 .9995	
Integrated 316378	FINAL RESULT 3.49E-06 + 4.88E-08 g/L
Range: LOW	

Sample ID 896T005975-DUP	Date/Time 01/19/97/03:43:03
Description AN-104	Cal Y=8.65E+09X0
Ref. Ratio 1.134	Intensity 27364 (t= 39 us)
Laser Pulses 1000	Conc 3.75E-06 + 5.23E-08 g/L
Lifetime 248 + 1.11 us	Dilution Factor 1 mL/mL
R2 .9991	
Integrated 467195	FINAL RESULT 3.75E-06 + 5.23E-08 g/L
Range: LOW	

Sample ID 896T005975-SPK	Date/Time 01/19/97/03:47:33
Description AN-104	Cal Y=1.25E+08X-1.35E+03
Ref. Ratio 1.102	Intensity 54126 (t= 39 us)
Laser Pulses 1000	Conc 5.02E-04 + 1.61E-05 g/L
Lifetime 257 + 1.347 us	Dilution Factor 1 mL/mL
R2 .9988	
Integrated 918413	FINAL RESULT 5.02E-04 + 1.61E-05 g/L
Range: HIGH	

WORKBOOK PAGE: STD1

Uranium by Phosphorescence: LA-925-009 (A-1) LIQUID/SOLID

Type		
STD		
Work List	STANDARD BOOK #	STANDARD
16219	VOLUME OF SAMPLE (mL) (SS)	76B56 1.00
Test Code	DILUTION FACTOR OF SAMPLE (DF)	1.00
@U-01	PREPARATION FACTOR OF SAMPLE (PF)	1.00
Matrix	LIFETIME IN MICROSECONDS	291.00
LIQUID	R2 VALUE	0.9992
Batch Number	RANGE (HIGH OR LOW)	HIGH
97000069	INSTRUMENT UNCERTAINTY (IU)	2.37E-06
Rerun	INSTRUMENT RESULT (IR)	7.52E-05
0	DETECTION LEVEL (µg/mL)	3.70E-05
Sample Prep		
N/A	RESULT (µg/mL)	7.52E-02
Sample #	VALUE OF STANDARD	7.66E-02
WL16219	%RECOVERY	98.17
Instrument Code	RELATIVE % UNCERTAINTY	3.2
U01		
Prepared By	Result = DF * PF * IR * 1000	
SLH2		
Chemist	Detection Level = 3.70 E-08 * DF * PF * 1000	
NDS		
Analyst	% Recovery = Result / Value of Standard * 100	
DGG		
Date Complete	Relative % Uncertainty = IU / IR * 100	
01/20/97		
Analysis Date		
01/19/97		
Analysis Time		
02:30 AM		
Sample Point		
AN-104		

Analyst:	DGG	Date:	20-Jan-97
Signature of Chemist:	NDS	Date:	01/30/97

STANDARD.WB1 REV 2.0

925009ML

1992

WORKBOOK PAGE: BLANK2

Uranium by Phosphorescence: LA-925-009 (A-1) LIQUID/SOLID

Type		
BLNK-PREP		
Work List	VOLUME OF SAMPLE (mL) (SS)	1.00
16219	DILUTION FACTOR OF SAMPLE (DF)	11.00
Test Code	PREPARATION FACTOR OF SAMPLE (PF)	100.00
@U-01	DIGEST FACTOR (Dg/L)	2.0088
Matrix	LIFETIME IN MICROSECONDS	0.00
SOLID	R2 VALUE	0.0000
Batch Number	RANGE (HIGH OR LOW)	LOW
97000069	INSTRUMENT UNCERTAINTY (IU)	0.00E+00
Rerun	INSTRUMENT RESULT (IR)	0.00E+00
0	DETECTION LEVEL µg/g	2.03E+01
Sample Prep		
N/A	CONCENTRATION IN SOLUTION (g/L)	0.00E+00
Sample #	RESULT (µg/g) <	2.03E+01
WL16219	RELATIVE % UNCERTAINTY	N/A
Instrument Code		
U01		
Prepared By	Result = Conc. in Solution (g/L) * 1000000 / Dg/L	
SLH2		
Chemist	Detection Level = 3.70 E-08 * DF * PF * 1000000 / DF	
JMM		
Analyst	Relative % Uncertainty = IU / IR * 100	
DGG		
Date Complete	Concentration in Solution (g/L) = IR * DF * PF	
01/20/97		
Analysis Date		
01/19/97		
Analysis Time		
02:30 AM		
Sample Point		
AN-104		

Analyst:	DGG	Date: 20-Jan-97
Signature of Chemist:	JMM	Date: 01/30/97

BLANK.WB1 REV 2.0

925009ML

1993

WORKBOOK PAGE: SAM3

Uranium by Phosphorescence: LA-925-009 (A-1) LIQUID/SOLID

Type	SAMPLE	
Work List	VOLUME OF SAMPLE (mL)	(SS) 1.00
16219	DILUTION FACTOR OF SAMPLE	(DF) 1.00
Test Code	PREPARATION FACTOR OF SAMPLE	(PF) 100.00
@U-01	DIGEST FACTOR	(Dg/L) 2.0088
Matrix	LIFETIME IN MICROSECONDS	182.00
SOLID	R2 VALUE	0.9995
Batch Number	RANGE (HIGH OR LOW)	LOW
97000069	INSTRUMENT UNCERTAINTY	(IU) 4.88E-08
Rerun	INSTRUMENT RESULT	(IR) 3.49E-06
0	DETECTION LEVEL µg/g	1.84E+00
Sample Prep		
FUSION01	CONCENTRATION IN SOLUTION (g/L)	3.49E-04
Sample #	RESULT (µg/g)	1.74E+02
S96T005975	RELATIVE % UNCERTAINTY	1.4
Instrument Code		
U01		
Prepared By	Result = Conc. in Solution (g/L) * 1000000 / Dg/L	
SLH2		
Chemist	Detection Level = 3.70 E-08 * DF * PF * 1000000/ DF	
NDS		
Analyst	Relative % Uncertainty = IU / IR * 100	
DGG		
Date Complete	Concentration in Solution (g/L) = IR * DF * PF	
01/20/97		
Analysis Date		
01/19/97		
Analysis Time		
02:30 AM		
Sample Point		
AN-104		

Analyst:	DGG	Date: 20-Jan-97
Signature of Chemist:	NDS	Date: 01/30/97

SAMPLE.WB1 REV 2.0

925009ML

1994

WORKBOOK PAGE: DUP4

Uranium by Phosphorescence: LA-925-009 (A-1) LIQUID/SOLID

Type		
DUP		
Work List	VOLUME OF SAMPLE (mL)	(SS) 1.00
16219	DILUTION FACTOR OF SAMPLE	(DF) 1.00
Test Code	PREPARATION FACTOR OF SAMPLE	(PF) 100.00
@U-01	DIGEST FACTOR	(Dg/L) 2.0096
Matrix	LIFETIME IN MICROSECONDS	248.00
SOLID	R2 VALUE	0.9991
Batch Number	RANGE (HIGH OR LOW)	LOW
97000069	INSTRUMENT UNCERTAINTY	(IU) 5.23E-08
Rerun	INSTRUMENT RESULT	(IR) 3.75E-06
0	DETECTION LEVEL $\mu\text{g/g}$	1.84E+00
Sample Prep		
FUSION01	CONCENTRATION IN SOLUTION (g/L)	3.75E-04
Sample #	RESULT ($\mu\text{g/g}$)	1.87E+02
S96T005975	RELATIVE % UNCERTAINTY	1.4
Instrument Code		
U01		
Prepared By	Result = Conc. in Solution (g/L) * 1000000 / Dg/L	
SLH2		
Chemist	Detection Level = $3.70 \text{ E-}08 * \text{DF} * \text{PF} * 1000000 / \text{DF}$	
NDS		
Analyst	Relative % Uncertainty = $\text{IU} / \text{IR} * 100$	
DGG		
Date Complete	Concentration in Solution (g/L) = $\text{IR} * \text{DF} * \text{PF}$	
01/20/97		
Analysis Date		
01/19/97		
Analysis Time		
02:30 AM		
Sample Point		
AN-104		

Analyst:	DGG	Date: 20-Jan-97
Signature of Chemist:	NDS	Date: 01/30/97

SAMPLE.WB1 REV 2.0

925009ML

1995

WORKBOOK PAGE: SPIKE5

Uranium by Phosphorescence: LA-925-009 (A-1) LIQUID/SOLID

Type	SPIKE	
SPK	SPIKE BOOK #	
Work List	VOLUME OF SAMPLE + SPIKE (mL)	(SS) 1.00
16219	DILUTION FACTOR OF SAMPLE + SPIKE	(DF) 1.00
Test Code	PREPARATION FACTOR OF SAMPLE + SPIKE	(PF) 100.00
@U-01	DIGEST FACTOR OF SAMPLE	(DDF) 2.0088
Matrix	LIFETIME IN MICROSECONDS	257.00
SOLID	R2 VALUE	0.9988
Batch Number	RANGE (HIGH OR LOW)	HIGH
97000069	INSTRUMENT RESULT	(IR) 5.02E-04
Rerun	CONCENTRATION IN SOLUTION (g/L)	(CONC) 5.02E-02
0	SPIKE VALUE (g/L)	(SV) 5.49E-02
Sample Prep	INITIAL VOLUME OF SPIKE (mL)	(IV) 0.10
FUSION01	ORIGINAL SAMPLE VOLUME BEFORE PREP (mL)	(OSV) 0.10
Sample Number	CONCENTRATION IN SOLN (g/L) FROM SAMPLE FORM	(SR) 3.49E-04
S96T005975		
Instrument Code	Concentration = IR * DF * PF	
U01		
Prepared By	QC Actual (µg/mL) = SV (g/L) * 1000	
SLH2		
Chemist	QC Found (µg/mL) = (CONC - SR) * OSV / IV * 1000	
NDS		
Analyst	% Recovery = QC FOUND / QC ACTUAL	
DGG		
Date Complete		
01/20/97		
Analysis Date		
01/19/97	QC ACTUAL	= 5.49E+01 µg/mL
Analysis Time	QC FOUND	= 4.99E+01 µg/mL
02:30 AM	% SPIKE RECOVERY	= 90.8%
Sample Point		
AN-104		

Analyst:	DGG	Date:	20-Jan-97
Signature of Chemist:	NDS	Date:	01/30/97
SPIKE.WB1 REV 2.0	925009ML		

1996

HNH-SD-WM-DP-226, REV. 0

RADIOCHEMICAL ANALYSES

1997

HNH-SD-WM-DP-226, REV. 0

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LABCORE Completed RadChem Report for Worklist#: 17073

Analyst: adp

Instrument: LSC02

Book# _____

Method: _____ Rev/Mod _____

Worklist Comment: Use 1.0 mL sample size. Rerun #3. SLF

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD	0	0H3-01	H3-01	SOLID	8.84E-04	8.60E-4	97.285	% Recovery
1 STD	0	0H3-01	H3-01E	SOLID	1	9.70E-01	0.970	% Ct. Error
2 BLNK-PREP	0	0H3-01	H3-01	SOLID	1	2.76E-3	27.600e-004	uCi/g
2 BLNK-PREP	0	0H3-01	H3-01E	SOLID	1	4.73E-00	4.730	uCi/g
3 SAMPLE	S96T005977	0 W	0H3-01	H3-01	N/A	9.71E-01	637.0e-006	uCi/g
3 SAMPLE	S96T005977	0 W	0H3-01	H3-01E	N/A	3.34E+00	100.0e-006	% Ct. Error
4 DUP	S96T005977	0 W	0H3-01	H3-01	SOLID	9.71E-3	1.05E-2	7.619 RPD
4 DUP	S96T005977	0 W	0H3-01	H3-01E	SOLID	1	3.23E+00	3.230 % Ct. Error

Final page for worklist# 17073

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Reviewer Signature

Date

BLNK value is ~ 28% of the sample value.
This indicates that the sample results may be biased high. This is the best data set received after 4 runs on this sample. No further reruns requested.

H. Hight
3/19/97

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Data Entry Template for Worklist# 17073

Analyst: ADP Instrument: LSC00 #2 Book# 76B56

Method: LA-218-114 Rev/Mod B-D

Worklist Comment: Use 1.0 mL sample size. Rerun #3. SLF

S Type	Sample#	R	A	Test	Matrix	Group#	Project
1 STD				@H3-01	SOLID		
2 BLNK-PREP				@H3-01	SOLID		
3 SAMPLE	S96T005977 0 W	@H3-01		SOLID		96001174	AN-104
	Analytes Requested: H3-01				, H3-01E		
4 DUP	S96T005977 0 W	@H3-01		SOLID			

Final page for worklist # 17073

Analyst Signature Date 3-18-97

3/19/97
Analyst Signature Date

3/19/97

Data Entry Comments:

WORKBOOK PAGE: STD1

H3 : LA-218-114 (B-0), LA-218-115(A-0) TRITIUM LIQUIDS

		STANDARD
Type	Disintegrations per minute from Counter (dpm)	1909.12
STD	Sample Volume in mL (SS)	1
Work List	Dilution Factor (DF)	1
17073	Digest Dilution Factor (DDF)	1
Test Code	Background Count Rate in Counts per Minute (BKG cpm)	23.04
@H3-01	Background Count Time in Minutes (BKG Time)	50
Matrix	Instrument Fractional Efficiency (EFF)	0.4381
LIQUID	% Counting Error	0.97
Batch Number	Detection Limit (Ld)	7.34
97000996	Critical Level (Lc)	1.58
Rerun	Tritium Concentration in $\mu\text{Ci/L}$	8.60E-01
0	Standard Book No.	76B56
Sample Prep	Standard Value in $\mu\text{Ci/mL}$	8.8449E-04
N/A		
Sample #	Critical Level (Lc) = $2.33 * \text{the Square Root of (BKG cpm / BKG Time)}$	
WL17073	Detection Limit (Ld) = $(2.72 / \text{BKG Time}) + (2 * \text{Lc}) / \text{EFF}$	
Instrument Code	H3 $\mu\text{Ci/L}$ = $(\text{dpm} * (1000\text{mL/L}) * \text{DF} * \text{DDF}) / (\text{SS} * (2220000\text{dpm}/\mu\text{Ci}))$	
WC16085	H3 $\mu\text{Ci/mL}$ = $\mu\text{Ci/L} / 1000\text{mL/L}$	
Prepared By	Detection Limit ($\mu\text{Ci/mL}$) = $(\text{Ld})(\text{DF})(\text{DDF}) / [(\text{SS}) (2220000 \text{ dpm}/\mu\text{Ci})]$	
CJO		
Chemist		
SLF		
Analyst	Tritium Concentration in $\mu\text{Ci/L}$	8.60E-01
ADP		
Date Complete	Tritium Concentration in $\mu\text{Ci/mL}$	8.60E-04
03/19/97	Detection Limit in $\mu\text{Ci/mL}$	3.31E-06
Analysis Date	% Counting Error	0.97
03/18/97		
Analysis Time		
07:40 PM		
Sample Point		
AN-104		

Analyst:	ADP	Date: 03/19/97
Signature of Chemist:	SLF	Date: 3/19/97

STANDARD.WB1 REV 2.0

21811NML

11/14/97

WORKBOOK PAGE: BLANK2

H3 : LA-218-114 (B-0), LA-218-115(A-0) TRITIUM LIQUIDS/ SOLIDS

BLANK

Type	Disintegrations per minute from Counter (dpm)	31.29
BLNK-PREP	Sample Volume in mL (SS)	1
Work List	Dilution Factor (DF)	1
17073	Digest Grams of Solids / Liter (D g/L)	5.105
Test Code	Background Count Rate in Counts per Minute (BKG cpm)	23.04
@H3-01	Background Count Time in Minutes (BKG Time)	50
Matrix	Instrument Fractional Efficiency (EFF)	0.4374
SOLID	% Counting Error	4.73
Batch Number	Detection Limit (Ld)	7.36
97000996	Critical Level (Lc)	1.58
Rerun	Tritium Concentration in $\mu\text{Ci/g}$	2.76E-03
0		
Sample Prep	Critical Level (Lc) = $2.33 * \text{the Square Root of (BKG cpm / BKG Time)}$	
N/A	Detection Limit (Ld) = $((2.72 / \text{BKG Time}) + (2 * \text{Lc})) / \text{EFF}$	
Sample #	H3 $\mu\text{Ci/g}$ = $(\text{dpm} * (1000\text{mL/L}) * \text{DF}) / (\text{SS} * (\text{D g/L}) * (2220000\text{dpm}/\mu\text{Ci}))$	
WL17073		
Instrument Code	Detection Limit ($\mu\text{Ci/g}$) = $(\text{Ld})(\text{DF})(1000) / [(\text{D g/L})(\text{SS})(2220000 \text{ dpm}/\mu\text{Ci})]$	
WC16085		
Prepared By		
CJO		
Chemist		
SLF		
Analyst		
ADP		
Date Complete	Tritium Concentration in $\mu\text{Ci/g}$	2.76E-03
03/19/97	Detection Limit in $\mu\text{Ci/g}$	6.49E-04
Analysis Date	% Counting Error	4.73
03/18/97		
Analysis Time		
07:40 PM		
Sample Point		
AN-104		

Analyst:	ADP	Date: 03/19/97
Signature of Chemist:	SLF	Date: 3/19/97

BLANK.WB1 REV 2.0

21811NML

2002

WORKBOOK PAGE: SAM3

H3 : LA-218-114 (B-0), LA-218-115(A-0) TRITIUM LIQUIDS/ SOLIDS		SAMPLE
Type	Disintegrations per minute from Counter (dpm)	110.08
SAMPLE	Sample Volume in mL (SS)	1
Work List	Dilution Factor (DF)	1
17073	Digest Grams of Solids / Liter (D g/L)	5.105
Test Code	Background Count Rate in Counts per Minute (BKG cpm)	23.04
@H3-01	Background Count Time in Minutes (BKG Time)	50
Matrix	Instrument Fractional Efficiency (EFF)	0.446
SOLID	% Counting Error	3.34
Batch Number	Detection Limit (Ld)	7.21
97000996	Critical Level (Lc)	1.58
Rerun	Tritium Concentration in µCi/g	9.71E-03
3		
Sample Prep	Critical Level (Lc) = 2.33 * the Square Root of (BKG cpm / BKG Time)	
H2ODIG01	Detection Limit (Ld) = ((2.72 / BKG Time) + (2 * Lc)) / EFF	
Sample #	H3 µCi/g = (dpm * (1000mL/L) * DF) / (SS * (D g/L) * (2220000dpm/µCi))	
S96T005977		
Instrument Code	Detection Limit (µCi/g) = (Ld)(DF)(1000) / [(D g/L)(SS)(2220000 dpm/µCi)]	
WC16085		
Prepared By		
CJO		
Chemist		
SLF		
Analyst		
ADP		
Date Complete	Tritium Concentration in µCi/g	9.71E-03
03/19/97	Detection Limit in µCi/g	6.37E-04
Analysis Date	% Counting Error	3.34
03/18/97		
Analysis Time		
07:40 PM		
Sample Point		
AN-104		

Analyst:	ADP	Date: 03/19/97
Signature of Chemist:	SLF	Date: 3/19/97

SAMPLE.WB1 REV 2.0

21811NML

2003

WORKBOOK PAGE: DUP4

H3 : LA-218-114 (B-0), LA-218-115(A-0) TRITIUM LIQUIDS/ SOLIDS

DUPLICATE

Type	Disintegrations per minute from Counter (dpm)	122.46
DUP	Sample Volume in mL (SS)	1
Work List	Dilution Factor (DF)	1
17073	Digest Grams of Solids / Liter (D g/L)	5.25
Test Code	Background Count Rate in Counts per Minute (BKG cpm)	23.04
@H3-01	Background Count Time in Minutes (BKG Time)	50
Matrix	Instrument Fractional Efficiency (EFF)	0.4422
SOLID	% Counting Error	3.23
Batch Number	Detection Limit (Ld)	7.28
97000996	Critical Level (Lc)	1.58
Rerun	Tritium Concentration in $\mu\text{Ci/g}$	1.05E-02
3		
Sample Prep	Critical Level (Lc) = $2.33 * \text{the Square Root of (BKG cpm / BKG Time)}$	
H2ODIG01	Detection Limit (Ld) = $((2.72 / \text{BKG Time}) + (2 * \text{Lc})) / \text{EFF}$	
Sample #	$\text{H3 } \mu\text{Ci/g} = (\text{dpm} * (1000\text{mL/L}) * \text{DF}) / (\text{SS} * (\text{D g/L}) * (2220000\text{dpm}/\mu\text{Ci}))$	
S96T005977		
Instrument Code	Detection Limit ($\mu\text{Ci/g}$) = $(\text{Ld})(\text{DF})(1000) / [(\text{D g/L})(\text{SS})(2220000 \text{ dpm}/\mu\text{Ci})]$	
WC16085		
Prepared By		
CJO		
Chemist		
SLF		
Analyst		
ADP		
Date Complete	Tritium Concentration in $\mu\text{Ci/g}$	1.05E-02
03/19/97	Detection Limit in $\mu\text{Ci/g}$	6.24E-04
Analysis Date	% Counting Error	3.23
03/18/97		
Analysis Time		
07:40 PM		
Sample Point		
AN-104		

Analyst:	ADP	Date:	03/19/97
Signature of Chemist:	SLF	Date:	3/19/97

SAMPLE.WB1 REV 2.0

21811NML

2004

LABCORE Completed Worklist Report for Worklist# 17783

Analyst: scl

Instrument: LSC02

Book# _____

Method: _____ Rev/Mod _____

Worklist Comment: See attached DSI for sample size. Rerun #3. SLF

AN104

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD	0	QHS-01	H3-01	LIQUID	8.83E-04	8.79E-4	99.847 % Recovery	
1 STD	0	QHS-01	H3-01E	LIQUID	1	9.50E-01	0.950 % Ct. Error	
2 BLNK	0	QHS-01	H3-01	LIQUID	1	4.02E-5	uCi/mL	
2 BLNK	0	QHS-01	H3-01E	LIQUID	1	5.74E+00	5.740 uCi/mL	
3 SAMPLE	S97T000388	0	QHS-01	H3-01	N/A	7.85E-04	4.03E-005 uCi/mL	
3 SAMPLE	S97T000388	0	QHS-01	H3-01E	LIQUID	N/A	2.85E+00	1.00E-004 % Ct. Error
4 DUP	S97T000388	0	QHS-01	H3-01	LIQUID	7.85E-4	2.25E-3	99.841 RPD
4 DUP	S97T000388	0	QHS-01	H3-01E	LIQUID	1	1.84E+00	1.840 % Ct. Error
5 SPK	S97T000388	0	QHS-01	H3-01	LIQUID	8.83E-04	8.75E-04	99.094 % Recovery
6 SAMPLE	S97T000389	0	QHS-01	H3-01	LIQUID	N/A	1.59E-03	4.05E-005 uCi/mL
6 SAMPLE	S97T000389	0	QHS-01	H3-01E	LIQUID	N/A	2.47E+00	1.00E-004 % Ct. Error
7 DUP	S97T000389	0	QHS-01	H3-01	LIQUID	1.59E-3	1.43E-3	10.596 RPD
7 DUP	S97T000389	0	QHS-01	H3-01E	LIQUID	1	2.25E+00	2.250 % Ct. Error
8 SPK	S97T000389	0	QHS-01	H3-01	LIQUID	8.83E-04	8.46E-04	95.810 % Recovery

Final page for worklist# 17783

Analyst Signature

Date

Analyst Signature

Date

Reviewer Signature

Date

Spectral data indicate a small amount of Cs-137 contamination still present in 388 dup (This is the reason for the high RPD). The remainder of the mounts show no Cs-137 present. This is the lowest amount of Cs-137 that has been obtained for these samples (they have very high levels of Cs-137 which make the final mounts highly susceptible to cross contamination). No further reruns requested.

5/5/97

LABCORE Data Entry Template for Worklist# 17783

Analyst: S. L. Instrument: LSC00 ⁰²6000 ^{SLF}57542 Book# 92 B5-6

Method: LA-218-114 Rev/Mod A-1

Worklist Comment: See attached DSI for sample size. Rerun #3. SLF

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 STD			@H3-01	LIQUID		
2 BLNK			@H3-01	LIQUID		
3 SAMPLE	S97T000388 0		@H3-01	LIQUID	96001318	AN-103
	Analytes Requested: H3-01			, H3-01E		
4 DUP	S97T000388 0		@H3-01	LIQUID		
5 SPK	S97T000388 0		@H3-01	LIQUID		
6 SAMPLE	S97T000389 0		@H3-01	LIQUID	96001174	AN-104
	Analytes Requested: H3-01			, H3-01E		
7 DUP	S97T000389 0		@H3-01	LIQUID		
8 SPK	S97T000389 0		@H3-01	LIQUID		

Final page for worklist # 17783

Sue Lai 4-30-97
Analyst Signature Date

M. B. ... 5/1/97
Analyst Signature Date
C. J. Opiner 5/1/97

Data Entry Comments:

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

WORKBOOK PAGE: STD1

H3 : LA-218-114 (B-0), LA-218-115(A-0) TRITIUM LIQUIDS

		STANDARD
Type	Disintegrations per minute from Counter (dpm)	1950.6
STD	Sample Volume in mL (SS)	1
Work List	Dilution Factor (DF)	1
17783	Digest Dilution Factor (DDF)	1
Test Code	Background Count Rate in Counts per Minute (BKG cpm)	28.86
@H3-01	Background Count Time in Minutes (BKG Time)	50
Matrix	Instrument Fractional Efficiency (EFF)	0.4364
LIQUID	% Counting Error	0.95
Batch Number	Detection Limit (Ld)	8.24
97001784	Critical Level (Lc)	1.77
Rerun	Tritium Concentration in $\mu\text{Ci/L}$	8.79E-01
0	Standard Book No.	92B56
Sample Prep	Standard Value in $\mu\text{Ci/mL}$	8.8318E-04
N/A		
Sample #	Critical Level (Lc) = $2.33 * \text{the Square Root of (BKG cpm / BKG Time)}$	
WL17783-STD	Detection Limit (Ld) = $((2.72 / \text{BKG Time}) + (2 * \text{Lc})) / \text{EFF}$	
Instrument Code	H3 $\mu\text{Ci/L}$ = $(\text{dpm} * (1000\text{mL/L}) * \text{DF} * \text{DDF}) / (\text{SS} * (2220000\text{dpm}/\mu\text{Ci}))$	
WC16085	H3 $\mu\text{Ci/mL}$ = $\mu\text{Ci/L} / 1000\text{mL/L}$	
Prepared By	Detection Limit ($\mu\text{Ci/mL}$) = $(\text{Ld})(\text{DF})(\text{DDF}) / [(\text{SS}) (2220000 \text{ dpm}/\mu\text{Ci})]$	
MCB		
Chemist		
SLF		
Analyst	Tritium Concentration in $\mu\text{Ci/L}$	8.79E-01
SCL		
Date Complete	Tritium Concentration in $\mu\text{Ci/mL}$	8.79E-04
05/01/97	Detection Limit in $\mu\text{Ci/mL}$	3.71E-06
Analysis Date	% Counting Error	0.95
04/30/97		
Analysis Time		
03:45 PM		
Sample Point		
AN-104		

Analyst:	SCL	Date:	05/01/97
Signature of Chemist:	SLF	Date:	5/5/97

STANDARD.WB1 REV 2.0

21811NML

2007

WORKBOOK PAGE: BLANK2

H3 : LA-218-114 (B-0), LA-218-115(A-0) TRITIUM LIQUIDS/ SOLIDS

		BLANK
Type	Disintegrations per minute from Counter (dpm)	-9.87
BLNK	Sample Volume in mL (SS)	1
Work List	Dilution Factor (DF)	11
17783	Digest Dilution Factor (DDF)	1
Test Code	Background Count Rate in Counts per Minute (BKG cpm)	28.86
@H3-01	Background Count Time in Minutes (BKG Time)	50
Matrix	Instrument Fractional Efficiency (EFF)	0.4427
LIQUID	% Counting Error	5.74
Batch Number	Detection Limit (Ld)	8.12
97001784	Critical Level (Lc)	1.77
Rerun	Tritium Concentration in $\mu\text{Ci/L}$ <	4.02E-02
0		
Sample Prep	Critical Level (Lc) = $2.33 * \text{the Square Root of (BKG cpm / BKG Time)}$	
N/A	Detection Limit (Ld) = $((2.72 / \text{BKG Time}) + (2 * \text{Lc})) / \text{EFF}$	
Sample #	H3 $\mu\text{Ci/L}$ = $(\text{dpm} * (1000\text{mL/L}) * \text{DF} * \text{DDF}) / (\text{SS} * (2220000\text{dpm}/\mu\text{Ci}))$	
	H3 $\mu\text{Ci/mL}$ = $\mu\text{Ci/L} / 1000\text{mL/L}$	
Instrument Code	Detection Limit ($\mu\text{Ci/mL}$) = $(\text{Ld})(\text{DF})(\text{DDF}) / [(\text{SS})(2220000 \text{ dpm}/\mu\text{Ci})]$	
WC16085		
Prepared By	NOTE: Reported result is a LESS THAN value calculated from the statistical Detection Limit (Ld).	
MCB		
Chemist		
SLF		
Analyst	Tritium Concentration in $\mu\text{Ci/L}$ <	4.02E-02
SCL		
Date Complete	Tritium Concentration in $\mu\text{Ci/mL}$ <	4.02E-05
05/01/97	Detection Limit in $\mu\text{Ci/mL}$	4.02E-05
Analysis Date	% Counting Error	5.74
04/30/97		
Analysis Time		
03:45 PM		
Sample Point		
AN-104		

Analyst:

SCL

Date: 05/01/97

Signature of Chemist:

SLF

Date: 5/5/97

BLANK.WB1 REV 2.0

21811NML

2008

H3 : LA-218-114 (B-0), LA-218-115(A-0) TRITIUM LIQUIDS/ SOLIDS

		SAMPLE
Type	Disintegrations per minute from Counter (dpm)	158.37
SAMPLE	Sample Volume in mL (SS)	1
Work List	Dilution Factor (DF)	11
17783	Digest Dilution Factor (DDF)	1
Test Code	Background Count Rate in Counts per Minute (BKG cpm)	28.86
@H3-01	Background Count Time in Minutes (BKG Time)	50
Matrix	Instrument Fractional Efficiency (EFF)	0.4418
LIQUID	% Counting Error	2.85
Batch Number	Detection Limit (Ld)	8.14
97001784	Critical Level (Lc)	1.77
Rerun	Tritium Concentration in $\mu\text{Ci/L}$	7.85E-01
0		
Sample Prep	Critical Level (Lc) = $2.33 * \text{the Square Root of (BKG cpm / BKG Time)}$	
N/A	Detection Limit (Ld) = $(2.72 / \text{BKG Time}) + (2 * \text{Lc}) / \text{EFF}$	
Sample #	H3 $\mu\text{Ci/L}$ = $(\text{dpm} * (1000\text{mL/L}) * \text{DF} * \text{DDF}) / (\text{SS} * (2220000\text{dpm}/\mu\text{Ci}))$	
S97T000388	H3 $\mu\text{Ci/mL}$ = $\mu\text{Ci/L} / 1000\text{mL/L}$	
Instrument Code	Detection Limit ($\mu\text{Ci/mL}$) = $(\text{Ld})(\text{DF})(\text{DDF}) / [(\text{SS})(2220000 \text{ dpm}/\mu\text{Ci})]$	
WC16085		
Prepared By		
MCB		
Chemist		
SLF		
Analyst	Tritium Concentration in $\mu\text{Ci/L}$	7.85E-01
SCL		
Date Complete	Tritium Concentration in $\mu\text{Ci/mL}$	7.85E-04
05/01/97	Detection Limit in $\mu\text{Ci/mL}$	4.03E-05
Analysis Date	% Counting Error	2.85
04/30/97		
Analysis Time		
03:45 PM		
Sample Point		
AN-104		

Analyst:	SCL	Date:	05/01/97
Signature of Chemist:	SLF	Date:	5/5/97

SAMPLE.WB1 REV 2.0

21811NML

2009

WORKBOOK PAGE: DUP4

H3 : LA-218-114 (B-0), LA-218-115(A-0) TRITIUM LIQUIDS/ SOLIDS

		DUPLICATE
Type	Disintegrations per minute from Counter (dpm)	474.24
DUP	Sample Volume in mL (SS)	1
Work List	Dilution Factor (DF)	11
17783	Digest Dilution Factor (DDF)	1
Test Code	Background Count Rate in Counts per Minute (BKG cpm)	28.86
@H3-01	Background Count Time in Minutes (BKG Time)	50
Matrix	Instrument Fractional Efficiency (EFF)	0.4391
LIQUID	% Counting Error	1.84
Batch Number	Detection Limit (Ld)	8.19
97001784	Critical Level (Lc)	1.77
Rerun	Tritium Concentration in $\mu\text{Ci/L}$	2.35E+00
0		
Sample Prep	Critical Level (Lc) = $2.33 * \text{the Square Root of (BKG cpm / BKG Time)}$	
N/A	Detection Limit (Ld) = $((2.72 / \text{BKG Time}) + (2 * \text{Lc})) / \text{EFF}$	
Sample #	$\text{H3 } \mu\text{Ci/L} = (\text{dpm} * (1000\text{mL/L}) * \text{DF} * \text{DDF}) / (\text{SS} * (2220000\text{dpm}/\mu\text{Ci}))$	
S97T000388	$\text{H3 } \mu\text{Ci/mL} = \mu\text{Ci/L} / 1000\text{mL/L}$	
Instrument Code	Detection Limit ($\mu\text{Ci/mL}$) = $(\text{Ld})(\text{DF})(\text{DDF}) / [(\text{SS})(2220000 \text{ dpm}/\mu\text{Ci})]$	
WC16085		
Prepared By		
MCB		
Chemist		
SLF		
Analyst	Tritium Concentration in $\mu\text{Ci/L}$	2.35E+00
SCL		
Date Complete	Tritium Concentration in $\mu\text{Ci/mL}$	2.35E-03
05/01/97	Detection Limit in $\mu\text{Ci/mL}$	4.06E-05
Analysis Date	% Counting Error	1.84
04/30/97		
Analysis Time		
03:45 PM		
Sample Point		
AN-104		

Analyst:	SCL	Date: 05/01/97
Signature of Chemist:	SLF	Date: 5/5/97

SAMPLE:WB1 REV 2.0

21811NML

2010

WORKBOOK PAGE: SPIKE5

H3 : LA-218-114 (B-0), LA-218-115(A-0) TRITIUM LIQUIDS/ SOLIDS

		SPIKE
Type	dpm of Sample from Counter (dpm1)	158.37
SPK	dpm of Sample + Spike from Counter (dpm2)	1050.77
Work List	Volume of Sample in Distillation Vial in mL (Svol)	1.5
17783	Volume of Spike in Distillation Vial in mL (SPK vol)	1.5
Test Code	Volume Transferred to Scintillation Vial in mL (TR vol)	1
@H3-01	Spike Book Number (Spk BN)	92B56
Matrix	Spike Value in $\mu\text{Ci/mL}$ (SPK val)	8.8318E-04
LIQUID	Background Count Rate in cpm (BKG cpm)	28.86
Batch Number	Background Count Time in Minutes (BKG Time)	50
97001784	Instrument Fractional Efficiency of Sample (EFF)	0.4446
Rerun	Detection Limit (Ld)	8.09
0	Critical Level (Lc)	1.77
Sample Prep	H3 $\mu\text{Ci/mL}$ in Sample Vial (Rsam)	7.13E-05
N/A	H3 $\mu\text{Ci/mL}$ in Sample + Spike Vial (Rs+s)	4.73E-04
Sample #	Vol. Ratio Sample Vol. to Total Vol. (VRsam)	5.00E-01
S97T000388	Vol. Ratio Spike Vol. to Total Vol. (VRspike)	5.00E-01
Instrument Code	Spk val = value taken from RCTABLE and then decayed using a $\frac{1}{2}$ life of 29.1 years	
WC16085	Detection Limit (Ld) = $((2.72 / \text{BKG time}) + (2 * \text{Lc})) / \text{EFF}$	
Prepared By	Critical Level (Lc) = $2.33 * \text{the Square Root of (BKG cpm / BKG time)}$	
MCB	H3 $\mu\text{Ci/mL}$ in Sample Vial (Rsam) = $\text{dpm1} / (\text{TR vol} * (2220000\text{dpm}/\mu\text{Ci}))$	
Chemist	H3 $\mu\text{Ci/mL}$ in Sample + Spike Vial (Rs+s) = $\text{dpm2} / (\text{TR vol} * (2220000\text{dpm}/\mu\text{Ci}))$	
SLF	Volume Ratio of Sample Volume to Total Volume (VRsam) = $\text{Svol} / (\text{Svol} + \text{SPK vol})$	
Analyst	Volume Ratio of Spike Volume to Total Volume (VRspike) = $\text{SPK vol} / (\text{Svol} + \text{SPK vol})$	
SCL	QC Actual in $\mu\text{Ci/mL}$ = SPK val	
Date Complete	QC Found in $\mu\text{Ci/mL}$ = $((\text{Rs+s}) - (\text{Rsam} * \text{VRsam})) / (\text{VRspike})$	
05/01/97	Percent Spike Recovery = $\text{QC Found} / \text{QC Actual} * 100$	
Analysis Date		
04/30/97		
Analysis Time		
03:45 PM	QC Actual in $\mu\text{Ci/mL}$	= 8.83E-04
Sample Point	QC Found in $\mu\text{Ci/mL}$	= 8.75E-04
AN-104	Percent Spike Recovery	= 99.1%

 5/5/97

WORKBOOK PAGE: SAM6

H3 : LA-218-114 (B-0), LA-218-115(A-0) TRITIUM LIQUIDS/ SOLIDS

		SAMPLE
Type	Disintegrations per minute from Counter (dpm)	320.22
SAMPLE	Sample Volume in mL (SS)	1
Work List	Dilution Factor (DF)	11
17783	Digest Dilution Factor (DDF)	1
Test Code	Background Count Rate in Counts per Minute (BKG cpm)	28.86
@H3-01	Background Count Time in Minutes (BKG Time)	50
Matrix	Instrument Fractional Efficiency (EFF)	0.4401
LIQUID	% Counting Error	2.17
Batch Number	Detection Limit (Ld)	8.17
97001784	Critical Level (Lc)	1.77
Rerun	Tritium Concentration in $\mu\text{Ci/L}$	1.59E+00
0		
Sample Prep	Critical Level (Lc) = $2.33 * \text{the Square Root of (BKG cpm / BKG Time)}$	
N/A	Detection Limit (Ld) = $((2.72 / \text{BKG Time}) + (2 * \text{Lc})) / \text{EFF}$	
Sample #	H3 $\mu\text{Ci/L}$ = $(\text{dpm} * (1000\text{mL/L}) * \text{DF} * \text{DDF}) / (\text{SS} * (2220000\text{dpm}/\mu\text{Ci}))$	
S97T000389	H3 $\mu\text{Ci/mL}$ = $\mu\text{Ci/L} / 1000\text{mL/L}$,	
Instrument Code	Detection Limit ($\mu\text{Ci/mL}$) = $(\text{Ld})(\text{DF})(\text{DDF}) / [(\text{SS})(2220000 \text{ dpm}/\mu\text{Ci})]$	
WC16085		
Prepared By		
MCB		
Chemist		
SLF		
Analyst	Tritium Concentration in $\mu\text{Ci/L}$	1.59E+00
SCL		
Date Complete	Tritium Concentration in $\mu\text{Ci/mL}$	1.59E-03
05/01/97	Detection Limit in $\mu\text{Ci/mL}$	4.05E-05
Analysis Date	% Counting Error	2.17
04/30/97		
Analysis Time		
03:45 PM		
Sample Point		
AN-104		

Analyst:	SCL	Date: 05/01/97
Signature of Chemist:	SLF	Date: 5/5/97

SAMPLE.WB1 REV 2.0

21811NML

2012

WORKBOOK PAGE: DUP7

H3 : LA-218-114 (B-0), LA-218-115(A-0) TRITIUM LIQUIDS/ SOLIDS

		DUPLICATE
Type	Disintegrations per minute from Counter (dpm)	288.87
DUP	Sample Volume in mL (SS)	1
Work List	Dilution Factor (DF)	11
17783	Digest Dilution Factor (DDF)	1
Test Code	Background Count Rate in Counts per Minute (BKG cpm)	28.86
@H3-01	Background Count Time in Minutes (BKG Time)	50
Matrix	Instrument Fractional Efficiency (EFF)	0.4451
LIQUID	% Counting Error	2.25
Batch Number	Detection Limit (Ld)	8.08
97001784	Critical Level (Lc)	1.77
Rerun	Tritium Concentration in $\mu\text{Ci/L}$	1.43E+00
0		
Sample Prep	Critical Level (Lc) = $2.33 * \text{the Square Root of (BKG cpm / BKG Time)}$	
N/A	Detection Limit (Ld) = $((2.72 / \text{BKG Time}) + (2 * \text{Lc})) / \text{EFF}$	
Sample #	H3 $\mu\text{Ci/L}$ = $(\text{dpm} * (1000\text{mL/L}) * \text{DF} * \text{DDF}) / (\text{SS} * (2220000\text{dpm}/\mu\text{Ci}))$	
S97T000389	H3 $\mu\text{Ci/mL}$ = $\mu\text{Ci/L} / 1000\text{mL/L}$	
Instrument Code	Detection Limit ($\mu\text{Ci/mL}$) = $(\text{Ld})(\text{DF})(\text{DDF}) / ((\text{SS})(2220000 \text{ dpm}/\mu\text{Ci}))$	
WC16085		
Prepared By		
MCB		
Chemist		
SLF		
Analyst	Tritium Concentration in $\mu\text{Ci/L}$	1.43E+00
SCL		
Date Complete	Tritium Concentration in $\mu\text{Ci/mL}$	1.43E-03
05/01/97	Detection Limit in $\mu\text{Ci/mL}$	4.00E-05
Analysis Date	% Counting Error	2.25
04/30/97		
Analysis Time		
03:45 PM		
Sample Point		
AN-104		

Analyst:	SCL	Date:	05/01/97
Signature of Chemist:	SLF	Date:	5/5/97

SAMPLE.WB1 REV 2.0

21811NML

2013

WORKBOOK PAGE: SPIKE8

H3 : LA-218-114 (B-0), LA-218-115(A-0) TRITIUM LIQUIDS/ SOLIDS

		SPIKE
Type	dpm of Sample from Counter (dpm1)	320.22
SPK	dpm of Sample + Spike from Counter (dpm2)	1099.09
Work List	Volume of Sample in Distillation Vial in mL (Svol)	1.5
17783	Volume of Spike in Distillation Vial in mL (SPK vol)	1.5
Test Code	Volume Transferred to Scintillation Vial in mL (TR vol)	1
@H3-01	Spike Book Number (Spk BN)	92B56
Matrix	Spike Value in $\mu\text{Ci/mL}$ (SPK val)	8.8318E-04
LIQUID	Background Count Rate in cpm (BKG cpm)	28.86
Batch Number	Background Count Time in Minutes (BKG Time)	50
97001784	Instrument Fractional Efficiency of Sample (EFF)	0.4449
Rerun	Detection Limit (Ld)	8.08
0	Critical Level (Lc)	1.77
Sample Prep	H3 $\mu\text{Ci/mL}$ in Sample Vial (Rsam)	1.44E-04
N/A	H3 $\mu\text{Ci/mL}$ in Sample + Spike Vial (Rs+s)	4.95E-04
Sample #	Vol. Ratio Sample Vol. to Total Vol. (VRsam)	5.00E-01
S97T000389	Vol. Ratio Spike Vol. to Total Vol. (VRspike)	5.00E-01
Instrument Code	Spk val = value taken from RCTABLE and then decayed using a $\frac{1}{2}$ life of 29.1 years	
WC16085	Detection Limit (Ld) = $((2.72 / \text{BKG time}) + (2 * \text{Lc})) / \text{EFF}$	
Prepared By	Critical Level (Lc) = $2.33 * \text{the Square Root of (BKG cpm / BKG time)}$	
MCB	H3 $\mu\text{Ci/mL}$ in Sample Vial (Rsam) = $\text{dpm1} / (\text{TR vol} * (2220000 \text{dpm}/\mu\text{Ci}))$	
Chemist	H3 $\mu\text{Ci/mL}$ in Sample + Spike Vial (Rs+s) = $\text{dpm2} / (\text{TR vol} * (2220000 \text{dpm}/\mu\text{Ci}))$	
SLF	Volume Ratio of Sample Volume to Total Volume (VRsam) = $\text{Svol} / (\text{Svol} + \text{SPK vol})$	
Analyst	Volume Ratio of Spike Volume to Total Volume (VRspike) = $\text{SPK vol} / (\text{Svol} + \text{SPK vol})$	
SCL	QC Actual in $\mu\text{Ci/mL}$ = SPK val	
Date Complete	QC Found in $\mu\text{Ci/mL}$ = $((\text{Rs+s}) - (\text{Rsam} * \text{VRsam})) / (\text{VRspike})$	
05/01/97	Percent Spike Recovery = $\text{QC Found} / \text{QC Actual} * 100$	
Analysis Date		
04/30/97		
Analysis Time		
03:45 PM	QC Actual in $\mu\text{Ci/mL}$	= 8.83E-04
Sample Point	QC Found in $\mu\text{Ci/mL}$	= 8.46E-04
AN-104	Percent Spike Recovery	= 95.8%

5/5/97

2014

LABCORE Completed RadChem Report for Worklist#: 15497

Analyst: tam

Instrument: AB14

Book# _____

Method: _____ Rev/Mod _____

Worklist Comment: @AB-01 FOR AN-104)DET SS USING LUDLUM).1ML SPK RTS!

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD	0	QAB-01	ALPHA-01	LIQUID	2.30E-04	1.93E-4	79.565	% Recovery
1 STD	0	QAB-01	ALPHA-01E	LIQUID	1	3.53E+00	3.530	% Ct. Error
1 STD	0	QAB-01	BETA-01	LIQUID	2.96E-03	2.83E-3	95.608	% Recovery
1 STD	0	QAB-01	BETA-01E	LIQUID	1	6.83E-01	0.683	% Ct. Error
2 BLNK-PREP	0	QAB-01	ALPHA-01	LIQUID	1	<2.57E-2		uCi/mL
2 BLNK-PREP	0	QAB-01	ALPHA-01E	LIQUID	1.00	2.45E+02	245.000	uCi/mL
2 BLNK-PREP	0	QAB-01	BETA-01	LIQUID	1	<5.27E-2		uCi/mL
2 BLNK-PREP	0	QAB-01	BETA-01E	LIQUID	1.00	5.00E+02	500.000	uCi/mL
3 BLNK/BKG	0	QAB-01	ALPHA-01	LIQUID	1.00E+00	1.76E+00	1.760	BLNK/BKG
3 BLNK/BKG	0	QAB-01	BETA-01	LIQUID	1.00E+00	9.80E-01	0.980	BLNK/BKG
4 SAMPLE	S96T005979	0	QAB-01	ALPHA-01	LIQUID	N/A	2.57E-02	302.0e-004 uCi/mL
4 SAMPLE	S96T005979	0	QAB-01	ALPHA-01E	LIQUID	N/A	5.00E+02	0.0e+000 % Ct. Error
4 SAMPLE	S96T005979	0	QAB-01	BETA-01	LIQUID	N/A	4.82E+02	109.0e-003 uCi/mL
4 SAMPLE	S96T005979	0	QAB-01	BETA-01E	LIQUID	N/A	3.32E-01	0.0e+000 % Ct. Error
5 DUP	S96T005979	0	QAB-01	ALPHA-01	LIQUID	<2.57E-2	2.59E-2	RFD
5 DUP	S96T005979	0	QAB-01	ALPHA-01E	LIQUID	1.00	8.26E+01	82.600 % Ct. Error
5 DUP	S96T005979	0	QAB-01	BETA-01	LIQUID	4.82E+2	5.09E+2	5.443 RFD
5 DUP	S96T005979	0	QAB-01	BETA-01E	LIQUID	1.00	3.31E-01	0.331 % Ct. Error
6 SPK	S96T005979	0	QAB-01	ALPHA-01	LIQUID	3.59E-02	2.69E-02	80.223 % Recovery
6 SPK	S96T005979	0	QAB-01	BETA-01	LIQUID	1.51E-01	1.47E-01	97.351 % Recovery

Final page for worklist# 15497

Analyst Signature

Date

Analyst Signature

Date

Reviewer Signature

Date

12/10/96 10:50
A-0004-1

LABCORE Data Entry Template for Worklist# 15497

Analyst:

JAM

Instrument:

AB00

14

Book#

66856

Method: LA-508-101

Rev/Mod 2-1

Worklist Comment: @AB-01 FOR AN-104)DET SS USING LUDLUM).1ML SPK

RTS!

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 STD			@AB-01	LIQUID		
2 BLNK-PREP			@AB-01	LIQUID		
3 BLNK/BKG			@AB-01	LIQUID		
4 SAMPLE	S96T005979 0		@AB-01	LIQUID	96001174	AN-104
Analytes Requested: ALPHA01 , ALPHA01E, BETA-01 , BETA-01E						
5 DUP	S96T005979 0		@AB-01	LIQUID		
6 SPK	S96T005979 0		@AB-01	LIQUID		

Final page for worklist # 15497

JAM 12-17-96
Analyst Signature DateM/S 12/18/96
Analyst Signature Date
C.J. Opium 12/18/96

Data Entry Comments:

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

WORKBOOK PAGE: STD1

TB : LA-508-101 (E-1) LA-508-113 (B-0) STANDARD

	STANDARD	REPLICATE
Type	DETECTOR NUMBER	14
STD	DISH SIZE (1, 2, or 5)	2
Work List	GROSS COUNTS	85329
15497	COUNT TIME in MINUTES	30
A1 or TB ?	BACKGROUND in cpm	9
TB	SAMPLE SIZE in mL	1.000
Test Code	DILUTION FACTOR	1
@AB-01	STANDARD BOOK NUMBER (Std BN)	66B56
Matrix	EFFICIENCY FACTOR (EFF)	0.4455
LIQUID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	2835.300
Batch Number	Standard Value in $\mu\text{Ci/mL}$	2.96E-03
96012110	Concentration in $\mu\text{Ci/L}$	2.87E+00
Rerun	Replicate Concentration in $\mu\text{Ci/L}$	2.80E+00
0	AVERAGE CONCENTRATION in $\mu\text{Ci/L}$	2.8320E+00

Sample Prep
N/A
Rs (Sample Count Rate) = $(TC / CT) - BKG$
Sample #
WL15497
TOTAL BETA $\mu\text{Ci/L}$ = $Rs * 1000\text{mL/L} * DF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$
Instrument Code
WB27807
TOTAL BETA $\mu\text{Ci/mL}$ = $TOTAL BETA \mu\text{Ci/L} / 1000\text{mL/L}$
Prepared By
MCB
Chemist
SLF
Relative Counting Error = $[|(The Square Root of TC + BKG * CT)| / (TC - BKG * CT)|] * 1.96 * 100$
Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Analyst	TOTAL BETA CONCENTRATION in $\mu\text{Ci/mL}$ =	2.83E-03	DETECTION LEVEL
TAM			
Date Complete			2.68E-06
12/18/96	RELATIVE COUNTING ERROR	=	0.7%
Analysis Date			$\mu\text{Ci/mL}$
12/17/96			
Analysis Time			
12:00 PM			
Sample Point			
AN-104			

Analyst: MCB Date: 18-Dec-96
Signature of Chemist: SLF Date: 12/18/96

STANDARD.WB1 Rev. 1.0

508101ML

2017

WORKBOOK PAGE: STD2

AT : LA-508-101 (E-1) LA-508-113 (B-0) STANDARD

		STANDARD	REPLICATE
Type	DETECTOR NUMBER	14	14
STD	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	3477	3101
15497	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.17	0.17
AT	SAMPLE SIZE in mL (SS)	1.000	1.000
Test Code	DILUTION FACTOR (DF)	1	1
@AB-01	STANDARD BOOK NUMBER (Std BN)	66B56	66B56
Math	EFFICIENCY FACTOR (EFF)	0.2692	0.2692
LIQUID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE	115.730	103.197
Batch Number	Standard Value in $\mu\text{Ci/mL}$	2.30E-04	
96012110	Concentration in $\mu\text{Ci/L}$ =	1.94E-01	
Rerun	Replicate Concentration in $\mu\text{Ci/L}$ =	1.73E-01	
0	AVERAGE CONCENTRATION in $\mu\text{Ci/L}$ =	1.8316E-01	
Sample Prep			
N/A	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	$\text{ALPHA TOTAL } \mu\text{Ci/L} = R_s * 1000\text{mL/L} * DF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$		
WL15497	$\text{ALPHA TOTAL } \mu\text{Ci/mL} = \text{ALPHA TOTAL } \mu\text{Ci/L} / 1000\text{mL/L}$		
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
MCB			
Chemist			
SLF	ALPHA TOTAL CONCENTRATION in $\mu\text{Ci/mL}$ =	1.83E-04	DETECTION LEVEL 7.40E-07 $\mu\text{Ci/mL}$
Analyst			
TAM			
Date Complete	RELATIVE COUNTING ERROR =	3.5%	
12/18/96			
Analysis Date			
12/17/96			
Analysis Time			
12:00 PM			
Sample Point			
AN-104			

Analyst:	MCB	Date: 18-Dec-96
Signature of Chemist:	SLF	Date: 12/18/96

STANDARD.WB1 Rev. 1.0

508101ML

2018

WORKBOOK PAGE: BLANK3

TB : LA-508-101 (E-1)

LIQUIDS

	BLNK-PREP	REPLICATE
Type	DETECTOR NUMBER	14
BLNK-PREP	DISH SIZE (1, 2, or 5)	2
Work List	GROSS COUNTS	264
15497	COUNT TIME in MINUTES	30
AT or TB?	BACKGROUND in cpm	9
TB	SAMPLE SIZE in mL	0.250
Test Code	DILUTION FACTOR	10201
@AB-01	DIGEST DILUTION FACTOR	1
Matrix	EFFICIENCY FACTOR	0.4455
LIQUID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	1.278
Batch Number		
96012110	Blank Concentration in $\mu\text{Ci/L}$	< 5.27E+01
Rerun	Replicate Concentration in $\mu\text{Ci/L}$	< 5.27E+01
0	Maximum Concentration in $\mu\text{Ci/L}$	< 5.2730E+01
Sample Prep		
N/A	Rs (Sample Count Rate) = (TC / CT) - BKG	
Sample #	TOTAL BETA $\mu\text{Ci/L}$ = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/ μCi)	
	TOTAL BETA $\mu\text{Ci/mL}$ = TOTAL BETA $\mu\text{Ci/L}$ / 1000mL/L	
Instrument Code	Relative Counting Error = [(The Square Root of TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100	
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.	
Prepared By		
MCB		
Chemist		
SLF	TOTAL BETA in $\mu\text{Ci/mL}$ (Maximum) =	< 5.27E-02
Analyst		
TAM	LESS Than Value was Determined from Lc.	
Date Complete	RELATIVE COUNTING ERROR	500.0%
12/18/96		
Analysis Date		
12/17/96		
Analysis Time		
12:00 PM		
Sample Point		
AN-104		

Analyst:	TAM	Date: 18-Dec-96
Signature of Chemist:	SLF	Date: 12/18/96
BLANK.WBT Rev. 1.0	508101ML	

2019

WORKBOOK PAGE: BLANK4

AT : LA-508-101 (E-1)

LIQUIDS

		BLNK-PREP	REPLICATE
Type	DETECTOR NUMBER	14	14
BLNK-PREP	DISH SIZE (1, 2, or 5)	(MS) 2	2
Work List	GROSS COUNTS	(GC) 10	8
15497	COUNT TIME in MINUTES	(CT) 30	30
AT or TB ?	BACKGROUND in cpm	(BKG) 0.17	0.17
AT	SAMPLE SIZE in mL	(SS) 0.250	0.250
Test Code	DILUTION FACTOR	(DF) 10201	10201
@AB-01	DIGEST DILUTION FACTOR	(DDF) 1	1
Matrix	EFFICIENCY FACTOR	(EFF) 0.2692	0.2692
LIQUID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.377	0.296
Batch Number			
96012110	Blank Concentration in $\mu\text{Ci/L}$	< 2.57E+01	
Rerun	Replicate Concentration in $\mu\text{Ci/L}$	< 2.02E+01	
0	Maximum Concentration in $\mu\text{Ci/L}$	< 2.5744E+01	
Sample Prep			
N/A	Rs (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	ALPHA TOTAL $\mu\text{Ci/L}$ = $Rs * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$		
	ALPHA TOTAL $\mu\text{Ci/mL}$ = ALPHA TOTAL $\mu\text{Ci/L} / 1000\text{mL/L}$		
Instrument Code	Relative Counting Error = $[(The Square Root of TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
MCB			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum) =	< 2.57E-02	DETECTION LEVEL 3.02E-02 $\mu\text{Ci/mL}$
Analyst			
TAM	LESS THAN Value was Determined from Rmax.		
Date Complete	RELATIVE COUNTING ERROR	244.6%	
12/18/96			
Analysis Date			
12/17/96			
Analysis Time			
12:00 PM			
Sample Point			
AN-104			

Analyst:	TAM	Date: 18-Dec-96
Signature of Chemist:	SLF	Date: 12/18/96
BLANK.WB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: SAM7

TB : LA-508-101 (E-1)

LIQUIDS

		SAMPLE	REPLICATE
Type	DETECTOR NUMBER	14	14
SAMPLE	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	351610	350280
15497	COUNT TIME in MINUTES (CT)	30	30
AT or TB?	BACKGROUND in cpm (BKG)	9	9
TB	SAMPLE SIZE in mL (SS)	0.250	0.250
Test Code	DILUTION FACTOR (DF)	10201	10201
@AB-01	DIGEST DILUTION FACTOR (DDF)	1	1
Matrix	EFFICIENCY FACTOR (EFF)	0.4455	0.4455
LIQUID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	11711.333	11667.000
Batch Number			
96012110	Blank Concentration in $\mu\text{Ci/L}$	4.83E+05	
Run	Replicate Concentration in $\mu\text{Ci/L}$	4.81E+05	
0	Average Concentration in $\mu\text{Ci/L}$	4.8226E+05	
Sample Prep			
N/A	Rs (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	TOTAL BETA $\mu\text{Ci/L}$ = $Rs * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$		
S96T005979	TOTAL BETA $\mu\text{Ci/mL}$ = $TOTAL BETA \mu\text{Ci/L} / 1000\text{mL/L}$		
Instrument Code	Relative Counting Error = $[(The Square Root of TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
MCB			
Chemist			
SLF	TOTAL BETA in $\mu\text{Ci/mL}$ (Average) =	4.82E+02	
Analyst			
TAM			
Data Complete			
12/18/96	RELATIVE COUNTING ERROR	0.3%	
Analysis Date			
12/17/96			
Analysis Time			
12:00 PM			
Sample Point			
AN-104			

Analyst:	TAM	Date: 18-Dec-96
Signature of Chemist:	SLF	Date: 12/18/96
SAMPLE.WB1 Rev. 1.0	508101ML	

2021

12/18/96

08:13:11

WORKBOOK PAGE: SAM8

AT : LA-508-101 (E-1)

LIQUIDS

		SAMPLE	REPLICATE
Type	DETECTOR NUMBER	14	14
SAMPLE	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	5	10
15497	COUNT TIME in MINUTES (CT)	30	30
AT or FB?	BACKGROUND in cpm (BKG)	0.17	0.17
AT	SAMPLE SIZE in mL (SS)	0.250	0.250
Test Code	DILUTION FACTOR (DF)	10201	10201
@AB-01	DIGEST DILUTION FACTOR (DDF)	1	1
Matrix	EFFICIENCY FACTOR (EFF)	0.2692	0.2692
LIQUID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.176	0.377
Batch Number			
96012110	Blank Concentration in $\mu\text{Ci/L}$	< 1.20E+01	
Rerun	Replicate Concentration in $\mu\text{Ci/L}$	< 2.57E+01	
0	Maximum Concentration in $\mu\text{Ci/L}$	< 2.5744E+01	
Sample Prep			
N/A	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	$\text{ALPHA TOTAL } \mu\text{Ci/L} = R_s * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$		
S96T005979	$\text{ALPHA TOTAL } \mu\text{Ci/mL} = \text{ALPHA TOTAL } \mu\text{Ci/L} / 1000\text{mL/L}$		
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
MCB			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum) =	< 2.57E-02	DETECTION LEVEL
Analyst	LESS Than Value was Determined from Lc.		
TAM			
Data Complete	RELATIVE COUNTING ERROR	500.0%	3.02E-02 $\mu\text{Ci/mL}$
12/18/96			
Analysis Date			
12/17/96			
Analysis Time			
12:00 PM			
Sample Point			
AN-104			

Analyst:	TAM	Date: 18-Dec-96
Signature of Chemist:	SLF	Date: 12/18/96
SAMPLE.WB1 Rev. 1.0	508101ML	

2022

WORKBOOK PAGE: DUP9

TB : LA-508-101 (E-1)

LIQUIDS

	DUP	REPLICATE
Type	DETECTOR NUMBER	14
DUP	DISH SIZE (1, 2, or 5) (MS)	2
Work List	GROSS COUNTS (GC)	351924
15497	COUNT TIME in MINUTES (CT)	30
At or TB?	BACKGROUND in cpm (BKG)	9
TB	SAMPLE SIZE in mL (SS)	0.250
Test Code	DILUTION FACTOR (DF)	10201
@AB-01	DIGEST DILUTION FACTOR (DDF)	1
Main	EFFICIENCY FACTOR (EFF)	0.4455
LIQUID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	11721.800
Batch Number		12951.967
96012110	Blank Concentration in $\mu\text{Ci/L}$	4.84E+05
Rerun	Replicate Concentration in $\mu\text{Ci/L}$	5.34E+05
0	Average Concentration in $\mu\text{Ci/L}$	5.0899E+05
Sample Prep		
N/A	Rs (Sample Count Rate) = $(TC / CT) - BKG$	
Sample #	TOTAL BETA $\mu\text{Ci/L}$ = $Rs * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$	
S96T005979	TOTAL BETA $\mu\text{Ci/mL}$ = $TOTAL BETA \mu\text{Ci/L} / 1000\text{mL/L}$	
Instrument Code	Relative Counting Error = $[(The Square Root of TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$	
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.	
Prepared By		
MCB		
Chemist		
SLF	TOTAL BETA in $\mu\text{Ci/mL}$ (Average) =	5.09E+02
Analyst		
TAM		
Date Complete		
12/18/96	RELATIVE COUNTING ERROR	0.3%
Analysis Date		
12/17/96		
Analysis Time		
12:00 PM		
Sample Point		
AN-104		

Analyst:	TAM	Date: 18-Dec-96
Signature of Chemist:	SLF	Date: 12/18/96
SAMPLE.WB1 Rev. 1.0	508101ML	

2023

WORKBOOK PAGE: DUP10

AT : LA-508-101 (E-1)

LIQUIDS

		DUP	REPLICATE
WPS	DETECTOR NUMBER	14	14
DUP	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	17	16
15497	COUNT TIME in MINUTES (CT)	30	30
At or B?	BACKGROUND in cpm (BKG)	0.17	0.17
AT	SAMPLE SIZE in mL (SS)	0.250	0.250
Test Code	DILUTION FACTOR (DF)	10201	10201
@AB-01	DIGEST DILUTION FACTOR (DDF)	1	1
Matrix	EFFICIENCY FACTOR (EFF)	0.2692	0.2692
LIQUID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.397	0.363
Batch Number			
96012110	Blank Concentration in $\mu\text{Ci/L}$	2.71E+01	
Run	Replicate Concentration in $\mu\text{Ci/L}$	2.48E+01	
0	Average Concentration in $\mu\text{Ci/L}$	2.5945E+01	
Sample Prep			
N/A	Rs (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	ALPHA TOTAL $\mu\text{Ci/L}$ = $Rs * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$		
S96T005979	ALPHA TOTAL $\mu\text{Ci/mL}$ = $ALPHA TOTAL \mu\text{Ci/L} / 1000\text{mL/L}$		
Instrument Code	Relative Counting Error = $\{ [(The Square Root of TC + BKG * CT) / (TC - BKG * CT)] \} * 1.96 * 100$		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
MCB			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Average) =	2.59E-02	DETECTION LEVEL
Analyst			
TAM			
Date Complete	RELATIVE COUNTING ERROR	82.6%	3.02E-02 $\mu\text{Ci/mL}$
12/18/96			
Analysis Date			
12/17/96			
Analysis Time			
12:00 PM			
Sample Point			
AN-104			

Analyst:	TAM	Date: 18-Dec-96
Signature of Chemist:	SLF	Date: 12/18/96
SAMPLE.WB1 Rev. 1.0	508101ML	

2024

WORKBOOK PAGE: SPK11

TB : LA-508-101 (E-1) LA-508-113 (B-0) SPIKED SAMPLE

	SPIKE	REPLICATE
SPK	14	14
SPK	2	2
Work List	793754	779766
15497	30	30
Ator TB ?	9	9
TB	0.250	0.250
Test Code	10201	10201
@AB-01	1	1
Matrix	0.100	0.100
LIQUID	1	1
Batch Number	58B56	58B56
96012110	1.5114E-01	1.5114E-01
Refin	0.4455	0.4455
0	1.09E+03	1.07E+03
Sample Prep	4.8226E+02	
N/A		
Sample #		
S96T005979		
Instrument Code		
WB27807		
Prepared By		
MCB		
Chemist		
SLF		
Analyst		
TAM		
Date Completed		
12/18/96		
Analysis Date		
12/17/96		
Analysis Time		
12:00 PM		
Sample Point		
AN-104		

$$Rs \text{ (Sample Count Rate)} = (TC / CT) - BKG$$

$$SAMPLE + SPIKE \mu Ci/mL = Rs * DF * DDF / (EFF * SS * 2220000 \text{ dpm}/\mu Ci)$$

$$QC \text{ ACTUAL} = SVal$$

$$QC \text{ FOUND} = (((S+S \mu Ci/mL - SAMPLE \mu Ci/mL) * ((SDF/SVol)/(DF*DDF/SS))))$$

$$PERCENT \text{ SPIKE RECOVERY} = (QC \text{ FOUND} / QC \text{ ACTUAL}) * 100$$

$$QC \text{ ACTUAL} = 1.51E-01$$

$$QC \text{ FOUND} = 1.47E-01$$

$$AVG. \text{ PERCENT SPIKE RECOVERY} = 97.2\%$$

Analyst:	MCB	Date: 18-Dec-96
Signature of Chemist:	SLF	Date: 12/18/96
SPIKE:WB1 Rev. 1.0	508101ML	

2025

WORKBOOK PAGE: SPK12

AT: LA-508-101 (E-1) LA-508-113 (B-0) SPIKED SAMPLE

		SPIKE	REPLICATE
Type	DETECTOR NUMBER	14	14
SPK	DISH SIZE 1, 2, or 5 (MS)	2	2
Work List	TOTAL COUNTS (TC)	51829	51393
15497	COUNT TIME in MINUTES (CT)	30	30
At For TB?	BACKGROUND in cpm (BKG)	0.17	0.17
AT	SAMPLE VOLUME in mL (Spiked Vial) (SS)	0.250	0.250
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial) (DF)	10201	10201
@AB-01	DIGEST DILUTION FACTOR (DDF)	1	1
Matrix	SPIKE VOLUME in mL (SVol)	0.100	0.100
LIQUID	SPIKE DILUTION FACTOR (SDF)	1	1
Batch Number	SPIKE BOOK NUMBER (Spk BN)	123B43	123B43
96012110	SPIKE VALUE in $\mu\text{Ci/mL}$ (SVal)	3.5857E-02	3.5857E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR (EFF)	0.2692	0.2692
0	SAMPLE + SPIKE $\mu\text{Ci/mL}$ (S+S)	1.18E+02	1.17E+02
Sample Prep	AVERAGE or MAXIMUM $\mu\text{Ci/mL}$ in SAMPLE <	2.5744E-02	
N/A			
Sample #			
S96T006979			
Instrument Code			
WB27807			
Prepared By			
MCB			
Chemist			
SLF			
Analyst			
TAM			
Date Complete			
12/18/96			
Analysis Date			
12/17/96			
Analysis Time			
12:00 PM			
Sample Point			
AN-104			

Rs (Sample Count Rate) = (TC / CT) - BKG

SAMPLE + SPIKE $\mu\text{Ci/mL}$ = Rs * DF * DDF / (EFF * SS * 2220000dpm/ μCi)

QC ACTUAL = SVal

QC FOUND = (((S+S $\mu\text{Ci/mL}$ - SAMPLE $\mu\text{Ci/mL}$) * ((SDF/SVol)/(DF*DDF/SS))))

PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) * 100

NOTE: Original Sample result was a LESS THAN value. Zero (0) was subtracted from the spiked value for QC found calculation.

QC ACTUAL	=	3.59E-02
QC FOUND	=	2.88E-02
AVG. PERCENT SPIKE RECOVERY	=	80.3%

Analyst:	MCB	Date: 18-Dec-96
Signature of Chemist:	SLF	Date: 12/18/96
SPIKE.WB1 Rev. 1.0	508101ML	

2026

LABCORE Completed RadChem Report for Worklist#: 16194

Analyst: scl

Instrument: AB14

Book# _____

Method: _____ Rev/Mod _____

Worklist Comment: Determine sample size using ludlum.Spike:0.1ml.Std:1.0.new

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD	0	QAB-01	ALPHA01	SOLID	2.30E-04	1.94E-4	84.348	% Recovery
1 STD	0	QAB-01	ALPHA01E	SOLID	1	3.42E+00	3.420	% Ct. Error
1 STD	0	QAB-01	BETA-01	SOLID	2.95E-03	2.96E-3	100.339	% Recovery
1 STD	0	QAB-01	BETA-01E	SOLID	1	6.65E-01	0.665	% Ct. Error
2 BLNK-PREP	0	QAB-01	ALPHA01	SOLID	1	<3.31E-2		uCi/g
2 BLNK-PREP	0	QAB-01	ALPHA01E	SOLID	1.00	2.53E+02	253.000	uCi/g
2 BLNK-PREP	0	QAB-01	BETA-01	SOLID	1	<9.47E-2		uCi/g
2 BLNK-PREP	0	QAB-01	BETA-01E	SOLID	1.00	5.00E+02	500.000	uCi/g
3 BLNK/BKG	0	QAB-01	ALPHA01	SOLID	1.00E+00	1.67E+00	1.670	BLNK/BKG
3 BLNK/BKG	0	QAB-01	BETA-01	SOLID	1.00E+00	1.04E+00	1.040	BLNK/BKG
4 SAMPLE	S96T005975	0 F	QAB-01	ALPHA01	SOLID	N/A	3.93E-02	397.0e-004 uCi/g
4 SAMPLE	S96T005975	0 F	QAB-01	ALPHA01E	SOLID	N/A	2.53E+02	0.0e+000 % Ct. Error
4 SAMPLE	S96T005975	0 F	QAB-01	BETA-01	SOLID	N/A	4.15E+02	127.0e-003 uCi/g
4 SAMPLE	S96T005975	0 F	QAB-01	BETA-01E	SOLID	N/A	4.01E-01	0.0e+000 % Ct. Error
5 DUP	S96T005975	0 F	QAB-01	ALPHA01	SOLID	<3.33E-2	<1.96E-2	RFD
5 DUP	S96T005975	0 F	QAB-01	ALPHA01E	SOLID	1.00	5.00E+02	500.000 % Ct. Error
5 DUP	S96T005975	0 F	QAB-01	BETA-01	SOLID	4.15E+2	3.85E+2	7.500 RFD
5 DUP	S96T005975	0 F	QAB-01	BETA-01E	SOLID	1.00	4.12E-01	0.412 % Ct. Error
6 SPK	S96T005975	0 F	QAB-01	ALPHA01	SOLID	3.59E-02	2.58E-02	71.886 % Recovery
6 SPK	S96T005975	0 F	QAB-01	BETA-01	SOLID	1.51E-01	1.42E-01	94.040 % Recovery

Final page for worklist# 16194

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Reviewer Signature Date 1/22/97

The AT SPK recovery for 5975 is within method control limits for the STD. No rerun requested.

1/22/97

LABCORE Data Entry Template for Worklist# 16194

Analyst: S.L. Instrument: AB00 #14 Book# 66856

Method: LA-508-101 Rev/Mod E-1

Worklist Comment: Determine sample size using ludlum.Spike:0.1ml.Std:1.0.new

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 STD			@AB-01	SOLID		
2 BLNK-PREP			@AB-01	SOLID		
3 BLNK/BKG			@AB-01	SOLID		
4 SAMPLE	S96T005975 0 F	@AB-01	SOLID		96001174	AN-104
Analytes Requested: ALPHA01 , ALPHA01E, BETA-01 , BETA-01E						
5 DUP	S96T005975 0 F	@AB-01	SOLID			
6 SPK	S96T005975 0 F	@AB-01	SOLID			

Final page for worklist # 16194

Sue Lai 1-17-97
Analyst Signature Date

Sylvia Z. Chao 1/20/96
Analyst Signature Date
CJ. Quinn 1-20-97

Data Entry Comments:

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

WORKBOOK PAGE: STD1

TB : LA-508-101 (E-1) LA-508-113 (B-0) STANDARD

		STANDARD	REPLICATE
Type	DETECTOR NUMBER	14	14
STD	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	88465	87661
16194	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	8	8
TB	SAMPLE SIZE in mL (SS)	1.000	1.000
Test Code	DILUTION FACTOR (DF)	1	1
@AB-01	STANDARD BOOK NUMBER (Std BN)	66B56	66B56
Matrix	EFFICIENCY FACTOR (EFF)	0.4455	0.4455
LIQUID	Lc, Rmax, or Rs.(SAMPLE RATE) as APPROPRIATE	2940.833	2910.700
Batch Number	Standard Value in $\mu\text{Ci/mL}$	2.95E-03	
97000042	Concentration in $\mu\text{Ci/L}$ =	2.97E+00	
Rerun	Replicate Concentration in $\mu\text{Ci/L}$ =	2.94E+00	
0	AVERAGE CONCENTRATION in $\mu\text{Ci/L}$ =	2.9583E+00	
Sample Prep			
N/A	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	TOTAL BETA $\mu\text{Ci/L}$ = $R_s * 1000\text{mL/L} * DF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$		
WL16194	TOTAL BETA $\mu\text{Ci/mL}$ = TOTAL BETA $\mu\text{Ci/L} / 1000\text{mL/L}$		
Instrument Code	Relative Counting Error = $[(The Square Root of TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
SZC			
Chemist			
SLF	TOTAL BETA CONCENTRATION in $\mu\text{Ci/mL}$ =	2.96E-03	DETECTION LEVEL
Analyst			
SCL			2.53E-06
Date Complete	RELATIVE COUNTING ERROR =	0.7%	$\mu\text{Ci/mL}$
01/20/97			
Analysis Date			
01/17/97			
Analysis Time			
02:45 PM			
Sample Point			
AN-104			

Analyst:	SZC	Date: 20-Jan-97
Signature of Chemist:	SLF	Date: 1/22/97

STANDARD.WB1 Rev. 1.0

508101ML

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AT : LA-508-101 (E-1) LA-508-113 (B-0) STANDARD

	STANDARD	REPLICATE
Type	DETECTOR NUMBER	14
STD	DISH SIZE (1, 2, or 5) (MS)	2
Work List	GROSS COUNTS (GC)	3683
16194	COUNT TIME in MINUTES (CT)	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.2
AT	SAMPLE SIZE in mL (SS)	1.000
Test Code	DILUTION FACTOR (DF)	1
@AB-01	STANDARD BOOK NUMBER (Std BN)	66B56
Matrix	EFFICIENCY FACTOR (EFF)	0.2692
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE	122.567
Batch Number	Standard Value in $\mu\text{Ci/mL}$	2.30E-04
97000042	Concentration in $\mu\text{Ci/L}$ =	2.05E-01
Rerun	Replicate Concentration in $\mu\text{Ci/L}$ =	1.84E-01
0	AVERAGE CONCENTRATION in $\mu\text{Ci/L}$ =	1.9449E-01

Sample Prep	N/A	$\text{Rs (Sample Count Rate) = (TC / CT) - BKG}$
Sample #	WL16194	$\text{ALPHA TOTAL } \mu\text{Ci/L} = \text{Rs} * 1000\text{mL/L} * \text{DF} / (\text{EFF} * \text{SS} * 2220000\text{dpm}/\mu\text{Ci})$
Instrument Code	WB27807	$\text{ALPHA TOTAL } \mu\text{Ci/mL} = \text{ALPHA TOTAL } \mu\text{Ci/L} / 1000\text{mL/L}$
Prepared By	SZC	$\text{Relative Counting Error} = [(\text{The Square Root of TC} + \text{BKG} * \text{CT}) / (\text{TC} - \text{BKG} * \text{CT})] * 1.96 * 100$
Chemist	SLF	Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Analyst	SLF	ALPHA TOTAL CONCENTRATION in $\mu\text{Ci/mL}$ =	1.94E-04	DETECTION LEVEL
SCL				
Date Complete	01/20/97	RELATIVE COUNTING ERROR	=	3.4%
Analysis Date	01/17/97			7.89E-07 $\mu\text{Ci/mL}$
Analysis Time	02:45 PM			
Sample Point	AN-104			

Analyst:	SZC	Date: 20-Jan-97
Signature of Chemist:	SLF	Date: 1/22/97
STANDARD.WB1 Rev. 1.0	508101ML	

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WORKBOOK PAGE: BLANK3

TB : LA-508-101 (E-1)

SOLIDS

		BLNK-PREP	REPLICATE
Type	DETECTOR NUMBER	14	14
BLNK-PREP	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	259	242
16194	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	8	8
TB	SAMPLE SIZE in mL (SS)	1.000	1.000
Test Code	DILUTION FACTOR (DF)	101	101
@AB-01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.0088	2.0088
Matrix	EFFICIENCY FACTOR (EFF)	0.4455	0.4455
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	1.862	1.274
Batch Number			
97000042	Blank Concentration in $\mu\text{Ci/g}$	< 9.47E-02	
Rerun	Replicate Concentration in $\mu\text{Ci/g}$	< 6.48E-02	
0	Maximum Concentration in $\mu\text{Ci/g}$	< 9.4656E-02	
Sample Prep			
N/A	Rs (Sample Count Rate) = $(\text{TC} / \text{CT}) - \text{BKG}$		
Sample #	TOTAL BETA $\mu\text{Ci/g}$ = $\text{Rs} * 1000\text{mL/L} * \text{DF} / (\text{EFF} * \text{SS} * \text{Dg/L} * 2220000\text{dpm}/\mu\text{Ci})$		
WL16194			
Instrument Code	Relative Counting Error = $\{[(\text{The Square Root of TC} + \text{BKG} * \text{CT}) / (\text{TC} - \text{BKG} * \text{CT})]\} * 1.96 * 100$		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
SZC			
Chemist			
SLF	TOTAL BETA in $\mu\text{Ci/g}$ (Maximum) =	< 9.47E-02	DETECTION LEVEL
Analyst			
SCL	LESS THAN Value was Determined from Rmax.		
Date Complete			1.27E-01
01/20/97	RELATIVE COUNTING ERROR	500.0%	$\mu\text{Ci/g}$
Analysis Date			
01/17/97			
Analysis Time			
02:45 PM			
Sample Point			
AN-104			

Analyst:	SCL	Date: 20-Jan-97
Signature of Chemist:	SLF	Date: 1/22/97
BLANK WB1 Rev. 1.0	508101ML	

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WORKBOOK PAGE: BLANK4

AT : LA-508-101 (E-1)

SOLIDS

Type	DETECTOR NUMBER	BLNK-PREP	REPLICATE
BLNK-PREP	DISH SIZE (1, 2, or 5)	(MS)	14
Work List	GROSS COUNTS	(GC)	2
16194	COUNT TIME in MINUTES	(CT)	11
AT or TB ?	BACKGROUND in cpm	(BKG)	30
AT	SAMPLE SIZE in mL	(SS)	0.2
Test Code	DILUTION FACTOR	(DF)	1.000
QAB-01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	101
Matrix	EFFICIENCY FACTOR	(EFF)	2.0088
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE		0.2692
Batch Number			0.313
97000042	Blank Concentration in $\mu\text{Ci/g}$	<	3.31E-02
Rerun	Replicate Concentration in $\mu\text{Ci/g}$	<	2.63E-02
0	Maximum Concentration in $\mu\text{Ci/g}$	<	3.3100E-02
Sample Prep			
N/A	Rs (Sample Count Rate) = $(\text{TC} / \text{CT}) - \text{BKG}$		
Sample #	ALPHA TOTAL $\mu\text{Ci/g}$ = $\text{Rs} * 1000\text{mL/L} * \text{DF} / (\text{EFF} * \text{SS} * \text{Dg/L} * 2220000\text{dpm}/\mu\text{Ci})$		
WL16194			
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } \text{TC} + \text{BKG} * \text{CT}) / (\text{TC} - \text{BKG} * \text{CT})] * 1.96 * 100$		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
SZC			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/g}$ (Maximum) =	< 3.31E-02	DETECTION LEVEL
Analyst			
SCL	LESS THAN Value was Determined from Rmax.		
Date Complete			3.97E-02
01/20/97	RELATIVE COUNTING ERROR	253.0%	$\mu\text{Ci/g}$
Analysis Date			
01/17/97			
Analysis Time			
02:45 PM			
Sample Point			
AN-104			

Analyst:	SCL	Date: 20-Jan-97
Signature of Chemist:	SLF	Date: 1/22/97
BLANK.WB1 Rev. 1.0	508101ML	

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WORKBOOK PAGE: SAM7

TB : LA-508-101 (E-1)

SOLIDS

Type	DETECTOR NUMBER	SAMPLE	REPLICATE
SAMPLE	DISH SIZE (1, 2, or 5)	(MS)	14
Work List	GROSS COUNTS	(GC)	2
16194	COUNT TIME in MINUTES	(CT)	250407
AT or TB ?	BACKGROUND in cpm	(BKG)	239327
TB	SAMPLE SIZE in mL	(SS)	30
Test Code	DILUTION FACTOR	(DF)	8
@AB-01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.000
Matrix	EFFICIENCY FACTOR	(EFF)	101
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE		2.0088
Batch Number			0.4455
97000042	Blank Concentration in $\mu\text{Ci/g}$		0.4455
Rerun	Replicate Concentration in $\mu\text{Ci/g}$		8338.900
0	Average Concentration in $\mu\text{Ci/g}$		7969.567
Sample Prep			
FUSION01			
Sample #	Rs (Sample Count Rate) = $(\text{TC} / \text{CT}) - \text{BKG}$		
S96T005975	TOTAL BETA $\mu\text{Ci/g}$ = $\text{Rs} * 1000\text{mL/L} * \text{DF} / (\text{EFF} * \text{SS} * \text{Dg/L} * 2220000\text{dpm}/\mu\text{Ci})$		
Instrument Code	Relative Counting Error = $[(\text{The Square Root of TC} + \text{BKG} * \text{CT}) / (\text{TC} - \text{BKG} * \text{CT})] * 1.96 * 100$		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
SZC			
Chemist			
SLF	TOTAL BETA in $\mu\text{Ci/g}$ (Average) =	4.15E+02	DETECTION LEVEL
Analyst			
SCL			
Date Complete	RELATIVE COUNTING ERROR	0.4%	1.27E-01 $\mu\text{Ci/g}$
01/20/97			
Analysis Date			
01/17/97			
Analysis Time			
02:45 PM			
Sample Point			
AN-104			

Analyst:	SCL	Date: 20-Jan-97
Signature of Chemist:	SLF	Date: 1/22/97
SAMPLE.WB1 Rev. 1.	508101ML	

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WORKBOOK PAGE: SAM8

AT : LA-508-101 (E-1)

SOLIDS

		SAMPLE	REPLICATE
Type	DETECTOR NUMBER	14	14
SAMPLE	DISH SIZE (1, 2, or 5)	(MS)	2
Work List	GROSS COUNTS	(GC)	20
16194	COUNT TIME in MINUTES	(CT)	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.2
AT	SAMPLE SIZE in mL	(SS)	1.000
Test Code	DILUTION FACTOR	(DF)	101
@AB-01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.0088
Matrix	EFFICIENCY FACTOR	(EFF)	0.2692
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE		0.467
Batch Number			
97000042	Blank Concentration in $\mu\text{Ci/g}$	3.93E-02	
Rerun	Replicate Concentration in $\mu\text{Ci/g}$	< 2.63E-02	
0	Maximum Concentration in $\mu\text{Ci/g}$	< 3.9261E-02	
Sample Prep			
FUSION01	Rs (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	ALPHA TOTAL $\mu\text{Ci/g}$ = $Rs * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$		
S96T005975			
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
SZC			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/g}$ (Maximum) =	< 3.93E-02	DETECTION LEVEL
Analyst			
SCL	LESS THAN Value was Determined from Rs.		3.97E-02
Date Complete	RELATIVE COUNTING ERROR	253.0%	$\mu\text{Ci/g}$
01/20/97			
Analysis Date			
01/17/97			
Analysis Time			
02:45 PM			
Sample Point			
AN-104			

Analyst:	SCL	Date: 20-Jan-97
Signature of Chemist:	SLF	Date: 1/22/97

SAMPLE.WB1 Rev. 1.

508101ML

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01/20/97

11:48:23

WORKBOOK PAGE: DUP9

TB : LA-508-101 (E-1)

SOLIDS

		DUP	REPLICATE
Type	DETECTOR NUMBER	14	14
DUP	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	227252	227246
16194	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	8	8
TB	SAMPLE SIZE in mL (SS)	1.000	1.000
Test Code	DILUTION FACTOR (DF)	101	101
@AB-01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.0096	2.0096
Matrix	EFFICIENCY FACTOR (EFF)	0.4455	0.4455
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	7567.067	7566.867
Batch Number			
97000042	Blank Concentration in $\mu\text{Ci/g}$	3.85E+02	
Rerun	Replicate Concentration in $\mu\text{Ci/g}$	3.85E+02	
0	Average Concentration in $\mu\text{Ci/g}$	3.8453E+02	
Sample Prep			
FUSION01	Rs (Sample Count Rate) = $(\text{TC} / \text{CT}) - \text{BKG}$		
Sample #	TOTAL BETA $\mu\text{Ci/g}$ = $\text{Rs} * 1000\text{mL/L} * \text{DF} / (\text{EFF} * \text{SS} * \text{Dg/L} * 2220000\text{dpm}/\mu\text{Ci})$		
S96T005975			
Instrument Code	Relative Counting Error = $[(\text{The Square Root of TC} + \text{BKG} * \text{CT}) / (\text{TC} - \text{BKG} * \text{CT})] * 1.96 * 100$		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
SZC			
Chemist			
SLF	TOTAL BETA in $\mu\text{Ci/g}$ (Average) =	3.85E+02	DETECTION LEVEL
Analyst			
SCL			
Date Complete			1.27E-01 $\mu\text{Ci/g}$
01/20/97	RELATIVE COUNTING ERROR	0.4%	
Analysis Date			
01/17/97			
Analysis Time			
02:45 PM			
Sample Point			
AN-104			

Analyst:	SCL	Date: 20-Jan-97
Signature of Chemist:	SLF	Date: 1/22/97
SAMPLE.WB1 Rev. 1.	508101ML	

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WORKBOOK PAGE: DUP10

AT : LA-508-101 (E-1)

SOLIDS

		DUP	REPLICATE
Type	DETECTOR NUMBER	14	14
DUP	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	7	13
16194	COUNT TIME in MINUTES (CT)	30	30
AT of TB ?	BACKGROUND in cpm (BKG)	0.2	0.2
AT	SAMPLE SIZE in mL (SS)	1.000	1.000
Test Code	DILUTION FACTOR (DF)	101	101
@AB-01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.0096	2.0096
Matrix	EFFICIENCY FACTOR (EFF)	0.2692	0.2692
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.232	0.233
Batch Number			
97000042	Blank Concentration in $\mu\text{Ci/g}$	< 1.95E-02	
Rerun	Replicate Concentration in $\mu\text{Ci/g}$	1.96E-02	
0	Maximum Concentration in $\mu\text{Ci/g}$	< 1.9623E-02	
Sample Prep			
FUSION01	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	$\text{ALPHA TOTAL } \mu\text{Ci/g} = R_s * 1000\text{mL/L} * DF / (EFF * SS * \text{Dg/L} * 2220000\text{dpm}/\mu\text{Ci})$		
S96T005975			
Instrument Code	Relative Counting Error = $[(The Square Root of TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
SZC			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/g}$ (Maximum) =	< 1.96E-02	DETECTION LEVEL
Analyst			
SCL	LESS THAN Value was Determined from Rmax.		
Date Complete			3.97E-02 $\mu\text{Ci/g}$
01/20/97	RELATIVE COUNTING ERROR	500.0%	
Analysis Date			
01/17/97			
Analysis Time			
02:45 PM			
Sample Point			
AN-104			

Analyst:	SCL	Date: 20-Jan-97
Signature of Chemist:	SLF	Date: 1/22/97

SAMPLE.WB1 Rev. 1.

508101ML

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WORKBOOK PAGE: SPK11

TB : LA-508-101 (E-1) LA-508-113 (B-0) SPIKED SAMPLE

		SPIKE	REPLICATE
Type	DETECTOR NUMBER	14	14
SPK	DISH SIZE 1, 2, or 5 (MS)	2	2
Work List	TOTAL COUNTS (TC)	661847	669873
16194	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	8	8
TB	SAMPLE VOLUME in mL (Spiked Vial) (SS)	1.000	1.000
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial) (DF)	101	101
@AB-01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.0088	2.0088
Matrix	SPIKE VOLUME in mL (SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR (SDF)	1	1
Batch Number	SPIKE BOOK NUMBER (Spk BN)	58B56	58B56
97000042	SPIKE VALUE in $\mu\text{Ci/mL}$ (SVal)	1.5085E-01	1.5085E-01
Rerun	INSTRUMENT EFFICIENCY FACTOR (EFF)	0.4455	0.4455
0	SAMPLE + SPIKE $\mu\text{Ci/g}$ (S+S)	1.12E+03	1.13E+03
Sample Prep	AVERAGE or MAXIMUM $\mu\text{Ci/g}$ in SAMPLE	4.1454E+02	
FUSION01			
Sample #			
S96T005975	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Instrument Code	$SAMPLE + SPIKE \mu\text{Ci/g} = R_s * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$		
WB27807	QC ACTUAL = SVal		
Prepared By	QC FOUND = $((S+S \mu\text{Ci/g} - SAMPLE \mu\text{Ci/g}) * ((SDF/(SVol*1000))/(DF/SS/Dg/L))))$		
SZC	PERCENT SPIKE RECOVERY = $(QC \text{ FOUND} / QC \text{ ACTUAL}) * 100$		
Chemist			
SLF			
Analyst			
SCL			
Date Complete			
01/20/97			
Analysis Date			
01/17/97	QC ACTUAL =	1.51E-01	
Analysis Time	QC FOUND =	1.42E-01	
02:45 PM	AVG. PERCENT SPIKE RECOVERY =	94.1%	
Sample Point			
AN-104			

Analyst:	SZC	Date: 20-Jan-97
Signature of Chemist:	SLF	Date: 1/22/97
SPIKE.WB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: SPK12

AT : LA-508-101 (E-1) LA-508-113 (B-0) SPIKED SAMPLE

		SPIKE	REPLICATE
Type	DETECTOR NUMBER	14	14
SPK	DISH SIZE 1, 2, or 5 (MS)	2	2
Work List	TOTAL COUNTS (TC)	45432	47038
16194	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.2	0.2
AT	SAMPLE VOLUME in mL (Spiked Vial) (SS)	1.000	1.000
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial) (DF)	101	101
@AB-01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.0088	2.0088
Matrix	SPIKE VOLUME in mL (SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR (SDF)	1	1
Batch Number	SPIKE BOOK NUMBER (Spk BN)	123B43	123B43
97000042	SPIKE VALUE in $\mu\text{Ci/mL}$ (SVal)	3.5852E-02	3.5852E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR (EFF)	0.2692	0.2692
0	SAMPLE + SPIKE $\mu\text{Ci/g}$ (S+S)	1.27E+02	1.32E+02
Sample Prep	AVERAGE or MAXIMUM $\mu\text{Ci/g}$ in SAMPLE	3.9261E-02	
FUSION01			
Sample #			
S96T005975	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Instrument Code	$SAMPLE + SPIKE \mu\text{Ci/g} = R_s * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$		
WB27807	QC ACTUAL = SVal		
Prepared By	QC FOUND = $((S+S \mu\text{Ci/g} - SAMPLE \mu\text{Ci/g}) * ((SDF/(SVol*1000)))/(DF/SS/Dg/L)))$		
SZC	PERCENT SPIKE RECOVERY = $(QC \text{ FOUND} / QC \text{ ACTUAL}) * 100$		
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.		
01/20/97			
Analysis Date			
01/17/97	QC ACTUAL =	3.59E-02	
Analysis Time	QC FOUND =	2.58E-02	
02:45 PM	AVG. PERCENT SPIKE RECOVERY =	71.9%	
Sample Point			
AN-104			

Analyst:	SZC	Date: 20-Jan-97
Signature of Chemist:	SLF	Date: 1/22/97
SPIKE.WB1 Rev. 1.0	508101ML	

2038

LABCORE Completed RadChem Report for Worklist#: 13587

Analyst: scl Instrument: AB14 Book# _____

Method: _____ Rev/Mod _____

Worklist Comment: Determine sample size using Ludlum, use 0.1mL spk. skm

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD	0	0	0ALPHA01 ALPHA01	LIQUID	2.31E-04	2.16E-4	93.506	% Recovery
1 STD	0	0	0ALPHA01 ALPHA01E	LIQUID	1.00	3.53E+00	3.530	% Ct. Error
2 BLNK	0	0	0ALPHA01 ALPHA01	LIQUID	1	<1.42E-2		uCi/mL
2 BLNK	0	0	0ALPHA01 ALPHA01E	LIQUID	1.00	5.00E+02	500.000	uCi/mL
3 BLNK/BKG	0	0	0ALPHA01 ALPHA01	LIQUID	1.00E+00	5.88E-01	0.588	BLNK/BKG
4 SAMPLE	S96T004774	0	0ALPHA01 ALPHA01	LIQUID	N/A	< 1.42E-02	357.0e-004	uCi/mL
4 SAMPLE	S96T004774	0	0ALPHA01 ALPHA01E	LIQUID	N/A	5.00E+02	0.0e+000	% Ct. Error
5 DUP	S96T004774	0	0ALPHA01 ALPHA01	LIQUID	<1.42E-2	<1.42E-2		RPD
5 DUP	S96T004774	0	0ALPHA01 ALPHA01E	LIQUID	1.00	5.00E+02	500.000	% Ct. Error
6 SPK	S96T004774	0	0ALPHA01 ALPHA01	LIQUID	3.59E-02	3.47E-02	96.657	% Recovery
7 SAMPLE	S96T004778	0	0ALPHA01 ALPHA01	LIQUID	N/A	< 2.72E-02	357.0e-004	uCi/mL
7 SAMPLE	S96T004778	0	0ALPHA01 ALPHA01E	LIQUID	N/A	1.89E+02	0.0e+000	% Ct. Error
8 DUP	S96T004778	0	0ALPHA01 ALPHA01	LIQUID	<2.72E-2	<1.42E-2		RPD
8 DUP	S96T004778	0	0ALPHA01 ALPHA01E	LIQUID	1.00	5.00E+02	500.000	% Ct. Error
9 SAMPLE	S96T004779	0	0ALPHA01 ALPHA01	LIQUID	N/A	< 1.42E-02	357.0e-004	uCi/mL
9 SAMPLE	S96T004779	0	0ALPHA01 ALPHA01E	LIQUID	N/A	5.00E+02	0.0e+000	% Ct. Error
10 DUP	S96T004779	0	0ALPHA01 ALPHA01	LIQUID	<1.42E-2	<1.42E-2		RPD
10 DUP	S96T004779	0	0ALPHA01 ALPHA01E	LIQUID	1.00	5.00E+02	500.000	% Ct. Error
11 SAMPLE	S96T004780	0	0ALPHA01 ALPHA01	LIQUID	N/A	< 1.42E-02	357.0e-004	uCi/mL
11 SAMPLE	S96T004780	0	0ALPHA01 ALPHA01E	LIQUID	N/A	5.00E+02	0.0e+000	% Ct. Error
12 DUP	S96T004780	0	0ALPHA01 ALPHA01	LIQUID	<1.42E-2	<1.42E-2		RPD
12 DUP	S96T004780	0	0ALPHA01 ALPHA01E	LIQUID	1.00	5.00E+02	500.000	% Ct. Error

Final page for worklist# 13587

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Reviewer Signature _____ Date 10/14/96

LABCORE Data Entry Template for Worklist# 13587

Analyst: S.L. Instrument: AB00 14 Book# 66056

Method: LA-508-101 Rev/Mod E-1

Worklist Comment: Determine sample size using Ludlum, use 0.1mL spk. skm

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 STD			@ALPHA01	LIQUID		
2 BLNK			@ALPHA01	LIQUID		
3 BLNK/BKG			@ALPHA01	LIQUID		
4 SAMPLE	S96T004774 0		@ALPHA01	LIQUID	96001174	AN-104
Analytes Requested: ALPHA01 , ALPHA01E						
5 DUP	S96T004774 0		@ALPHA01	LIQUID		
6 SPK	S96T004774 0		@ALPHA01	LIQUID		
7 SAMPLE	S96T004778 0		@ALPHA01	LIQUID	96001174	AN-104
Analytes Requested: ALPHA01 , ALPHA01E						
8 DUP	S96T004778 0		@ALPHA01	LIQUID		
9 SAMPLE	S96T004779 0		@ALPHA01	LIQUID	96001174	AN-104
Analytes Requested: ALPHA01 , ALPHA01E						
10 DUP	S96T004779 0		@ALPHA01	LIQUID		
11 SAMPLE	S96T004780 0		@ALPHA01	LIQUID	96001174	AN-104
Analytes Requested: ALPHA01 , ALPHA01E						
12 DUP	S96T004780 0		@ALPHA01	LIQUID		

Final page for worklist # 13587

Sue Lai 10-4-96
Analyst Signature Date

Sue Hogan 10/8/96
Analyst Signature Date

Data Entry Comments:

WORKBOOK PAGE: STD1

AT : LA-508-101 (E-1)

LA-508-113 (A-2) STANDARD

		STANDARD	REPLICATE
Type	DETECTOR NUMBER	14	14
STD	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	3105	3458
13587	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.17	0.17
AT	SAMPLE SIZE in mL (SS)	1.000	1.000
Test Code	DILUTION FACTOR (DF)	1	1
@ALPHA01	STANDARD BOOK NUMBER (Std BN)	66B56	66B56
Matrix	EFFICIENCY FACTOR (EFF)	0.2274	0.2274
LIQUID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE	103.330	115.097
Batch Number	Standard Value in $\mu\text{Ci/mL}$	2.31E-04	
96010096	Concentration in $\mu\text{Ci/L}$ =	2.05E-01	
Rerun	Replicate Concentration in $\mu\text{Ci/L}$ =	2.28E-01	
0	AVERAGE CONCENTRATION in $\mu\text{Ci/L}$ =	2.1634E-01	

Sample Prep: N/A
 Sample #: WL13587
 Instrument Code: WB27807
 Prepared By: SZC
 Chemist: SLF
 SLF ALPHA TOTAL CONCENTRATION in $\mu\text{Ci/mL}$ = 2.16E-04
 Analyst: SCL
 Date Complete: 10/08/96
 Analysis Date: 10/04/96
 Analysis Time: 03:30 PM
 Sample Point: AN-104

Rs (Sample Count Rate) = $(TC / CT) - BKG$
 ALPHA TOTAL $\mu\text{Ci/L}$ = $Rs * 1000\text{mL/L} * DF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$
 ALPHA TOTAL $\mu\text{Ci/mL}$ = ALPHA TOTAL $\mu\text{Ci/L} / 1000\text{mL/L}$
 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 CONCENTRATION in $\mu\text{Ci/mL}$ =	2.16E-04	DETECTION LEVEL
RELATIVE COUNTING ERROR =	3.5%	8.76E-07 $\mu\text{Ci/mL}$

Analyst:	SZC	Date: 08-Oct-96
Signature of Chemist:	SLF	Date: 10/14/96
STANDARD.WB1 Rev. 1.0	508101ML	

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WORKBOOK PAGE: BLANK2

AT : LA-508-101 (E-1)

LIQUIDS

		BLNK	REPLICATE
Type	DETECTOR NUMBER	14	14
BLNK	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	1	5
13587	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.17	0.17
AT	SAMPLE SIZE in mL (SS)	0.250	0.250
Test Code	DILUTION FACTOR (DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR (DDF)	1	1
Matrix	EFFICIENCY FACTOR (EFF)	0.2274	0.2274
LIQUID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.176	0.176
Batch Number			
96010096	Blank Concentration in $\mu\text{Ci/L}$	< 1.42E+01	
Rerun	Replicate Concentration in $\mu\text{Ci/L}$	< 1.42E+01	
0	Maximum Concentration in $\mu\text{Ci/L}$	< 1.4198E+01	
Sample Prep			
N/A	Rs (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	ALPHA TOTAL $\mu\text{Ci/L}$ = $Rs * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$		
WL13587	ALPHA TOTAL $\mu\text{Ci/mL}$ = ALPHA TOTAL $\mu\text{Ci/L} / 1000\text{mL/L}$		
Instrument Code	Relative Counting Error = $[(The Square Root of TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
SZC			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum) =	< 1.42E-02	DETECTION LEVEL
Analyst	LESS Than Value was Determined from Lc.		
SCL			
Date Complete	RELATIVE COUNTING ERROR	500.0%	3.57E-02 $\mu\text{Ci/mL}$
10/08/96			
Analysis Date			
10/04/96			
Analysis Time			
03:30 PM			
Sample Point			
AN-104			

Analyst:	SCL	Date: 08-Oct-96
Signature of Chemist:	SLF	Date: 10/14/96

BLANK.VB1 Rev. 1.0

508101ML

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WORKBOOK PAGE: SAM4

AT : LA-508-101 (E-1)

LIQUIDS

Type	DETECTOR NUMBER	SAMPLE	REPLICATE
SAMPLE	DISH SIZE (1, 2, or 5) (MS)	14	14
Work List	GROSS COUNTS (GC)	2	2
13587	COUNT TIME in MINUTES (CT)	4	4
AT or TB ?	BACKGROUND in cpm (BKG)	30	30
AT	SAMPLE SIZE in mL (SS)	0.17	0.17
Test Code	DILUTION FACTOR (DF)	0.250	0.250
@ALPHA01	DIGEST DILUTION FACTOR (DDF)	10201	10201
Matrix	EFFICIENCY FACTOR (EFF)	1	1
LIQUID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.2274	0.2274
Batch Number		0.176	0.176

96010096	Blank Concentration in $\mu\text{Ci/L}$	< 1.42E+01
Rerun	Replicate Concentration in $\mu\text{Ci/L}$	< 1.42E+01
0	Maximum Concentration in $\mu\text{Ci/L}$	< 1.4198E+01

Sample Prep	
N/A	$Rs \text{ (Sample Count Rate)} = (TC / CT) - BKG$
Sample #	$ALPHA \text{ TOTAL } \mu\text{Ci/L} = Rs * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$
S96T004774	$ALPHA \text{ TOTAL } \mu\text{Ci/mL} = ALPHA \text{ TOTAL } \mu\text{Ci/L} / 1000\text{mL/L}$
Instrument Code	$Relative \text{ Counting Error} = [(The \text{ Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Prepared By			
SZC			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum)	=	< 1.42E-02
Analyst	LESS Than Value was Determined from Lc.		DETECTION LEVEL
SCL			
Date Complete			3.57E-02
10/08/96	RELATIVE COUNTING ERROR	500.0%	$\mu\text{Ci/mL}$
Analysis Date			
10/04/96			
Analysis Time			
03:30 PM			
Sample Point			
AN-104			

Analyst:	SCL	Date: 08-Oct-96
Signature of Chemist:	SLF	Date: 10/14/96
SAMPLE.WB1 Rev. 1.	508101ML	

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WORKBOOK PAGE: DUP5

AT : LA-508-101 (E-1)

LIQUIDS

Type	DETECTOR NUMBER	DUP	REPLICATE
DUP		14	14
Work List	DISH SIZE (1 , 2 , or 5) (MS)	2	2
13587	GROSS COUNTS (GC)	2	2
AT or TB ?	COUNT TIME in MINUTES (CT)	30	30
AT	BACKGROUND in cpm (BKG)	0.17	0.17
Test Code	SAMPLE SIZE in mL (SS)	0.250	0.250
@ALPHA01	DILUTION FACTOR (DF)	10201	10201
Matrix	DIGEST DILUTION FACTOR (DDF)	1	1
LIQUID	EFFICIENCY FACTOR (EFF)	0.2274	0.2274
Batch Number	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.176	0.176
96010096	Blank Concentration in $\mu\text{Ci/L}$	< 1.42E+01	
ReRun	Replicate Concentration in $\mu\text{Ci/L}$	< 1.42E+01	
0	Maximum Concentration in $\mu\text{Ci/L}$	< 1.4198E+01	
Sample Prep			
N/A	Rs (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	ALPHA TOTAL $\mu\text{Ci/L}$ = $Rs * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$		
S96T004774	ALPHA TOTAL $\mu\text{Ci/mL}$ = ALPHA TOTAL $\mu\text{Ci/L} / 1000\text{mL/L}$		
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
SZC			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum) =	< 1.42E-02	DETECTION LEVEL
Analyst	LESS Than Value was Determined from Lc.		
SCL			3.57E-02 $\mu\text{Ci/mL}$
Date Complete	RELATIVE COUNTING ERROR	500.0%	
10/08/96			
Analysis Date			
10/04/96			
Analysis Time			
03:30 PM			
Sample Point			
AN-104			

Analyst:	SCL	Date: 08-Oct-96
Signature of Chemist:	SLF	Date: 10/14/96
SAMPLE.WB1 Rev. 1.	508101ML	

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WORKBOOK PAGE: SPK6

AT : LA-508-101 (E-1) LA-508-113 (A-2) SPIKED SAMPLE

		SPIKE	REPLICATE
Type	DETECTOR NUMBER	14	14
SPK	DISH SIZE 1, 2, or 5 (MS)	2	2
Work List	TOTAL COUNTS (TC)	53481	51651
13587	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.17	0.17
AT	SAMPLE VOLUME in mL (Spiked Vial) (SS)	0.250	0.250
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial) (DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR (DDF)	1	1
Matrix	SPIKE VOLUME in mL (SVol)	0.100	0.100
LIQUID	SPIKE DILUTION FACTOR (SDF)	1	1
Batch Number	SPIKE BOOK NUMBER (Spk BN)	123B43	123B43
96010096	SPIKE VALUE in $\mu\text{Ci/mL}$ (SVal)	3.5869E-02	3.5869E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR (EFF)	0.2274	0.2274
0	SAMPLE + SPIKE $\mu\text{Ci/mL}$ (S+S)	1.44E+02	1.39E+02
Sample Prep	AVERAGE or MAXIMUM $\mu\text{Ci/mL}$ in SAMPLE	<	1.4198E-02
N/A			
Sample #			
S96T004774	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Instrument Code	SAMPLE + SPIKE $\mu\text{Ci/mL}$ = $R_s * DF * DDF / (EFF * SS * 2220000 \text{ dpm}/\mu\text{Ci})$		
WB27807	QC ACTUAL = SVal		
Prepared By	QC FOUND = $((S+S \mu\text{Ci/mL} - \text{SAMPLE } \mu\text{Ci/mL}) * ((SDF/SVol)/(DF*DDF/SS)))$		
SZC	PERCENT SPIKE RECOVERY = $(QC \text{ FOUND} / QC \text{ ACTUAL}) * 100$		
Chemist			
SLF			
Analyst			
SCL			
Date Complete	NOTE: Original Sample result was a LESS THAN value. Zero (0) was subtracted from the spiked value for QC found calculation.		
10/08/96			
Analysis Date			
10/04/96	QC ACTUAL =	3.59E-02	
Analysis Time	QC FOUND =	3.47E-02	
03:30 PM	AVG. PERCENT SPIKE RECOVERY =	96.8%	
Sample Point			
AN-104			

Analyst:	SZC	Date: 08-Oct-96
Signature of Chemist:	SLF	Date: 10/14/96
SPIKE.WB1 Rev. 1.0	508101ML	

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WORKBOOK PAGE: SAM7

AT : LA-508-101 (E-1)

LIQUIDS

Type	DETECTOR NUMBER	SAMPLE	REPLICATE
SAMPLE	DISH SIZE (1, 2, or 5)	(MS)	
Work List	GROSS COUNTS	(GC)	
13587	COUNT TIME in MINUTES	(CT)	
AT or TB ?	BACKGROUND in cpm	(BKG)	
AT	SAMPLE SIZE in mL	(SS)	
Test Code	DILUTION FACTOR	(DF)	
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	
Matrix	EFFICIENCY FACTOR	(EFF)	
LIQUID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE		
Batch Number			
96010096	Blank Concentration in $\mu\text{Ci/L}$	< 2.72E+01	
Rerun	Replicate Concentration in $\mu\text{Ci/L}$	< 2.72E+01	
0	Maximum Concentration in $\mu\text{Ci/L}$	< 2.7200E+01	
Sample Prep			
N/A	Rs (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	ALPHA TOTAL $\mu\text{Ci/L}$ = $Rs * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$		
S96T004778	ALPHA TOTAL $\mu\text{Ci/mL}$ = ALPHA TOTAL $\mu\text{Ci/L} / 1000\text{mL/L}$		
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
SZC			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum) =	< 2.72E-02	DETECTION LEVEL
Analyst			
SCL	LESS THAN Value was Determined from Rmax.		
Date Complete			3.57E-02 $\mu\text{Ci/mL}$
10/08/96	RELATIVE COUNTING ERROR	188.7%	
Analysis Date			
10/04/96			
Analysis Time			
03:30 PM			
Sample Point			
AN-104			

Analyst:	SCL	Date: 08-Oct-96
Signature of Chemist:	SLF	Date: 10/14/96
SAMPLE.WB1 Rev. 1.	508101ML	

WORKBOOK PAGE: DUP8

AT : LA-508-101 (E-1)

LIQUIDS

Type	DETECTOR NUMBER	DUP	REPLICATE
DUP	14	14	
Work List	DISH SIZE (1, 2, or 5) (MS)	2	2
13587	GROSS COUNTS (GC)	3	4
AT or TB ?	COUNT TIME in MINUTES (CT)	30	30
AT	BACKGROUND in cpm (BKG)	0.17	0.17
Test Code	SAMPLE SIZE in mL (SS)	0.250	0.250
@ALPHA01	DILUTION FACTOR (DF)	10201	10201
Matrix	DIGEST DILUTION FACTOR (DDF)	1	1
LIQUID	EFFICIENCY FACTOR (EFF)	0.2274	0.2274
Batch Number	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.176	0.176
96010096	Blank Concentration in $\mu\text{Ci/L}$	< 1.42E+01	
Rerun	Replicate Concentration in $\mu\text{Ci/L}$	< 1.42E+01	
0	Maximum Concentration in $\mu\text{Ci/L}$	< 1.4198E+01	
Sample Prep			
N/A			

Rs (Sample Count Rate) = $(\text{TC} / \text{CT}) - \text{BKG}$ ALPHA TOTAL $\mu\text{Ci/L}$ = $\text{Rs} * 1000\text{mL/L} * \text{DF} * \text{DDF} / (\text{EFF} * \text{SS} * 2220000\text{dpm}/\mu\text{Ci})$ ALPHA TOTAL $\mu\text{Ci/mL}$ = ALPHA TOTAL $\mu\text{Ci/L} / 1000\text{mL/L}$ Relative Counting Error = $[(\text{The Square Root of } \text{TC} + \text{BKG} * \text{CT}) / (\text{TC} - \text{BKG} * \text{CT})] * 1.96 * 100$

Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Prepared By	SZC		
Chemist	SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum) =	< 1.42E-02
Analyst	SCL		DETECTION LEVEL
SCL		LESS Than Value was Determined from Lc.	
Date Complete	10/08/96	RELATIVE COUNTING ERROR	500.0%
Analysis Date	10/04/96		3.57E-02 $\mu\text{Ci/mL}$
Analysis Time	03:30 PM		
Sample Point	AN-104		

Analyst:	SCL	Date: 08-Oct-96
Signature of Chemist:	SLF	Date: 10/14/96
SAMPLE.WB1 Rev. 1.	508101ML	

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WORKBOOK PAGE: SAM9

AT : LA-508-101 (E-1)

LIQUIDS

Type	DETECTOR NUMBER	SAMPLE	REPLICATE
SAMPLE	DISH SIZE (1, 2, or 5)	(MS)	14 14
Work List	GROSS COUNTS	(GC)	2 2
13587	COUNT TIME in MINUTES	(CT)	4 2
AT or TB ?	BACKGROUND in cpm	(BKG)	30 30
AT	SAMPLE SIZE in mL	(SS)	0.17 0.17
Test Code	DILUTION FACTOR	(DF)	0.250 0.250
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	10201 10201
Matrix	EFFICIENCY FACTOR	(EFF)	1 1
LIQUID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE		0.2274 0.2274
Batch Number			0.176 0.176

96010096	Blank Concentration in $\mu\text{Ci/L}$	< 1.42E+01
Rerun	Replicate Concentration in $\mu\text{Ci/L}$	< 1.42E+01
0	Maximum Concentration in $\mu\text{Ci/L}$	< 1.4198E+01

Sample Prep

N/A

Sample #

S96T004779

Instrument Code

WB27807

Prepared By

SZC

Chemist

SLF

Analyst

SCL

Date Complete

10/08/96

Analysis Date

10/04/96

Analysis Time

03:30 PM

Sample Point

AN-104

Rs (Sample Count Rate) = $(TC / CT) - BKG$ ALPHA TOTAL $\mu\text{Ci/L}$ = $Rs * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$ ALPHA TOTAL $\mu\text{Ci/mL}$ = ALPHA TOTAL $\mu\text{Ci/L} / 1000\text{mL/L}$ 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 $\mu\text{Ci/mL}$ (Maximum)	=	< 1.42E-02	DETECTION LEVEL
LESS Than Value was Determined from Lc.			3.57E-02 $\mu\text{Ci/mL}$
RELATIVE COUNTING ERROR		500.0%	

Analyst:	SCL	Date: 08-Oct-96
Signature of Chemist:	SLF	Date: 10/14/96

SAMPLE.WB1 Rev. 1.

508101ML

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WORKBOOK PAGE: DUP10

AT : LA-508-101 (E-1)

LIQUIDS

Type	DETECTOR NUMBER	DUP	REPLICATE
DUP	DISH SIZE (1, 2, or 5)	14	14
Work List	GROSS COUNTS (MS)	2	2
13587	COUNT TIME in MINUTES (GC)	2	4
AT or TB ?	COUNT TIME in MINUTES (CT)	30	30
AT	BACKGROUND in cpm (BKG)	0.17	0.17
Test Code	SAMPLE SIZE in mL (SS)	0.250	0.250
@ALPHA01	DILUTION FACTOR (DF)	10201	10201
Matrix	DIGEST DILUTION FACTOR (DDF)	1	1
LIQUID	EFFICIENCY FACTOR (EFF)	0.2274	0.2274
Batch Number	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.176	0.176
96010096	Blank Concentration in $\mu\text{Ci/L}$	< 1.42E+01	
Rerun	Replicate Concentration in $\mu\text{Ci/L}$	< 1.42E+01	
0	Maximum Concentration in $\mu\text{Ci/L}$	< 1.4198E+01	
Sample Prep			
N/A	Rs (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	ALPHA TOTAL $\mu\text{Ci/L}$ = $Rs * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$		
S96T004779	ALPHA TOTAL $\mu\text{Ci/mL}$ = ALPHA TOTAL $\mu\text{Ci/L} / 1000\text{mL/L}$		
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
SZC			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum) =	< 1.42E-02	DETECTION LEVEL
Analyst			
SCL	LESS Than Value was Determined from Lc.		
Date Complete			3.57E-02
10/08/96	RELATIVE COUNTING ERROR	500.0%	$\mu\text{Ci/mL}$
Analysis Date			
10/04/96			
Analysis Time			
03:30 PM			
Sample Point			
AN-104			

Analyst:	SCL	Date: 08-Oct-96
Signature of Chemist:	SLF	Date: 10/14/96
SAMPLE.WB1 Rev. 1.	508101ML	

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WORKBOOK PAGE: SAM11

AT : LA-508-101 (E-1)

LIQUIDS

Type	DETECTOR NUMBER	SAMPLE	REPLICATE
SAMPLE	DISH SIZE (1, 2, or 5)	14	14
Work List	GROSS COUNTS (MS)	2	2
13587	COUNT TIME in MINUTES (GC)	1	3
AT or TB ?	COUNT TIME in MINUTES (CT)	30	30
AT	BACKGROUND in cpm (BKG)	0.17	0.17
Test Code	SAMPLE SIZE in mL (SS)	0.250	0.250
@ALPHA01	DILUTION FACTOR (DF)	10201	10201
Matrix	DIGEST DILUTION FACTOR (DDF)	1	1
LIQUID	EFFICIENCY FACTOR (EFF)	0.2274	0.2274
Batch Number	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.176	0.176

96010096	Blank Concentration in $\mu\text{Ci/L}$	< 1.42E+01
Rerun	Replicate Concentration in $\mu\text{Ci/L}$	< 1.42E+01
0	Maximum Concentration in $\mu\text{Ci/L}$	< 1.4198E+01

Sample Prep

N/A	Rs (Sample Count Rate) = $(TC / CT) - BKG$
Sample #	ALPHA TOTAL $\mu\text{Ci/L}$ = $Rs * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$
S96T004780	ALPHA TOTAL $\mu\text{Ci/mL}$ = ALPHA TOTAL $\mu\text{Ci/L}$ / 1000mL/L
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Prepared By

SZC

Chemist

SLF

Analyst

SCL

Date Complete

10/08/96

Analysis Date

10/04/96

Analysis Time

03:30 PM

Sample Point

AN-104

ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum)	=	< 1.42E-02	DETECTION LEVEL
LESS Than Value was Determined from Lc.			3.57E-02 $\mu\text{Ci/mL}$
RELATIVE COUNTING ERROR		500.0%	

Analyst:	SCL	Date: 08-Oct-96
Signature of Chemist:	SLF	Date: 10/14/96
SAMPLE.WB1 Rev. 1.	508101ML	

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AT : LA-508-101 (E-1)

LIQUIDS

Type	DETECTOR NUMBER	DUP	REPLICATE
DUP	DISH SIZE (1, 2, or 5) (MS)	14	14
Work List	GROSS COUNTS (GC)	2	2
13587	COUNT TIME in MINUTES (CT)	1	2
AT or TB ?	BACKGROUND in cpm (BKG)	30	30
AT	SAMPLE SIZE in mL (SS)	0.17	0.17
Test Code	DILUTION FACTOR (DF)	0.250	0.250
@ALPHA01	DIGEST DILUTION FACTOR (DDF)	10201	10201
Matrix	EFFICIENCY FACTOR (EFF)	1	1
LIQUID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.2274	0.2274
Batch Number		0.176	0.176
96010096	Blank Concentration in $\mu\text{Ci/L}$	< 1.42E+01	
Rerun	Replicate Concentration in $\mu\text{Ci/L}$	< 1.42E+01	
0	Maximum Concentration in $\mu\text{Ci/L}$	< 1.4198E+01	
Sample Prep			
N/A	Rs (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	ALPHA TOTAL $\mu\text{Ci/L}$ = $Rs * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$		
S96T004780	ALPHA TOTAL $\mu\text{Ci/mL}$ = ALPHA TOTAL $\mu\text{Ci/L} / 1000\text{mL/L}$		
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
SZC			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum) =	< 1.42E-02	DETECTION LEVEL
Analyst	LESS Than Value was Determined from Lc.		
SCL			
Date Complete	RELATIVE COUNTING ERROR	500.0%	3.57E-02 $\mu\text{Ci/mL}$
10/08/96			
Analysis Date			
10/04/96			
Analysis Time			
03:30 PM			
Sample Point			
AN-104			

Analyst:	SCL	Date: 08-Oct-96
Signature of Chemist:	SLF	Date: 10/14/96
SAMPLE.WB1 Rev. 1.	508101ML	

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LABCORE Completed RadChem Report for Worklist#: 13591

Analyst: kgh

Instrument: AB15

Book# _____

Method: _____ Rev/Mod _____

Worklist Comment: Determine sample size using Ludlum, use 0.1mL spk. skm

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD	0	0	@ALPHA01 ALPHA01 LIQUID		2.31E-04	2.55E-4	110.390	% Recovery
1 STD	0	0	@ALPHA01 ALPHA01E LIQUID		1.00	3.12E+00	3.120	% Ct. Erro
2 BLNK	0	0	@ALPHA01 ALPHA01 LIQUID		1	<2.42E-2		uCi/mL
2 BLNK	0	0	@ALPHA01 ALPHA01E LIQUID		1.00	5.00E+02	500.000	uCi/mL
3 BLNK/BKG	0	0	@ALPHA01 ALPHA01 LIQUID		1.00E+00	1.00E+00	1.000	BLNK/BKG
4 SAMPLE	S96T004781	0	@ALPHA01 ALPHA01 LIQUID		N/A <	2.10E-02	364.0E-004	uCi/mL
4 SAMPLE	S96T004781	0	@ALPHA01 ALPHA01E LIQUID		N/A	5.00E+02	0.0E+000	% Ct. Error
5 DUP	S96T004781	0	@ALPHA01 ALPHA01 LIQUID		<2.10E-2	2.12E-1		RPD
5 DUP	S96T004781	0	@ALPHA01 ALPHA01E LIQUID		1.00	4.43E+01	44.300	% Ct. Erro
6 SPK	S96T004781	0	@ALPHA01 ALPHA01 LIQUID		3.59E-02	3.60E-02	100.279	% Recovery
7 SAMPLE	S96T004782	0	@ALPHA01 ALPHA01 LIQUID		N/A <	1.47E-02	364.0E-004	uCi/mL
7 SAMPLE	S96T004782	0	@ALPHA01 ALPHA01E LIQUID		N/A	5.00E+02	0.0E+000	% Ct. Error
8 DUP	S96T004782	0	@ALPHA01 ALPHA01 LIQUID		<1.47E-2	<1.79E-2		RPD
8 DUP	S96T004782	0	@ALPHA01 ALPHA01E LIQUID		1.00	5.00E+02	500.000	% Ct. Erro
9 SAMPLE	S96T004783	0	@ALPHA01 ALPHA01 LIQUID		N/A <	1.47E-02	364.0E-004	uCi/mL
9 SAMPLE	S96T004783	0	@ALPHA01 ALPHA01E LIQUID		N/A	5.00E+02	0.0E+000	% Ct. Error
10 DUP	S96T004783	0	@ALPHA01 ALPHA01 LIQUID		<1.47E-2	<2.10E-2		RPD
10 DUP	S96T004783	0	@ALPHA01 ALPHA01E LIQUID		1.00	5.00E+02	500.000	% Ct. Erro
11 SAMPLE	S96T004784	0	@ALPHA01 ALPHA01 LIQUID		N/A <	2.73E-02	364.0E-004	uCi/mL
11 SAMPLE	S96T004784	0	@ALPHA01 ALPHA01E LIQUID		N/A	5.00E+02	0.0E+000	% Ct. Error
12 DUP	S96T004784	0	@ALPHA01 ALPHA01 LIQUID		<2.73E-2	<2.42E-2		RPD
12 DUP	S96T004784	0	@ALPHA01 ALPHA01E LIQUID		1.00	3.67E+02	367.000	% Ct. Erro
13 SPK	S96T004784	0	@ALPHA01 ALPHA01 LIQUID		3.59E-02	3.58E-02	110.864	% Recovery

Final page for worklist# 13591

Analyst Signature

Date

Analyst Signature

Date

Reviewer Signature

10/14/96
Date

RPD's for 4781 Dup + Dup/Rep and SPK + SPK/Rep
are out of control limits. Sample will be
rerun.

10/14/96

S96T004781 rerun
on worklist #13965

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Data Entry Template for Worklist# 13591

Analyst: KRM Instrument: AB00 15 Book# Lab 356

Method: LA-508-101 Rev/Mod E-1

Worklist Comment: Determine sample size using Ludlum, use 0.1mL spk. skm

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 STD			@ALPHA01	LIQUID		
2 BLNK			@ALPHA01	LIQUID		
3 BLNK/BKG			@ALPHA01	LIQUID		
4 SAMPLE	S96T004781 0		@ALPHA01	LIQUID	96001174	AN-104
Analytes Requested: ALPHA01 , ALPHA01E						
5 DUP	S96T004781 0		@ALPHA01	LIQUID		
6 SPK	S96T004781 0		@ALPHA01	LIQUID		
7 SAMPLE	S96T004782 0		@ALPHA01	LIQUID	96001174	AN-104
Analytes Requested: ALPHA01 , ALPHA01E						
8 DUP	S96T004782 0		@ALPHA01	LIQUID		
9 SAMPLE	S96T004783 0		@ALPHA01	LIQUID	96001174	AN-104
Analytes Requested: ALPHA01 , ALPHA01E						
10 DUP	S96T004783 0		@ALPHA01	LIQUID		
11 SAMPLE	S96T004784 0		@ALPHA01	LIQUID	96001174	AN-104
Analytes Requested: ALPHA01 , ALPHA01E						
12 DUP	S96T004784 0		@ALPHA01	LIQUID		
13 SPK	S96T004784 0		@ALPHA01	LIQUID		

Final page for worklist # 13591

[Signature] 10-7-96
Analyst Signature Date

[Signature] 10/9/96
Analyst Signature Date

Data Entry Comments:

WORKBOOK PAGE: STD1

AT : LA-508-101 (E-1) LA-508-113 (A-2) STANDARD

		STANDARD	REPLICATE
Type	DETECTOR NUMBER	15	15
STD	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	3963	4132
13591	COUNT TIME in MINUTES (CT)	30	30
AT OF TB ?	BACKGROUND in cpm (BKG)	0.2	0.2
AT	SAMPLE SIZE in mL (SS)	1.000	1.000
Test Code	DILUTION FACTOR (DF)	1	1
@ALPHA01	STANDARD BOOK NUMBER (Std BN)	66B66	66B66
Matrix	EFFICIENCY FACTOR (EFF)	0.2380	0.2380
LIQUID	Lc, Rmax, or Rs.(SAMPLE RATE) as APPROPRIATE	131.900	137.533
Batch Number	Standard Value in $\mu\text{Ci/mL}$	2.31E-04	
96010097	Concentration in $\mu\text{Ci/L}$ =	2.50E-01	
Rerun	Replicate Concentration in $\mu\text{Ci/L}$ =	2.60E-01	
0	AVERAGE CONCENTRATION in $\mu\text{Ci/L}$ =	2.5497E-01	

Sample Prep	
N/A	R_s (Sample Count Rate) = $(TC / CT) - BKG$
Sample #	$\text{ALPHA TOTAL } \mu\text{Ci/L} = R_s * 1000\text{mL/L} * DF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$
WL13591	$\text{ALPHA TOTAL } \mu\text{Ci/mL} = \text{ALPHA TOTAL } \mu\text{Ci/L} / 1000\text{mL/L}$
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$
WB26872	Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Prepared By	
SEH	
Chemist	
SLF	ALPHA TOTAL CONCENTRATION in $\mu\text{Ci/mL}$ = 2.55E-04
Analyst	
KGH	
Date Complete	
10/09/96	RELATIVE COUNTING ERROR = 3.1%
Analysis Date	
10/07/96	
Analysis Time	
12:00 AM	
Sample Point	
AN-104	

Analyst:	SEH	Date: 09-Oct-96
Signature of Chemist:	SLF	Date: 10/14/96

STANDARD.WB1 Rev. 1.0

508101ML

WORKBOOK PAGE: BLANK2

AT : LA-508-101 (E-1) LIQUIDS

			BLNK	REPLICATE
Type	DETECTOR NUMBER		15	15
BLNK	DISH SIZE (1, 2, or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	3	9
13591	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.2	0.2
AT	SAMPLE SIZE in mL	(SS)	0.250	0.250
Test Code	DILUTION FACTOR	(DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
LIQUID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE		0.191	0.313

Batch Number	
96010097	Blank Concentration in $\mu\text{Ci/L}$
Rerun	Replicate Concentration in $\mu\text{Ci/L}$
0	Maximum Concentration in $\mu\text{Ci/L}$

Sample Prep	
N/A	R_s (Sample Count Rate) = $(TC / CT) - BKG$
Sample #	$\text{ALPHA TOTAL } \mu\text{Ci/L} = R_s * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$
WL13591	$\text{ALPHA TOTAL } \mu\text{Ci/mL} = \text{ALPHA TOTAL } \mu\text{Ci/L} / 1000\text{mL/L}$
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$
WB26872	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) = < 2.42E-02
Analyst	
KGH	LESS Than Value was Determined from Lc.
Date Complete	
10/09/96	RELATIVE COUNTING ERROR 500.0%
Analysis Date	
10/07/96	
Analysis Time	
Sample Point	
AN-104	

Analyst:	KGH	Date: 09-Oct-96
Signature of Chemist:	SLF	Date: 10/14/96
BLANK.VWB1 Rev. 1.0	508101ML	

2051.4

WORKBOOK PAGE: SAM7

AT : LA-508-101 (E-1) LIQUIDS

	SAMPLE	REPLICATE
Type	15	15
DETECTOR NUMBER		
SAMPLE	DISH SIZE (1, 2, or 5) (MS)	2
Work List	GROSS COUNTS (GC)	4
13591	COUNT TIME in MINUTES (CT)	30
AT or TB ?	BACKGROUND in cpm (BK(G))	0.2
AT	SAMPLE SIZE in mL (SS)	0.250
Test Code	DILUTION FACTOR (DF)	10201
@ALPHA01	DIGEST DILUTION FACTOR (DDF)	1
Matrix	EFFICIENCY FACTOR (EFF)	0.2380
LIQUID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE	0.191

Batch Number	
96010097	Blank Concentration in $\mu\text{Ci/L}$ < 1.47E+01
Rerun	Replicate Concentration in $\mu\text{Ci/L}$ < 1.47E+01
0	Maximum Concentration in $\mu\text{Ci/L}$ < 1.4714E+01

Sample Prep	
N/A	R_s (Sample Count Rate) = $(TC / CT) - BKG$
Sample #	$\text{ALPHA TOTAL } \mu\text{Ci/L} = R_s * 1000\text{mL/L} * DF * DDF / (EFF * SS * 222000\text{dpm}/\mu\text{Ci})$
S96T004782	$\text{ALPHA TOTAL } \mu\text{Ci/mL} = \text{ALPHA TOTAL } \mu\text{Ci/L} / 1000\text{mL/L}$
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$
WB26872	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) = < 1.47E-02
Analyst	
KGH	LESS Than Value was Determined from Lc.
Date Complete	
10/09/96	RELATIVE COUNTING ERROR 500.0%
Analysis Date	
10/07/96	
Analysis Time	
Sample Point	
AN-104	

// system;exit;yes-

Analyst:	KGH	Date: 09-Oct-96
Signature of Chemist:	SLF	Date: 10/14/96
SAMPLE WB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: DUP8

AT : LA-508-101 (E-1) LIQUIDS

	DUP	REPLICATE
Type	DETECTOR NUMBER	15
DUP	DISH SIZE (1, 2, or 5)	2
Work List	GROSS COUNTS (MS)	2
13591	GROSS COUNTS (GC)	7
AT or TB ?	COUNT TIME in MINUTES (CT)	30
AT	BACKGROUND in cpm (BK G)	0.2
Test Code	SAMPLE SIZE in mL (SS)	0.250
@ALPHA01	DILUTION FACTOR (DF)	10201
Matrix	DIGEST DILUTION FACTOR (DDF)	1
LIQUID	EFFICIENCY FACTOR (EFF)	0.2380
Batch Number	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE	0.191

98010097	Blank Concentration in $\mu\text{Ci/L}$	< 1.47E+01
Retain	Replicate Concentration in $\mu\text{Ci/L}$	< 1.79E+01
0	Maximum Concentration in $\mu\text{Ci/L}$	< 1.7889E+01

Sample Prep	N/A	R_s (Sample Count Rate) = $(TC / CT) - BKG$
Sample #	S96T004782	$\text{ALPHA TOTAL } \mu\text{Ci/L} = R_s * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$
Instrument Code	WB26872	$\text{ALPHA TOTAL } \mu\text{Ci/mL} = \text{ALPHA TOTAL } \mu\text{Ci/L} / 1000\text{mL/L}$
		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	
Analyst	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum)	= < 1.79E-02
KGH	LESS Than Value was Determined from Lc.	DETECTION LEVEL
Date Complete	10/09/96	3.64E-02 $\mu\text{Ci/mL}$
Analysis Date	10/07/96	RELATIVE COUNTING ERROR 500.0%
Analysis Time		
Sample Point	AN-104	

// system;exit|yes-

Analyst:	KGH	Date: 09-Oct-96
Signature of Chemist:	SLF	Date: 10/14/96

SAMPLE.VB1 Rev. 1.0

508101ML

WORKBOOK PAGE: SAMS

AT : LA-508-101 (E-1) LIQUIDS

		SAMPLE	REPLICATE
Type	DETECTOR NUMBER	15	16
SAMPLE	DISH SIZE (1, 2, or 5)	(MS) 2	2
Work List	GROSS COUNTS	(GC) 3	5
13591	COUNT TIME in MINUTES	(CT) 30	30
AT or TB ?	BACKGROUND in cpm	(BKG) 0.2	0.2
AT	SAMPLE SIZE in mL	(SS) 0.250	0.250
Test Code	DILUTION FACTOR	(DF) 10201	10201
@ALPHA01	DIGEST DILUTION FACTOR	(DDF) 1	1
MpGH	EFFICIENCY FACTOR	(EFF) 0.2380	0.2380
LIQUID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE	0.191	0.191

Batch Number	
96010097	Blank Concentration in $\mu\text{Ci/L}$ < 1.47E+01
Rerun	Replicate Concentration in $\mu\text{Ci/L}$ < 1.47E+01
0	Maximum Concentration in $\mu\text{Ci/L}$ < 1.4714E+01

Sample Prep	
N/A	R_s (Sample Count Rate) = $(TC / CT) - BKG$
Sample #	$\text{ALPHA TOTAL } \mu\text{Ci/L} = R_s * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$
S96T004783	$\text{ALPHA TOTAL } \mu\text{Ci/mL} = \text{ALPHA TOTAL } \mu\text{Ci/L} / 1000\text{mL/L}$
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$
WB26872	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) = < 1.47E-02
Analyst	
KGH	LESS Than Value was Determined from Lc.
Date Complete	
10/09/96	RELATIVE COUNTING ERROR 500.0%
Analysis Date	
10/07/96	
Analysis Time	
Sample Point	
AN-104	

(/ system;exit)yes-

Analyst:	KGH	Date: 09-Oct-96
Signature of Chemist:	SLF	Date: 10/14/96

SAMPLE.WB1 Rev. 1.0

508101ML

AT : LA-508-101 (E-1)

LIQUIDS

		DUP	REPLICATE
Type	DETECTOR NUMBER	15	15
DUP	DISH SIZE (1, 2, or 5)	2	2
Work List	GROSS COUNTS (MS)	4	8
13591	COUNT TIME in MINUTES (GC)	30	30
AT or TB ?	BACKGROUND in cpm (BK G)	0.2	0.2
AT	SAMPLE SIZE in mL (SS)	0.250	0.250
Test Code	DILUTION FACTOR (DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR (DDF)	1	1
Matrix	EFFICIENCY FACTOR (EFF)	0.2380	0.2380
LIQUID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.191	0.272

Batch Number	
98010097	Blank Concentration in $\mu\text{Ci/L}$ < 1.47E+01
Retun	Replicate Concentration in $\mu\text{Ci/L}$ < 2.10E+01
0	Maximum Concentration in $\mu\text{Ci/L}$ < 2.1041E+01

Sample Prep	
N/A	R_s (Sample Count Rate) = $(TC / CT) - BKG$
Sample #	$\text{ALPHA TOTAL } \mu\text{Ci/L} = R_s * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$
S96T004783	$\text{ALPHA TOTAL } \mu\text{Ci/mL} = \text{ALPHA TOTAL } \mu\text{Ci/L} / 1000\text{mL/L}$
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$
WB26872	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) = < 2.10E-02
Analyst	
KGH	LESS Than Value was Determined from Lc.
Date Complete	
10/09/96	RELATIVE COUNTING ERROR 500.0%
Analysis Date	
10/07/96	
Analysis Time	
Sample Point	
AN-104	

// system;exit//yes-

Analyst:	KGH	Date: 09-Oct-96
Signature of Chemist:	SLF	Date: 10/14/96

SAMPLE.WB1 Rev. 1.0

508101ML

WORKBOOK PAGE: SAM11

AT : LA-508-101 (E-1) LIQUIDS

		SAMPLE	REPLICATE
Type	DETECTOR NUMBER	15	15
SAMPLE	DISH SIZE (1, 2, or 5)	2	2
Work List	GROSS COUNTS (GC)	10	4
13591	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.2	0.2
AT	SAMPLE SIZE in mL (SS)	0.250	0.250
Test Code	DILUTION FACTOR (DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR (DDF)	1	1
Matrix	EFFICIENCY FACTOR (EFF)	0.2380	0.2380
LIQUID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE	0.353	0.191

Batch Number	
96010097	Blank Concentration in $\mu\text{Ci/L}$ < 2.73E+01
ReRun	Replicate Concentration in $\mu\text{Ci/L}$ < 1.47E+01
0	Maximum Concentration in $\mu\text{Ci/L}$ < 2.7287E+01

Sample Prep	
N/A	R_s (Sample Count Rate) = $(TC / CT) - BKG$
Sample #	$\text{ALPHA TOTAL } \mu\text{Ci/L} = R_s * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$
S96T004784	$\text{ALPHA TOTAL } \mu\text{Ci/mL} = \text{ALPHA TOTAL } \mu\text{Ci/L} / 1000\text{mL/L}$
Instrument Code	$\text{Relative Counting Error} = [1 / (\text{The Square Root of } TC + BKG * CT)] * (TC - BKG * CT) * 1.96 * 100$
WB26872	Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Prepared By	
SEH	
Chemist	
SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum) = < 2.73E-02
Analyst	
KGH	LESS THAN Value was Determined from Rmax.
Date Complete	
10/09/96	RELATIVE COUNTING ERROR 500.0%
Analysis Date	
10/07/96	
Analysis Time	
Sample Point	
AN-104	

(/ system exit) yes-

Analyst:	KGH	Date: 09-Oct-96
Signature of Chemist:	SLF	Date: 10/14/96

SAMPLE.WB1 Rev. 1.0

508101ML

WORKBOOK PAGE: DUP12

AT : LA-508-101 (E-1) LIQUIDS

		DUP	REPLICATE
Type	DETECTOR NUMBER	15	15
DUP	DISH SIZE (1, 2, or 5)	2	2
Work List	GROSS COUNTS	9	8
13591	COUNT TIME in MINUTES	30	30
AT or TB ?	BACKGROUND in cpm	0.2	0.2
AT	SAMPLE SIZE in mL	0.250	0.250
Test Code	DILUTION FACTOR	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR	1	1
Matrix	EFFICIENCY FACTOR	0.2380	0.2380
LIQUID	Lc, Rmax, or Rs.(SAMPLE RATE) as APPROPRIATE	0.313	0.272
Batch Number			
96010097	Blank Concentration in $\mu\text{Ci/L}$	< 2.42E+01	
ReRun	Replicate Concentration in $\mu\text{Ci/L}$	< 2.10E+01	
0	Maximum Concentration in $\mu\text{Ci/L}$	< 2.4173E+01	

Sample Prep	
N/A	R_s (Sample Count Rate) = $(TC / CT) - BKG$
Sample #	$\text{ALPHA TOTAL } \mu\text{Ci/L} = R_s * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$
S96T004784	$\text{ALPHA TOTAL } \mu\text{Ci/mL} = \text{ALPHA TOTAL } \mu\text{Ci/L} / 1000\text{mL/L}$
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$
WB26872	Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Prepared By	
SEH	
Chemist	
SLF	$\text{ALPHA TOTAL in } \mu\text{Ci/mL (Maximum)} = < 2.42\text{E-02}$
Analyst	
KGH	LESS THAN Value was Determined from Rmax.
Date Complete	
10/09/96	RELATIVE COUNTING ERROR 366.7%
Analysis Date	
10/07/96	
Analysis Time	
Sample Point	
AN-104	

(/ system;exit)yes-

Analyst:	KGH	Date: 09-Oct-96
Signature of Chemist:	SLF	Date: 10/14/96
SAMPLE.WB1 Rev. 1.0	508101ML	

2051.10

WORKBOOK PAGE: SPK13

AT : LA-508-101 (E-1) LA-508-113 (A-2) SPIKED SAMPLE

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		15	15
SPK	DISH SIZE 1, 2, or 5 (MS)		2	2
Work List	TOTAL COUNTS (TC)		62293	63995
13591	COUNT TIME in MINUTES (CT)		30	30
AT or TB ?	BACKGROUND in cpm (BKG)		0.2	0.2
AT	SAMPLE VOLUME in mL (Spiked Vial) (SS)		0.250	0.250
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial) (DF)		10201	10201
@ALPHA01	DIGEST DILUTION FACTOR (DDF)		1	1
Matrix	SPIKE VOLUME in mL (SVol)		0.100	0.100
LIQUID	SPIKE DILUTION FACTOR (SDF)		1	1
Batch Number	SPIKE BOOK NUMBER (Spk BN)		123B43	123B43
95010097	SPIKE VALUE in $\mu\text{Ci/mL}$ (SVal)		3.5868E-02	3.5868E-02
Refun	INSTRUMENT EFFICIENCY FACTOR (EFF)		0.238	0.238
0	SAMPLE + SPIKE $\mu\text{Ci/mL}$ (S+S)		1.60E+02	1.64E+02
Sample Prep	AVERAGE or MAXIMUM $\mu\text{Ci/mL}$ in SAMPLE	K	2.7287E-02	
N/A				
Sample #				
S95T004784	R_s (Sample Count Rate) = $(TC / CT) \cdot BKG$			
Instrument Code	$SAMPLE + SPIKE \mu\text{Ci/mL} = R_s \cdot DF \cdot DDF / (EFF \cdot SS \cdot 2220000\text{dpm}/\mu\text{Ci})$			
WB26872	$QC \text{ ACTUAL} = SVal$			
Prepared By	$QC \text{ FOUND} = (((S+S \mu\text{Ci/mL} - SAMPLE \mu\text{Ci/mL}) \cdot ((SDF/SVol)/(DF \cdot DDF/SS))))$			
SEH	$PERCENT \text{ SPIKE RECOVERY} = (QC \text{ FOUND} / QC \text{ ACTUAL}) \cdot 100$			
Chemist				
SLF				
Analyst				
KGH				
Date Complete	NOTE: Original Sample result was a LESS THAN value. Zero (0) was subtracted from the spiked value for QC found calculation.			
10/09/96				
Analysis Date				
10/07/96				
Analysis Time	QC ACTUAL =		3.59E-02	
	QC FOUND =		3.98E-02	
	AVG. PERCENT SPIKE RECOVERY =		111.0%	
Sample Point				
AN-104				

Analyst:	SEH	Date: 09-Oct-96
Signature of Chemist:	SLF	Date: 10/14/96

SPIKE.WB1 Rev. 1.0

508101ML

2051.11

worklistrad Version 1.0 05/09/96
10/09/96 12:05

LABCORE Completed RadChem Report for Worklist#: 13593

Analyst: kgh

Instrument: AB14

Book# _____

Method: _____ Rev/Mod _____

Worklist Comment: Determine sample size using Ludlum, use 0.1mL spk. skm

Seq Type	Sample# R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD	0	@ALPHA01 ALPHA01	LIQUID	2.31E-04	2.40E-4	103.89%	% Recovery
1 STD	0	@ALPHA01 ALPHA01E	LIQUID	1.00	3.31E+00	3.310	% Ct. Error
2 BLNK	0	@ALPHA01 ALPHA01	LIQUID	1	<3.16E-2		uCi/mL
2 BLNK	0	@ALPHA01 ALPHA01E	LIQUID	1.00	5.00E+02	500.000	uCi/mL
3 BLNK/BKG	0	@ALPHA01 ALPHA01	LIQUID	1.00E+00	1.11E+00	1.110	BLNK/BKG
4 SAMPLE	S96T004976	0 @ALPHA01 ALPHA01	LIQUID	N/A	5.39E-02	450.0e-004	uCi/mL
4 SAMPLE	S96T004976	0 @ALPHA01 ALPHA01E	LIQUID	N/A	5.00E+02	0.0e+000	% Ct. Error
5 DUP	S96T004976	0 @ALPHA01 ALPHA01	LIQUID	<5.39E-2	<3.48E-2		RPD
5 DUP	S96T004976	0 @ALPHA01 ALPHA01E	LIQUID	1.00	5.00E+02	500.000	% Ct. Error
6 SPK	S96T004976	0 @ALPHA01 ALPHA01	LIQUID	3.59E-02	3.67E-02	102.22%	% Recovery
7 SAMPLE	S96T004977	0 @ALPHA01 ALPHA01	LIQUID	N/A	1.89E-02	450.0e-004	uCi/mL
7 SAMPLE	S96T004977	0 @ALPHA01 ALPHA01E	LIQUID	N/A	5.00E+02	0.0e+000	% Ct. Error
8 DUP	S96T004977	0 @ALPHA01 ALPHA01	LIQUID	<1.89E-2	<3.16E-2		RPD
8 DUP	S96T004977	0 @ALPHA01 ALPHA01E	LIQUID	1.00	5.00E+02	500.000	% Ct. Error
9 SAMPLE	S96T004978	0 @ALPHA01 ALPHA01	LIQUID	N/A	1.89E-02	450.0e-004	uCi/mL
9 SAMPLE	S96T004978	0 @ALPHA01 ALPHA01E	LIQUID	N/A	5.00E+02	0.0e+000	% Ct. Error
10 DUP	S96T004978	0 @ALPHA01 ALPHA01	LIQUID	<1.89E-2	<1.89E-2		RPD
10 DUP	S96T004978	0 @ALPHA01 ALPHA01E	LIQUID	1.00	5.00E+02	500.000	% Ct. Error
11 SAMPLE	S96T004979	0 @ALPHA01 ALPHA01	LIQUID	N/A	2.53E-02	450.0e-004	uCi/mL
11 SAMPLE	S96T004979	0 @ALPHA01 ALPHA01E	LIQUID	N/A	5.00E+02	0.0e+000	% Ct. Error
12 DUP	S96T004979	0 @ALPHA01 ALPHA01	LIQUID	<2.53E-2	<9.43E-2		RPD
12 DUP	S96T004979	0 @ALPHA01 ALPHA01E	LIQUID	1.00	5.00E+02	500.000	% Ct. Error

Final page for worklist# 13593

Analyst Signature

Date

Analyst Signature

Date

Reviewer Signature

 10/14/96
Date

Units shown for QC (BLK/BKG) may not reflect the actual units.

WORKBOOK PAGE: STD1

AT : LA-508-101 (E-1) LA-508-113 (A-2) STANDARD

		STANDARD	REPLICATE
Type	DETECTOR NUMBER	14	14
STD	DISH SIZE (1, 2, or 5)	2	2
Work List	GROSS COUNTS (GC)	3762	3532
13593	COUNT TIME in MINUTES (CT)	30	30
AT OF TB ?	BACKGROUND in cpm (BKG)	0.3	0.3
AT	SAMPLE SIZE in mL (SS)	1.000	1.000
Test Code	DILUTION FACTOR (DF)	1	1
@ALPHA01	STANDARD BOOK NUMBER (Std BN)	66B56	66B56
Matrix	EFFICIENCY FACTOR (EFF)	0.2274	0.2274
LIQUID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE	125.100	117.433
Batch Number	Standard Value in $\mu\text{Ci/mL}$	2.31E-04	
95010100	Concentration in $\mu\text{Ci/L}$ =	2.48E-01	
Rerun	Replicate Concentration in $\mu\text{Ci/L}$ =	2.33E-01	
0	AVERAGE CONCENTRATION in $\mu\text{Ci/L}$ =	2.4021E-01	
Sample Prep			
N/A	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	ALPHA TOTAL $\mu\text{Ci/L}$ = $R_s * 1000\text{mL/L} * DF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$		
WL13593	ALPHA TOTAL $\mu\text{Ci/mL}$ = ALPHA TOTAL $\mu\text{Ci/L} / 1000\text{mL/L}$		
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
SEH			
Chemist			
SLF	ALPHA TOTAL CONCENTRATION in $\mu\text{Ci/mL}$ =	2.40E-04	DETECTION LEVEL
Analyst			
KOH			
Date Complete			1.10E-06 $\mu\text{Ci/mL}$
10/09/96	RELATIVE COUNTING ERROR =	3.3%	
Analysis Date			
10/08/96			
Analysis Time			
12:00 AM			
Sample Point			
AN-104			

Analyst:	SEH	Date: 09-Oct-96
Signature of Chemist:	SLF	Date: 10/14/96

STANDARD.WB1 Rev. 1.0

508101ML

WORKBOOK PAGE: BLANK2

AT : LA-508-101 (E-1) LIQUIDS

		BLNK	REPLICATE
Type	DETECTOR NUMBER	14	14
BLNK	DISH SIZE (1, 2, or 5)	2	2
Work List	GROSS COUNTS	13	7
13593	COUNT TIME in MINUTES	30	30
AT or TB ?	BACKGROUND in cpm	0.3	0.3
AT	SAMPLE SIZE in mL	0.250	0.250
Test Code	DILUTION FACTOR	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR	1	1
Matrix	EFFICIENCY FACTOR	0.2274	0.2274
LIQUID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE	0.391	0.233

Batch Number	
96010100	Blank Concentration in $\mu\text{Ci/L}$
Return	Replicate Concentration in $\mu\text{Ci/L}$
0	Maximum Concentration in $\mu\text{Ci/L}$

Sample Prep	
N/A	R_s (Sample Count Rate) = $(TC / CT) - BKG$
Sample #	$\text{ALPHA TOTAL } \mu\text{Ci/L} = R_s * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$
WL13593	$\text{ALPHA TOTAL } \mu\text{Ci/mL} = \text{ALPHA TOTAL } \mu\text{Ci/L} / 1000\text{mL/L}$
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Prepared by	
SEH	
Chemist	
SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum) = < 3.16E-02
Analyst	
KGH	LESS THAN Value was Determined from Rmax.
Date Complete	
10/09/96	RELATIVE COUNTING ERROR 500.0%
Analysis Date	
10/08/96	
Analysis Time	
Sample Point	
AN-104	

Analyst:	KGH	Date: 09-Oct-96
Signature of Chemist:	SLF	Date: 10/14/96

BLANK.WB1 Rev. 1.0

508101ML

WORKBOOK PAGE: SAM4

AT : LA-508-101 (E-1) LIQUIDS

		SAMPLE	REPLICATE
Type	DETECTOR NUMBER	14	14
SAMPLE	DISH SIZE (1, 2, or 5)	2	2
Work List	GROSS COUNTS	29	9
13593	COUNT TIME in MINUTES	30	30
AT or TB ?	BACKGROUND in cpm	0.3	0.3
AT	SAMPLE SIZE in mL	0.250	0.250
Test Code	DILUTION FACTOR	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR	1	1
Matrix	EFFICIENCY FACTOR	0.2274	0.2274
LIQUID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE	0.667	0.233

Batch Number		
95010100	Blank Concentration in $\mu\text{Ci/L}$	5.39E+01
Retest	Replicate Concentration in $\mu\text{Ci/L}$	< 1.89E+01
0	Maximum Concentration in $\mu\text{Ci/L}$	< 5.3885E+01

Sample Prep	
N/A	R_s (Sample Count Rate) = $(TC / CT) - BKG$
Sample #	$\text{ALPHA TOTAL } \mu\text{Ci/L} = R_s * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$
S9E004975	$\text{ALPHA TOTAL } \mu\text{Ci/mL} = \text{ALPHA TOTAL } \mu\text{Ci/L} / 1000\text{mL/L}$
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Prepared By	
SEH	
Chemist	
SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum) = < 5.39E-02
Analyst	
KGH	LESS THAN Value was Determined from R_s .
Date Complete	
10/09/96	RELATIVE COUNTING ERROR 500.0%
Analysis Date	
10/09/96	
Analysis Time	
Sample Point	
AN-104	

(/ system;exit)yes-

Analyst:	KGH	Date: 09-Oct-96
Signature of Chemist:	SLF	Date: 10/14/96
SAMPLE WB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: DUP5

AT : LA-508-101 (E-1)

LIQUIDS

		DUP	REPLICATE
Type	DETECTOR NUMBER	14	14
DUP	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	9	14
13593	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.3	0.3
AT	SAMPLE SIZE in mL (SS)	0.250	0.250
Test Code	DILUTION FACTOR (DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR (DDF)	1	1
Matrix	EFFICIENCY FACTOR (EFF)	0.2274	0.2274
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE	0.233	0.430

Batch Number	
96010100	Blank Concentration in $\mu\text{Ci/L}$ < 1.89E+01
Rerun	Replicate Concentration in $\mu\text{Ci/L}$ < 3.48E+01
0	Maximum Concentration in $\mu\text{Ci/L}$ < 3.4791E+01

Sample Prep	
N/A	Rs (Sample Count Rate) = $(\text{TC} / \text{CT}) - \text{BKG}$
Sample #	ALPHA TOTAL $\mu\text{Ci/L}$ = $\text{Rs} * 1000\text{mL/L} * \text{DF} * \text{DDF} / (\text{EFF} * \text{SS} * 2220000\text{dpm}/\mu\text{Ci})$
S96T004976	ALPHA TOTAL $\mu\text{Ci/mL}$ = ALPHA TOTAL $\mu\text{Ci/L}$ / 1000mL/L
Instrument Code	Relative Counting Error = $[(\text{The Square Root of TC} + \text{BKG} * \text{CT}) / (\text{TC} - \text{BKG} * \text{CT})] * 1.96 * 100$
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Prepared By			
SEH			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum) =	< 3.48E-02	DETECTION LEVEL
Analyst	LESS THAN Value was Determined from Rmax.		
KGH			4.50E-02
Date Complete	RELATIVE COUNTING ERROR	500.0%	$\mu\text{Ci/mL}$
10/09/96			
Analysis Date			
10/08/96			
Analysis Time			
Sample Point			
AN-104			

Analyst:	KGH	Date: 09-Oct-96
Signature of Chemist:	SLF	Date: 10/14/96
SAMPLE.WB1 Rev. 1.0	508101ML	

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WORKBOOK PAGE: SPK6

AT : LA-508-101 (E-1) LA-508-113 (A-2) SPIKED SAMPLE

		SPIKE	REPLICATE
Type	DETECTOR NUMBER	14	14
SPK	DISH SIZE 1, 2, or 5 (MS)	2	2
Work List	TOTAL COUNTS (TC)	53549	57646
13593	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.3	0.3
AT	SAMPLE VOLUME in mL (Spiked Vial) (SS)	0.250	0.250
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial) (DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR (DDF)	1	1
Matrix	SPIKE VOLUME in mL (SVol)	0.100	0.100
LIQUID	SPIKE DILUTION FACTOR (SDF)	1	1
Batch Number	SPIKE BOOK NUMBER (Spk BN)	123B43	123B43
96010100	SPIKE VALUE in $\mu\text{Ci/mL}$ (SVal)	3.5868E-02	3.5868E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR (EFF)	0.2274	0.2274
0	SAMPLE + SPIKE $\mu\text{Ci/mL}$ (S+S)	1.44E+02	1.55E+02
Sample Prep	AVERAGE or MAXIMUM $\mu\text{Ci/mL}$ in SAMPLE	5.3885E-02	
N/A			
Sample #			
S96T004976	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Instrument Code	$SAMPLE + SPIKE \mu\text{Ci/mL} = R_s * DF * DDF / (EFF * SS * 2220000 \text{ dpm}/\mu\text{Ci})$		
WB27807	QC ACTUAL = SVal		
Prepared By	QC FOUND = $((S+S \mu\text{Ci/mL} - SAMPLE \mu\text{Ci/mL}) * ((SDF/SVol)/(DF*DDF/SS))))$		
SEH	PERCENT SPIKE RECOVERY = $(QC \text{ FOUND} / QC \text{ ACTUAL}) * 100$		
Chemist			
SLF			
Analyst			
KGH			
Date Complete	NOTE: Original Sample result was a LESS THAN value. Zero (0) was subtracted from the spiked value for QC found calculation.		
10/09/96			
Analysis Date			
10/08/96			
Analysis Time			
	QC ACTUAL =	3.59E-02	
	QC FOUND =	3.67E-02	
	AVG. PERCENT SPIKE RECOVERY =	102.3%	
Sample Point			
AN-104			

Analyst:	SEH	Date: 09-Oct-96
Signature of Chemist:	SLF	Date: 10/14/96
SPIKE WB1 Rev. 1.0	508101ML	

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WORKBOOK PAGE: SAM7

AT : LA-508-101 (E-1) LIQUIDS

		SAMPLE	REPLICATE
Type	DETECTOR NUMBER	14	14
SAMPLE	DISH SIZE (1, 2, or 5)	2	2
Work List	GROSS COUNTS (MS)	7	3
13593	COUNT TIME in MINUTES (GC)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.3	0.3
AT	SAMPLE SIZE in mL (SS)	0.250	0.250
Test Code	DILUTION FACTOR (DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR (DDF)	1	1
Matrix	EFFICIENCY FACTOR (EFF)	0.2274	0.2274
LIQUID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE	0.233	0.233

Batch Number	
96010100	Blank Concentration in µCi/L < 1.89E+01
Retun	Replicate Concentration in µCi/L < 1.89E+01
0	Maximum Concentration in µCi/L < 1.8861E+01

Sample Prep	N/A	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	596T004977	ALPHA TQTL µCi/L = Rs * 1000mL/L * DF * DDF / (EFF * SS * 22200000dpm/µCi)
Instrument Code	WB27807	ALPHA TOTAL µCi/mL = ALPHA TOTAL µCi/L / 1000mL/L
		Relative Counting Error = [(The Square Root of TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100
		Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Prepared By	SEH		
Chemist	SLF	ALPHA TOTAL in µCi/mL (Maximum) =	< 1.89E-02
Analyst	KGH	LESS Than Value was Determined from Lc.	DETECTION LEVEL
Date Complete	10/09/96	RELATIVE COUNTING ERROR	500.0%
Analysis Date	10/09/96		4.50E-02 µCi/mL
Analysis Time			
Sample Point	AN-104		

(/ system;exit)yes-

Analyst:	KGH	Date: 09-Oct-96
Signature of Chemist:	SLF	Date: 10/14/96
SAMPLE.WB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: DUP8

AT : LA-508-101 (E-1) LIQUIDS

		DUP	REPLICATE
Type	DETECTOR NUMBER	14	14
DUP	DISH SIZE (1, 2, or 5)	2	2
Work List	GROSS COUNTS	3	13
13593	COUNT TIME in MINUTES	30	30
AT or TB ?	BACKGROUND in cpm	0.3	0.3
AT	SAMPLE SIZE in mL	0.250	0.250
Test Code	DILUTION FACTOR	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR	1	1
Matrix	EFFICIENCY FACTOR	0.2274	0.2274
LIQUID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE	0.233	0.391

Batch Number	
96010100	Blank Concentration in $\mu\text{Ci/L}$
Rerun	Replicate Concentration in $\mu\text{Ci/L}$
0	Maximum Concentration in $\mu\text{Ci/L}$

Sample Prep	
N/A	$R_s \text{ (Sample Count Rate)} = (TC / CT) - BKG$
Sample #	$\text{ALPHA TOTAL } \mu\text{Ci/L} = R_s * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$
S90T004977	$\text{ALPHA TOTAL } \mu\text{Ci/mL} = \text{ALPHA TOTAL } \mu\text{Ci/L} / 1000\text{mL/L}$
Instrument Code	$\text{Relative Counting Error} = [((\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT))] * 1.96 * 100$
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Prepared By	
SEH	
Chemist	
SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum) = < 3.16E-02
Analyst	
KGH	LESS Than Value was Determined from Lc.
Date Complete	
10/09/96	RELATIVE COUNTING ERROR 500.0%
Analysis Date	
10/09/96	
Analysis Time	
Sample Point	
AN-104	

(/ system;exit)yes-

Analyst:	KGH	Date: 09-Oct-96
Signature of Chemist:	SLF	Date: 10/14/96

SAMPLE.WB1 Rev. 1.0

508101ML

WORKBOOK PAGE: SAM5

AT : LA-508-101 (E-1) LIQUIDS

	SAMPLE	REPLICATE
Type	DETECTOR NUMBER	14
SAMPLE	DISH SIZE (1, 2, or 5) (MS)	2
Work List	GROSS COUNTS (GC)	3
13593	COUNT TIME in MINUTES (CT)	30
AT or TB ?	BACKGROUND in cpm (BKg)	0.3
AT	SAMPLE SIZE in mL (SS)	0.250
Test Code	DILUTION FACTOR (DF)	10201
@ALPHA01	DIGEST DILUTION FACTOR (DDF)	1
Matrix	EFFICIENCY FACTOR (EFF)	0.2274
LIQUID	Lc, Rmax, or Rs.(SAMPLE RATE) as APPROPRIATE	0.233

Batch Number	
96010100	Blank Concentration in $\mu\text{Ci/L}$ < 1.89E+01
Rerun	Replicate Concentration in $\mu\text{Ci/L}$ < 1.89E+01
0	Maximum Concentration in $\mu\text{Ci/L}$ < 1.8861E+01

Sample Prep	N/A	R_s (Sample Count Rate) = $(TC / CT) - BKG$
Sample #	S96T004973	$\text{ALPHA TOTAL } \mu\text{Ci/L} = R_s * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$
Instrument Code	WB27807	$\text{ALPHA TOTAL } \mu\text{Ci/mL} = \text{ALPHA TOTAL } \mu\text{Ci/L} / 1000\text{mL/L}$
Prepared By	SEH	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$
Chemist	SLF	Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Analyst	KGH	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum) = < 1.89E-02	DETECTION LEVEL
Date Complete	10/09/96	LESS Than Value was Determined from Lc.	4.50E-02 $\mu\text{Ci/mL}$
Analysis Date	10/09/96	RELATIVE COUNTING ERROR	500.0%
Analysis Time			
Sample Point	AN-104		

(/ system;exit)yes-

Analyst:	KGH	Date: 09-Oct-96
Signature of Chemist:	SLF	Date: 10/14/96
SAMPLE.WB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: DUP10

AT : LA-508-101 (E-1) LIQUIDS

		DUP	REPLICATE
Type	DETECTOR NUMBER	14	14
DUP	DISH SIZE (1, 2, or 5)	2	2
Work List	GROSS COUNTS (GC)	6	6
13593	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BK G)	0.3	0.3
AT	SAMPLE SIZE in mL (SS)	0.250	0.250
Test Code	DILUTION FACTOR (DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR (DDF)	1	1
Matrix	EFFICIENCY FACTOR (EFF)	0.2274	0.2274
LIQUID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE	0.233	0.233

Batch Number	
96010100	Blank Concentration in $\mu\text{Ci/L}$ < 1.89E+01
Rerun	Replicate Concentration in $\mu\text{Ci/L}$ < 1.89E+01
0	Maximum Concentration in $\mu\text{Ci/L}$ < 1.89E+01

Sample Prep	
N/A	R_s (Sample Count Rate) = $(TC / CT) - BKG$
Sample #	$\text{ALPHA TOTAL } \mu\text{Ci/L} = R_s * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$
S96T004878	$\text{ALPHA TOTAL } \mu\text{Ci/mL} = \text{ALPHA TOTAL } \mu\text{Ci/L} / 1000\text{mL/L}$
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Prepared By	
SEH	
Chemist	
SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum) = < 1.89E-02
Analyst	
KGH	LESS Than Value was Determined from Lc.
Date Complete	
10/09/96	RELATIVE COUNTING ERROR 500.0%
Analysis Date	
10/09/96	
Analysis Time	
Sample Point	
AN-104	

(/ system;exit)yes-

Analyst:	KGH	Date: 09-Oct-96
Signature of Chemist:	SLF	Date: 10/14/96
SAMPLE WB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: SAM11

AT : LA-508-101 (E-1)

LIQUIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		14	14
SAMPLE	DISH SIZE (1, 2, or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	9	11
13593	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.3	0.3
AT	SAMPLE SIZE in mL	(SS)	0.250	0.250
Test Code	DILUTION FACTOR	(DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2274	0.2274
LIQUID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE		0.233	0.313

Batch Number		
96010100	Blank Concentration in $\mu\text{Ci/L}$	< 1.89E+01
ReRun	Replicate Concentration in $\mu\text{Ci/L}$	< 2.53E+01
0	Maximum Concentration in $\mu\text{Ci/L}$	< 2.5269E+01

Sample Prep	
N/A	R_s (Sample Count Rate) = $(TC / CT) - BKG$
Sample #	$\text{ALPHA TOTAL } \mu\text{Ci/L} = R_s * 1000\text{mL/L} * DF * DDF / (EFF * SS * 222000\text{dpm}/\mu\text{Ci})$
S96T004979	$\text{ALPHA TOTAL } \mu\text{Ci/mL} = \text{ALPHA TOTAL } \mu\text{Ci/L} / 1000\text{mL/L}$
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Prepared By	
SEH	
Chemist	
SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum) = < 2.53E-02
Analysis	
KGH	LESS THAN Value was Determined from Rmax.
Date Complete	
10/09/96	RELATIVE COUNTING ERROR 500.0%
Analysis Date	
10/08/96	
Analysis Time	
Sample Point	
AN-104	

// system;exit;yes-

Analyst:		KGH	Date: 09-Oct-96
Signature of Chemist:		SLF	Date: 10/14/96
SAMPLE WB1 Rev. 1.0	508101ML		

WORKBOOK PAGE: DUP12

AT : LA-508-101 (E-1)

LIQUIDS

		DUP	REPLICATE
Type	DETECTOR NUMBER	14	14
DUP	DISH SIZE (1, 2, or 5)	2	2
Work List	GROSS COUNTS (GC)	44	8
13593	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.3	0.3
AT	SAMPLE SIZE in mL (SS)	0.250	0.250
Test Code	DILUTION FACTOR (DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR (DDF)	1	1
Matrix	EFFICIENCY FACTOR (EFF)	0.2274	0.2274
LIQUID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE	1.167	0.233

Batch Number	
96010100	Blank Concentration in $\mu\text{Ci/L}$ 9.43E+01
Retun	Replicate Concentration in $\mu\text{Ci/L}$ < 1.89E+01
0	Maximum Concentration in $\mu\text{Ci/L}$ < 9.4299E+01

Sample Prep	
N/A	R_s (Sample Count Rate) = $(TC / CT) - BKG$
Sample #	$\text{ALPHA TOTAL } \mu\text{Ci/L} = R_s * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$
S96T04979	$\text{ALPHA TOTAL } \mu\text{Ci/mL} = \text{ALPHA TOTAL } \mu\text{Ci/L} / 1000\text{mL/L}$
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$
W627807	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) = < 9.43E-02
Analyst	
KGH	LESS THAN Value was Determined from R_s .
Date Complete	
10/09/96	RELATIVE COUNTING ERROR 500.0%
Analysis Date	
10/08/96	
Analysis Time	
Sample Point	
AN-104	

(/ system;exit)yes-

Analyst:	KGH	Date: 09-Oct-96
Signature of Chemist:	SLF	Date: 10/14/96
SAMPLE.WB1 Rev. 1.0	508101ML	

LABCORE Completed RadChem Report for Worklist#: 13965

Analyst: tam Instrument: AB16 Book# _____

Method: _____ Rev/Mod _____

Worklist Comment: Use .1-10-.1-10-.25 mL sample size. Rerun #1. SLF

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD	0	0	@ALPHA01 ALPHA01	LIQUID	2.31E-04	2.07E-4	89.610	% Recovery
1 STD	0	0	@ALPHA01 ALPHA01	LIQUID	1.00	3.25E+00	3.250	% Ct. Error
2 BLNK-PREP	0	0	@ALPHA01 ALPHA01	LIQUID	1	<5.65E-2		uCi/mL
2 BLNK-PREP	0	0	@ALPHA01 ALPHA01	LIQUID	1.00	5.00E+02	500.000	uCi/mL
3 BLNK/BKG	0	0	@ALPHA01 ALPHA01	LIQUID	1.00E+00	1.42E+00	1.420	BLNK/BKG
4 SAMPLE	S96T004781	0	@ALPHA01 ALPHA01	LIQUID	N/A	< 6.45E-02	914.0e-004	uCi/mL
4 SAMPLE	S96T004781	0	@ALPHA01 ALPHA01	LIQUID	N/A	5.00E+02	0.0e+000	% Ct. Error
5 DUP	S96T004781	0	@ALPHA01 ALPHA01	LIQUID	<6.45E-2	<5.65E-2		RPD
5 DUP	S96T004781	0	@ALPHA01 ALPHA01	LIQUID	1.00	5.00E+02	500.000	% Ct. Error
6 SPK	S96T004781	0	@ALPHA01 ALPHA01	LIQUID	3.59E-02	2.88E-02	80.223	% Recovery

Final page for worklist# 13965

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Reviewer Signature Date 11/26/96

11/08/96 08:31

LABCORE Data Entry Template for Worklist# 13965

Analyst:

DAM

Instrument: AB00

#16

Book #

U06B56

Method: LA-508-101 Rev/Mod

E-1Worklist Comment: Use .1-10-.1-10-^{100 DAM 11-24-96}25 mL sample size. Rerun #1. SLF

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			@ALPHA01 ALPHA01	LIQUID	_____	_____	N/A	uCi/mL
		1 STD			@ALPHA01 ALPHA01E	LIQUID	_____	_____	N/A	% Ct. Error
		2 BLNK-PREP			@ALPHA01 ALPHA01	LIQUID	_____	_____	N/A	uCi/mL
		2 BLNK-PREP			@ALPHA01 ALPHA01E	LIQUID	_____	_____	N/A	% Ct. Error
		3 BLNK/BKG			@ALPHA01 ALPHA01	LIQUID	_____	_____	N/A	uCi/mL
96001174	AN-104	4 SAMPLE	S96T004781	0	@ALPHA01 ALPHA01	LIQUID	N/A	_____	_____	uCi/mL
96001174	AN-104	4 SAMPLE	S96T004781	0	@ALPHA01 ALPHA01E	LIQUID	N/A	_____	_____	% Ct. Error
96001174	AN-104	5 DUP	S96T004781	0	@ALPHA01 ALPHA01	LIQUID	_____	_____	N/A	uCi/mL
96001174	AN-104	5 DUP	S96T004781	0	@ALPHA01 ALPHA01E	LIQUID	_____	_____	N/A	% Ct. Error
96001174	AN-104	6 SPK	S96T004781	0	@ALPHA01 ALPHA01	LIQUID	_____	_____	N/A	uCi/mL

Final page for worklist # 13965

DAM 11-24-96
 Analyst Signature Date

[Signature] 11/25/96
 Analyst Signature Date
C.J. O'Brien 11/25/96

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
 R = Replicate Number, A = Aliquot Code.

WORKBOOK PAGE: STD1

AT : LA-508-101 (E-1) LA-508-113 (A-2) STANDARD

		STANDARD	REPLICATE
Type	DETECTOR NUMBER	16	16
STD	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	3771	3651
13965	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.27	0.27
AT	SAMPLE SIZE in mL (SS)	1.000	1.000
Test Code	DILUTION FACTOR (DF)	1	1
@ALPHA01	STANDARD BOOK NUMBER (Std BN)	66B56	66B56
Matrix	EFFICIENCY FACTOR (EFF)	0.2683	0.2683
LIQUID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE	125.430	121.430
Batch Number	Standard Value in $\mu\text{Ci/mL}$	2.31E-04	
96010487	Concentration in $\mu\text{Ci/L}$ =	2.11E-01	
Rerun	Replicate Concentration in $\mu\text{Ci/L}$ =	2.04E-01	
0	AVERAGE CONCENTRATION in $\mu\text{Ci/L}$ =	2.0723E-01	
Sample Prep			
N/A	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	ALPHA TOTAL $\mu\text{Ci/L}$ = $R_s * 1000\text{mL/L} * DF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$		
WL13965	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			
MCB			
Chemist			
SLF	ALPHA TOTAL CONCENTRATION in $\mu\text{Ci/mL}$ =	2.07E-04	DETECTION LEVEL
Analyst			
TAM			
Date Complete			8.96E-07
11/25/96	RELATIVE COUNTING ERROR =	3.3%	$\mu\text{Ci/mL}$
Analysis Date			
11/24/96			
Analysis Time			
03:00 PM			
Sample Point			
AN-104			

Analyst:	MCB	Date: 25-Nov-96
Signature of Chemist:	SLF	Date: 11/26/96
STANDARD.WB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: BLANK2

AT : LA-508-101 (E-1)

LIQUIDS

Type	DETECTOR NUMBER	BLNK-PREP	REPLICATE
BLNK-PREP	DISH SIZE (1, 2, or 5)	16	16
Work List	(MS)	2	2
13965	GROSS COUNTS (GC)	5	18
AT or TB ?	COUNT TIME in MINUTES (CT)	30	30
AT	BACKGROUND in cpm (BKG)	0.27	0.27
Test Code	SAMPLE SIZE in mL (SS)	0.100	0.100
@ALPHA01	DILUTION FACTOR (DF)	10201	10201
Matrix	DIGEST DILUTION FACTOR (DDF)	1	1
LIQUID	EFFICIENCY FACTOR (EFF)	0.2683	0.2683
Batch Number	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE	0.221	0.330

96010487	Blank Concentration in $\mu\text{Ci/L}$	<	3.79E+01
Return	Replicate Concentration in $\mu\text{Ci/L}$		5.65E+01
0	Maximum Concentration in $\mu\text{Ci/L}$	<	5.6518E+01

Sample Prep	N/A	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	WL13965	ALPHA TOTAL $\mu\text{Ci/L}$ = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/ μCi)
Instrument Code	WB27806	ALPHA TOTAL $\mu\text{Ci/mL}$ = ALPHA TOTAL $\mu\text{Ci/L}$ / 1000mL/L
Prepared By	MCB	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.

Analyst	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum)	=	< 5.65E-02	DETECTION LEVEL
TAM	LESS Than Value was Determined from Lc.			
Date Complete	11/25/96	RELATIVE COUNTING ERROR	500.0%	9.14E-02 $\mu\text{Ci/mL}$
Analysis Date	11/24/96			
Analysis Time	03:00 PM			
Sample Point	AN-104			

Analyst	TAM	Date: 25-Nov-96
Signature of Chemist	SLF	Date: 11/26/96
BLANK.WB1 Rev. 1.0	508101ML	

2068

WORKBOOK PAGE: SAM4

AT : LA-508-101 (E-1)

LIQUIDS

Type	DETECTOR NUMBER	SAMPLE	REPLICATE
SAMPLE	DISH SIZE (1, 2, or 5)	16	16
Work List	GROSS COUNTS	2	2
13965	COUNT TIME in MINUTES	10	12
AT or TB ?	COUNT TIME in MINUTES	30	30
AT	BACKGROUND in cpm	(BKG)	0.27
AT	SAMPLE SIZE in mL	(SS)	0.100
Test Code	DILUTION FACTOR	(DF)	10201
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2683
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE	0.297	0.377

Batch Number	
96010487	Blank Concentration in $\mu\text{Ci/L}$
Recur	Replicate Concentration in $\mu\text{Ci/L}$
0	Maximum Concentration in $\mu\text{Ci/L}$

Sample Prep	
N/A	Rs (Sample Count Rate) = $(TC / CT) - BKG$
Sample #	$\text{ALPHA TOTAL } \mu\text{Ci/L} = Rs * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$
S96T004781	$\text{ALPHA TOTAL } \mu\text{Ci/mL} = \text{ALPHA TOTAL } \mu\text{Ci/L} / 1000\text{mL/L}$
Instrument Code	Relative Counting Error = $\{ [(The \text{ Square Root of } TC + BKG * CT) / (TC - BKG * CT)] \} * 1.96 * 100$
WB27806	Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Prepared By		
MCB		
Chemist		
SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum) =	< 6.45E-02
Analyst		
TAM	LESS THAN Value was Determined from Rmax.	
Date Complete		
11/25/96	RELATIVE COUNTING ERROR	500.0%
Analysis Date		
11/24/96		
Analysis Time		
03:00 PM		
Sample Point		
AN-104		

Analyst:	TAM	Date: 25-Nov-96
Signature of Chemist:	SLF	Date: 11/26/96

SAMPLE.WB1 Rev. 1.0

508101ML

2069

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
Work List	GROSS COUNTS (GC)	18	5
13965	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.27	0.27
AT	SAMPLE SIZE in mL (SS)	0.100	0.100
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	0.330	0.221

Batch Number	
96010487	Blank Concentration in $\mu\text{Ci/L}$ = 5.65E+01
Rerun:	Replicate Concentration in $\mu\text{Ci/L}$ < 3.79E+01
0	Maximum Concentration in $\mu\text{Ci/L}$ < 5.6518E+01

Sample Prep	Rs (Sample Count Rate) = (TC / CT) - BKG
N/A	
Sample #	ALPHA TOTAL $\mu\text{Ci/L}$ = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/ μCi)
S96T004781	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			
MCB			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum)	=	< 5.65E-02
Analyst	LESS THAN Value was Determined from Rs.		DETECTION
TAM			LEVEL
Date Complete			9.14E-02
11/25/96	RELATIVE COUNTING ERROR	500.0%	$\mu\text{Ci/mL}$
Analysis Date			
11/24/96			
Analysis Time			
03:00 PM			
Sample Point			
AN-104			

Analyst:	TAM	Date: 25-Nov-96
Signature of Chemist:	SLF	Date: 11/26/96
SAMPLE.WB1 Rev. 1.0	508101ML	

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WORKBOOK PAGE: SPK6

AT : LA-508-101 (E-1) LA-508-113 (A-2) SPIKED SAMPLE

		SPIKE	REPLICATE
Type	DETECTOR NUMBER	16	16
SPK	DISH SIZE 1, 2, or 5 (MS)	2	2
Work List	TOTAL COUNTS (TC)	50172	52741
13965	COUNT TIME in MINUTES (CT)	30	30
Ator IB?	BACKGROUND in cpm (BKG)	0.27	0.27
AT	SAMPLE VOLUME in mL (Spiked Vial) (SS)	0.100	0.100
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial) (DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR (DDF)	1	1
Matrix	SPIKE VOLUME in mL (SVol)	0.100	0.100
LIQUID	SPIKE DILUTION FACTOR (SDF)	1	1
Batch Number	SPIKE BOOK NUMBER (Spk BN)	123B43	123B43
96010487	SPIKE VALUE in $\mu\text{Ci/mL}$ (SVal)	3.5861E-02	3.5861E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR (EFF)	0.2683	0.2683
0	SAMPLE + SPIKE $\mu\text{Ci/mL}$ (S+S)	2.86E+02	3.01E+02
Sample Prep	AVERAGE or MAXIMUM $\mu\text{Ci/mL}$ in SAMPLE <	6.4495E-02	
N/A			
Sample #			
S96T004781			
Instrument Code	Rs (Sample Count Rate) = $(TC / CT) - BKG$		
WB27806	SAMPLE + SPIKE $\mu\text{Ci/mL}$ = $Rs * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$		
Prepared By	QC ACTUAL = SVal		
MCB	QC FOUND = $((S+S \mu\text{Ci/mL} - \text{SAMPLE } \mu\text{Ci/mL}) * ((SDF/SVol)/(DF*DDF/SS)))$		
Chemist	PERCENT SPIKE RECOVERY = $(QC \text{ FOUND} / QC \text{ ACTUAL}) * 100$		
SLF			
Analyst			
TAM			
Date Complete	NOTE: Original Sample result was a LESS THAN value. Zero (0) was subtracted from the spiked value for QC found calculation.		
11/25/96			
Analysis Date	QC ACTUAL =	3.59E-02	
11/24/96	QC FOUND =	2.88E-02	
Analysis time	AVG. PERCENT SPIKE RECOVERY =	80.3%	
03:00 PM			
Sample Point			
AN-104			

Analyst:	MCB	Date: 25-Nov-96
Signature of Chemist:	SLF	Date: 11/26/96
SPIKE.WB1 Rev. 1.0 508101ML		

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LABCORE Completed RadChem Report for Worklist#: 14152

Analyst: slh

Instrument: AB16

Book# _____

Method: _____ Rev/Mod _____

Worklist Comment: AN-104.Determine sample size using ludlum.Spike:0.1ml.new

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD	0		0ALPHA01 ALPHA01	LIQUID	2.31E-04	2.17E-4	93.939	% Recovery
1 STD	0		0ALPHA01 ALPHA01E	LIQUID	1.00	3.71E+00	3.710	% Ct. Erro
2 BLNK	0		0ALPHA01 ALPHA01	LIQUID	1	<1.78E-6		uCi/mL
2 BLNK	0		0ALPHA01 ALPHA01E	LIQUID	1.00	5.00E+02	500.000	uCi/mL
3 BLNK/BKG	0		0ALPHA01 ALPHA01	LIQUID	1.00E+00	1.42E+00	1.420	BLNK/BKG
4 SAMPLE	S96T005253	0	0ALPHA01 ALPHA01	LIQUID	N/A	1.91E-06	228.0e-008	uCi/mL
4 SAMPLE	S96T005253	0	0ALPHA01 ALPHA01E	LIQUID	N/A	1.22E+02	0.0e+000	% Ct. Error
5 DUP	S96T005253	0	0ALPHA01 ALPHA01	LIQUID	1.91E-6	<1.61E-6		RPD
5 DUP	S96T005253	0	0ALPHA01 ALPHA01E	LIQUID	1.00	2.25E+02	225.000	% Ct. Erro
6 SAMPLE	S96T005255	0	0ALPHA01 ALPHA01	LIQUID	N/A <	8.22E-02	116.0e-003	uCi/mL
6 SAMPLE	S96T005255	0	0ALPHA01 ALPHA01E	LIQUID	N/A	4.39E+02	0.0e+000	% Ct. Error
7 DUP	S96T005255	0	0ALPHA01 ALPHA01	LIQUID	<8.22E-2	<6.49E-2		RPD
7 DUP	S96T005255	0	0ALPHA01 ALPHA01E	LIQUID	1.00	5.00E+02	500.000	% Ct. Erro
8 SAMPLE	S96T005256	0	0ALPHA01 ALPHA01	LIQUID	N/A <	9.94E-02	116.0e-003	uCi/mL
8 SAMPLE	S96T005256	0	0ALPHA01 ALPHA01E	LIQUID	N/A	2.25E+02	0.0e+000	% Ct. Error
9 DUP	S96T005256	0	0ALPHA01 ALPHA01	LIQUID	<9.94E-2	<8.22E-2		RPD
9 DUP	S96T005256	0	0ALPHA01 ALPHA01E	LIQUID	1.00	5.00E+02	500.000	% Ct. Erro
10 SAMPLE	S96T005257	0	0ALPHA01 ALPHA01	LIQUID	N/A <	4.83E-02	116.0e-003	uCi/mL
10 SAMPLE	S96T005257	0	0ALPHA01 ALPHA01E	LIQUID	N/A	5.00E+02	0.0e+000	% Ct. Error
11 DUP	S96T005257	0	0ALPHA01 ALPHA01	LIQUID	<4.83E-2	<4.83E-2		RPD
11 DUP	S96T005257	0	0ALPHA01 ALPHA01E	LIQUID	1.00	5.00E+02	500.000	% Ct. Erro
12 SAMPLE	S96T005258	0	0ALPHA01 ALPHA01	LIQUID	N/A <	4.83E-02	116.0e-003	uCi/mL
12 SAMPLE	S96T005258	0	0ALPHA01 ALPHA01E	LIQUID	N/A	5.00E+02	0.0e+000	% Ct. Error
13 DUP	S96T005258	0	0ALPHA01 ALPHA01	LIQUID	<4.83E-2	<4.83E-2		RPD
13 DUP	S96T005258	0	0ALPHA01 ALPHA01E	LIQUID	1.00	5.00E+02	500.000	% Ct. Erro
14 SAMPLE	S96T005260	0	0ALPHA01 ALPHA01	LIQUID	N/A <	4.83E-02	116.0e-003	uCi/mL
14 SAMPLE	S96T005260	0	0ALPHA01 ALPHA01E	LIQUID	N/A	5.00E+02	0.0e+000	% Ct. Error
15 DUP	S96T005260	0	0ALPHA01 ALPHA01	LIQUID	<4.83E-2	<9.94E-2		RPD
15 DUP	S96T005260	0	0ALPHA01 ALPHA01E	LIQUID	1.00	5.00E+02	500.000	% Ct. Erro
16 SPK	S96T005260	0	0ALPHA01 ALPHA01	LIQUID	3.59E-02	3.89E-02	108.357	% Recovery

Final page for worklist# 14152

Analyst Signature

Date

Analyst Signature

Date

Reviewer Signature

Date

The RPD for the STD + STD/Rep is high, however the low sample activity and excellent SPK recovery make a rerun unwarranted.

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Data Entry Template for Worklist# 14152

Analyst: SLH Instrument: AB00 16 Book# 66 B56
Method: LA-508-101 Rev/Mod E-1 ENVERB

Worklist Comment: AN-104.Determine sample size using ludlum.Spike:0.1ml.new

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 STD			@ALPHA01	LIQUID		
2 BLNK			@ALPHA01	LIQUID		
3 BLNK/BKG			@ALPHA01	LIQUID		
4 SAMPLE	S96T005253 0		@ALPHA01	LIQUID	96001174	AN-104
	Analytes Requested: ALPHA01 , ALPHA01E					
5 DUP	S96T005253 0		@ALPHA01	LIQUID		
6 SAMPLE	S96T005255 0		@ALPHA01	LIQUID	96001283	AN-104
	Analytes Requested: ALPHA01 , ALPHA01E					
7 DUP	S96T005255 0		@ALPHA01	LIQUID		
8 SAMPLE	S96T005256 0		@ALPHA01	LIQUID	96001283	AN-104
	Analytes Requested: ALPHA01 , ALPHA01E					
9 DUP	S96T005256 0		@ALPHA01	LIQUID		
10 SAMPLE	S96T005257 0		@ALPHA01	LIQUID	96001283	AN-104
	Analytes Requested: ALPHA01 , ALPHA01E					
11 DUP	S96T005257 0		@ALPHA01	LIQUID		
12 SAMPLE	S96T005258 0		@ALPHA01	LIQUID	96001283	AN-104
	Analytes Requested: ALPHA01 , ALPHA01E					
13 DUP	S96T005258 0		@ALPHA01	LIQUID		
14 SAMPLE	S96T005260 0		@ALPHA01	LIQUID	96001283	AN-104
	Analytes Requested: ALPHA01 , ALPHA01E					
15 DUP	S96T005260 0		@ALPHA01	LIQUID		
16 SPK	S96T005260 0		@ALPHA01	LIQUID		

Data Entry Comments:

S96T 5253 — .500 ml direct

S96T 5255 thru 5260 all .100-10 — .100-10
SS .100

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

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10/21/96 11:56

A-0004-1

Page: 2

LABCORE Data Entry Template for Worklist# 14152

S Type	Sample#	R A Test	Matrix	Group#	Project
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Final page for worklist # 14152

Sandra J. Hood Boatright
Analyst Signature Date
10-22-96

M. C. Brown 10/23/96
Analyst Signature Date
Du Hogan 10/23/96

Data Entry Comments:

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code

2074

WORKBOOK PAGE: STD1

AT : LA-508-101 (E-1) LA-508-113 (A-2) STANDARD

		STANDARD	REPLICATE
Type	DETECTOR NUMBER	16	16
STD	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List:	GROSS COUNTS (GC)	2817	3269
14152	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.27	0.27
AT	SAMPLE SIZE in mL (SS)	1.000	1.000
Test Code	DILUTION FACTOR (DF)	1	1
@ALPHA01	STANDARD BOOK NUMBER (Std BN)	66B56	66B56
Matrix	EFFICIENCY FACTOR (EFF)	0.2104	0.2104
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE	93.630	108.697
Batch Number:	Standard Value in $\mu\text{Ci/mL}$	2.31E-04	
96010668	Concentration in $\mu\text{Ci/L}$ =	2.00E-01	
Rerun:	Replicate Concentration in $\mu\text{Ci/L}$ =	2.33E-01	
0	AVERAGE CONCENTRATION in $\mu\text{Ci/L}$ =	2.1658E-01	

Sample Prep	
N/A	Rs (Sample Count Rate) = $(\text{TC} / \text{CT}) - \text{BKG}$
Sample #	ALPHA TOTAL $\mu\text{Ci/L}$ = $\text{Rs} * 1000\text{mL/L} * \text{DF} / (\text{EFF} * \text{SS} * 2220000\text{dpm}/\mu\text{Ci})$
WL14152-STD	ALPHA TOTAL $\mu\text{Ci/mL}$ = $\text{ALPHA TOTAL } \mu\text{Ci/L} / 1000\text{mL/L}$
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } \text{TC} + \text{BKG} * \text{CT}) / (\text{TC} - \text{BKG} * \text{CT})] * 1.96 * 100$
WB27806	Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Prepared By		
MCB		
Chemist		
SLF	ALPHA TOTAL CONCENTRATION in $\mu\text{Ci/mL}$ =	2.17E-04
Analyst		
SLH		
Date Complete		
10/23/96	RELATIVE COUNTING ERROR =	3.7%
Analysis Date:		
10/22/96		
Analysis Time		
05:00 AM		
Sample Point		
AN-104		

Analyst:	MCB	Date: 23-Oct-96
Signature of Chemist:	SLF	Date: 10/28/96
STANDARD.WB1 Rev. 1.0	508101ML	

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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)	10	13
14152	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.27	0.27
AT	SAMPLE SIZE in mL	(SS)	0.500	0.500
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.297	0.416

Batch Number	
96010668	Blank Concentration in $\mu\text{Ci/L}$ < 1.27E-03
Rerun	Replicate Concentration in $\mu\text{Ci/L}$ < 1.78E-03
0	Maximum Concentration in $\mu\text{Ci/L}$ < 1.7811E-03

Sample Prep	
N/A	R_s (Sample Count Rate) = $(TC / CT) - BKG$
Sample #	$ALPHA \text{ TOTAL } \mu\text{Ci/L} = R_s * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$
WL14152-BLNK	$ALPHA \text{ TOTAL } \mu\text{Ci/mL} = ALPHA \text{ TOTAL } \mu\text{Ci/L} / 1000\text{mL/L}$
Instrument Code	Relative Counting Error = $[(The \text{ Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$
WB27806	Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Prepared By		
MCB		
Chemist		
SLF	$ALPHA \text{ TOTAL in } \mu\text{Ci/mL (Maximum)} =$	$< 1.78E-06$
Analyst		
SLH	LESS THAN Value was Determined from Rmax.	
Date Complete		
10/23/96	RELATIVE COUNTING ERROR	500.0%
Analysis Date		
10/22/96		
Analysis Time		
05:00 AM		
Sample Point		
AN-104		

Analyst:	SLH	Date: 23-Oct-96
Signature of Chemist:	SLF	Date: 10/28/96
BLANK.WB1 Rev. 1.0	508101ML	

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WORKBOOK PAGE: SAM4

AT : LA-508-101 (E-1) LIQUIDS

Type	DETECTOR NUMBER	SAMPLE	REPLICATE
SAMPLE	DISH SIZE (1, 2, or 5) (MS)	16	16
Work List	GROSS COUNTS (GC)	2	2
14152	COUNT TIME in MINUTES (CT)	18	27
AT or TB ?	BACKGROUND in cpm (BKG)	30	30
AT	SAMPLE SIZE in mL (SS)	0.27	0.27
Test Code	DILUTION FACTOR (DF)	0.500	0.500
@ALPHA01	DIGEST DILUTION FACTOR (DDF)	1	1
Matrix	EFFICIENCY FACTOR (EFF)	1	1
LIQUID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.2104	0.2104
		0.263	0.630

Batch Number	
96010668	Blank Concentration in $\mu\text{Ci/L}$ 1.13E-03
Rerun	Replicate Concentration in $\mu\text{Ci/L}$ 2.70E-03
0	Average Concentration in $\mu\text{Ci/L}$ 1.9126E-03

Sample Prep	
N/A	Rs (Sample Count Rate) = $(\text{TC} / \text{CT}) - \text{BKG}$
Sample #	ALPHA TOTAL $\mu\text{Ci/L}$ = $\text{Rs} * 1000\text{mL/L} * \text{DF} * \text{DDF} / (\text{EFF} * \text{SS} * 2220000\text{dpm}/\mu\text{Ci})$
S96T005253	ALPHA TOTAL $\mu\text{Ci/mL}$ = ALPHA TOTAL $\mu\text{Ci/L} / 1000\text{mL/L}$
Instrument Code	Relative Counting Error = $[(\text{The Square Root of TC} + \text{BKG} * \text{CT}) / (\text{TC} - \text{BKG} * \text{CT})] * 1.96 * 100$
WB27806	Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Prepared By	
MCB	
Chemist	
SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Average) = 1.91E-06
Analyst	
SLH	
Date Complete	
10/23/96	RELATIVE COUNTING ERROR 121.8%
Analysis Date	
10/22/96	
Analysis Time	
05:00 AM	
Sample Point	
AN-104	

Analyst:	SLH	Date: 23-Oct-96
Signature of Chemist:	SLF	Date: 10/28/96

SAMPLE.WB1 Rev. 1.0

508101ML

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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
Work List	GROSS COUNTS (GC)	12	18
14152	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.27	0.27
AT	SAMPLE SIZE in mL (SS)	0.500	0.500
Test Code	DILUTION FACTOR (DF)	1	1
@ALPHA01	DIGEST DILUTION FACTOR (DDF)	1	1
Matrix	EFFICIENCY FACTOR (EFF)	0.2104	0.2104
LIQUID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE	0.377	0.330

Batch Number	
96010668	Blank Concentration in $\mu\text{Ci/L}$ < 1.61E-03
Rerun	Replicate Concentration in $\mu\text{Ci/L}$ 1.41E-03
0	Maximum Concentration in $\mu\text{Ci/L}$ < 1.6125E-03

Sample Prep	
N/A	R_s (Sample Count Rate) = $(TC / CT) - BKG$
Sample #	$\text{ALPHA TOTAL } \mu\text{Ci/L} = R_s * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$
S96T005263	$\text{ALPHA TOTAL } \mu\text{Ci/mL} = \text{ALPHA TOTAL } \mu\text{Ci/L} / 1000\text{mL/L}$
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$
WB27806	Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Prepared By		
MCB		
Chemist		
SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum) = < 1.61E-06	DETECTION LEVEL
Analyst		
SLH	LESS THAN Value was Determined from Rmax.	
Date Complete		2.28E-06
10/23/96	RELATIVE COUNTING ERROR 225.3%	$\mu\text{Ci/mL}$
Analysis Date		
10/22/96		
Analysis Time		
05:00 AM		
Sample Point		
AN-104		

Analyst:	SLH	Date: 23-Oct-96
Signature of Chemist:	SLF	Date: 10/28/96

SAMPLE.WB1 Rev. 1.0

508101ML

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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
Work List	GROSS COUNTS (GC)	12	10
14152	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.27	0.27
AT	SAMPLE SIZE in mL (SS)	0.100	0.100
Test Code	DILUTION FACTOR (DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR (DDF)	1	1
Matrix	EFFICIENCY FACTOR (EFF)	0.2104	0.2104
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE	0.377	0.297

Batch Number	
96010668	Blank Concentration in $\mu\text{Ci/L}$ < 8.22E+01
Rerun	Replicate Concentration in $\mu\text{Ci/L}$ < 6.49E+01
0	Maximum Concentration in $\mu\text{Ci/L}$ < 8.2244E+01

Sample Prep	N/A	$R_s (\text{Sample Count Rate}) = (TC / CT) - BKG$
Sample #	S96T006255	$\text{ALPHA TOTAL } \mu\text{Ci/L} = R_s * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$
Instrument Code	WB27806	$\text{ALPHA TOTAL } \mu\text{Ci/mL} = \text{ALPHA TOTAL } \mu\text{Ci/L} / 1000\text{mL/L}$
Prepared By	MCB	$\text{Relative Counting Error} = [\{ (\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT) \}] * 1.96 * 100$
Chemist		Detection Levels and Less Than Values are determined from Procedure LA-508-002.

SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum)	=	< 8.22E-02	DETECTION LEVEL
Analyst	LESS THAN Value was Determined from Rmax.			
SLH				
Date Complete	RELATIVE COUNTING ERROR			1.16E-01
10/23/96	438.9%			$\mu\text{Ci/mL}$
Analysis Date				
10/22/96				
Analysis Time				
05:00 AM				
Sample Point				
AN-104				

Analyst:	SLH	Date: 23-Oct-96
Signature of Chemist:	SLF	Date: 10/28/96
SAMPLE.WB1 Rev. 1.0	508101ML	

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WORKBOOK PAGE: DUP7

AT : LA-508-101 (E-1)

LIQUIDS

Type	DETECTOR NUMBER	DUP	REPLICATE
DUP	DISH SIZE (1, 2, or 5)	16	16
Work List	GROSS COUNTS (MS)	2	2
14152	COUNT TIME in MINUTES (GC)	10	9
AT or TB ?	COUNT TIME in MINUTES (CT)	30	30
AT	BACKGROUND in cpm (BKG)	0.27	0.27
Test Code	SAMPLE SIZE in mL (SS)	0.100	0.100
@ALPHA01	DILUTION FACTOR (DF)	10201	10201
Matrix	DIGEST DILUTION FACTOR (DDF)	1	1
LIQUID	EFFICIENCY FACTOR (EFF)	0.2104	0.2104
Batch Number	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.297	0.257
96010668	Blank Concentration in $\mu\text{Ci/L}$	< 6.49E+01	
Rerun	Replicate Concentration in $\mu\text{Ci/L}$	< 5.62E+01	
0	Maximum Concentration in $\mu\text{Ci/L}$	< 6.4935E+01	
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)		
S96T005255	ALPHA TOTAL $\mu\text{Ci/mL}$ = ALPHA TOTAL $\mu\text{Ci/L}$ / 1000mL/L		
Instrument Code	Relative Counting Error = $\{ [(\text{The Square Root of TC} + \text{BKG} * \text{CT}) / (\text{TC} - \text{BKG} * \text{CT})] \} * 1.96 * 100$		
WB27806	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
MCB			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum) =	< 6.49E-02	DETECTION LEVEL
Analyst			
SLH	LESS THAN Value was Determined from Rmax.		
Date Complete	RELATIVE COUNTING ERROR	500.0%	1.16E-01 $\mu\text{Ci/mL}$
10/23/96			
Analysis Date			
10/22/96			
Analysis Time			
05:00 AM			
Sample Point			
AN-104			

Analyst:	SLH	Date: 23-Oct-96
Signature of Chemist:	SLF	Date: 10/28/96
SAMPLE.WB1 Rev. 1.0	508101ML	

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WORKBOOK PAGE: SAM8

AT : LA-508-101 (E-1)

LIQUIDS

Type	DETECTOR NUMBER	SAMPLE	REPLICATE
SAMPLE	DISH SIZE (1, 2, or 5)	(MS)	16 16
Work List	GROSS COUNTS	(GC)	2 2
14152	COUNT TIME in MINUTES	(CT)	12 14
AT or TB ?	BACKGROUND in cpm	(BKG)	30 30
AT	SAMPLE SIZE in mL	(SS)	0.27 0.27
Test Code	DILUTION FACTOR	(DF)	0.100 0.100
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	10201 10201
Matrix	EFFICIENCY FACTOR	(EFF)	1 1
LIQUID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE		0.2104 0.2104
			0.377 0.455

Batch Number	
96010668	Blank Concentration in $\mu\text{Ci/L}$ < 8.22E+01
Rerun	Replicate Concentration in $\mu\text{Ci/L}$ < 9.94E+01
0	Maximum Concentration in $\mu\text{Ci/L}$ < 9.9419E+01

Sample Prep	
N/A	Rs (Sample Count Rate) = $(TC / CT) - BKG$
Sample #	ALPHA TOTAL $\mu\text{Ci/L}$ = $Rs * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$
S96T005256	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			
MCB			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum)	=	< 9.94E-02
Analyst	LESS THAN Value was Determined from Rmax.		DETECTION
SLH			LEVEL
Date Complete	RELATIVE COUNTING ERROR		1.16E-01
10/23/96	225.3%		$\mu\text{Ci/mL}$
Analysis Date			
10/22/96			
Analysis Time			
05:00 AM			
Sample Point			
AN-104			

Analyst:	SLH	Date: 23-Oct-96
Signature of Chemist:	SLF	Date: 10/28/96
SAMPLE.WB1 Rev. 1.0	508101ML	

2081

WORKBOOK PAGE: DUP9

AT : LA-508-101 (E-1)

LIQUIDS

Type	DETECTOR NUMBER	DUP	REPLICATE
DUP	DISH SIZE (1, 2, or 5)	(MS)	16
Work List	GROSS COUNTS	(GC)	2
14152	COUNT TIME in MINUTES	(CT)	7
AT or TB ?	BACKGROUND in cpm	(BKG)	12
AT	SAMPLE SIZE in mL	(SS)	30
Test Code	DILUTION FACTOR	(DF)	0.27
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	0.100
Matrix	EFFICIENCY FACTOR	(EFF)	10201
LIQUID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE		10201
			0.2104
			0.377

Batch Number	
96010668	Blank Concentration in $\mu\text{Ci/L}$
Rerun	Replicate Concentration in $\mu\text{Ci/L}$
0	Maximum Concentration in $\mu\text{Ci/L}$

Sample Prep	N/A	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	S96T005256	ALPHA TOTAL $\mu\text{Ci/L}$ = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/ μCi)
Instrument Code	WB27806	ALPHA TOTAL $\mu\text{Ci/mL}$ = ALPHA TOTAL $\mu\text{Ci/L}$ / 1000mL/L
Prepared By	MCB	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.

Analyst	SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum) =	< 8.22E-02	DETECTION LEVEL
SLH		LESS Than Value was Determined from Lc.		
Date Complete	10/23/96	RELATIVE COUNTING ERROR	500.0%	1.16E-01
Analysis Date	10/22/96			$\mu\text{Ci/mL}$
Analysis Time	05:00 AM			
Sample Point	AN-104			

Analyst:	SLH	Date: 23-Oct-96
Signature of Chemist:	SLF	Date: 10/28/96
SAMPLE.WB1 Rev. 1.0	508101ML	

2082

WORKBOOK PAGE: SAM10

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)	7	4
14152	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.27	0.27
AT	SAMPLE SIZE in mL (SS)	0.100	0.100
Test Code	DILUTION FACTOR (DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR (DDF)	1	1
Matrix	EFFICIENCY FACTOR (EFF)	0.2104	0.2104
LIQUID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.221	0.221

Batch Number	
96010668	Blank Concentration in $\mu\text{Ci/L}$ < 4.83E+01
Rerun:	Replicate Concentration in $\mu\text{Ci/L}$ < 4.83E+01
0	Maximum Concentration in $\mu\text{Ci/L}$ < 4.8346E+01

Sample Prep	N/A	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	S96T005257	ALPHA TOTAL $\mu\text{Ci/L}$ = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/ μCi)
Instrument Code	WB27806	ALPHA TOTAL $\mu\text{Ci/mL}$ = ALPHA TOTAL $\mu\text{Ci/L}$ / 1000mL/L
Prepared By	MCB	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 in $\mu\text{Ci/mL}$ (Maximum) =	< 4.83E-02	DETECTION LEVEL
Analyst	LESS Than Value was Determined from Lc.		
SLH			
Date Complete	10/23/96	RELATIVE COUNTING ERROR	500.0%
Analysis Date	10/22/96		1.16E-01 $\mu\text{Ci/mL}$
Analysis Time	05:00 AM		
Sample Point	AN-104		

Analyst:	SLH	Date: 23-Oct-96
Signature of Chemist:	SLF	Date: 10/28/96
SAMPLE.WB1 Rev. 1.0	508101ML	

2083

WORKBOOK PAGE: DUP11

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)	3	2
14152	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.27	0.27
AT	SAMPLE SIZE in mL (SS)	0.100	0.100
Test Code	DILUTION FACTOR (DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR (DDF)	1	1
Matrix	EFFICIENCY FACTOR (EFF)	0.2104	0.2104
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE	0.221	0.221

Batch Number	
96010668	Blank Concentration in $\mu\text{Ci/L}$ < 4.83E+01
Rerun	Replicate Concentration in $\mu\text{Ci/L}$ < 4.83E+01
0	Maximum Concentration in $\mu\text{Ci/L}$ < 4.8346E+01

Sample Prep	N/A	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	S96T005257	ALPHA TOTAL $\mu\text{Ci/L}$ = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/ μCi)
Instrument Code	WB27806	ALPHA TOTAL $\mu\text{Ci/mL}$ = ALPHA TOTAL $\mu\text{Ci/L}$ / 1000mL/L
Prepared By	MCB	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.

Analyst	SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum) = < 4.83E-02	DETECTION LEVEL
SLH		LESS Than Value was Determined from Lc.	
Date Complete	10/23/96	RELATIVE COUNTING ERROR	500.0%
Analysis Date	10/22/96		1.16E-01 $\mu\text{Ci/mL}$
Analysis Time	05:00 AM		
Sample Point	AN-104		

Analyst:	SLH	Date: 23-Oct-96
Signature of Chemist:	SLF	Date: 10/28/96
SAMPLE.WB1 Rev. 1.0	508101ML	

2084

WORKBOOK PAGE: SAM12

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)	6	6
14152	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.27	0.27
AT	SAMPLE SIZE in mL	(SS)	0.100	0.100
Test Code	DILUTION FACTOR	(DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104	0.2104
LIQUID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE		0.221	0.221

Batch Number	
96010668	Blank Concentration in $\mu\text{Ci/L}$ < 4.83E+01
Rerun:	Replicate Concentration in $\mu\text{Ci/L}$ < 4.83E+01
0	Maximum Concentration in $\mu\text{Ci/L}$ < 4.8346E+01

Sample Prep:	N/A	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	S96T005258	ALPHA TOTAL $\mu\text{Ci/L}$ = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/ μCi)
Instrument Code	WB27806	ALPHA TOTAL $\mu\text{Ci/mL}$ = ALPHA TOTAL $\mu\text{Ci/L}$ / 1000mL/L
Prepared By	MCB	Relative Counting Error = [(The Square Root of TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100.
Chemist		Detection Levels and Less Than Values are determined from Procedure LA-508-002.

SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum) =	< 4.83E-02	DETECTION LEVEL
Analyst	LESS Than Value was Determined from Lc.		
SLH			
Date Complete	10/23/96	RELATIVE COUNTING ERROR	500.0%
Analysis Date	10/22/96		1.16E-01 $\mu\text{Ci/mL}$
Analysis Time	05:00 AM		
Sample Point	AN-104		

Analyst:	SLH	Date: 23-Oct-96
Signature of Chemist:	SLF	Date: 10/28/96
SAMPLE.WB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: DUP13

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	8
14152	COUNT TIME in MINUTES	30	30
AT or TB ?	BACKGROUND in cpm	0.27	0.27
AT	SAMPLE SIZE in mL	0.100	0.100
Test Code	DILUTION FACTOR	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR	1	1
Matrix	EFFICIENCY FACTOR	0.2104	0.2104
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE	0.221	0.221

Batch Number	
96010668	Blank Concentration in $\mu\text{Ci/L}$ < 4.83E+01
Rerun	Replicate Concentration in $\mu\text{Ci/L}$ < 4.83E+01
0	Maximum Concentration in $\mu\text{Ci/L}$ < 4.8346E+01

Sample Prep	
N/A	$R_s (\text{Sample Count Rate}) = (TC / CT) - BKG$
Sample #	$\text{ALPHA TOTAL } \mu\text{Ci/L} = R_s * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$
S96T005258	$\text{ALPHA TOTAL } \mu\text{Ci/mL} = \text{ALPHA TOTAL } \mu\text{Ci/L} / 1000\text{mL/L}$
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	
MCB	
Chemist	
SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum) = < 4.83E-02
Analyst	
SLH	LESS Than Value was Determined from Lc.
Date Complete	
10/23/96	RELATIVE COUNTING ERROR 500.0%
Analysis Date	
10/22/96	
Analysis Time	
05:00 AM	
Sample Point	
AN-104	

Analyst:	SLH	Date: 23-Oct-96
Signature of Chemist:	SLF	Date: 10/28/96
SAMPLE.WB1 Rev. 1.0	508101ML	

2086

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)	2	1
14152	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.27	0.27
AT	SAMPLE SIZE in mL (SS)	0.100	0.100
Test Code	DILUTION FACTOR (DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR (DDF)	1	1
Matrix	EFFICIENCY FACTOR (EFF)	0.2104	0.2104
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE	0.221	0.221
Batch Number			
96010668	Blank Concentration in $\mu\text{Ci/L}$	< 4.83E+01	
Rerun	Replicate Concentration in $\mu\text{Ci/L}$	< 4.83E+01	
0	Maximum Concentration in $\mu\text{Ci/L}$	< 4.8346E+01	
Sample Prep			
N/A	Rs (Sample Count Rate) = $(\text{TC} / \text{CT}) - \text{BKG}$		
Sample #	ALPHA TOTAL $\mu\text{Ci/L}$ = $\text{Rs} * 1000\text{mL/L} * \text{DF} * \text{DDF} / (\text{EFF} * \text{SS} * 2220000\text{dpm}/\mu\text{Ci})$		
S96T005260	ALPHA TOTAL $\mu\text{Ci/mL}$ = $\text{ALPHA TOTAL } \mu\text{Ci/L} / 1000\text{mL/L}$		
Instrument Code	Relative Counting Error = $[(\text{The Square Root of TC} + \text{BKG} * \text{CT}) / (\text{TC} - \text{BKG} * \text{CT})] * 1.96 * 100$		
WB27806	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
MCB			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum) =	< 4.83E-02	DETECTION LEVEL
Analyst	LESS Than Value was Determined from Lc.		
SLH			
Date Complete	RELATIVE COUNTING ERROR	500.0%	1.16E-01 $\mu\text{Ci/mL}$
10/23/96			
Analysis Date			
10/22/96			
Analysis Time			
05:00 AM			
Sample Point			
AN-104			

Analyst:	SLH	Date: 23-Oct-96
Signature of Chemist:	SLF	Date: 10/28/96

SAMPLE.WB1 Rev. 1.0

508101ML

2087

WORKBOOK PAGE: DUP15

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 (GC)	8	14
14152	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.27	0.27
AT	SAMPLE SIZE in mL (SS)	0.100	0.100
Test Code	DILUTION FACTOR (DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR (DDF)	1	1
Matrix	EFFICIENCY FACTOR (EFF)	0.2104	0.2104
LIQUID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.221	0.455

Batch Number	
96010668	Blank Concentration in $\mu\text{Ci/L}$ < 4.83E+01
Rerun	Replicate Concentration in $\mu\text{Ci/L}$ < 9.94E+01
0	Maximum Concentration in $\mu\text{Ci/L}$ < 9.9419E+01

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)
S96T005260	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	
MCB	
Chemist	
SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum) = < 9.94E-02
Analyst	
SLH	LESS Than Value was Determined from Lc.
Date Complete	
10/23/96	RELATIVE COUNTING ERROR 500.0%
Analysis Date	
10/22/96	
Analysis Time	
05:00 AM	
Sample Point	
AN-104	

Analyst:	SLH	Date: 23-Oct-96
Signature of Chemist:	SLF	Date: 10/28/96

SAMPLE.VB1 Rev. 1.0

508101ML

2088

AT : LA-508-101 (E-1) LA-508-113 (A-2) SPIKED SAMPLE

		SPIKE	REPLICATE
Type	DETECTOR NUMBER	16	16
SPK	DISH SIZE 1, 2, or 5 (MS)	2	2
Work List	TOTAL COUNTS (TC)	54579	54330
14152	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.27	0.27
AT	SAMPLE VOLUME in mL (Spiked Vial) (SS)	0.100	0.100
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial) (DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR (DDF)	1	1
Matrix	SPIKE VOLUME in mL (SVol)	0.100	0.100
LIQUID	SPIKE DILUTION FACTOR (SDF)	1	1
Batch Number	SPIKE BOOK NUMBER (Spk BN)	123B43	123B43
96010668	SPIKE VALUE in $\mu\text{Ci/mL}$ (SVal)	3.5866E-02	3.5866E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR (EFF)	0.2104	0.2104
0	SAMPLE + SPIKE $\mu\text{Ci/mL}$ (S+S)	3.97E+02	3.95E+02
Sample Prep	AVERAGE or MAXIMUM $\mu\text{Ci/mL}$ in SAMPLE <	4.8346E-02	
N/A			
Sample #	Rs (Sample Count Rate) = (TC / CT) - BKG		
996T005260	SAMPLE + SPIKE $\mu\text{Ci/mL}$ = Rs * DF * DDF / (EFF * SS * 2220000dpm/ μCi)		
Instrument Code:	QC ACTUAL = SVal		
WB27806	QC FOUND = (((S+S $\mu\text{Ci/mL}$ - SAMPLE $\mu\text{Ci/mL}$) * ((SDF/SVol)/(DF*DDF/SS)))		
Prepared By	PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) *100		
MCB			
Chemist			
SLF			
Analyst			
SLH			
Date Complete	NOTE: Original Sample result was a LESS THAN value. Zero (0) was subtracted from the spiked value for QC found calculation.		
10/23/96			
Analysis Date			
10/22/96	QC ACTUAL	=	3.59E-02
Analysis Time	QC FOUND	=	3.89E-02
05:00 AM	AVG. PERCENT SPIKE RECOVERY	=	108.3%
Sample Point			
AN-104			

Analyst:	MCB	Date: 23-Oct-96
Signature of Chemist:	SLF	Date: 10/28/96
SPIKE.WB1 Rev. 1.0 508101ML		

LABCORE Completed RadChem Report for Worklist#: 14155

Analyst: dcd

Instrument: AB15

Book# _____

Method: _____ Rev/Mod _____

Worklist Comment: AN-104.Determine sample size using ludlum.Spike:0.1ml.new

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD	0		GALPHA01 ALPHA01 SOLID		2.31E-04	2.50E-4	108.225	% Recovery
1 STD	0		GALPHA01 ALPHA01E SOLID		1.00	3.18E+00	3.180	% Ct. Error
2 BLNK-PREP	0		GALPHA01 ALPHA01 SOLID		1	<3.52E-2		uCi/g
2 BLNK-PREP	0		GALPHA01 ALPHA01E SOLID		1.00	5.00E+02	500.000	uCi/g
3 BLNK/BKG	0		GALPHA01 ALPHA01 SOLID		1.00E+00	1.09E+00	1.090	BLNK/BKG
4 SAMPLE	S96T004795	0 F	GALPHA01 ALPHA01 SOLID		N/A <	4.27E-02	476.0e-004	uCi/g
4 SAMPLE	S96T004795	0 F	GALPHA01 ALPHA01E SOLID		N/A	5.00E+02	0.0e+000	% Ct. Error
5 DUP	S96T004795	0 F	GALPHA01 ALPHA01 SOLID		<4.27E-2	<4.20E-2		RPD
5 DUP	S96T004795	0 F	GALPHA01 ALPHA01E SOLID		1.00	1.43E+02	143.000	% Ct. Error
6 SPK	S96T004795	0 F	GALPHA01 ALPHA01 SOLID		3.59E-02	3.52E-02	98.050	% Recovery
7 SAMPLE	S96T004796	0 F	GALPHA01 ALPHA01 SOLID		N/A	4.99E-02	479.0e-004	uCi/g
7 SAMPLE	S96T004796	0 F	GALPHA01 ALPHA01E SOLID		N/A	1.03E+02	0.0e+000	% Ct. Error
8 DUP	S96T004796	0 F	GALPHA01 ALPHA01 SOLID		4.99E-2	<4.55E-2		RPD
8 DUP	S96T004796	0 F	GALPHA01 ALPHA01E SOLID		1.00	1.67E+02	167.000	% Ct. Error
9 SPK	S96T004796	0 F	GALPHA01 ALPHA01 SOLID		3.59E-02	3.07E-02	85.515	% Recovery
10 SAMPLE	S96T005030	0 F	GALPHA01 ALPHA01 SOLID		N/A <	3.15E-02	477.0e-004	uCi/g
10 SAMPLE	S96T005030	0 F	GALPHA01 ALPHA01E SOLID		N/A	5.00E+02	0.0e+000	% Ct. Error
11 DUP	S96T005030	0 F	GALPHA01 ALPHA01 SOLID		<3.15E-2	<3.51E-2		RPD
11 DUP	S96T005030	0 F	GALPHA01 ALPHA01E SOLID		1.00	5.00E+02	500.000	% Ct. Error

Final page for worklist# 14155

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Reviewer Signature

10/23/96
Date

LABCORE Data Entry Template for Worklist# 14155

Analyst: DCD Instrument: AB00 15 Book# 66B56

Method: LA-508-101 Rev/Mod E-1

Worklist Comment: AN-104.Determine sample size using ludlum.Spike:0.1ml.new

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 STD			@ALPHA01	SOLID		
2 BLNK-PREP			@ALPHA01	SOLID		
3 BLNK/BKG			@ALPHA01	SOLID		
4 SAMPLE	S96T004795	0 F	@ALPHA01	SOLID	96001174	AN-104
Analytes Requested: ALPHA01 , ALPHA01E						
5 DUP	S96T004795	0 F	@ALPHA01	SOLID		
6 SPK	S96T004795	0 F	@ALPHA01	SOLID		
7 SAMPLE	S96T004796	0 F	@ALPHA01	SOLID	96001174	AN-104
Analytes Requested: ALPHA01 , ALPHA01E						
8 DUP	S96T004796	0 F	@ALPHA01	SOLID		
9 SPK	S96T004796	0 F	@ALPHA01	SOLID		
10 SAMPLE	S96T005030	0 F	@ALPHA01	SOLID	96001174	AN-104
Analytes Requested: ALPHA01 , ALPHA01E						
11 DUP	S96T005030	0 F	@ALPHA01	SOLID		

Final page for worklist # 14155

Daniel C. Dunham
Analyst Signature

10-23-96
Date

Lee Hogan 10/24/96
Analyst Signature Date
C.J. Quinn 10/24/96

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 (A-2) STANDARD

		STANDARD	REPLICATE
Type	DETECTOR NUMBER	15	15
STD	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	4123	3831
14155	COUNT TIME in MINUTES (CT)	30	30
AT OF TB ?	BACKGROUND in cpm (BKG)	0.23	0.23
AT	SAMPLE SIZE in mL (SS)	1.000	1.000
Test Code	DILUTION FACTOR (DF)	1	1
@ALPHA01	STANDARD BOOK NUMBER (Std BN)	66B56	66B56
Matrix	EFFICIENCY FACTOR (EFF)	0.2380	0.2380
LIQUID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE	137.203	127.470
Batch Number	Standard Value in $\mu\text{Ci/mL}$	2.31E-04	
96010670	Concentration in $\mu\text{Ci/L}$ =	2.60E-01	
Rerun	Replicate Concentration in $\mu\text{Ci/L}$ =	2.41E-01	
0	AVERAGE CONCENTRATION in $\mu\text{Ci/L}$ =	2.5047E-01	
Sample Prep			
N/A	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	ALPHA TOTAL $\mu\text{Ci/L}$ = $R_s * 1000\text{mL/L} * DF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$		
WL14155	ALPHA TOTAL $\mu\text{Ci/mL}$ = ALPHA TOTAL $\mu\text{Ci/L} / 1000\text{mL/L}$		
Instrument Code	Relative Counting Error = $[(The\ Square\ Root\ of\ TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
W826872	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
SEH			
Chemist			
SLF	ALPHA TOTAL CONCENTRATION in $\mu\text{Ci/mL}$ =	2.50E-04	DETECTION LEVEL
Analyst			
DCD			
Date Complete			9.45E-07 $\mu\text{Ci/mL}$
10/24/96	RELATIVE COUNTING ERROR =	3.2%	
Analysis Date			
10/23/96			
Analysis Time			
05:00 AM			
Sample Point			
AN-104			

Analyst:	SEH	Date: 24-Oct-96
Signature of Chemist:	SLF	Date: 10/28/96

STANDARD.WB1 Rev. 1.0

508101ML

WORKBOOK PAGE: BLANK2

AT : LA-508-101 (E-1)

SOLIDS

		BLNK-PREP	REPLICATE
Type	DETECTOR NUMBER	15	16
BLNK-PREP	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	11	4
14155	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.23	0.23
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)	2.0068	2.0068
Matrix	EFFICIENCY FACTOR (EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE	0.369	0.204
Batch Number			
96010670	Blank Concentration in $\mu\text{Ci/g}$	< 3.52E-02	
Rerun	Replicate Concentration in $\mu\text{Ci/g}$	< 1.95E-02	
0	Maximum Concentration in $\mu\text{Ci/g}$	< 3.5184E-02	
Sample Prep			
N/A	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	$\text{ALPHA TOTAL } \mu\text{Ci/g} = R_s * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$		
WVL14155			
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
WB26872	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
SEH			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/g}$ (Maximum) =	< 3.52E-02	DETECTION LEVEL
Analyst	LESS THAN Value was Determined from Rmax.		
DCD			4.76E-02
Date Complete	RELATIVE COUNTING ERROR	500.0%	$\mu\text{Ci/g}$
10/24/96			
Analysis Date			
10/23/96			
Analysis Time			
05:00 AM			
Sample Point			
AN-104			

Analyst:	DCD	Date: 24-Oct-96
Signature of Chemist:	SLF	Date: 10/28/96
BLANK.WB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: SAM4

AT : LA-508-101 (E-1) SOLIDS

		SAMPLE	REPLICATE
Type	DETECTOR NUMBER	15	15
SAMPLE	DISH SIZE (1, 2, or 5)	2	2
Work List	GROSS COUNTS (MS)	10	13
14155	COUNT TIME in MINUTES (GC)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.23	0.23
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)	2.0068	2.0068
Matrix	EFFICIENCY FACTOR (EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE	0.329	0.449
Batch Number			
96010670	Blank Concentration in $\mu\text{Ci/g}$	< 3.14E-02	
Rerun	Replicate Concentration in $\mu\text{Ci/g}$	< 4.27E-02	
0	Maximum Concentration in $\mu\text{Ci/g}$	< 4.2739E-02	
Sample Prep			
FUSION01	$R_s (\text{Sample Count Rate}) = (TC / CT) - BKG$		
Sample #	$ALPHA \text{ TOTAL } \mu\text{Ci/g} = R_s * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$		
S96T004795			
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
WB26872	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
SEH			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/g}$ (Maximum) =	< 4.27E-02	DETECTION LEVEL
Analyst	LESS THAN Value was Determined from Rmax.		
DCD			4.76E-02
Date Complete	RELATIVE COUNTING ERROR	500.0%	$\mu\text{Ci/g}$
10/24/96			
Analysis Date			
10/25/96			
Analysis Time			
05:00 AM			
Sample Point			
AN-104			

(/ system;exit)yes~

Analyst:	DCD	Date: 24-Oct-96
Signature of Chemist:	SLF	Date: 10/28/96
SAMPLE.WB1 Rev. 1.0	508101ML	

AT : LA-508-101 (E-1)

SOLIDS

		DUP	REPLICATE
Type	DETECTOR NUMBER	15	15
DUP	DISH SIZE (1, 2, or 5)	2	2
Work List	GROSS COUNTS (MS)	17	13
14155	COUNT TIME in MINUTES (GC)	30	30
AT or TB ?	BACKGROUND in cpm (BK@)	0.23	0.23
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)	2.0404	2.0404
Matrix	EFFICIENCY FACTOR (EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE	0.337	0.449
Batch Number			
96010670	Blank Concentration in $\mu\text{Ci/g}$	3.15E-02	
Regrn	Replicate Concentration in $\mu\text{Ci/g}$	< 4.20E-02	
0	Maximum Concentration in $\mu\text{Ci/g}$	< 4.2036E-02	
Sample Prep			
FUSION01	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	$ALPHA\ TOTAL\ \mu\text{Ci/g} = R_s * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$		
S95T004795			
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
WB26872	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared by			
SEH			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/g}$ (Maximum) =	< 4.20E-02	DETECTION LEVEL
Analyst	LESS THAN Value was Determined from R_s .		
DCD			
Date Complete	RELATIVE COUNTING ERROR	143.3%	4.68E-02 $\mu\text{Ci/g}$
10/24/96			
Analysis Date			
10/23/96			
Analysis Time			
05:00 AM			
Sample Point			
AN-104			

(/ system;exit)yes-

Analyst:	DCD	Date: 24-Oct-96
Signature of Chemist:	SLF	Date: 10/28/96
SAMPLE.WB1 Rev. 1.0	508101ML	

2095

WORKBOOK PAGE: SPK6

AT : LA-508-101 (E-1) LA-508-113 (A-2) SPIKED SAMPLE

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		15	15
SPK	DISH SIZE 1, 2, or 5	(MS)	2	2
Work List	TOTAL COUNTS	(TC)	66484	65052
14155	COUNT TIME in MINUTES	(CT)	30	30
AT of TB ?	BACKGROUND in cpm	(BK(G))	0.23	0.23
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)	2.0068	2.0068
Matrix	SPIKE VOLUME in mL	(SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR	(SDF)	1	1
Batch Number	SPIKE BOOK NUMBER (Spk BN)		123B43	123B43
98010670	SPIKE VALUE in µCi/mL	(SVAl)	3.5866E-02	3.5866E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR (EFF)		0.238	0.238
0	SAMPLE + SPIKE µCi/g	(S+S)	1.79E+02	1.76E+02
Sample Prep	AVERAGE or MAXIMUM µCi/g in SAMPLE	<	4.2739E-02	
FUSION01				
Sample #				
S96T004795	Rs (Sample Count Rate) = (TC / CT) - BKG			
Instrument Code	SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / ((EFF * SS * Dg/L * 2220000dpm/µCi)			
WB26872	QC ACTUAL = SVAl			
Prepared By	QC FOUND = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/(SVol*1000)))/(DF/SS/Dg/L))))			
SEH	PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) * 100			
Chemist				
SLF				
Analyst				
DCD				
Date Complete	NOTE: Original Sample result was a LESS THAN value. Zero (0) was subtracted from the spiked value for QC found calculation.			
10/24/96				
Analysis Date				
10/23/96	QC ACTUAL	=	3.59E-02	
Analysis Time	QC FOUND	=	3.52E-02	
05:00 AM	AVG. PERCENT SPIKE RECOVERY	=	98.1%	
Sample Point				
AN-104				

Analyst:	SEH	Date: 24-Oct-96
Signature of Chemist:	SLF	Date: 10/25/96
SPIKE WB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: SAM7

AT : LA-508-101 (E-1)

SOLIDS

		SAMPLE	REPLICATE
Type	DETECTOR NUMBER	15	15
SAMPLE	DISH SIZE (1, 2, or 5)	2	2
Work List	GROSS COUNTS (GC)	16	29
14165	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKg)	0.23	0.23
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)	1.9908	1.9908
Matrix	EFFICIENCY FACTOR (EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE	0.303	0.737

Batch Number	
96010670	Blank Concentration in $\mu\text{Ci/g}$ 2.91E-02
ReRun	Replicate Concentration in $\mu\text{Ci/g}$ 7.07E-02
0	Average Concentration in $\mu\text{Ci/g}$ 4.9931E-02

Sample Prep	Rs (Sample Count Rate) = $(TC / CT) - BKG$
FUSION01	ALPHA TOTAL $\mu\text{Ci/g}$ = $Rs * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$
Sample #	
S96T004796	
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$
WB26872	Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Prepared By	
SEH	
Chemist	
SLF	ALPHA TOTAL in $\mu\text{Ci/g}$ (Average) = 4.99E-02
Analyst	
DCD	
Date Complete	
10/24/96	RELATIVE COUNTING ERROR 103.1%
Analysis Date	
10/23/96	
Analysis Time	
05:00 AM	
Sample Point	
AN-104	

(/ system,exit)yes-

Analyst:	DCD	Date: 24-Oct-96
Signature of Chemist:	SLF	Date: 10/28/96
SAMPLE.WB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: DUP8

AT : LA-508-101 (E-1)

SOLIDS

		DUP	REPLICATE
Type	DETECTOR NUMBER	15	15
DUP	DISH SIZE (1, 2, or 5)	2	2
Work List	GROSS COUNTS	21	12
14155	COUNT TIME in MINUTES	30	30
AT or TB ?	BACKGROUND in cpm	0.23	0.23
AT	SAMPLE SIZE in mL	1.000	1.000
Test Code	DILUTION FACTOR	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L	1.9764	1.9764
Matrix	EFFICIENCY FACTOR	0.2380	0.2380
SOLID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE	0.470	0.409
Batch Number			
96010670	Blank Concentration in $\mu\text{Ci/g}$	4.55E-02	
Rerun	Replicate Concentration in $\mu\text{Ci/g}$	< 3.96E-02	
0	Maximum Concentration in $\mu\text{Ci/g}$	< 4.5458E-02	
Sample Prep			
FUSION01	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	$\text{ALPHA TOTAL } \mu\text{Ci/g} = R_s * 1000\text{mL/L} * DF / (EFF * SS * \text{Dg/L} * 2220000\text{dpm}/\mu\text{Ci})$		
S96T004795			
Instrument Code	Relative Counting Error = $\{ [(The \text{ Square Root of } TC + BKG * CT) / (TC - BKG * CT)] \} * 1.96 * 100$		
WB26872	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
SEH			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/g}$ (Maximum) =	< 4.55E-02	DETECTION LEVEL
Analyst			
DCD	LESS THAN Value was Determined from R_s .		
Date Complete			4.83E-02
10/24/96	RELATIVE COUNTING ERROR	167.1%	$\mu\text{Ci/g}$
Analysis Date			
10/23/96			
Analysis Time			
05:00 AM			
Sample Point			
AN-104			

(/ system;exit)yes-

Analyst:	DCD	Date: 24-Oct-96
Signature of Chemist:	SLF	Date: 10/28/96
SAMPLE.WB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: SPK9

AT : LA-508-101 (E-1) LA-508-113 (A-2) SPIKED SAMPLE

		SPIKE	REPLICATE
Type	DETECTOR NUMBER	15	15
SPK	DISH SIZE 1, 2, or 5 (MS)	2	2
Work List	TOTAL COUNTS (TC)	60752	48494
14155	COUNT TIME in MINUTES (CT)	30	30
AT or TB	BACKGROUND in cpm (BKG)	0.23	0.23
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)	1.9908	1.9908
Matrix	SPIKE VOLUME in mL (SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR (SDF)	1	1
Batch Number	SPIKE BOOK NUMBER (Spk BN)	123B43	123B43
95010670	SPIKE VALUE in $\mu\text{Ci/mL}$ (SVal)	3.5866E-02	3.5866E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR (EFF)	0.238	0.238
0	SAMPLE + SPIKE $\mu\text{Ci/g}$ (S+S)	1.62E+02	1.49E+02
Sample Prep	AVERAGE or MAXIMUM $\mu\text{Ci/g}$ in SAMPLE	4.9931E-02	
FUSION01			
Sample #			
S96T004796			
Instrument Code	Rs (Sample Count Rate) = $(TC / CT) - BKG$		
WB26572	SAMPLE + SPIKE $\mu\text{Ci/g}$ = $Rs * 1000\text{mL/L} * DF / ((EFF * SS * Dg/L) * 2220000\text{dpm}/\mu\text{Ci})$		
Prepared By	QC ACTUAL = SVal		
SEH	QC FOUND = $((S+S \mu\text{Ci/g} - \text{SAMPLE } \mu\text{Ci/g}) * ((SDF/(SVol*1000)) / (DF/SS/Dg/L)))$		
Chemist	PERCENT SPIKE RECOVERY = $(QC \text{ FOUND} / QC \text{ ACTUAL}) * 100$		
SLF			
Analyst			
DCD			
Date Complete			
10/24/96			
Analysis Date			
10/23/96	QC ACTUAL	=	3.59E-02
Analysis Time	QC FOUND	=	3.07E-02
05:00 AM	AVG. PERCENT SPIKE RECOVERY	=	85.5%
Sample Point			
AN-104			

Analyst:	SEH	Date: 24-Oct-96
Signature of Chemist:	SLF	Date: 10/28/96
SPIKE.WB1 Rev. 1.0	508101ML	

AT : LA-508-101 (E-1)

SOLIDS

		SAMPLE	REPLICATE
Type	DETECTOR NUMBER	15	15
SAMPLE	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	10	16
14155	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.23	0.23
AT	SAMPLE SIZE in mL (SS)	1.000	1.000
Test Code	DILUTION FACTOR (DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.0004	2.0004
Matrix	EFFICIENCY FACTOR (EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE	0.329	0.303
Batch Number			
96010670	Blank Concentration in $\mu\text{Ci/g}$	< 3.15E-02	
ReRun	Replicate Concentration in $\mu\text{Ci/g}$	2.90E-02	
0	Maximum Concentration in $\mu\text{Ci/g}$	< 3.1481E-02	
Sample Prep			
FUSION01	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	$ALPHA\ TOTAL\ \mu\text{Ci/g} = R_s * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}\mu\text{Ci})$		
S96T005030			
Instrument Code	Relative Counting Error = $[(The\ Square\ Root\ of\ TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
WB26872	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
SEH			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/g}$ (Maximum) =	< 3.15E-02	DETECTION LEVEL
Analyst			
DCD	LESS THAN Value was Determined from Rmax.		
Date Complete			4.77E-02 $\mu\text{Ci/g}$
10/24/96	RELATIVE COUNTING ERROR	500.0%	
Analysis Date			
10/23/96			
Analysis Time			
05:00 AM			
Sample Point			
AN-104			

(/ system exit) yes-

Analyst:	DCD	Date: 24-Oct-96
Signature of Chemist:	SLF	Date: 10/28/96
SAMPLE.WB1 Rev. 1.0	508101ML	

AT : LA-508-101 (E-1)

SOLIDS

		DUP	REPLICATE
Type	DETECTOR NUMBER	15	15
DUP	DISH SIZE (1, 2, or 5)	(MS)	2
Work List	GROSS COUNTS	(GC)	11
14155	COUNT TIME in MINUTES	(CT)	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.23
AT	SAMPLE SIZE in mL	(SS)	1.000
Test Code	DILUTION FACTOR	(DF)	101
@ALPHA01	DIGEST GRAMS OF SOLIDS / L	(Dg/L)	2.0135
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380
SOLID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE		0.369
Batch Number			0.204

96010670	Blank Concentration in $\mu\text{Ci/g}$	<	3.51E-02
Rebut	Replicate Concentration in $\mu\text{Ci/g}$	<	1.94E-02
0	Maximum Concentration in $\mu\text{Ci/g}$	<	3.5067E-02

Sample Prep	
FUSION01	$R_s (\text{Sample Count Rate}) = (TC / CT) - BKG$
Sample #	$\text{ALPHA TOTAL } \mu\text{Ci/g} = R_s * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$
S96T005030	
Instrument Code	$\text{Relative Counting Error} = [(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$
WB26872	Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Prepared By	ALPHA TOTAL in $\mu\text{Ci/g}$ (Maximum) = < 3.51E-02			DETECTION LEVEL
SEH				
Chemist				
SLF				4.74E-02 $\mu\text{Ci/g}$
Analyst	LESS THAN Value was Determined from Rmax.			
DCD				
Date Complete	RELATIVE COUNTING ERROR			
10/24/96	500.0%			
Analysis Date				
10/23/96				
Analysis Time				
05:00 AM				
Sample Point				
AN-104				

(f system;exit)yes-

Analyst:	DCD	Date: 24-Oct-96
Signature of Chemist:	SLF	Date: 10/28/96

SAMPLE.WB1 Rev. 1.0

508101ML

LABCORE Completed RadChem Report for Worklist#: 14156

Analyst: dcd

Instrument: AB14

Book# _____

Method: _____ Rev/Mod _____

Worklist Comment: AN-104. Determine sample size using ludlum. Spike: 0.1ml. new

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD	0	0	@ALPHA01 ALPHA01	SOLID	2.31E-04	2.29E-4	99.134	% Recovery
1 STD	0	0	@ALPHA01 ALPHA01E	SOLID	1.00	3.35E+00	3.350	% Ct. Error
2 BLNK-PREP	0	0	@ALPHA01 ALPHA01	SOLID	1	<3.36E-4		uCi/g
2 BLNK-PREP	0	0	@ALPHA01 ALPHA01E	SOLID	1.00	2.77E+02	277.000	uCi/g
3 BLNK/BKG	0	0	@ALPHA01 ALPHA01	SOLID	1.00E+00	2.00E+00	2.000	BLNK/BKG
4 SAMPLE	S96T005031	0 F	@ALPHA01 ALPHA01	SOLID	N/A	2.19E-02	393.0e-004	uCi/g
4 SAMPLE	S96T005031	0 F	@ALPHA01 ALPHA01E	SOLID	N/A	1.13E+02	0.0e+000	% Ct. Error
5 DUP	S96T005031	0 F	@ALPHA01 ALPHA01	SOLID	2.19E-2	5.42E-2	84.888	RPD
5 DUP	S96T005031	0 F	@ALPHA01 ALPHA01E	SOLID	1.00	6.93E+01	69.300	% Ct. Error
6 SPK	S96T005031	0 F	@ALPHA01 ALPHA01	SOLID	3.59E-02	3.13E-02	87.187	% Recovery
7 SAMPLE	S96T005034	0 F	@ALPHA01 ALPHA01	SOLID	N/A	4.10E-02	385.0e-004	uCi/g
7 SAMPLE	S96T005034	0 F	@ALPHA01 ALPHA01E	SOLID	N/A	7.35E+01	0.0e+000	% Ct. Error
8 DUP	S96T005034	0 F	@ALPHA01 ALPHA01	SOLID	4.10E-2	6.71E-2	48.289	RPD
8 DUP	S96T005034	0 F	@ALPHA01 ALPHA01E	SOLID	1.00	6.26E+01	62.600	% Ct. Error

Final page for worklist# 14156

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Reviewer Signature _____ Date 10/28/96

RPD values are acceptable due to low
sample alpha activity.

10/28/96

LABCORE Data Entry Template for Worklist# 14156

Analyst: DCD Instrument: AB00 14 Book# 66 B56

Method: LA-508-101 Rev/Mod E-1

Worklist Comment: AN-104.Determine sample size using ludlum.Spike:0.1ml.new

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 STD			@ALPHA01	SOLID		
2 BLNK-PREP			@ALPHA01	SOLID		
3 BLNK/BKG			@ALPHA01	SOLID		
4 SAMPLE	S96T005031	0 F	@ALPHA01	SOLID	96001174	AN-104
	Analytes Requested: ALPHA01 , ALPHA01E					
5 DUP	S96T005031	0 F	@ALPHA01	SOLID		
6 SPK	S96T005031	0 F	@ALPHA01	SOLID		
7 SAMPLE	S96T005034	0 F	@ALPHA01	SOLID	96001174	AN-104
	Analytes Requested: ALPHA01 , ALPHA01E					
8 DUP	S96T005034	0 F	@ALPHA01	SOLID		

Final page for worklist # 14156

Dan Dumb 10-23-96
Analyst Signature Date

Lee Hogan 10/24/96
Analyst Signature Date
J. Opinen 10/24/96

Data Entry Comments:

WORKBOOK PAGE: STD1

AT : LA-508-101 (E-1) LA-508-113 (A-2) STANDARD

	STANDARD	REPLICATE
Type	DETECTOR NUMBER	14
STD	DISH SIZE (1, 2, or 5) (MS)	2
Work List	GROSS COUNTS (GC)	3494
14156	COUNT TIME in MINUTES (CT)	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.1
AT	SAMPLE SIZE in mL (SS)	1.000
Test Code	DILUTION FACTOR (DF)	1
@ALPHA01	STANDARD BOOK NUMBER (Std BN)	66B56
Matrix	EFFICIENCY FACTOR (EFF)	0.2274
LIQUID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	116.367
Batch Number	Standard Value in $\mu\text{Ci/mL}$	2.31E-04
96010673	Concentration in $\mu\text{Ci/L}$ =	2.31E-01
Rerun	Replicate Concentration in $\mu\text{Ci/L}$ =	2.27E-01
0	AVERAGE CONCENTRATION in $\mu\text{Ci/L}$ =	2.2856E-01

Sample Prep	N/A	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	WL14156	ALPHA TOTAL $\mu\text{Ci/L}$ = $R_s * 1000\text{mL/L} * DF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$
Instrument Code	WB27807	ALPHA TOTAL $\mu\text{Ci/mL}$ = ALPHA TOTAL $\mu\text{Ci/L} / 1000\text{mL/L}$
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.

Analyst	SLF	ALPHA TOTAL CONCENTRATION in $\mu\text{Ci/mL}$ =	2.29E-04	DETECTION LEVEL
BCD				
Date Complete	10/24/96	RELATIVE COUNTING ERROR	=	3.3%
Analysis Date	10/23/96			7.13E-07 $\mu\text{Ci/mL}$
Analysis Time	05:00 AM			
Sample Point	AN-104			

Analyst:	SEH	Date: 24-Oct-96
Signature of Chemist:	SLF	Date: 10/28/96
STANDARD.WB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: BLANK2

AT : LA-508-101 (E-1)

SOLIDS

Type	DETECTOR NUMBER	BLNK-PREP	REPLICATE
BLNK-PREP	DISH SIZE (1, 2, or 5) (MS)	14	14
Work List	GROSS COUNTS (GC)	2	2
14156	COUNT TIME in MINUTES (CT)	7	5
AT or TB ?	BACKGROUND in cpm (BKG)	30	30
AT	SAMPLE SIZE in mL (SS)	0.1	0.1
Test Code	DILUTION FACTOR (DF)	1.000	1.000
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	101	101
Matrix	EFFICIENCY FACTOR (EFF)	1.8312	1.8312
SOLID		0.2274	0.2274
Batch Number	Lc, Rmax, or Rs.(SAMPLE RATE) as APPROPRIATE	0.307	0.222
96010673	Blank Concentration in $\mu\text{Ci/g}$	< 3.36E-02	
Rerun	Replicate Concentration in $\mu\text{Ci/g}$	< 2.43E-02	
0	Maximum Concentration in $\mu\text{Ci/g}$	< 3.3570E-02	
Sample Prep			
N/A	Rs (Sample Count Rate) = (TC / CT) - BKG		
Sample #	ALPHA TOTAL $\mu\text{Ci/g}$ = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/ μCi)		
WL14156			
Instrument Code	Relative Counting Error = [(The Square Root of TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
SEH			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/g}$ (Maximum) =	< 3.36E-02	DETECTION LEVEL
Analyst			
DCD	LESS THAN Value was Determined from Rmax.		
Date Complete			3.93E-02
10/24/96	RELATIVE COUNTING ERROR	277.2%	$\mu\text{Ci/g}$
Analysis Date			
10/23/96			
Analysis Time			
05:00 AM			
Sample Point			
AN-104			

Analyst:	DCD	Date: 24-Oct-96
Signature of Chemist:	SLF	Date: 10/28/96
BLANK WB1 Rev. 1.0	508101ML	

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WORKBOOK PAGE: SAM4

AT : LA-508-101 (E-1)

SOLIDS

		SAMPLE	REPLICATE
Type	DETECTOR NUMBER	14	14
SAMPLE	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	9	9
14156	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.1	0.1
AT	SAMPLE SIZE in mL (SS)	1.000	1.000
Test Code	DILUTION FACTOR (DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	1.8312	1.8312
Matrix	EFFICIENCY FACTOR (EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE	0.200	0.200
Batch Number			
96010673	Blank Concentration in $\mu\text{Ci/g}$	2.19E-02	
Rerun	Replicate Concentration in $\mu\text{Ci/g}$	2.19E-02	
0	Average Concentration in $\mu\text{Ci/g}$	2.1851E-02	
Sample Prep			
FUSION01	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	$ALPHA\ TOTAL\ \mu\text{Ci/g} = R_s * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$		
S96T005031			
Instrument Code	Relative Counting Error = $[(The\ Square\ Root\ of\ TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
SEH			
Chemist			
SLF	$ALPHA\ TOTAL\ in\ \mu\text{Ci/g}\ (Average) =$	2.19E-02	DETECTION LEVEL
Analyst			
DCD			
Date Complete			3.93E-02
10/24/96	RELATIVE COUNTING ERROR	113.2%	$\mu\text{Ci/g}$
Analysis Date			
10/23/96			
Analysis Time			
06:00 AM			
Sample Point			
AN-104			

Analyst:	DCD	Date: 24-Oct-96
Signature of Chemist:	SLF	Date: 10/28/96
SAMPLE.WB1 Rev. 1.0	508101ML	

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WORKBOOK PAGE: DUP5

AT : LA-508-101 (E-1)

SOLIDS

Type	DETECTOR NUMBER	DUP	REPLICATE
DUP	DISH SIZE (1, 2, or 5)	(MS)	2
Work List	GROSS COUNTS	(GC)	15
14156	COUNT TIME in MINUTES	(CT)	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.1
AT	SAMPLE SIZE in mL	(SS)	1.000
Test Code	DILUTION FACTOR	(DF)	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.844
Matrix	EFFICIENCY FACTOR	(EFF)	0.2274
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.400
Batch Number			
96010673	Blank Concentration in $\mu\text{Ci/g}$	4.34E-02	
Rerun	Replicate Concentration in $\mu\text{Ci/g}$	6.51E-02	
0	Average Concentration in $\mu\text{Ci/g}$	5.4248E-02	
Sample Prep			
FUSION01	Rs (Sample Count Rate) = $(\text{TC} / \text{CT}) - \text{BKG}$		
Sample #	ALPHA TOTAL $\mu\text{Ci/g}$ = $\text{Rs} * 1000\text{mL/L} * \text{DF} / (\text{EFF} * \text{SS} * \text{Dg/L} * 2220000\text{dpm}/\mu\text{Ci})$		
S96T005031			
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } \text{TC} + \text{BKG} * \text{CT}) / (\text{TC} - \text{BKG} * \text{CT})]^2 * 1.96 * 100$		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
SEH			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/g}$ (Average) =	5.42E-02	
Analyst			
DCD			
Date Complete			
10/24/96	RELATIVE COUNTING ERROR	69.3%	
Analysis Date			
10/23/96			
Analysis Time			
05:00 AM			
Sample Point			
AN-104			

Analyst:	DCD	Date: 24-Oct-96
Signature of Chemist:	SLF	Date: 10/28/96

SAMPLE.VB1 Rev. 1.0

508101ML

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WORKBOOK PAGE: SPK6

AT : LA-508-101 (E-1) LA-508-113 (A-2) SPIKED SAMPLE

Type	DETECTOR NUMBER	SPIKE	REPLICATE
SPK	DISH SIZE 1, 2, or 5 (MS)	14	14
Work List	TOTAL COUNTS (TC)	45980	48937
14156	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.1	0.1
AT	SAMPLE VOLUME in mL (Spiked Vial) (SS)	1.000	1.000
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial) (DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	1.8312	1.8312
Matrix	SPIKE VOLUME in mL (SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR (SDF)	1	1
Batch Number	SPIKE BOOK NUMBER (Spk BN)	123B43	123B43
96010673	SPIKE VALUE in $\mu\text{Ci/mL}$ (SVal)	3.5866E-02	3.5866E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR (EFF)	0.2274	0.2274
0	SAMPLE + SPIKE $\mu\text{Ci/g}$ (S+S)	1.67E+02	1.78E+02
Sample Prep:	AVERAGE or MAXIMUM $\mu\text{Ci/g}$ in SAMPLE	2.1851E-02	
FUSION01			
Sample #			
S96T005031	Rs (Sample Count Rate) = (TC / CT) - BKG		
Instrument Code	SAMPLE + SPIKE $\mu\text{Ci/g}$ = $R_s * 1000\text{mL/L} * DF / ((EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$		
WB27807	QC ACTUAL = SVal		
Prepared By	QC FOUND = $((S+S \mu\text{Ci/g} - \text{SAMPLE } \mu\text{Ci/g}) * ((SDF/(SVol*1000))/(DF/SS/Dg/L))))$		
SEH	PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) * 100		
Chemist			
SLF			
Analyst			
DCD			
Date Complete			
10/24/96			
Analysis Date			
10/23/96	QC ACTUAL =	3.59E-02	
Analysis Time	QC FOUND =	3.13E-02	
05:00 AM	AVG. PERCENT SPIKE RECOVERY =	87.4%	
Sample Point			
AN-104			

Analyst:	SEH	Date: 24-Oct-96
Signature of Chemist:	SLF	Date: 10/28/96
SPIKE.WB1 Rev. 1.0	508101ML	

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WORKBOOK PAGE: SAM7

AT : LA-508-101 (E-1)

SOLIDS

		SAMPLE	REPLICATE
Type	DETECTOR NUMBER	14	14
SAMPLE	DISH SIZE (1, 2, or 5)	2	2
Work List	GROSS COUNTS	15	14
14156	COUNT TIME in MINUTES	30	30
AT or TB ?	BACKGROUND in cpm	0.1	0.1
AT	SAMPLE SIZE in mL	1.000	1.000
Test Code	DILUTION FACTOR	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L	1.872	1.872
Matrix	EFFICIENCY FACTOR	0.2274	0.2274
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.400	0.367
Batch Number			
96010673	Blank Concentration in $\mu\text{Ci/g}$	4.27E-02	
Rerun	Replicate Concentration in $\mu\text{Ci/g}$	3.92E-02	
0	Average Concentration in $\mu\text{Ci/g}$	4.0968E-02	
Sample Prep			
FUSION01	Rs (Sample Count Rate) = (TC / CT) - BKG		
Sample #	ALPHA TOTAL $\mu\text{Ci/g}$ = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/ μCi)		
S96T005034			
Instrument Code	Relative Counting Error = [(The Square Root of TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
SEH			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/g}$ (Average)	=	4.10E-02
Analyst			DETECTION LEVEL
DCD			
Date Complete			3.85E-02
10/24/96	RELATIVE COUNTING ERROR	73.5%	$\mu\text{Ci/g}$
Analysis Date			
10/23/96			
Analysis Time			
06:00 AM			
Sample Point			
AN-104			

Analyst:	DCD	Date: 24-Oct-96
Signature of Chemist:	SLF	Date: 10/28/96
SAMPLE.WB1 Rev. 1.0	508101ML	

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WORKBOOK PAGE: DUP8

AT : LA-508-101 (E-1)

SOLIDS

		DUP	REPLICATE
Type	DETECTOR NUMBER	14	14
DUP	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	17	26
14156	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.1	0.1
AT	SAMPLE SIZE in mL (SS)	1.000	1.000
Test Code	DILUTION FACTOR (DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	1.84	1.84
Matrix	EFFICIENCY FACTOR (EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.467	0.767
Batch Number			
96010673	Blank Concentration in $\mu\text{Ci/g}$	5.07E-02	
Rerun	Replicate Concentration in $\mu\text{Ci/g}$	8.34E-02	
0	Average Concentration in $\mu\text{Ci/g}$	6.7052E-02	
Sample Prep			
FUSION01	Rs (Sample Count Rate) = (TC / CT) - BKG		
Sample #	ALPHA TOTAL $\mu\text{Ci/g}$ = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/ μCi)		
S96T005034			
Instrument Code	Relative Counting Error = [(The Square Root of TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
SEH			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/g}$ (Average) =	6.71E-02	DETECTION LEVEL
Analyst			
DCD			
Date Complete			3.92E-02
10/24/96	RELATIVE COUNTING ERROR	62.6%	$\mu\text{Ci/g}$
Analysis Date			
10/23/96			
Analysis Time			
05:00 AM			
Sample Point			
AN-104			

Analyst:	DCD	Date: 24-Oct-96
Signature of Chemist:	SLF	Date: 10/28/96
SAMPLE.WB1 Rev. 1.0	508101ML	

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worklistrad Version 1.0 05/09/96
10/23/96 15:38

Page: 1

LABCORE Completed RadChem Report for Worklist#: 14157

Analyst: dcd

Instrument: AB18

Book# _____

Method: _____ Rev/Mod _____

Worklist Comment: AN-104.Determine sample size using ludlum.Spike: 0.1ml.new

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD	0		@ALPHA01 ALPHA01 SOLID		2.31E-04	2.52E-4	109.091	% Recovery
1 STD	0		@ALPHA01 ALPHA01E SOLID		1.00	3.32E+00	3.320	% Ct. Erro
2 BLNK-PREP	0		@ALPHA01 ALPHA01 SOLID		1	<2.18E-2		uCi/g
2 BLNK-PREP	0		@ALPHA01 ALPHA01E SOLID		1.00	3.03E+02	303.000	uCi/g
3 BLNK/BKG	0		@ALPHA01 ALPHA01 SOLID		1.00E+00	5.00E+00	5.000	BLNK/BKG
4 SAMPLE	S96T005032	0 F	@ALPHA01 ALPHA01 SOLID		N/A	4.32E-02	255.0e-004	uCi/g
4 SAMPLE	S96T005032	0 F	@ALPHA01 ALPHA01E SOLID		N/A	7.11E+01	0.0e+000	% Ct. Error
5 DUP	S96T005032	0 F	@ALPHA01 ALPHA01 SOLID		4.32E-2	4.57E-2	5.624	RPD
5 DUP	S96T005032	0 F	@ALPHA01 ALPHA01E SOLID		1.00	6.04E+01	60.400	% Ct. Erro
6 SAMPLE	S96T005033	0 F	@ALPHA01 ALPHA01 SOLID		N/A	4.19E-02	248.0e-004	uCi/g
6 SAMPLE	S96T005033	0 F	@ALPHA01 ALPHA01E SOLID		N/A	1.94E+02	0.0e+000	% Ct. Error
7 DUP	S96T005033	0 F	@ALPHA01 ALPHA01 SOLID		<4.19E-2	2.57E-2		RPD
7 DUP	S96T005033	0 F	@ALPHA01 ALPHA01E SOLID		1.00	1.01E+02	101.000	% Ct. Erro

Final page for worklist# 14157

Analyst Signature

Date

Analyst Signature

Date

Reviewer Signature

 10/24/96
Date

Units shown for QC (BLK/BKG) may not reflect the actual units.

2111

LABCORE Data Entry Template for Worklist# 14157

Analyst: DCD Instrument: AB00 18 Book# 66 B56

Method: LA-508-101 Rev/Mod E-1

Worklist Comment: AN-104.Determine sample size using ludlum.Spike: 0.1ml.new

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 STD			@ALPHA01	SOLID		
2 BLNK-PREP			@ALPHA01	SOLID		
3 BLNK/BKG			@ALPHA01	SOLID		
4 SAMPLE	S96T005032	0 F	@ALPHA01	SOLID	96001174	AN-104
	Analytes Requested: ALPHA01 , ALPHA01E					
5 DUP	S96T005032	0 F	@ALPHA01	SOLID		
6 SAMPLE	S96T005033	0 F	@ALPHA01	SOLID	96001174	AN-104
	Analytes Requested: ALPHA01 , ALPHA01E					
7 DUP	S96T005033	0 F	@ALPHA01	SOLID		

Final page for worklist # 14157

David C Dunham
Analyst Signature

10-23-96
Date

Joe Hogan
Analyst Signature

10/23/96
Date

MEB
10/23/96

Data Entry Comments:

WORKBOOK PAGE: STD1

AT : LA-508-101 (E-1) LA-508-113 (A-2) STANDARD

		STANDARD	REPLICATE
Type	DETECTOR NUMBER	18	18
STD	DISH SIZE (1, 2, or 5)	(MS)	2
Work List	GROSS COUNTS	(GC)	3478
14157	COUNT TIME in MINUTES	(CT)	30
At or B ?	BACKGROUND in cpm	(BKG)	0.03
AT	SAMPLE SIZE in mL	(SS)	1.000
Test Code	DILUTION FACTOR	(DF)	1
@ALPHA01	STANDARD BOOK NUMBER	(Std BN)	66B56
Matrix	EFFICIENCY FACTOR	(EFF)	0.2095
LIQUID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE		115.903
Batch Number	Standard Value in $\mu\text{Ci/mL}$		2.31E-04
95010576	Concentration in $\mu\text{Ci/L}$	=	2.49E-01
Rerun	Replicate Concentration in $\mu\text{Ci/L}$	=	2.54E-01
0	AVERAGE CONCENTRATION in $\mu\text{Ci/L}$	=	2.5164E-01

Sample Prep	N/A	R_s (Sample Count Rate) = $(TC / CT) - BKG$
Sample #	WL14157	$\text{ALPHA TOTAL } \mu\text{Ci/L} = R_s * 1000\text{mL/L} * DF / (EFF * SS * 2220000\text{dpm}\mu\text{Ci})$
Instrument Code	WB27809	$\text{ALPHA TOTAL } \mu\text{Ci/mL} = \text{ALPHA TOTAL } \mu\text{Ci/L} / 1000\text{mL/L}$
Prepared By	SEH	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$
Chemist	SLF	Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Analyst	SLF	ALPHA TOTAL CONCENTRATION in $\mu\text{Ci/mL}$ =	2.52E-04	DETECTION LEVEL
DCD				
Date Complete	10/23/96	RELATIVE COUNTING ERROR	=	3.3%
Analysis Date	10/23/96			5.12E-07
Analysis Time	03:00 AM			$\mu\text{Ci/mL}$
Sample Point	AN-104			

Analyst:	SEH	Date: 23-Oct-96
Signature of Chemist:	SLF	Date: 10/24/96

STANDARD.WB1 Rev. 1.0

508101ML

WORKBOOK PAGE: BLANK2

AT : LA-508-101 (E-1)

SOLIDS

SOLIDS		BLNK-PREP	REPLICATE
Type	DETECTOR NUMBER	18	18
BLNK-PREP	DISH SIZE (1, 2, or 5)	2	2
Work List	GROSS COUNTS	7	2
14157	COUNT TIME in MINUTES	30	30
AT or TB ?	BACKGROUND in cpm	0.03	0.03
AT	SAMPLE SIZE in mL	1.000	1.000
Test Code	DILUTION FACTOR	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L	2.0272	2.0272
Matrix	EFFICIENCY FACTOR	0.2095	0.2095
SOLID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE	0.203	0.130
Batch Number			
96010676	Blank Concentration in $\mu\text{Ci/g}$	2.18E-02	
Retain	Replicate Concentration in $\mu\text{Ci/g}$	< 1.40E-02	
0	Maximum Concentration in $\mu\text{Ci/g}$	< 2.1782E-02	
Sample Prep			
N/A	R_s (Sample Count Rate) = $(TC / CT) \cdot BKG$		
Sample #	$ALPHA \text{ TOTAL } \mu\text{Ci/g} = R_s \cdot 1000 \text{ mL/L} \cdot DF / (EFF \cdot SS \cdot Dg/L \cdot 2220000 \text{ dpm/pCi})$		
WL14157			
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG \cdot CT) / (TC - BKG \cdot CT)] \cdot 1.96 \cdot 100$		
WB27809	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
SEH			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/g}$ (Maximum) =	< 2.18E-02	DETECTION LEVEL
Analyst	LESS THAN Value was Determined from R_s .		
DCD			
Date Complete	RELATIVE COUNTING ERROR	303.4%	2.55E-02 $\mu\text{Ci/g}$
10/23/96			
Analysis Date			
10/23/96			
Analysis Time			
03:00 AM			
Sample Point			
AN-104			

Analyst:	DCD	Date: 23-Oct-96
Signature of Chemist:	SLF	Date: 10/24/96
BLANK.WB1 Rev. 1.0	508101ML	

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
Work List	GROSS COUNTS	(GC)	16
14167	COUNT TIME in MINUTES	(CT)	30
AT or TB ?	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)	2.0272
Matrix	EFFICIENCY FACTOR	(EFF)	0.2095
SOLID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE		0.503
Batch Number			
96010676	Blank Concentration in $\mu\text{Ci/g}$		5.39E-02
Retun	Replicate Concentration in $\mu\text{Ci/g}$		3.25E-02
0	Average Concentration in $\mu\text{Ci/g}$		4.3207E-02
Sample Prep			
FUSION01	Rs (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	ALPHA TOTAL $\mu\text{Ci/g}$ = $Rs * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}\mu\text{Ci})$		
S96T005032			
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) =	4.32E-02	DETECTION LEVEL
Analyst			
DCD			
Date Complete			2.55E-02 $\mu\text{Ci/g}$
10/23/96	RELATIVE COUNTING ERROR	71.1%	
Analysis Date			
10/23/96			
Analysis Time			
03:00 AM			
Sample Point			
AN-104			

(/ system,exit)yes-

Analyst:	DCD	Date: 23-Oct-96
Signature of Chemist:	SLF	Date: 10/24/96
SAMPLE/WB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: DUPS

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)	13	14
14157	COUNT TIME in MINUTES	(CT)	30	30
AT of TB ?	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)	0.2095	0.2095
SOLID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE		0.403	0.437

Batch Number	
96010676	Blank Concentration in $\mu\text{Ci/g}$
4.39E-02	
Rerun	Replicate Concentration in $\mu\text{Ci/g}$
0	4.75E-02
	Average Concentration in $\mu\text{Ci/g}$
	4.5695E-02

Sample Prep	
FUSION01	$R_s (\text{Sample Count Rate}) = (TC / CT) - BKG$
Sample #	$ALPHA \text{ TOTAL } \mu\text{Ci/g} = R_s * 1000 \text{ mL/L} * DF / (EFF * SS * Dg/L * 2220000 \text{ dpm}/\mu\text{Ci})$
S96T005032	
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) = 4.57E-02
Analyst	
DCD	
Date Complete	
10/23/96	RELATIVE COUNTING ERROR 60.4%
Analysis Date	
10/23/96	
Analysis Time	
03:00 AM	
Sample Point	
AN-104	

(/ system exit) yes-

Analyst:	DCD	Date: 23-Oct-96
Signature of Chemist:	SLF	Date: 10/24/96
SAMPLE WB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: SAM6

AT : LA-508-101 (E-1) SOLIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		18	18
SAMPLE	DISH SIZE (1, 2, or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	3	13
14167	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.03	0.03
AT	SAMPLE SIZE in mL	(SS)	1.000	1.000
Test Code	DILUTION FACTOR	(DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.0904	2.0904
Matrix	EFFICIENCY FACTOR	(EFF)	0.2095	0.2095
SOLID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE		0.179	0.403

Batch Number	
96010676	Blank Concentration in µCi/g < 1.86E-02
Retain	Replicate Concentration in µCi/g 4.19E-02
0	Maximum Concentration in µCi/g < 4.1900E-02

Sample Prep	
FUSION01	Rs (Sample Count Rate) = (TC / CT) - BKG
Sample #	ALPHA TOTAL µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/µCi)
S96T005033	
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 µCi/g (Maximum) =	< 4.19E-02
Analyst		DETECTION LEVEL
DCD	LESS THAN Value was Determined from Rmax.	
Date Complete		2.48E-02
10/23/96	RELATIVE COUNTING ERROR	184.3% µCi/g
Analysis Date		
10/23/96		
Analysis Time		
03:00 AM		
Sample Point		
AN-104		

(/ system;exit)yes-

Analyst:	DCD	Date: 23-Oct-96
Signature of Chemist:	SLF	Date: 10/24/96

SAMPLE.WB1 Rev. 1.0

508101ML

WORKBOOK PAGE: DUP7

AT : LA-508-101 (E-1)

SOLIDS

		DUP	REPLICATE
Type	DETECTOR NUMBER	18	18
DUP	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	6	11
14157	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.03	0.03
AT	SAMPLE SIZE in mL (SS)	1.000	1.000
Test Code	DILUTION FACTOR (DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.1436	2.1436
Matrix	EFFICIENCY FACTOR (EFF)	0.2095	0.2095
SOLID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE	0.170	0.337
Batch Number			
96010676	Blank Concentration in $\mu\text{Ci/g}$	1.72E-02	
Replic	Replicate Concentration in $\mu\text{Ci/g}$	3.41E-02	
0	Average Concentration in $\mu\text{Ci/g}$	2.5665E-02	
Sample Prep			
FUSION01	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	$ALPHA\ TOTAL\ \mu\text{Ci/g} = R_s * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$		
S96T006033			
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) =	2.57E-02	DETECTION LEVEL
Analyst			
DCD			
Date Complete			2.41E-02
10/23/96	RELATIVE COUNTING ERROR	101.0%	$\mu\text{Ci/g}$
Analysis Date			
10/23/96			
Analysis Time			
03:00 AM			
Sample Point			
AN-104			

(/ system exit) yes-

Analyst:	DCD	Date: 23-Oct-96
Signature of Chemist:	SLF	Date: 10/24/96
SAMPLE.WB1 Rev. 1.0	508101ML	

LABCORE Data Entry Template for Worklist# 14846

Analyst: RJM Instrument: AB00 14 Book# 66B56

Method: LA-508-101 Rev/Mod E-1

Worklist Comment: AN-104, @ALPHA01, Deter. s.s. by Ludlum. 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	S96T005527 0		@ALPHA01	LIQUID	96001283	AN-104
	Analytes Requested: ALPHA01 , ALPHA01E					
5 DUP	S96T005527 0		@ALPHA01	LIQUID		
6 SAMPLE	S96T005528 0		@ALPHA01	LIQUID	96001283	AN-104
	Analytes Requested: ALPHA01 , ALPHA01E					
7 DUP	S96T005528 0		@ALPHA01	LIQUID		
8 SAMPLE	S96T005554 0		@ALPHA01	LIQUID	96001283	AN-104
	Analytes Requested: ALPHA01 , ALPHA01E					
9 DUP	S96T005554 0		@ALPHA01	LIQUID		
10 SAMPLE	S96T005739 0		@ALPHA01	LIQUID	96001283	AN-104
	Analytes Requested: ALPHA01 , ALPHA01E					
11 DUP	S96T005739 0		@ALPHA01	LIQUID		
12 SAMPLE	S96T005741 0		@ALPHA01	LIQUID	96001283	AN-104
	Analytes Requested: ALPHA01 , ALPHA01E					
13 DUP	S96T005741 0		@ALPHA01	LIQUID		
14 SAMPLE	S96T005766 0		@ALPHA01	LIQUID	96001283	AN-104
	Analytes Requested: ALPHA01 , ALPHA01E					
15 DUP	S96T005766 0		@ALPHA01	LIQUID		

Data Entry Comments:

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist# 14846

S Type Sample# R A Test Matrix Group# Project

Final page for worklist # 14846

RAMCrown 11/25/96
Analyst Signature Date

C. J. Owen 11/27/96
Analyst Signature Date

MGB 11/27/96

Data Entry Comments:

Scott: The original Indium counts for .100 mc mounts
were around 2,000,000 - 2,200,000 so I thought .100-10-1-10-.250 would
give less beta counts than I ended up with. Ram

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

WORKBOOK PAGE: STD1

AT : LA-508-101 (E-1) LA-508-113 (A-2) STANDARD

Type	DETECTOR NUMBER	STANDARD	REPLICATE
STD	DISH SIZE (1, 2, or 5)	(MS)	14 14
Work List	GROSS COUNTS	(GC)	2 2
14846	COUNT TIME in MINUTES	(CT)	3729 3933
AT or TB ?	BACKGROUND in cpm	(BKG)	30 30
AT	SAMPLE SIZE in mL	(SS)	0.13 0.13
Test Code	DILUTION FACTOR	(DF)	1.000 1.000
@ALPHA01	STANDARD BOOK NUMBER (Std BN)	66B56	1 1
Matrix	EFFICIENCY FACTOR (EFF)	0.2692	66B56 0.2692
LIQUID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE	124.170	130.970
Batch Number	Standard Value in $\mu\text{Ci/mL}$	2.31E-04	
96011442	Concentration in $\mu\text{Ci/L}$	=	2.08E-01
ReRun	Replicate Concentration in $\mu\text{Ci/L}$	=	2.19E-01
0	AVERAGE CONCENTRATION in $\mu\text{Ci/L}$	=	2.1346E-01

Sample Prep	
N/A	R_s (Sample Count Rate) = $(TC / CT) - BKG$
Sample #	$\text{ALPHA TOTAL } \mu\text{Ci/L} = R_s * 1000\text{mL/L} * DF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$
WL14846	$\text{ALPHA TOTAL } \mu\text{Ci/mL} = \text{ALPHA TOTAL } \mu\text{Ci/L} / 1000\text{mL/L}$
Instrument Code	$\text{Relative Counting Error} = [(The Square Root of TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Prepared By			
CJO			
Chemist			
SLF	ALPHA TOTAL CONCENTRATION in $\mu\text{Ci/mL}$ =	2.13E-04	DETECTION LEVEL
Analyst			
PJM			
Date Complete			
11/27/96	RELATIVE COUNTING ERROR =	3.2%	6.66E-07 $\mu\text{Ci/mL}$
Analysis Date			
11/25/96			
Analysis Time			
04:30 AM			
Sample Point			
AN-104			

Analyst:		CJO	Date: 27-Nov-96
Signature of Chemist:		SLF	Date: 11/27/96

STANDARD.WB1 Rev. 1.0

508101ML

WORKBOOK PAGE: BLANK2

AT : LA-508-101 (E-1)

LIQUIDS

Type	DETECTOR NUMBER	BLNK	REPLICATE
BLNK	DISH SIZE (1, 2, or 5)	14	14
Work List	GROSS COUNTS (MS)	2	2
14846	COUNT TIME in MINUTES (GC)	10	8
AT or TB ?	COUNT TIME in MINUTES (CT)	30	30
AT	BACKGROUND in cpm (BKG)	0.13	0.13
Test Code	SAMPLE SIZE in mL (SS)	0.250	0.250
@ALPHA01	DILUTION FACTOR (DF)	1111	1111
Matrix	DIGEST DILUTION FACTOR (DDF)	1	1
LIQUID	EFFICIENCY FACTOR (EFF)	0.2692	0.2692
Batch Number	Lc, Rmax, or Rs.(SAMPLE RATE) as APPROPRIATE	0.203	0.326
96011442	Blank Concentration in $\mu\text{Ci/L}$	1.51E+00	
Rerun	Replicate Concentration in $\mu\text{Ci/L}$	< 2.43E+00	
0	Maximum Concentration in $\mu\text{Ci/L}$	< 2.4271E+00	
Sample Prep			
N/A	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	$ALPHA\ TOTAL\ \mu\text{Ci/L} = R_s * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$		
WL14846	$ALPHA\ TOTAL\ \mu\text{Ci/mL} = ALPHA\ TOTAL\ \mu\text{Ci/L} / 1000\text{mL/L}$		
Instrument Code	Relative Counting Error = $[(The\ Square\ Root\ of\ TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
CJO			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum) =	< 2.43E-03	DETECTION LEVEL
Analyst	LESS THAN Value was Determined from Rs.		
PJM			
Date Complete	RELATIVE COUNTING ERROR	164.9%	2.96E-03 $\mu\text{Ci/mL}$
11/27/96			
Analysis Date			
11/25/96			
Analysis Time			
04:30 AM			
Sample Point			
AN-104			

Analyst:	PJM	Date: 27-Nov-96
Signature of Chemist:	SLF	Date: 11/27/96
BLANKWB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: SAM4

AT : LA-508-101 (E-1)

LIQUIDS

Type	DETECTOR NUMBER	SAMPLE	REPLICATE
SAMPLE	DISH SIZE (1, 2, or 5)	14	14
Work List	GROSS COUNTS (MS)	2	2
14846	COUNT TIME in MINUTES (GC)	7	11
A- or TB-?	COUNT TIME in MINUTES (CT)	30	30
AT	BACKGROUND in cpm (BKG)	0.13	0.13
Test Code	SAMPLE SIZE in mL (SS)	0.250	0.250
@ALPHA01	DILUTION FACTOR (DF)	1111	1111
Matrix	DIGEST DILUTION FACTOR (DDF)	1	1
LIQUID	EFFICIENCY FACTOR (EFF)	0.2692	0.2692
Batch Number	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.285	0.237

96011442	Blank Concentration in $\mu\text{Ci/L}$	< 2.12E+00
Rerun	Replicate Concentration in $\mu\text{Ci/L}$	1.76E+00
0	Maximum Concentration in $\mu\text{Ci/L}$	< 2.1187E+00

Sample Prep	Rs (Sample Count Rate) = $(TC / CT) - BKG$
N/A	ALPHA TOTAL $\mu\text{Ci/L}$ = $Rs * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$
Sample #	ALPHA TOTAL $\mu\text{Ci/mL}$ = ALPHA TOTAL $\mu\text{Ci/L}$ / 1000mL/L
S96T005527	Relative Counting Error = $[(The Square Root of TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$
Instrument Code	Detection Levels and Less Than Values are determined from Procedure LA-508-002.
WB27807	

Prepared By			
CJO			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum)	=	< 2.12E-03
Analyst	LESS THAN Value was Determined from Rmax.		DETECTION
PJM			LEVEL
Date Complete	RELATIVE COUNTING ERROR	208.7%	2.96E-03
11/27/96			$\mu\text{Ci/mL}$
Analysis Date			
11/25/96			
Analysis Time			
04:30 AM			
Sample Point			
AN-104			

Analyst:	PJM	Date: 27-Nov-96
Signature of Chemist:	SLF	Date: 11/27/96

SAMPLE.WB1 Rev. 1.0

508101ML

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WORKBOOK PAGE: DUP5

AT : LA-508-101 (E-1)

LIQUIDS

Type	DETECTOR NUMBER	DUP	REPLICATE
DUP	DISH SIZE (1, 2, or 5)	14	14
Work List	GROSS COUNTS	(MS)	2
14846	COUNT TIME in MINUTES	(GC)	6
AT or TB ?	BACKGROUND in cpm	(CT)	30
AT	SAMPLE SIZE in mL	(BKG)	0.13
Test Code	DILUTION FACTOR	(SS)	0.250
@ALPHA01	DIGEST DILUTION FACTOR	(DF)	1111
Matrix	EFFICIENCY FACTOR	(DDF)	1
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE	(EFF)	0.2692
Batch Number			0.243
96011442	Blank Concentration in $\mu\text{Ci/L}$		2.26E+00
Retun	Replicate Concentration in $\mu\text{Ci/L}$	<	1.81E+00
0	Maximum Concentration in $\mu\text{Ci/L}$	<	2.255E+00
Sample Prep			
N/A	Rs (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	ALPHA TOTAL $\mu\text{Ci/L}$ = $Rs * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$		
S96T006527	ALPHA TOTAL $\mu\text{Ci/mL}$ = $ALPHA TOTAL \mu\text{Ci/L} / 1000\text{mL/L}$		
Instrument Code	Relative Counting Error = $[((\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT))] * 1.96 * 100$		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
CJO			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum) =	< 2.26E-03	DETECTION LEVEL
Analyst	LESS THAN Value was Determined from Rs.		
PJM			
Date Complete	RELATIVE COUNTING ERROR	293.7%	2.96E-03 $\mu\text{Ci/mL}$
11/27/96			
Analysis Date			
11/25/96			
Analysis Time			
04:30 AM			
Sample Point			
AN-104			

Analyst:	PJM	Date: 27-Nov-96
Signature of Chemist:	SLF	Date: 11/27/96
SAMPLE.WB1 Rev. 1.0	508101ML	

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WORKBOOK PAGE: SAM6

AT : LA-508-101 (E-1)

LIQUIDS

Type	DETECTOR NUMBER	SAMPLE	REPLICATE
SAMPLE	DISH SIZE (1, 2, or 5)	14	14
Work List	GROSS COUNTS (MS)	2	2
14846	COUNT TIME in MINUTES (GC)	11	17
AT or TB ?	COUNT TIME in MINUTES (CT)	30	30
AT	BACKGROUND in cpm (BKG)	0.13	0.13
Test Code	SAMPLE SIZE in mL (SS)	0.250	0.250
@ALPHA01	DILUTION FACTOR (DF)	1111	1111
Matrix	DIGEST DILUTION FACTOR (DDF)	1	1
LIQUID	EFFICIENCY FACTOR (EFF)	0.2692	0.2692
Batch Number	Lc, Rmax, or Rs.(SAMPLE RATE) as APPROPRIATE	0.237	0.437
96011442	Blank Concentration in $\mu\text{Ci/L}$	1.76E+00	
Rerun	Replicate Concentration in $\mu\text{Ci/L}$	3.25E+00	
0	Average Concentration in $\mu\text{Ci/L}$	2.5035E+00	
Sample Prep			
N/A	Rs (Sample Count Rate) = $(\text{TC} / \text{CT}) - \text{BKG}$		
Sample #	ALPHA TOTAL $\mu\text{Ci/L}$ = $\text{Rs} * 1000\text{mL/L} * \text{DF} * \text{DDF} / (\text{EFF} * \text{SS} * 2220000\text{dpm}/\mu\text{Ci})$		
S96T005528	ALPHA TOTAL $\mu\text{Ci/mL}$ = $\text{ALPHA TOTAL } \mu\text{Ci/L} / 1000\text{mL/L}$		
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } \text{TC} + \text{BKG} * \text{CT}) / (\text{TC} - \text{BKG} * \text{CT})] * 1.96 * 100$		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
CJO			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Average) =	2.50E-03	DETECTION LEVEL
Analyst			
PJM			
Date Complete			
11/27/96	RELATIVE COUNTING ERROR	106.6%	2.96E-03 $\mu\text{Ci/mL}$
Analysis Date			
11/25/96			
Analysis Time			
04:30 AM			
Sample Point			
AN-104			

Analyst:	PJM	Date: 27-Nov-96
Signature of Chemist:	SLF	Date: 11/27/96
SAMPLE.WB1 Rev. 1.0	508101ML	

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WORKBOOK PAGE: DUP7

AT : LA-508-101 (E-1)

LIQUIDS

Type	DETECTOR NUMBER	DUP	REPLICATE
DUP	DISH SIZE (1, 2, or 5)	14	14
Work List	GROSS COUNTS (MS)	2	2
14846	COUNT TIME in MINUTES (GC)	8	12
AT or TB ?	COUNT TIME in MINUTES (CT)	30	30
AT	BACKGROUND in cpm (BKG)	0.13	0.13
Test Code	SAMPLE SIZE in mL (SS)	0.250	0.250
@ALPHA01	DILUTION FACTOR (DF)	1111	1111
Matrix	DIGEST DILUTION FACTOR (DDF)	1	1
LIQUID	EFFICIENCY FACTOR (EFF)	0.2692	0.2692
Batch Number	Lc, Rmax, or Rs.(SAMPLE RATE) as APPROPRIATE	0.326	0.270
96011442	Blank Concentration in $\mu\text{Ci/L}$	< 2.43E+00	
Rerun	Replicate Concentration in $\mu\text{Ci/L}$	2.01E+00	
0	Maximum Concentration in $\mu\text{Ci/L}$	< 2.4271E+00	
Sample Prep			
N/A	Rs (Sample Count Rate) = $(\text{TC} / \text{CT}) - \text{BKG}$		
Sample #	ALPHA TOTAL $\mu\text{Ci/L}$ = $\text{Rs} * 1000\text{mL/L} * \text{DF} * \text{DDF} / (\text{EFF} * \text{SS} * 2220000\text{dpm}/\mu\text{Ci})$		
S96T005529	ALPHA TOTAL $\mu\text{Ci/mL}$ = $\text{ALPHA TOTAL } \mu\text{Ci/L} / 1000\text{mL/L}$		
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } \text{TC} + \text{BKG} * \text{CT}) / (\text{TC} - \text{BKG} * \text{CT})] * 1.96 * 100$		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
CJO			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum) =	< 2.43E-03	DETECTION LEVEL
Analyst			
PJM	LESS THAN Value was Determined from Rmax.		
Date Complete			2.96E-03
11/27/96	RELATIVE COUNTING ERROR	164.9%	$\mu\text{Ci/mL}$
Analysis Date			
11/25/96			
Analysis Time			
04:30 AM			
Sample Point			
AN-104			

Analyst:	PJM	Date: 27-Nov-96
Signature of Chemist:	SLF	Date: 11/27/96
SAMPLE.WB1 Rev. 1.0	508101ML	

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WORKBOOK PAGE: SAM8

AT : LA-508-101 (E-1)

LIQUIDS

Type	DETECTOR NUMBER	SAMPLE	REPLICATE
SAMPLE	DISH SIZE (1, 2, or 5)	(MS)	
Work List	GROSS COUNTS	(GC)	
14846	COUNT TIME in MINUTES	(CT)	
AT or TB ?	BACKGROUND in cpm	(BKG)	
AT	SAMPLE SIZE in mL	(SS)	
Test Code	DILUTION FACTOR	(DF)	
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	
Matrix	EFFICIENCY FACTOR	(EFF)	
LIQUID	Lc, Rmax, or Rs.(SAMPLE RATE) as APPROPRIATE		
Batch Number			
96011442	Blank Concentration in $\mu\text{Ci/L}$	< 1.14E+00	
Rerun	Replicate Concentration in $\mu\text{Ci/L}$	< 2.43E+00	
0	Maximum Concentration in $\mu\text{Ci/L}$	< 2.4271E+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)		
S967005554	ALPHA TOTAL $\mu\text{Ci/mL}$ = ALPHA TOTAL $\mu\text{Ci/L}$ / 1000mL/L		
Instrument Code	Relative Counting Error = [(The Square Root of TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
CJO			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum) =	< 2.43E-03	
Analyst			
PJM	LESS Than Value was Determined from Lc.		
Date Complete			
11/27/96	RELATIVE COUNTING ERROR	500.0%	
Analysis Date			
11/25/96			
Analysis Time			
04:30 AM			
Sample Point			
AN-104			

Analyst:		PJM	Date: 27-Nov-96
Signature of Chemist:		SLF	Date: 11/27/96
SAMPLE.WB1 Rev. 1.0	508101ML		

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WORKBOOK PAGE: DUP9

AT : LA-508-101 (E-1)

LIQUIDS

Type	DETECTOR NUMBER	DUP	REPLICATE
DUP		14	14
Work List	DISH SIZE (1, 2, or 5) (MS)	2	2
14846	GROSS COUNTS (GC)	7	7
AT or TB ?	COUNT TIME in MINUTES (CT)	30	30
AT	BACKGROUND in cpm (BKG)	0.13	0.13
Test Code	SAMPLE SIZE in mL (SS)	0.250	0.250
@ALPHA01	DILUTION FACTOR (DF)	1111	1111
Matrix	DIGEST DILUTION FACTOR (DDF)	1	1
LIQUID	EFFICIENCY FACTOR (EFF)	0.2692	0.2692
	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.285	0.285

Batch Number	
96011442	Blank Concentration in $\mu\text{Ci/L}$ < 2.12E+00
Rerun	Replicate Concentration in $\mu\text{Ci/L}$ < 2.12E+00
0	Maximum Concentration in $\mu\text{Ci/L}$ < 2.1187E+00

Sample Prep	
N/A	Rs (Sample Count Rate) = $(TC / CT) - BKG$
Sample #	ALPHA TOTAL $\mu\text{Ci/L}$ = $Rs * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$
S96T005654	ALPHA TOTAL $\mu\text{Ci/mL}$ = ALPHA TOTAL $\mu\text{Ci/L} / 1000\text{mL/L}$
Instrument Code	Relative Counting Error = $[(The Square Root of TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Prepared By	
CJO	
Chemist	
SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum) = < 2.12E-03
Analyst	
PJM	LESS THAN Value was Determined from Rmax.
Date Complete	
11/27/96	RELATIVE COUNTING ERROR 208.7%
Analysis Date	
11/25/96	
Analysis Time	
04:30 AM	
Sample Point	
AN-104	

Analyst:	PJM	Date: 27-Nov-96
Signature of Chemist:	SLF	Date: 11/27/96
SAMPLE.WB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: SAM10

AT : LA-508-101 (E-1)

LIQUIDS

		SAMPLE	REPLICATE
Type	DETECTOR NUMBER	14	14
SAMPLE	DISH SIZE (1, 2, or 5)	2	2
Work List	GROSS COUNTS	7	2
14846	COUNT TIME in MINUTES	30	30
AT or TB ?	BACKGROUND in cpm	0.13	0.13
AT	SAMPLE SIZE in mL	0.250	0.250
Test Code	DILUTION FACTOR	1111	1111
@ALPHA01	DIGEST DILUTION FACTOR	1	1
Matrix	EFFICIENCY FACTOR	0.2692	0.2692
LIQUID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.285	0.154
Batch Number		< 2.12E+00	
96011442	Blank Concentration in $\mu\text{Ci/L}$	< 1.14E+00	
Rerun	Replicate Concentration in $\mu\text{Ci/L}$	< 2.1187E+00	
0	Maximum Concentration in $\mu\text{Ci/L}$		
Sample Prep			
N/A	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	$ALPHA \text{ TOTAL } \mu\text{Ci/L} = R_s * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$		
S96T005739	$ALPHA \text{ TOTAL } \mu\text{Ci/mL} = ALPHA \text{ TOTAL } \mu\text{Ci/L} / 1000\text{mL/L}$		
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
CJO			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum) =	< 2.12E-03	DETECTION LEVEL
Analyst			
PJM	LESS THAN Value was Determined from Rmax.		2.96E-03
Date Complete		500.0%	$\mu\text{Ci/mL}$
11/27/96	RELATIVE COUNTING ERROR		
Analysis Date			
11/25/96			
Analysis Time			
04:30 AM			
Sample Point			
AN-104			

Analyst:

Signature of Chemist:

SAMPLE.VB1 Rev. 1.0

508101ML

PJM

SLF

Date: 27-Nov-96

Date: 11/27/96

AT : LA-508-101 (E-1)

LIQUIDS

		DUP	REPLICATE
Type	DETECTOR NUMBER	14	14
DUP	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	6	8
14846	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.13	0.13
AT	SAMPLE SIZE in mL (SS)	0.250	0.250
Test Code	DILUTION FACTOR (DF)	1111	1111
@ALPHA01	DIGEST DILUTION FACTOR (DDF)	1	1
Matrix	EFFICIENCY FACTOR (EFF)	0.2692	0.2692
LIQUID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.243	0.326
Batch Number			
96011442	Blank Concentration in $\mu\text{Ci/L}$	< 1.81E+00	
Rerun	Replicate Concentration in $\mu\text{Ci/L}$	< 2.43E+00	
0	Maximum Concentration in $\mu\text{Ci/L}$	< 2.4271E+00	
Sample Prep			
N/A	Rs (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	ALPHA TOTAL $\mu\text{Ci/L}$ = $Rs * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$		
S95T005739	ALPHA TOTAL $\mu\text{Ci/mL}$ = $ALPHA\ TOTAL\ \mu\text{Ci/L} / 1000\text{mL/L}$		
Instrument Code	Relative Counting Error = $[(The\ Square\ Root\ of\ TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
CJO			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum) =	< 2.43E-03	DETECTION LEVEL 2.96E-03 $\mu\text{Ci/mL}$
Analyst			
PJM	LESS THAN Value was Determined from Rmax.		
Date Complete	RELATIVE COUNTING ERROR	500.0%	
11/27/96			
Analysis Date			
11/25/96			
Analysis Time			
04:30 AM			
Sample Point			
AN-104			

Analyst:	PJM	Date: 27-Nov-96
Signature of Chemist:	SLF	Date: 11/27/96
SAMPLE.WB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: SAM12

AT : LA-508-101 (E-1)

LIQUIDS

			SAMPLE	REPLICATE
Type	DETECTOR NUMBER		14	14
SAMPLE	DISH SIZE (1, 2, or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	8	1
14846	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.13	0.13
AT	SAMPLE SIZE in mL	(SS)	0.250	0.250
Test Code	DILUTION FACTOR	(DF)	1111	1111
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
LIQUID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE		0.326	0.154

Batch Number	
96011442	Blank Concentration in $\mu\text{Ci/L}$
Rerun	Replicate Concentration in $\mu\text{Ci/L}$
0	Maximum Concentration in $\mu\text{Ci/L}$

Sample Prep	
NA	$R_s \text{ (Sample Count Rate)} = (TC / CT) - BKG$
Sample #	$\text{ALPHA TOTAL } \mu\text{Ci/L} = R_s * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$
S96T006741	$\text{ALPHA TOTAL } \mu\text{Ci/mL} = \text{ALPHA TOTAL } \mu\text{Ci/L} / 1000\text{mL/L}$
Instrument Code	$\text{Relative Counting Error} = [(The Square Root of TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Prepared By			
CJO			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum)	=	< 2.43E-03
Analyst	LESS THAN Value was Determined from Rmax.		DETECTION
PJM			LEVEL
Date Complete	RELATIVE COUNTING ERROR	500.0%	2.96E-03
11/27/96			$\mu\text{Ci/mL}$
Analysis Date			
11/25/96			
Analysis Time			
04:30 AM			
Sample Point			
AN-104			

Analyst:	PJM	Date: 27-Nov-96
Signature of Chemist:	SLF	Date: 11/27/96

SAMPLE.WB1 Rev. 1.0

508101ML

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WORKBOOK PAGE: DUP13

AT : LA-508-101 (E-1)

LIQUIDS

Type	DETECTOR NUMBER	DUP	REPLICATE
DUP	DISH SIZE (1, 2, or 5) (MS)	14	14
Work List	GROSS COUNTS (GC)	2	2
14846	COUNT TIME in MINUTES (CT)	5	6
AT or TB ?	BACKGROUND in cpm (BKG)	30	30
AT	SAMPLE SIZE in mL (SS)	0.13	0.13
Test Code	DILUTION FACTOR (DF)	0.250	0.250
@ALPHA01	DIGEST DILUTION FACTOR (DDF)	1111	1111
Matrix	EFFICIENCY FACTOR (EFF)	1	1
LIQUID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.2692	0.2692
Batch Number		0.201	0.243
96011442	Blank Concentration in $\mu\text{Ci/L}$	< 1.49E+00	
Rerun	Replicate Concentration in $\mu\text{Ci/L}$	< 1.81E+00	
0	Maximum Concentration in $\mu\text{Ci/L}$	< 1.8074E+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)		
S96T005741	ALPHA TOTAL $\mu\text{Ci/mL}$ = ALPHA TOTAL $\mu\text{Ci/L}$ / 1000mL/L		
Instrument Code	Relative Counting Error = [(The Square Root of TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
CJO			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Maximum) =	< 1.81E-03	DETECTION LEVEL 2.96E-03 $\mu\text{Ci/mL}$
Analyst	LESS THAN Value was Determined from Rmax.		
PJM			
Date Complete	RELATIVE COUNTING ERROR	500.0%	
11/27/96			
Analysis Date			
11/25/96			
Analysis Time			
04:30 AM			
Sample Point			
AN-104			

Analyst:	PJM	Date: 27-Nov-96
Signature of Chemist:	SLF	Date: 11/22/96

SAMPLE WB1 Rev. 1.0

508101ML

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WORKBOOK PAGE: SAM14

AT : LA-508-101 (E-1)

LIQUIDS

Type	DETECTOR NUMBER	SAMPLE	REPLICATE
SAMPLE	DISH SIZE (1, 2, or 5)	14	14
Work List	GROSS COUNTS (GC)	2	2
14846	COUNT TIME in MINUTES (CT)	16	21
AT or TB ?	BACKGROUND in cpm (BKG)	30	30
AT	SAMPLE SIZE in mL (SS)	0.13	0.13
Test Code	DILUTION FACTOR (DF)	0.250	0.250
@ALPHA01	DIGEST DILUTION FACTOR (DDF)	1111	1111
Matrix	EFFICIENCY FACTOR (EFF)	1	1
LIQUID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.2692	0.2692
Batch Number		0.403	0.570

96011442	Blank Concentration in $\mu\text{Ci/L}$	3.00E+00
Rerun	Replicate Concentration in $\mu\text{Ci/L}$	4.24E+00
0	Average Concentration in $\mu\text{Ci/L}$	3.6189E+00

Sample Prep	N/A	Rs (Sample Count Rate) = (TC / CT) - BKG
N/A	Sample #	ALPHA TOTAL $\mu\text{Ci/L}$ = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/ μCi)
S96T005766	Instrument Code	ALPHA TOTAL $\mu\text{Ci/mL}$ = ALPHA TOTAL $\mu\text{Ci/L}$ / 1000mL/L
WB27807	Prepared By	Relative Counting Error = [(The Square Root of TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100
CJO	Chemist	Detection Levels and Less Than Values are determined from Procedure LA-508-002.

SLF	ALPHA TOTAL in $\mu\text{Ci/mL}$ (Average)	=	3.62E-03	DETECTION LEVEL
Analyst				
PJM				
Date Complete				2.96E-03
11/27/96	RELATIVE COUNTING ERROR		72.3%	$\mu\text{Ci/mL}$
Analysis Date				
11/25/96				
Analysis Time				
04:30 AM				
Sample Point				
AN-104				

Analyst:	PJM	Date: 27-Nov-96
Signature of Chemist:	SLF	Date: 11/27/96
SAMPLE.WB1 Rev. 1.0	508101ML	

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WORKBOOK PAGE: DUP15

AT : LA-508-101 (E-1)

LIQUIDS

Type	DETECTOR NUMBER	DUP	REPLICATE
DUP	DISH SIZE (1, 2, or 5)	14	14
Work List	GROSS COUNTS	2	2
14846	COUNT TIME in MINUTES	13	11
AT or TB ?	BACKGROUND in cpm	30	30
AT	SAMPLE SIZE in mL	0.13	0.13
Test Code	DILUTION FACTOR	0.250	0.250
@ALPHA01	DIGEST DILUTION FACTOR	1111	1111
Matrix	EFFICIENCY FACTOR	1	1
LIQUID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE	0.2692	0.2692
Batch Number		0.303	0.237

96011442	Blank Concentration in $\mu\text{Ci/L}$	2.26E+00
Rerun:	Replicate Concentration in $\mu\text{Ci/L}$	1.76E+00
0	Average Concentration in $\mu\text{Ci/L}$	2.0078E+00

Sample Prep	N/A	R_s (Sample Count Rate) = $(TC / CT) - BKG$
Sample #	S96T005766	$ALPHA\ TOTAL\ \mu\text{Ci/L} = R_s * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$
Instrument Code	WB27807	$ALPHA\ TOTAL\ \mu\text{Ci/mL} = ALPHA\ TOTAL\ \mu\text{Ci/L} / 1000\text{mL/L}$
Prepared By	CJO	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 in $\mu\text{Ci/mL}$ (Average)	=	2.01E-03	DETECTION LEVEL
Analyst				
PJM				
Date Complete				2.96E-03
11/27/96	RELATIVE COUNTING ERROR		106.6%	$\mu\text{Ci/mL}$
Analysis Date				
11/25/96				
Analysis Time				
04:30 AM				
Sample Point				
AN-104				

Analyst:		PJM	Date: 27-Nov-96
Signature of Chemist:		SLF	Date: 11/27/96
SAMPLE.WB1 Rev. 1.0	508101ML		

LABCORE Completed RadChem Report for Worklist#: 15077

Analyst: smf Instrument: AB16 Book# _____

Method: _____ Rev/Mod _____

Worklist Comment: AN-104, @ALPHA01 Deter. s.s. using Ludlum. skm

Seq	Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD	0		@ALPHA01 ALPHA01	SOLID	2.31E+04	1.57E+4	67.965	% Recovery
1	STD	0		@ALPHA01 ALPHA01E	SOLID	1.00	3.71E+00	3.710	% Ct. Erro
2	BLNK-PREP	0		@ALPHA01 ALPHA01	SOLID	1	<1.70E-1		uCi/g
2	BLNK-PREP	0		@ALPHA01 ALPHA01E	SOLID	1.00	5.00E+02	500.000	uCi/g
3	BLNK/BKG	0		@ALPHA01 ALPHA01	SOLID	1.00E+00	9.26E-01	0.926	BLNK/BKG
4	SAMPLE	S96T005748	0	F @ALPHA01 ALPHA01	SOLID	N/A	< 3.50E-01	411.0e-003	uCi/g
4	SAMPLE	S96T005748	0	F @ALPHA01 ALPHA01E	SOLID	N/A	1.56E+02	0.0e+000	% Ct. Error
5	DUP	S96T005748	0	F @ALPHA01 ALPHA01	SOLID	<3.50E-1	<2.88E-1		RPD
5	DUP	S96T005748	0	F @ALPHA01 ALPHA01E	SOLID	1.00	5.00E+02	500.000	% Ct. Erro
6	SAMPLE	S96T005780	0	F @ALPHA01 ALPHA01	SOLID	N/A	1.78E-01	413.0e-003	uCi/g
6	SAMPLE	S96T005780	0	F @ALPHA01 ALPHA01E	SOLID	N/A	5.00E+02	0.0e+000	% Ct. Error
7	DUP	S96T005780	0	F @ALPHA01 ALPHA01	SOLID	<1.78E-1	<2.32E-1		RPD
7	DUP	S96T005780	0	F @ALPHA01 ALPHA01E	SOLID	1.00	5.00E+02	500.000	% Ct. Erro

Final page for worklist# 15077

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Reviewer Signature Date 11/26/96

LABCORE Data Entry Template for Worklist# 15077

Analyst: SMF Instrument: AB00 14 Book# 66B56

Method: LA-508-101 Rev/Mod E1

Worklist Comment: AN-104, @ALPHA01 Deter. s.s. using Ludlum. skm

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 STD			@ALPHA01	SOLID		
2 BLNK-PREP			@ALPHA01	SOLID		
3 BLNK/BKG			@ALPHA01	SOLID		
4 SAMPLE	S96T005748 0 F	@ALPHA01	SOLID		96001283	AN-104
Analytes Requested: ALPHA01 , ALPHA01E						
5 DUP	S96T005748 0 F	@ALPHA01	SOLID			
6 SAMPLE	S96T005780 0 F	@ALPHA01	SOLID		96001283	AN-104
Analytes Requested: ALPHA01 , ALPHA01E						
7 DUP	S96T005780 0 F	@ALPHA01	SOLID			

Final page for worklist # 15077

Susie M. Dufon 11-22-96
Analyst Signature Date
0150

Ch. Quinn 11/22/96
Analyst Signature Date
Sue Hogan 11/25/96

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 (A-2) STANDARD

	STANDARD	REPLICATE
Type	DETECTOR NUMBER	14
STD	DISH SIZE (1, 2, or 5) (MS)	2
Work List	GROSS COUNTS (GC)	2816
15077	COUNT TIME in MINUTES (CT)	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.27
AT	SAMPLE SIZE in mL (SS)	1.000
Test Code	DILUTION FACTOR (DF)	1
@ALPHA01	STANDARD BOOK NUMBER (Std BN)	66B56
Matrix	EFFICIENCY FACTOR (EFF)	0.2692
LIQUID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	93.597
Batch Number	Standard Value in $\mu\text{Ci/mL}$	2.31E-04
96011682	Concentration in $\mu\text{Ci/L}$ =	1.57E-01
Rerun	Replicate Concentration in $\mu\text{Ci/L}$ =	1.56E-01
0	AVERAGE CONCENTRATION in $\mu\text{Ci/L}$ =	1.5653E-01

Sample Prep: N/A
 Rs (Sample Count Rate) = $(\text{TC} / \text{CT}) - \text{BKG}$
 Sample #: WL15077
 ALPHA TOTAL $\mu\text{Ci/L}$ = $\text{Rs} * 1000\text{mL/L} * \text{DF} / (\text{EFF} * \text{SS} * 2220000\text{dpm}/\mu\text{Ci})$
 Instrument Code: WB27807
 ALPHA TOTAL $\mu\text{Ci/mL}$ = ALPHA TOTAL $\mu\text{Ci/L}$ / 1000mL/L
 Prepared By: CJO
 Relative Counting Error = $[(\text{The Square Root of TC} + \text{BKG} * \text{CT}) / (\text{TC} - \text{BKG} * \text{CT})] * 1.96 * 100$
 Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Chemist	SLF	ALPHA TOTAL CONCENTRATION in $\mu\text{Ci/mL}$ =	1.57E-04	DETECTION LEVEL
Analyst	SMF			
Date Complete	11/22/96	RELATIVE COUNTING ERROR =	3.7%	8.93E-07 $\mu\text{Ci/mL}$
Analysis Date	11/22/96			
Analysis Time	01:50 AM			
Sample Point	AN-104			

Analyst:	CJO	Date: 22-Nov-96
Signature of Chemist:	SLF	Date: 11/26/96

STANDARD.WB1 Rev. 1.0 508101ML

WORKBOOK PAGE: BLANK2

AT : LA-508-101 (E-1)

SOLIDS

		BLNK-PREP	REPLICATE
Type	DETECTOR NUMBER	14	14
BLNK-PREP	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	7	8
15077	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.27	0.27
AT	SAMPLE SIZE in mL (SS)	0.100	0.100
Test Code	DILUTION FACTOR (DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.196	2.196
Matrix	EFFICIENCY FACTOR (EFF)	0.2692	0.2692
SOLID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE	0.221	0.221
Batch Number			
96011682	Blank Concentration in $\mu\text{Ci/g}$	< 1.70E-01	
Rerun	Replicate Concentration in $\mu\text{Ci/g}$	< 1.70E-01	
0	Maximum Concentration in $\mu\text{Ci/g}$	< 1.7037E-01	
Sample Prep			
N/A	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	$ALPHA \text{ TOTAL } \mu\text{Ci/g} = R_s * 1000\text{mL/L} * DF / (EFF * SS * \text{Dg/L} * 2220000\text{dpm}/\mu\text{Ci})$		
WL15077			
Instrument Code	Relative Counting Error = $[(The \text{ Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
CJO			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/g}$ (Maximum) =	< 1.70E-01	DETECTION LEVEL
Analyst	LESS Than Value was Determined from Lc.		
SMF			
Date Complete	RELATIVE COUNTING ERROR	500.0%	4.11E-01 $\mu\text{Ci/g}$
11/22/96			
Analysis Date			
11/22/96			
Analysis Time			
01:50 AM			
Sample Point			
AN-104			

Analyst:	SMF	Date: 22-Nov-96
Signature of Chemist:	SLF	Date: 11/26/96

BLANK.WB1 Rev. 1.0

508101ML

2139

WORKBOOK PAGE: SAM4

AT : LA-508-101 (E-1)

SOLIDS

		SAMPLE	REPLICATE
Type	DETECTOR NUMBER	14	14
SAMPLE	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	18	14
15077	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.27	0.27
AT	SAMPLE SIZE in mL (SS)	0.100	0.100
Test Code	DILUTION FACTOR (DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.196	2.196
Matrix	EFFICIENCY FACTOR (EFF)	0.2692	0.2692
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.330	0.455
Batch Number			
96011682	Blank Concentration in $\mu\text{Ci/g}$	2.54E-01	
Rerun	Replicate Concentration in $\mu\text{Ci/g}$	< 3.50E-01	
0	Maximum Concentration in $\mu\text{Ci/g}$	< 3.5034E-01	
Sample Prep			
FUSION01	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	$ALPHA \text{ TOTAL } \mu\text{Ci/g} = R_s * 1000\text{mL/L} * DF / (EFF * SS * \text{Dg/L} * 2220000\text{dpm}/\mu\text{Ci})$		
S96T005748			
Instrument Code	Relative Counting Error = $[((\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT))] * 1.96 * 100$		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
CJO			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/g}$ (Maximum) =	< 3.50E-01	
Analyst			
SMF	LESS THAN Value was Determined from Rs.		
Date Complete			
11/22/96	RELATIVE COUNTING ERROR	156.2%	
Analysis Date			
11/22/96			
Analysis Time			
01:50 AM			
Sample Point			
AN-104			

Analyst:	SMF	Date: 22-Nov-96
Signature of Chemist:	SLF	Date: 11/26/96
SAMPLE.WB1 Rev. 1.0	508101ML	

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WORKBOOK PAGE: DUP5

AT : LA-508-101 (E-1)

SOLIDS

	DUP	REPLICATE
Type	DETECTOR NUMBER	14
DUP	DISH SIZE (1, 2, or 5) (MS)	2
Work List	GROSS COUNTS (GC)	19
15077	COUNT TIME in MINUTES (CT)	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.27
AT	SAMPLE SIZE in mL (SS)	0.100
Test Code	DILUTION FACTOR (DF)	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.1296
Matrix	EFFICIENCY FACTOR (EFF)	0.2692
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.363
Batch Number		0.257
96011682	Blank Concentration in $\mu\text{Ci/g}$	2.88E-01
Rerun	Replicate Concentration in $\mu\text{Ci/g}$	< 2.04E-01
0	Maximum Concentration in $\mu\text{Ci/g}$	< 2.8834E-01
Sample Prep		
FUSION01	Rs (Sample Count Rate) = $(\text{TC} / \text{CT}) - \text{BKG}$	
Sample #	ALPHA TOTAL $\mu\text{Ci/g}$ = $\text{Rs} * 1000\text{mL/L} * \text{DF} / (\text{EFF} * \text{SS} * \text{Dg/L} * 2220000\text{dpm}/\mu\text{Ci})$	
S96T005748		
Instrument Code	Relative Counting Error = $[(\text{The Square Root of TC} + \text{BKG} * \text{CT}) / (\text{TC} - \text{BKG} * \text{CT})] * 1.96 * 100$	
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.	
Prepared By		
CJO		
Chemist		
SLF	ALPHA TOTAL in $\mu\text{Ci/g}$ (Maximum) =	< 2.88E-01
Analyst		
SMF	LESS THAN Value was Determined from Rs.	
Date Complete		
11/22/96	RELATIVE COUNTING ERROR	500.0%
Analysis Date		
11/22/96		
Analysis Time		
01:50 AM		
Sample Point		
AN-104		

Analyst:	SMF	Date: 22-Nov-96
Signature of Chemist:	SLF	Date: 11/26/96
SAMPLE.WB1 Rev. 1.0	508101ML	

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WORKBOOK PAGE: SAM6

AT : LA-508-101 (E-1)

SOLIDS

		SAMPLE	REPLICATE
Type	DETECTOR NUMBER	14	14
SAMPLE	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	8	15
15077	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.27	0.27
AT	SAMPLE SIZE in mL (SS)	0.100	0.100
Test Code	DILUTION FACTOR (DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.1812	2.1812
Matrix	EFFICIENCY FACTOR (EFF)	0.2692	0.2692
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.221	0.230
Batch Number			
96011682	Blank Concentration in $\mu\text{Ci/g}$	< 1.72E-01	
Rerun	Replicate Concentration in $\mu\text{Ci/g}$	1.78E-01	
0	Maximum Concentration in $\mu\text{Ci/g}$	< 1.7821E-01	
Sample Prep			
FUSION01	Rs (Sample Count Rate) = $(\text{TC} / \text{CT}) - \text{BKG}$		
Sample #	ALPHA TOTAL $\mu\text{Ci/g}$ = $\text{Rs} * 1000\text{mL/L} * \text{DF} / (\text{EFF} * \text{SS} * \text{Dg/L} * 2220000\text{dpm}/\mu\text{Ci})$		
S96T005780			
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } \text{TC} + \text{BKG} * \text{CT}) / (\text{TC} - \text{BKG} * \text{CT})] * 1.96 * 100$		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
CJO			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/g}$ (Maximum) =	< 1.78E-01	DETECTION LEVEL
Analyst			
SMF	LESS Than Value was Determined from Lc.		
Date Complete			4.13E-01
11/22/96	RELATIVE COUNTING ERROR	500.0%	$\mu\text{Ci/g}$
Analysis Date			
11/22/96			
Analysis Time			
01:50 AM			
Sample Point			
AN-104			

Analyst:	SMF	Date: 22-Nov-96
Signature of Chemist:	SLF	Date: 11/26/96
SAMPLE.WB1 Rev. 1.0	508101ML	

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WORKBOOK PAGE: DUP7

AT : LA-508-101 (E-1)

SOLIDS

		DUP	REPLICATE
Type	DETECTOR NUMBER	14	14
DUP	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	17	9
15077	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.27	0.27
AT	SAMPLE SIZE in mL (SS)	0.100	0.100
Test Code	DILUTION FACTOR (DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.158	2.158
Matrix	EFFICIENCY FACTOR (EFF)	0.2692	0.2692
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE	0.297	0.257

Batch Number	
96011682	Blank Concentration in $\mu\text{Ci/g}$ 2.32E-01
Retain	Replicate Concentration in $\mu\text{Ci/g}$ < 2.02E-01
0	Maximum Concentration in $\mu\text{Ci/g}$ < 2.3233E-01

Sample Prep	
FUSION01	R_s (Sample Count Rate) = $(TC / CT) - BKG$
Sample #	$\text{ALPHA TOTAL } \mu\text{Ci/g} = R_s * 1000\text{mL/L} * DF / (EFF * SS * \text{Dg/L} * 2220000\text{dpm}/\mu\text{Ci})$
S96T005780	
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Prepared By	
CJO	
Chemist	
SLF	ALPHA TOTAL in $\mu\text{Ci/g}$ (Maximum) = < 2.32E-01
Analyst	
SMF	LESS THAN Value was Determined from R_s .
Date Complete	
11/22/96	RELATIVE COUNTING ERROR 500.0%
Analysis Date	
11/22/96	
Analysis Time	
01:50 AM	
Sample Point	
AN-104	

Analyst:	SMF	Date: 22-Nov-96
Signature of Chemist:	SLF	Date: 11/26/96
SAMPLE.WB1 Rev. 1.0	508101ML	

2143

LABCORE Completed RadChem Report for Worklist#: 15145

Analyst: pjm

Instrument: AB18

Book# _____

Method: _____ Rev/Mod _____

Worklist Comment: @ALPHA01 FOR AN-104 (SS USING LUDLUM).1ML SPIKE RTS!

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD	0		@ALPHA01 ALPHA01	SOLID	2.31E-04	2.32E-4	100.433	% Recovery
1 STD	0		@ALPHA01 ALPHA01E	SOLID	1.00	3.10E+00	3.100	% Ct. Error
2 BLNK-PREP	0		@ALPHA01 ALPHA01	SOLID	1	<2.82E-2		uCi/g
2 BLNK-PREP	0		@ALPHA01 ALPHA01E	SOLID	1.00	5.00E+02	500.000	uCi/g
3 BLNK/BKG	0		@ALPHA01 ALPHA01	SOLID	1.00E+00	1.67E+00	1.670	BLNK/BKG
4 SAMPLE	S96T005781	0 F	@ALPHA01 ALPHA01	SOLID	N/A	2.82E-02	330.0e-004	uCi/g
4 SAMPLE	S96T005781	0 F	@ALPHA01 ALPHA01E	SOLID	N/A	1.55E+02	0.0e+000	% Ct. Error
5 DUP	S96T005781	0 F	@ALPHA01 ALPHA01	SOLID	<2.82E-2	2.15E-2		RPD
5 DUP	S96T005781	0 F	@ALPHA01 ALPHA01E	SOLID	1.00	1.13E+02	113.000	% Ct. Error
6 SPK	S96T005781	0 F	@ALPHA01 ALPHA01	SOLID	3.59E-02	3.22E-02	89.694	% Recovery

Final page for worklist# 15145

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Reviewer Signature _____ Date 11/26/96

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Data Entry Template for Worklist# 15145

Analyst: RJM Instrument: AB00 #18 Book# 66B56

Method: LA-508-101 Rev/Mod E-1

Worklist Comment: @ALPHA01 FOR AN-104 (SS USING LUDLUM), 1ML SPIKE RTS!

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	STD				@ALPHA01	SOLID		
2	BLNK-PREP				@ALPHA01	SOLID		
3	BLNK/BKG				@ALPHA01	SOLID		
4	SAMPLE	S96T005781	0	F	@ALPHA01	SOLID	96001283	AN-104
		Analytes Requested: ALPHA01 , ALPHA01E						
5	DUP	S96T005781	0	F	@ALPHA01	SOLID		
6	SPK	S96T005781	0	F	@ALPHA01	SOLID		

Final page for worklist # 15145

RJM 11/24/96
Analyst Signature Date

John Z. Chame 11/25/96
Analyst Signature Date

RJM 11/26/96

Data Entry Comments:

WORKBOOK PAGE: STD1

AT : LA-508-101 (E-1) LA-508-113 (A-2) STANDARD

		STANDARD	REPLICATE
Type	DETECTOR NUMBER	18	18
STD	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	4009	4161
15145	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.1	0.1
AT	SAMPLE SIZE in mL (SS)	1.000	1.000
Test Code	DILUTION FACTOR (DF)	1	1
@ALPHA01	STANDARD BOOK NUMBER (Std BN)	66B56	66B56
Matrix	EFFICIENCY FACTOR (EFF)	0.2644	0.2644
LIQUID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	133.533	138.600
Batch Number	Standard Value in $\mu\text{Ci/mL}$	2.31E-04	
96011755	Concentration in $\mu\text{Ci/L}$ =	2.27E-01	
Rerun	Replicate Concentration in $\mu\text{Ci/L}$ =	2.36E-01	
0	AVERAGE CONCENTRATION in $\mu\text{Ci/L}$ =	2.3181E-01	

Sample Prep	N/A	R_s (Sample Count Rate) = $(TC / CT) - BKG$
Sample #	WL15145	$\text{ALPHA TOTAL } \mu\text{Ci/L} = R_s * 1000\text{mL/L} * DF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$
Instrument Code	WB27809	$\text{ALPHA TOTAL } \mu\text{Ci/mL} = \text{ALPHA TOTAL } \mu\text{Ci/L} / 1000\text{mL/L}$
Prepared By	SZC	$\text{Relative Counting Error} = [(The Square Root of TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$
Chemist	SLF	Detection Levels and Less Than Values are determined from Procedure LA-508-002.

SLF	ALPHA TOTAL CONCENTRATION in $\mu\text{Ci/mL}$ =	2.32E-04	DETECTION LEVEL
Analyst			
PJM			6.14E-07 $\mu\text{Ci/mL}$
Date Complete			
11/25/96	RELATIVE COUNTING ERROR =	3.1%	
Analysis Date			
11/24/96			
Analysis Time			
11:50 PM			
Sample Point			
AN-104			

Analyst:	SZC	Date: 25-Nov-96
Signature of Chemist:	SLF	Date: 11/26/96

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
Work List	GROSS COUNTS (GC)	3	7
15145	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.1	0.1
AT	SAMPLE SIZE in mL (SS)	1.000	1.000
Test Code	DILUTION FACTOR (DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	1.878	1.878
Matrix	EFFICIENCY FACTOR (EFF)	0.2644	0.2644
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.135	0.307
Batch Number			
96011755	Blank Concentration in $\mu\text{Ci/g}$	< 1.23E-02	
Rerun	Replicate Concentration in $\mu\text{Ci/g}$	< 2.82E-02	
0	Maximum Concentration in $\mu\text{Ci/g}$	< 2.8152E-02	
Sample Prep			
N/A	Rs (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	ALPHA TOTAL $\mu\text{Ci/g}$ = $Rs * 1000\text{mL/L} * DF / (EFF * SS * \text{Dg/L} * 2220000\text{dpm}/\mu\text{Ci})$		
WL15145			
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			
SZC			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/g}$ (Maximum) =	< 2.82E-02	DETECTION LEVEL 3.30E-02 $\mu\text{Ci/g}$
Analyst	LESS Than Value was Determined from Lc.		
PJM			
Date Complete	RELATIVE COUNTING ERROR	500.0%	
11/25/96			
Analysis Date			
11/24/96			
Analysis Time			
11:50 PM			
Sample Point			
AN-104			

Analyst:	PJM	Date: 25-Nov-96
Signature of Chemist:	SLF	Date: 11/26/96
BLANK.WB1 Rev. 1.0	508101ML	

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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)	12	7
15145	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.1	0.1
AT	SAMPLE SIZE in mL (SS)	1.000	1.000
Test Code	DILUTION FACTOR (DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	1.878	1.878
Matrix	EFFICIENCY FACTOR (EFF)	0.2644	0.2644
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.300	0.307
Batch Number			
96011755	Blank Concentration in $\mu\text{Ci/g}$	2.75E-02	
Rerin	Replicate Concentration in $\mu\text{Ci/g}$	< 2.82E-02	
0	Maximum Concentration in $\mu\text{Ci/g}$	< 2.8152E-02	
Sample Prep			
FUSION01	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	$ALPHA \text{ TOTAL } \mu\text{Ci/g} = R_s * 1000\text{mL} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$		
S96T005781	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			
SZC			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/g}$ (Maximum) =	< 2.82E-02	DETECTION LEVEL
Analyst	LESS THAN Value was Determined from Rs.		
PJM			
Date Complete	RELATIVE COUNTING ERROR	155.0%	3.30E-02 $\mu\text{Ci/g}$
11/25/96			
Analysis Date			
11/24/96			
Analysis Time			
11:50 PM			
Sample Point			
AN-104			

Analyst:	PJM	Date: 25-Nov-96
Signature of Chemist:	SLF	Date: 11/26/96

SAMPLE.WB1 Rev. 1.

508101ML

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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
Work List	GROSS COUNTS (GC)	11	9
15145	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.1	0.1
AT	SAMPLE SIZE in mL (SS)	1.000	1.000
Test Code	DILUTION FACTOR (DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	1.8696	1.8696
Matrix	EFFICIENCY FACTOR (EFF)	0.2644	0.2644
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.267	0.200
Batch Number			
96011755	Blank Concentration in $\mu\text{Ci/g}$	2.45E-02	
ReRun	Replicate Concentration in $\mu\text{Ci/g}$	1.84E-02	
0	Average Concentration in $\mu\text{Ci/g}$	2.1475E-02	
Sample Prep			
FUSION01	Rs (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	ALPHA TOTAL $\mu\text{Ci/g}$ = $Rs * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$		
S96T005781			
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			
SZC			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/g}$ (Average) =	2.15E-02	DETECTION LEVEL
Analyst			
PJM			
Date Complete			3.31E-02 $\mu\text{Ci/g}$
11/25/96	RELATIVE COUNTING ERROR	113.2%	
Analysis Date			
11/24/96			
Analysis Time			
11:50 PM			
Sample Point			
AN-104			

Analyst:	PJM	Date: 25-Nov-96
Signature of Chemist:	SLF	Date: 11/26/96

SAMPLE.WB1 Rev. 1.

508101ML

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WORKBOOK PAGE: SPK6

AT : LA-508-101 (E-1) LA-508-113 (A-2) SPIKED SAMPLE

		SPIKE	REPLICATE
Type	DETECTOR NUMBER	18	18
SPK	DISH SIZE 1, 2, or 5 (MS)	2	2
Work List	TOTAL COUNTS (TC)	55594	57735
15145	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.1	0.1
AT	SAMPLE VOLUME in mL (Spiked Vial) (SS)	1.000	1.000
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial) (DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	1.878	1.878
Matrix	SPIKE VOLUME in mL (SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR (SDF)	1	1
Batch Number	SPIKE BOOK NUMBER (Spk BN)	123B43	123B43
96011755	SPIKE VALUE in $\mu\text{Ci/mL}$ (SVal)	3.5861E-02	3.5861E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR (EFF)	0.2644	0.2644
0	SAMPLE + SPIKE $\mu\text{Ci/g}$ (S+S)	1.70E+02	1.76E+02
Sample Prep	AVERAGE or MAXIMUM $\mu\text{Ci/g}$ in SAMPLE	< 2.8152E-02	
FUSION01			
Sample #			
S96T005781			
Instrument Code	Rs (Sample Count Rate) = $(TC / CT) - BKG$		
WB27809	SAMPLE + SPIKE $\mu\text{Ci/g}$ = $Rs * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$		
Prepared By	QC ACTUAL = SVal		
SZC	QC FOUND = $((S+S \mu\text{Ci/g} - \text{SAMPLE } \mu\text{Ci/g}) * ((SDF/(SVol*1000))/(DF/SS/Dg/L))))$		
Chemist	PERCENT SPIKE RECOVERY = $(QC \text{ FOUND} / QC \text{ ACTUAL}) * 100$		
SLF			
Analyst			
PJM			
Date Complete	NOTE: Original Sample result was a LESS THAN value. Zero (0) was subtracted from the spiked value for QC found calculation.		
11/25/96			
Analysis Date			
11/24/96	QC ACTUAL =	3.59E-02	
Analysis Time	QC FOUND =	3.22E-02	
11:50 PM	AVG. PERCENT SPIKE RECOVERY =	89.7%	
Sample Point			
AN-104			

Analyst:	SZC	Date: 25-Nov-96
Signature of Chemist:	SLF	Date: 11/26/96
SPIKE.WB1 Rev. 1.0	508101ML	

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worklistrad Version 1.0 05/09/96
12/03/96 10:28

Page: 1

LABCORE Completed RadChem Report for Worklist#: 15247

Analyst: tam

Instrument: AB16

Book# _____

Method: _____ Rev/Mod _____

Worklist Comment: AN-104 AT, DETERMINE SS USING LUDLUM. RCJ

Seq Type	Sample# R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD	0	@ALPHA01 ALPHA01 SOLID		2.31E-04	1.85E-4	80.087	% Recovery
1 STD	0	@ALPHA01 ALPHA01E SOLID		1.00	3.49E+00	3.490	% Ct. Error
2 BLNK-PREP	0	@ALPHA01 ALPHA01 SOLID		1	1.85E-2		uCi/g
2 BLNK-PREP	0	@ALPHA01 ALPHA01E SOLID		1.00	5.00E+02	500.000	uCi/g
3 BLNK/BKG	0	@ALPHA01 ALPHA01 SOLID		1.00E+00	2.33E+00	2.330	BLNK/BKG
4 SAMPLE	S96T005284	0 F @ALPHA01 ALPHA01 SOLID		N/A	8.08E-02	286.0e-004	uCi/g
4 SAMPLE	S96T005284	0 F @ALPHA01 ALPHA01E SOLID		N/A	1.92E+01	0.0e+000	% Ct. Error
5 DUP	S96T005284	0 F @ALPHA01 ALPHA01 SOLID		8.08E-2	2.51E-2	105.194	RPD
5 DUP	S96T005284	0 F @ALPHA01 ALPHA01E SOLID		1.00	1.30E+02	130.000	% Ct. Error
6 SPK	S96T005284	0 F @ALPHA01 ALPHA01 SOLID		3.59E-02	2.64E-02	73.538	% Recovery
7 SAMPLE	S96T005285	0 F @ALPHA01 ALPHA01 SOLID		N/A	4.33E-02	273.0e-004	uCi/g
7 SAMPLE	S96T005285	0 F @ALPHA01 ALPHA01E SOLID		N/A	5.16E+01	0.0e+000	% Ct. Error
8 DUP	S96T005285	0 F @ALPHA01 ALPHA01 SOLID		4.93E-2	3.65E-2	29.837	RPD
8 DUP	S96T005285	0 F @ALPHA01 ALPHA01E SOLID		1.00	6.57E+01	65.700	% Ct. Error
9 SPK	S96T005285	0 F @ALPHA01 ALPHA01 SOLID		3.53E-02	2.53E-02	70.474	% Recovery

Final page for worklist# 15247

Analyst Signature _____

Date _____

Analyst Signature _____

Date _____

Reviewer Signature

Date

12/3/96

Sample RPD's acceptable due to low sample alpha activity
SPK recoveries shifted to lower values due to change
in instrument efficiencies.

12/3/96

Units shown for QC (BLK/BKG) may not reflect the actual units.

2151

11/25/96 12:34

A-0004-1

Page: 1

LABCORE Data Entry Template for Worklist# 15247

Analyst: HAM Instrument: AB00 #16 Book# LA0554Method: LA-508-101 Rev/Mod E-1

Worklist Comment: AN-104 AT, DETERMINE SS USING LUDLUM. RCJ

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	S96T005284	0	F	@ALPHA01	SOLID	96001283	AN-104
	Analytes Requested: ALPHA01 , ALPHA01E						
5 DUP	S96T005284	0	F	@ALPHA01	SOLID		
6 SPK	S96T005284	0	F	@ALPHA01	SOLID		
7 SAMPLE	S96T005285	0	F	@ALPHA01	SOLID	96001283	AN-104
	Analytes Requested: ALPHA01 , ALPHA01E						
8 DUP	S96T005285	0	F	@ALPHA01	SOLID		
9 SPK	S96T005285	0	F	@ALPHA01	SOLID		

Final page for worklist # 15247

CHAMBERS 11-29-96
 Analyst Signature Date

Lee Hogan 12/2/96
 Analyst Signature Date
C.J. Quinn 12/3/96

Data Entry Comments:

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

2152

WORKBOOK PAGE: STD1

AT : LA-508-101 (E-1) LA-508-113 (A-2) STANDARD

		STANDARD	REPLICATE
Type	DETECTOR NUMBER	16	16
STD	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	3159	3449
15247	COUNT TIME in MINUTES (CT)	30	30
AT OF TB ?	BACKGROUND in cpm (BKG)	0.1	0.1
AT	SAMPLE SIZE in mL (SS)	1.000	1.000
Test Code	DILUTION FACTOR (DF)	1	1
@ALPHA01	STANDARD BOOK NUMBER (Std BN)	66B56	66B56
Matrix	EFFICIENCY FACTOR (EFF)	0.2683	0.2683
LIQUID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	105.200	114.867
Batch Number	Standard Value in $\mu\text{Ci/mL}$	2.31E-04	
96011854	Concentration in $\mu\text{Ci/L}$ =	1.77E-01	
Retun	Replicate Concentration in $\mu\text{Ci/L}$ =	1.93E-01	
0	AVERAGE CONCENTRATION in $\mu\text{Ci/L}$ =	1.8474E-01	
Sample Prep			
N/A	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	ALPHA TOTAL $\mu\text{Ci/L}$ = $R_s * 1000\text{mL/L} * DF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$		
WL15247	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 $\mu\text{Ci/mL}$ =	1.85E-04	DETECTION LEVEL
Analyst			
TAM			
Date Complete			6.05E-07 $\mu\text{Ci/mL}$
12/02/96	RELATIVE COUNTING ERROR =	3.5%	
Analysis Date			
11/29/96			
Analysis Time			
02:30 AM			
Sample Point			
AN-104			

Analyst:	SEH	Date: 02-Dec-96
Signature of Chemist:	SLF	Date: 12/3/96

STANDARD.WB1 Rev. 1.0

508101ML

WORKBOOK PAGE: BLANK2

AT : LA-508-101 (E-1)

SOLIDS

		BLNK-PREP	REPLICATE
Type	DETECTOR NUMBER	16	16
BLNK-PREP	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	4	10
15247	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BK _G)	0.1	0.1
AT	SAMPLE SIZE in mL (SS)	1.000	1.000
Test Code	DILUTION FACTOR (DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.1336	2.1336
Matrix	EFFICIENCY FACTOR (EFF)	0.2683	0.2683
SOLID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE	0.179	0.233
Batch Number			
9601864	Blank Concentration in $\mu\text{Ci/g}$	< 1.42E-02	
Rerun	Replicate Concentration in $\mu\text{Ci/g}$	1.85E-02	
0	Maximum Concentration in $\mu\text{Ci/g}$	< 1.8544E-02	
Sample Prep			
N/A	R_s (Sample Count Rate) = $(TC / CT) - BK_G$		
Sample #	$\text{ALPHA TOTAL } \mu\text{Ci/g} = R_s * 1000\text{mL/L} * DF / (EFF * SS * \text{Dg/L} * 2220000\text{dpm}/\mu\text{Ci})$		
WL15247			
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BK_G * CT) / (TC - BK_G * CT)] * 1.96 * 100$		
WB27806	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
SEH			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/g}$ (Maximum) =	< 1.85E-02	DETECTION LEVEL
Analyst	LESS THAN Value was Determined from Rmax.		
TAM			2.86E-02
Date Complete	RELATIVE COUNTING ERROR	500.0%	$\mu\text{Ci/g}$
12/02/96			
Analysis Date			
11/29/96			
Analysis Time			
02:30 AM			
Sample Point			
AN-104			

Analyst:		Date: 02-Dec-96
Signature of Chemist:	SLF	Date: 12/3/96
BLANK.WB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: SAM4

AT : LA-508-101 (E-1)

SOLIDS

		SAMPLE	REPLICATE
Type	DETECTOR NUMBER	16	16
SAMPLE	DISH SIZE (1, 2, or 5)	(MS)	2
Work List	GROSS COUNTS	(GC)	33
15247	COUNT TIME in MINUTES	(CT)	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.1
AT	SAMPLE SIZE in mL	(SS)	1.000
Test Code	DILUTION FACTOR	(DF)	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.1336
Matrix	EFFICIENCY FACTOR	(EFF)	0.2683
SOLID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE	1.000	1.033

Batch Number	
96011854	Blank Concentration in $\mu\text{Ci/g}$
Retun	Replicate Concentration in $\mu\text{Ci/g}$
0	Average Concentration in $\mu\text{Ci/g}$

Sample Prep	
FUSION01	R_s (Sample Count Rate) = $(TC / CT) - BKG$
Sample 2	$ALPHA\ TOTAL\ \mu\text{Ci/g} = R_s * 1000\text{mL} / DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$
S96T005284	
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 $\mu\text{Ci/g}$ (Average) = 8.08E-02
Analyst	
TAM	
Date Complete	
12/02/96	RELATIVE COUNTING ERROR 39.2%
Analysis Date	
11/29/96	
Analysis Time	
02:30 AM	
Sample Point	
AN-104	

DETECTION
LEVEL2.86E-02
 $\mu\text{Ci/g}$

(/ system; exit) yes -

Analyst:	TAM	Date: 02-Dec-96
Signature of Chemist:	SLF	Date: 12/3/96

SAMPLE.WB1 Rev. 1.0

508101ML

WORKBOOK PAGE: DUPS

AT : LA-508-101 (E-1)

SOLIDS

			DUP	REPLICATE
Type	DETECTOR NUMBER		16	16
DUP	DISH SIZE (1, 2, or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	8	17
15247	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.1	0.1
AT	SAMPLE SIZE in mL	(SS)	1.000	1.000
Test Code	DILUTION FACTOR	(DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.1376	2.1376
Matrix	EFFICIENCY FACTOR	(EFF)	0.2683	0.2683
SOLID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE		0.167	0.467
Batch Number				
96011854	Blank Concentration in $\mu\text{Ci/g}$		1.32E-02	
Run	Replicate Concentration in $\mu\text{Ci/g}$		3.70E-02	
0	Average Concentration in $\mu\text{Ci/g}$		2.5120E-02	

Sample Prep	
FUSION01	$R_s \text{ (Sample Count Rate)} = (TC / CT) - BKG$
Sample #	$ALPHA \text{ TOTAL } \mu\text{Ci/g} = R_s * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$
S96T005284	
Instrument Code	$\text{Relative Counting Error} = [(The \text{ Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$
WB27806	Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Prepared By			
SEH			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/g}$ (Average)	=	2.51E-02
Analyst			DETECTION LEVEL
TAM			
Date Complete			2.86E-02 $\mu\text{Ci/g}$
12/02/96	RELATIVE COUNTING ERROR		130.0%
Analysis Date			
11/29/96			
Analysis Time			
02:30 AM			
Sample Point			
AN-104			

// system exit yes-

Analyst:			Date: 02-Dec-96
Signature of Chemist:		SLF	Date: 12/3/96
SAMPLE.WB1 Rev. 1.0	508101ML		

WORKBOOK PAGE: SPK6

AT : LA-508-101 (E-1) LA-508-113 (A-2) SPIKED SAMPLE

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		18	16
SPK	DISH SIZE 1, 2, or 5 (MS)		2	2
Work List	TOTAL COUNTS (TC)		46007	48457
15247	COUNT TIME in MINUTES (CT)		30	30
AT or TB ?	BACKGROUND in cpm (BK9)		0.1	0.1
AT	SAMPLE VOLUME in mL (Spiked Vial) (SS)		1.000	1.000
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial) (DF)		101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)		2.1336	2.1336
Matrix	SPIKE VOLUME in mL (SVol)		0.100	0.100
SOLID	SPIKE DILUTION FACTOR (SDF)		1	1
Batch Number	SPIKE BOOK NUMBER (Spk BN)		123B43	123B43
96011864	SPIKE VALUE in µCi/mL (SVal)		3.5860E-02	3.5860E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR (EFF)		0.2683	0.2683
0	SAMPLE + SPIKE µCi/g (S+S)		1.22E+02	1.28E+02
Sample Prep	AVERAGE or MAXIMUM µCi/g in SAMPLE		8.0800E-02	
FUSION01				
Sample #				
596T005284				
Instrument Code	Rs (Sample Count Rate) = (TC / CT) - BKG			
WB27806	SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)			
Prepared By	QC ACTUAL = SVal			
SEH	QC FOUND = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/(SVol*1000))/(DF/SS/Dg/L))))			
Chemist	PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) *100			
SLF				
Analyst				
TAM				
Date Complete				
12/02/96				
Analysis Date				
11/29/96	QC ACTUAL	=	3.59E-02	
Analysis Time	QC FOUND	=	2.64E-02	
02:30 AM	AVG. PERCENT SPIKE RECOVERY	=	73.7%	
Sample Point				
AN-104				

Analyst:	SEH	Date: 02-Dec-96
Signature of Chemist:	SLF	Date: 12/3/96
SPIKE.WB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: SAM7

AT : LA-508-101 (E-1)

SOLIDS

		SAMPLE	REPLICATE
Type	DETECTOR NUMBER	16	16
SAMPLE	DISH SIZE (1, 2, or 5)	2	2
Work List	GROSS COUNTS	(GC)	22
15247	COUNT TIME in MINUTES	(CT)	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.1
AT	SAMPLE SIZE in mL	(SS)	1.000
Test Code	DILUTION FACTOR	(DF)	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.2376
Matrix	EFFICIENCY FACTOR	(EFF)	0.2683
SOLID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE	0.633	0.667

Batch Number	
96011854	Blank Concentration in $\mu\text{Ci/g}$
Rep'n	Replicate Concentration in $\mu\text{Ci/g}$
0	Average Concentration in $\mu\text{Ci/g}$

Sample Prep	
FUSION01	$R_s \text{ (Sample Count Rate)} = (TC / CT) - BKG$
Sample #	$\text{ALPHA TOTAL } \mu\text{Ci/g} = R_s * 1000\text{mL/L} * DF / (EFF * SS * \text{Dg/L} * 2220000\text{dpm}/\mu\text{Ci})$
S96T005285	
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 $\mu\text{Ci/g}$ (Average)	=	4.93E-02
Analyst			DETECTION LEVEL
TAM			
Date Complete			2.73E-02
12/02/96	RELATIVE COUNTING ERROR	51.6%	$\mu\text{Ci/g}$
Analysis Date			
11/29/96			
Analysis Time			
02:30 AM			
Sample Point			
AN-104			

(/ system exit) yes-

Analyst:	TAM	Date: 02-Dec-96
Signature of Chemist:	SLF	Date: 12/3/96
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)	15	17
15247	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.1	0.1
AT	SAMPLE SIZE in mL (SS)	1.000	1.000
Test Code	DILUTION FACTOR (DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.0928	2.0928
Matrix	EFFICIENCY FACTOR (EFF)	0.2683	0.2683
SOLID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE	0.433	0.467
Batch Number			
96011854	Blank Concentration in $\mu\text{Ci/g}$	3.51E-02	
Rerun	Replicate Concentration in $\mu\text{Ci/g}$	3.78E-02	
0	Average Concentration in $\mu\text{Ci/g}$	3.6461E-02	
Sample Prep			
FUSION01	Rs (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	ALPHA TOTAL $\mu\text{Ci/g}$ = $Rs * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$		
S96T005285			
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 $\mu\text{Ci/g}$ (Average) =	3.65E-02	DETECTION LEVEL
Analyst			
TAM			
Date Complete			2.92E-02 $\mu\text{Ci/g}$
12/02/96	RELATIVE COUNTING ERROR	65.7%	
Analysis Date			
11/29/96			
Analysis Time			
02:30 AM			
Sample Point			
AN-104			

(/ system;exit)yes-

Analyst:	TAM	Date: 02-Dec-96
Signature of Chemist:	SLF	Date: 12/3/96
SAMPLE.WB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: SPK9

AT : LA-508-101 (E-1) LA-508-113 (A-2) SPIKED SAMPLE

		SPIKE	REPLICATE
Type	DETECTOR NUMBER	16	16
SPK	DISH SIZE 1, 2, or 6 (MS)	2	2
Work List	TOTAL COUNTS (TC)	43318	47054
15247	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.1	0.1
AT	SAMPLE VOLUME in mL (Spiked Vial) (SS)	1.000	1.000
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial) (DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.2376	2.2376
Matrix	SPIKE VOLUME in mL (SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR (SDF)	1	1
Batch Number	SPIKE BOOK NUMBER (Spk BN)	123B43	123B43
96011854	SPIKE VALUE in $\mu\text{Ci/mL}$ (SVal)	3.5860E-02	3.5860E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR (EFF)	0.2683	0.2683
0	SAMPLE + SPIKE $\mu\text{Ci/g}$ (S+S)	1.09E+02	1.19E+02
Sample Prep	AVERAGE or MAXIMUM $\mu\text{Ci/g}$ in SAMPLE	4.9258E-02	
FUSION01			
Sample #			
S95T005285			
Instrument Code	Rs (Sample Count Rate) = $(TC / CT) \cdot BKG$		
WB27806	SAMPLE + SPIKE $\mu\text{Ci/g}$ = $Rs \cdot 1000\text{mL/L} \cdot DF / ((EFF \cdot SS \cdot Dg/L) \cdot 2220000\text{dpm}/\mu\text{Ci})$		
Prepared By	QC ACTUAL = SVal		
SEH	QC FOUND = $((S+S \mu\text{Ci/g} - \text{SAMPLE } \mu\text{Ci/g}) \cdot ((SDF/(SVol \cdot 1000)) / (DF/SS/Dg/L))))$		
Chemist	PERCENT SPIKE RECOVERY = $(QC \text{ FOUND} / QC \text{ ACTUAL}) \cdot 100$		
SLF			
Analyst			
TAM			
Date Complete			
12/02/96			
Analysis Date			
11/29/96	QC ACTUAL	=	3.59E-02
Analysis Time	QC FOUND	=	2.53E-02
02:30 AM	AVG. PERCENT SPIKE RECOVERY	=	70.5%
Sample Point			
AN-104			

Analyst:	SEH	Date: 02-Dec-96
Signature of Chemist:	SLF	Date: 12/3/96
SPIKE.WB1 Rev. 1.0	508101ML	

LABCORE Completed RadChem Report for Worklist#: 15248

Analyst: tam Instrument: AB14 Book# _____

Method: _____ Rev/Mod _____

Worklist Comment: AN-104 AT, DETERMINE SS USING LUDLUM. RCJ

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD	0		0ALPHA01 ALPHA01 SOLID		2.31E-04	1.85E-4	80.087	% Recovery
1 STD	0		0ALPHA01 ALPHA01E SOLID		1.00	3.44E+00	3.440	% Ct. Erro
2 BLNK-PREP	0		0ALPHA01 ALPHA01 SOLID		1	<2.82E-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	2.44E+00	2.440	BLNK/BKG
4 SAMPLE	S96T005286	0 F	0ALPHA01 ALPHA01 SOLID		N/A	2.26E-02	334.0e-004	uCi/g
4 SAMPLE	S96T005286	0 F	0ALPHA01 ALPHA01E SOLID		N/A	1.07E+02	0.0e+000	% Ct. Error
5 DUP	S96T005286	0 F	0ALPHA01 ALPHA01 SOLID		2.26E-2	2.99E-2	27.810	RPD
5 DUP	S96T005286	0 F	0ALPHA01 ALPHA01E SOLID		1.00	8.21E+01	82.100	% Ct. Erro
6 SPK	S96T005286	0 F	0ALPHA01 ALPHA01 SOLID		3.59E-02	2.30E-02	64.067	% Recovery
7 SAMPLE	S96T005559	0 F	0ALPHA01 ALPHA01 SOLID		N/A	4.98E-02	328.0e-004	uCi/g
7 SAMPLE	S96T005559	0 F	0ALPHA01 ALPHA01E SOLID		N/A	6.51E+01	0.0e+000	% Ct. Error
8 DUP	S96T005559	0 F	0ALPHA01 ALPHA01 SOLID		4.98E-2	2.49E-2	66.667	RPD
8 DUP	S96T005559	0 F	0ALPHA01 ALPHA01E SOLID		1.00	1.38E+02	138.000	% Ct. Erro
9 SPK	S96T005559	0 F	0ALPHA01 ALPHA01 SOLID		3.59E-02	2.42E-02	67.409	% Recovery

Final page for worklist# 15248

Analyst Signature Date

Analyst Signature Date

Reviewer Signature Date

Sample RPDs acceptable due to low sample alpha activity.
SPK recoveries shifted to lower values due to
change in instrument efficiencies.

12/3/96

11/25/96 12:35

A-0004-1

Page: 1

LABCORE Data Entry Template for Worklist# 15248

Analyst:

JAM

Instrument: AB00

#14

Book#

106 B51

Method: LA-508-101

Rev/Mod E-1

Worklist Comment: AN-104 AT, DETERMINE SS USING LUDLUM. RCJ

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	S96T005286	0 F	@ALPHA01	SOLID	96001283	AN-104
Analytes Requested: ALPHA01 , ALPHA01E						
5 DUP	S96T005286	0 F	@ALPHA01	SOLID		
6 SPK	S96T005286	0 F	@ALPHA01	SOLID		
7 SAMPLE	S96T005559	0 F	@ALPHA01	SOLID	96001283	AN-104
Analytes Requested: ALPHA01 , ALPHA01E						
8 DUP	S96T005559	0 F	@ALPHA01	SOLID		
9 SPK	S96T005559	0 F	@ALPHA01	SOLID		

Final page for worklist # 15248

JAM 11-29-96
 Analyst Signature Date

MES 12/2/96
 Analyst Signature Date
Lee Hogan 12/2/96

Data Entry Comments:

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

2162

WORKBOOK PAGE: STD1

AT : LA-508-101 (E-1) LA-508-113 (A-2) STANDARD

	STANDARD	REPLICATE
Type	DETECTOR NUMBER	14
STD	DISH SIZE (1, 2, or 5) (MS)	2
Work List	GROSS COUNTS (GC)	3263
15248	COUNT TIME in MINUTES (CT)	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.13
AT	SAMPLE SIZE in mL (SS)	1.000
Test Code	DILUTION FACTOR (DF)	1
@ALPHA01	STANDARD BOOK NUMBER (Std BN)	66B56
Matrix	EFFICIENCY FACTOR (EFF)	0.2692
LIQUID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE	108.637
Batch Number	Standard Value in $\mu\text{Ci/mL}$	2.31E-04
96011855	Concentration in $\mu\text{Ci/L}$ =	1.82E-01
Rerun	Replicate Concentration in $\mu\text{Ci/L}$ =	1.87E-01
0	AVERAGE CONCENTRATION in $\mu\text{Ci/L}$ =	1.8460E-01

Sample Prep:	N/A	R_s (Sample Count Rate) = $(TC / CT) - BKG$
Sample #	WL15248	ALPHA TOTAL $\mu\text{Ci/L}$ = $R_s * 1000\text{mL/L} * DF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$
Instrument Code	WB27807	ALPHA TOTAL $\mu\text{Ci/mL}$ = ALPHA TOTAL $\mu\text{Ci/L}$ / 1000mL/L
Prepared By	MCB	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.

Analyst	TAM	ALPHA TOTAL CONCENTRATION in $\mu\text{Ci/mL}$ =	1.85E-04	DETECTION LEVEL
Date Complete	12/02/96	RELATIVE COUNTING ERROR	=	3.4%
Analysis Date	11/29/96			6.66E-07 $\mu\text{Ci/mL}$
Analysis Time	02:30 AM			
Sample Point	AN-104			

Analyst:	MCB	Date: 02-Dec-96
Signature of Chemist:	SLF	Date: 12/3/96

STANDARD.WB1 Rev. 1.0

508101ML

WORKBOOK PAGE: BLANK2

AT : LA-508-101 (E-1)

SOLIDS

Type	DETECTOR NUMBER	BLNK-PREP	REPLICATE
BLNK-PREP	DISH SIZE (1, 2, or 5) (MS)	14	14
Work List	GROSS COUNTS (GC)	2	2
15248	COUNT TIME in MINUTES (CT)	5	14
AT or TB ?	BACKGROUND in cpm (BKG)	30	30
AT	SAMPLE SIZE in mL (SS)	0.13	0.13
Test Code	DILUTION FACTOR (DF)	1.000	1.000
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	101	101
Matrix	EFFICIENCY FACTOR (EFF)	2.0148	2.0148
SOLID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE	0.2692	0.2692
Batch Number		0.201	0.337
96011855	Blank Concentration in $\mu\text{Ci/g}$	< 1.68E-02	
Rerun	Replicate Concentration in $\mu\text{Ci/g}$	2.82E-02	
0	Maximum Concentration in $\mu\text{Ci/g}$	< 2.8240E-02	
Sample Prep			
N/A	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	$ALPHA \text{ TOTAL } \mu\text{Ci/g} = R_s * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$		
WL15248			
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
MCB			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/g}$ (Maximum) =	< 2.82E-02	DETECTION LEVEL
Analyst	LESS THAN Value was Determined from Rmax.		
TAM			3.34E-02
Date Complete	RELATIVE COUNTING ERROR	500.0%	$\mu\text{Ci/g}$
12/02/96			
Analysis Date			
11/29/96			
Analysis Time			
02:30 AM			
Sample Point			
AN-104			

Analyst:	TAM	Date: 02-Dec-96
Signature of Chemist:	SLF	Date: 12/3/96

BLANK.WB1 Rev. 1.0

508101ML

2164

WORKBOOK PAGE: SAM4

AT: LA-508-101 (E-1)

SOLIDS

Type	DETECTOR NUMBER	SAMPLE	REPLICATE
SAMPLE	DISH SIZE (1, 2, or 5)	(MS)	14
Work List	GROSS COUNTS	(GC)	2
15248	COUNT TIME in MINUTES	(CT)	13
At for TB-7	BACKGROUND in cpm	(BKG)	11
AT	SAMPLE SIZE in mL	(SS)	30
Test Code	DILUTION FACTOR	(DF)	0.13
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.000
Matrix	EFFICIENCY FACTOR	(EFF)	101
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		2.0148
Batch Number			0.2692
96011855			0.237

Blank Concentration in $\mu\text{Ci/g}$	2.54E-02
Replicate Concentration in $\mu\text{Ci/g}$	1.99E-02
Average Concentration in $\mu\text{Ci/g}$	2.2648E-02

Sample Prep	Rs (Sample Count Rate) = (TC / CT) - BKG
FUSION01	ALPHA TOTAL $\mu\text{Ci/g}$ = $R_s * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$
Sample #	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$
S96T005286	Detection Levels and Less Than Values are determined from Procedure LA-508-002.
Instrument Code	
WB27807	

Prepared By	SLF	ALPHA TOTAL in $\mu\text{Ci/g}$ (Average)	=	2.26E-02	DETECTION LEVEL
MCB	Analyst				
Chemist	TAM				
SLF	Date Complete	RELATIVE COUNTING ERROR		106.6%	3.34E-02 $\mu\text{Ci/g}$
Analyst	12/02/96				
TAM	Analysis Date				
Date Complete	11/29/96				
12/02/96	Analysis Time				
Analysis Date	02:30 AM				
11/29/96	Sample Point				
Analysis Time	AN-104				
02:30 AM					
Sample Point					
AN-104					

Analyst:	TAM	Date: 02-Dec-96
Signature of Chemist:	SLF	Date: 12/3/96
SAMPLE.WB1 Rev. 1.0	508101ML	

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WORKBOOK PAGE: DUPS

AT : LA-508-101 (E-1)

SOLIDS

		DUP	REPLICATE
Type	DETECTOR NUMBER	14	14
DUP	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	17	14
15248	COUNT TIME in MINUTES (CT)	30	30
At or TB ?	BACKGROUND in cpm (BKG)	0.13	0.13
AT	SAMPLE SIZE in mL (SS)	1.000	1.000
Test Code	DILUTION FACTOR (DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.182	2.182
Matrix	EFFICIENCY FACTOR (EFF)	0.2692	0.2692
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE	0.437	0.337
Batch Number			
96011855	Blank Concentration in $\mu\text{Ci/g}$	3.38E-02	
Rerun	Replicate Concentration in $\mu\text{Ci/g}$	2.61E-02	
0	Average Concentration in $\mu\text{Ci/g}$	2.9949E-02	
Sample Prep			
FUSION01	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	$ALPHA\ TOTAL\ \mu\text{Ci/g} = R_s * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$		
S96T005285			
Instrument Code	Relative Counting Error = $[(The\ Square\ Root\ of\ TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
MCB			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/g}$ (Average) =	2.99E-02	DETECTION LEVEL
Analyst			
TAM			
Date Complete	RELATIVE COUNTING ERROR	82.1%	3.08E-02 $\mu\text{Ci/g}$
12/02/96			
Analysis Date			
11/29/96			
Analysis Time			
02:30 AM			
Sample Point			
AN-104			

Analyst:	TAM	Date: 02-Dec-96
Signature of Chemist:	SLF	Date: 12/3/96
SAMPLE.WB1 Rev. 1.0	508101ML	

2166

WORKBOOK PAGE: SPK6

AT : LA-508-101 (E-1) LA-508-113 (A-2) SPIKED SAMPLE

		SPIKE	REPLICATE
Type	DETECTOR NUMBER	14	14
SPK	DISH SIZE 1, 2, or 5 (MS)	2	2
Work List	TOTAL COUNTS (TC)	41081	41301
15248	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.13	0.13
AT	SAMPLE VOLUME in mL (Spiked Vial) (SS)	1.000	1.000
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial) (DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.0148	2.0148
Matrix	SPIKE VOLUME in mL (SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR (SDF)	1	1
Batch Number	SPIKE BOOK NUMBER (Spk BN)	123B43	123B43
96011855	SPIKE VALUE in $\mu\text{Ci/mL}$ (SVal)	3.5860E-02	3.5860E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR (EFF)	0.2692	0.2692
0	SAMPLE + SPIKE $\mu\text{Ci/g}$ (S+S)	1.15E+02	1.15E+02
Sample Prep	AVERAGE or MAXIMUM $\mu\text{Ci/g}$ in SAMPLE	2.2648E-02	
FUSION01			
Sample #			
S96T005286			
Instrument Code	Rs (Sample Count Rate) = $(TC / CT) - BKG$		
WB27807	SAMPLE + SPIKE $\mu\text{Ci/g}$ = $Rs * 1000\text{mL/L} * DF / ((EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci}))$		
Prepared By	QC ACTUAL = SVal		
MCB	QC FOUND = $((((S+S \mu\text{Ci/g} - \text{SAMPLE } \mu\text{Ci/g}) * ((SDF/(SVol*1000)))/(DF/SS/Dg/L))))$		
Chemist	PERCENT SPIKE RECOVERY = $(QC \text{ FOUND} / QC \text{ ACTUAL}) * 100$		
SLF			
Analyst			
TAM			
Date Complete			
12/02/96			
Analysis Date			
11/29/96	QC ACTUAL =	3.59E-02	
Analysis Time	QC FOUND =	2.30E-02	
02:30 AM	AVG. PERCENT SPIKE RECOVERY =	64.0%	
Sample Point			
AN-104			

Analyst:	MCB	Date: 02-Dec-96
Signature of Chemist:	SLF	Date: 12/3/96
SPIKE.WB1 Rev. 1.0 508101ML		

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WORKBOOK PAGE: SAM7

AT : LA-508-101 (E-1)

SOLIDS

Type	DETECTOR NUMBER	SAMPLE	REPLICATE
SAMPLE	DISH SIZE (1, 2, or 5)	(MS)	14
Work List	GROSS COUNTS	(GC)	2
15248	COUNT TIME in MINUTES	(CT)	18
AT or TB ?	BACKGROUND in cpm	(BKG)	26
AT	SAMPLE SIZE in mL	(SS)	30
Test Code	DILUTION FACTOR	(DF)	0.13
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.000
Matrix	EFFICIENCY FACTOR	(EFF)	101
SOLID	Lc, Rmax, or Rs.(SAMPLE RATE) as APPROPRIATE		2.0476
Batch Number			0.2692

96011855	Blank Concentration in $\mu\text{Ci/g}$	3.88E-02
Rerun	Replicate Concentration in $\mu\text{Ci/g}$	6.08E-02
0	Average Concentration in $\mu\text{Ci/g}$	4.979E-02

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 #	
S96T005559	

Instrument Code	Relative Counting Error = [(The Square Root of TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Prepared By
MCB

Chemist

SLF

Analyst

TAM

Date Complete

12/02/96

Analysis Date

11/29/96

Analysis Time

02:30 AM

Sample Point

AN-104

ALPHA TOTAL in $\mu\text{Ci/g}$ (Average)	=	4.98E-02	DETECTION LEVEL
RELATIVE COUNTING ERROR		65.1%	3.28E-02 $\mu\text{Ci/g}$

Analyst:	TAM	Date: 02-Dec-96
Signature of Chemist:	SLF	Date: 12/3/96

SAMPLE.WB1 Rev. 1.0

508101ML

WORKBOOK PAGE: DUP8

AT : LA-508-101 (E-1)

SOLIDS

Type	DETECTOR NUMBER	DUP	REPLICATE
DUP	DISH SIZE (1, 2, or 5)	(MS)	14
Work List	GROSS COUNTS	(GC)	2
15248	COUNT TIME in MINUTES	(CT)	9
At or TB ?	BACKGROUND in cpm	(BKG)	17
AT	SAMPLE SIZE in mL	(SS)	30
Test Code	DILUTION FACTOR	(DF)	0.13
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1.000
Matrix	EFFICIENCY FACTOR	(EFF)	101
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		2.0564
Batch Number			0.2692
96011855	Blank Concentration in $\mu\text{Ci/g}$		0.437
Rerun	Replicate Concentration in $\mu\text{Ci/g}$		
0	Average Concentration in $\mu\text{Ci/g}$		
Sample Prep			
FUSION01	Rs (Sample Count Rate) = (TC / CT) - BKG		
Sample #	ALPHA TOTAL $\mu\text{Ci/g}$ = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/ μCi)		
S96T005559			
Instrument Code	Relative Counting Error = [(The Square Root of TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
MCB			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/g}$ (Average) =	2.49E-02	
Analyst			DETECTION LEVEL
TAM			
Date Complete	RELATIVE COUNTING ERROR	138.0%	3.27E-02 $\mu\text{Ci/g}$
12/02/96			
Analysis Date			
11/29/96			
Analysis Time			
02:30 AM			
Sample Point			
AN-104			

Analyst:	TAM	Date: 02-Dec-96
Signature of Chemist:	SLF	Date: 12/3-96
SAMPLE.WB1 Rev. 1.0	508101ML	12/3/96

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WORKBOOK PAGE: SPK9

AT : LA-508-101 (E-1) LA-508-113 (A-2) SPIKED SAMPLE

		SPIKE	REPLICATE
Type	DETECTOR NUMBER	14	14
SPK	DISH SIZE 1, 2, or 5 (MS)	2	2
Work List	TOTAL COUNTS (TC)	43949	42893
15248	COUNT TIME in MINUTES (CT)	30	30
Absorbance	BACKGROUND in cpm (BKG)	0.13	0.13
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)	2.0476	2.0476
Matrix	SPIKE VOLUME in mL (SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR (SDF)	1	1
Batch Number	SPIKE BOOK NUMBER (Spk BN)	123B43	123B43
96011855	SPIKE VALUE in $\mu\text{Ci/mL}$ (SVal)	3.5860E-02	3.5860E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR (EFF)	0.2692	0.2692
0	SAMPLE + SPIKE $\mu\text{Ci/g}$ (S+S)	1.21E+02	1.18E+02
Sample Prep	AVERAGE or MAXIMUM $\mu\text{Ci/g}$ in SAMPLE	4.9797E-02	
FUSION01			
Sample #			
S96T005559			
Instrument Code	Rs (Sample Count Rate) = (TC / CT) - BKG		
WB27807	SAMPLE + SPIKE $\mu\text{Ci/g}$ = $\text{Rs} * 1000\text{mL/L} * \text{DF} / ((\text{EFF} * \text{SS} * \text{Dg/L} * 2220000\text{dpm}/\mu\text{Ci}))$		
Prepared By	QC ACTUAL = SVal		
MCB	QC FOUND = $((\text{S+S } \mu\text{Ci/g} - \text{SAMPLE } \mu\text{Ci/g}) * ((\text{SDF}/(\text{SVol} * 1000)) / (\text{DF}/\text{SS}/\text{Dg/L})))$		
Chemist	PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) * 100		
SLF			
Analyst			
TAM			
Date Complete			
12/02/96			
Analysis Date			
11/29/96	QC ACTUAL =	3.59E-02	
Analysis Time	QC FOUND =	2.42E-02	
02:30 AM	AVG. PERCENT SPIKE RECOVERY =	67.5%	
Sample Point			
AN-104			

Analyst:	MCB	Date: 02-Dec-96
Signature of Chemist:	SLF	Date: 12/3/96
SPIKE.WB1 Rev. 1.0	508101ML	

2170

LABCORE Completed RadChem Report for Worklist#: 15375

Analyst: scl

Instrument: AB14

Book# _____

Method: _____ Rev/Mod _____

Worklist Comment: Use .1-10-1.0 mL sample size. Rerun #1. SLF

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD	0			@ALPHA01 ALPHA01 SOLID		2.31E-04	1.97E-4	85.281	% Recovery
1	STD	0			@ALPHA01 ALPHA01E SOLID		1.00	3.31E+00	3.310	% Ct. Erro
2	BLNK-PREP	0			@ALPHA01 ALPHA01 SOLID		1	2.26E-2	22.600E-003	uCi/g
2	BLNK-PREP	0			@ALPHA01 ALPHA01E SOLID		1.00	9.17E+01	91.700	uCi/g
3	BLNK/BKG	0			@ALPHA01 ALPHA01 SOLID		1.00E+00	3.83E+00	3.830	BLNK/BKG
3	BLNK/BKG	0			@ALPHA01 ALPHA01E SOLID		1.00E+00	6.93E+01	69.300	% Ct. Error
4	SAMPLE	S96T005278	0	F	@ALPHA01 ALPHA01 SOLID		N/A	5.58E-02	287.0E-004	uCi/g
4	SAMPLE	S96T005278	0	F	@ALPHA01 ALPHA01E SOLID		N/A	5.00E-01	0.0E+000	% Ct. Error
5	DUP	S96T005278	0	F	@ALPHA01 ALPHA01 SOLID		5.58E-2	5.58E-2	0.000	RPD
5	DUP	S96T005278	0	F	@ALPHA01 ALPHA01E SOLID		1.00	6.93E+01	69.300	% Ct. Error
6	SPK	S96T005278	0	F	@ALPHA01 ALPHA01 SOLID		3.59E-02	2.76E-02	76.880	% Recovery

Final page for worklist# 15375

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Reviewer Signature _____ Date 12/5/96

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Data Entry Template for Worklist# 15375

Analyst: S-L Instrument: AB00 #14 Book# 66 B56

Method: LA-508-101 Rev/Mod E-1

Worklist Comment: Use .1-10-1.0 mL sample size. Rerun #1. SLF

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 STD			@ALPHA01	SOLID		
2 BLNK-PREP			@ALPHA01	SOLID		
3 BLNK/BKG			@ALPHA01	SOLID		
4 SAMPLE	S96T005278	0 F	@ALPHA01	SOLID	96001174	AN-104
Analytes Requested: ALPHA01 , ALPHA01E						
5 DUP	S96T005278	0 F	@ALPHA01	SOLID		
6 SPK	S96T005278	0 F	@ALPHA01	SOLID		

Final page for worklist # 15375

Sue L... 12-3-96
Analyst Signature Date

Sue Hogren 12/4/96
Analyst Signature Date

MEB... 12/5/96

Data Entry Comments:

WORKBOOK PAGE: STD1

AT : LA-508-101 (E-1) LA-508-113 (A-2) STANDARD

		STANDARD	REPLICATE
Type	DETECTOR NUMBER	14	14
STD	DISH SIZE (1, 2, or 5)	(MS)	2
Work List	GROSS COUNTS	(GC)	3522
16376	COUNT TIME in MINUTES	(CT)	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.1
AT	SAMPLE SIZE in mL	(SS)	1.000
Test Code	DILUTION FACTOR	(DF)	1
@ALPHA01	STANDARD BOOK NUMBER	(Std BN)	66B56
Matrix	EFFICIENCY FACTOR	(EFF)	0.2692
Liquid	Lo, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE		117.300
Batch Number	Standard Value in $\mu\text{Ci/mL}$		2.31E-04
96011987	Concentration in $\mu\text{Ci/L}$	=	1.96E-01
Re-run	Replicate Concentration in $\mu\text{Ci/L}$	=	1.97E-01
0	AVERAGE CONCENTRATION in $\mu\text{Ci/L}$	=	1.9670E-01
Sample Prep			
N/A	Rs (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	ALPHA TOTAL $\mu\text{Ci/L}$ = $Rs * 1000\text{mL/L} * DF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$		
WL16376	ALPHA TOTAL $\mu\text{Ci/mL}$ = $ALPHA\ TOTAL\ \mu\text{Ci/L} / 1000\text{mL/L}$		
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
W627807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
SEH			
Chemist			
SLF	ALPHA TOTAL CONCENTRATION in $\mu\text{Ci/mL}$ =	1.97E-04	DETECTION LEVEL
Analyst			
SCL			6.03E-07
Date Complete			$\mu\text{Ci/mL}$
12/04/96	RELATIVE COUNTING ERROR =	3.3%	
Analysis Date			
12/03/96			
Analysis Time			
01:30 PM			
Sample Point			
AN-104			

Analyst:	SEH	Date: 04-Dec-96
Signature of Chemist:	SLF	Date: 12/15/96

STANDARD.WB1 Rev. 1.0

508101ML

WORKBOOK PAGE: BLANK2

AT : LA-508-101 (E-1)

SOLIDS

		BLNK-PREP	REPLICATE
Type	DETECTOR NUMBER	14	14
BLNK-PREP	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	11	12
15375	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.4	0.1
AT	SAMPLE SIZE in mL (SS)	1.000	1.000
Test Code	DILUTION FACTOR (DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.1208	2.1208
Matrix	EFFICIENCY FACTOR (EFF)	0.2692	0.2692
SOLID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE	0.267	0.300

Batch Number	
96011987	Blank Concentration in $\mu\text{Ci/g}$ 2.13E-02
Rerun	Replicate Concentration in $\mu\text{Ci/g}$ 2.39E-02
0	Average Concentration in $\mu\text{Ci/g}$ 2.2578E-02

Sample Prep	
N/A	R_s (Sample Count Rate) = $(TC / CT) - BKG$
Sample #	$\text{ALPHA TOTAL } \mu\text{Ci/g} = R_s * 1000\text{mL} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$
WL15375	
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Prepared By		
SEH		
Chemist		
SLF	ALPHA TOTAL in $\mu\text{Ci/g}$ (Average) =	2.26E-02
Analysis		DETECTION LEVEL
SCL		
Date Complete		2.87E-02
12/04/96	RELATIVE COUNTING ERROR	91.7%
Analysis Date		$\mu\text{Ci/g}$
12/03/96		
Analysis Time		
01:30 PM		
Sample Point		
AN-104		

Analyst:	SCL	Date: 04-Dec-96
Signature of Chemist:	SLF	Date: 12/5/96

BLANK.WB1 Rev. 1.0

506101ML

WORKBOOK PAGE: SAM4

AT : LA-508-101 (E-1)

SOLIDS

		SAMPLE	REPLICATE
Type	DETECTOR NUMBER	14	14
SAMPLE	DISH SIZE (1, 2, or 5)	2	2
Work List	GROSS COUNTS	25	23
15376	COUNT TIME in MINUTES	30	30
AT or TB ?	BACKGROUND in cpm	0.1	0.1
AT	SAMPLE SIZE in mL	1.000	1.000
Test Code	DILUTION FACTOR	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L	2.1208	2.1208
Matrix	EFFICIENCY FACTOR	0.2692	0.2692
SOLID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE	0.733	0.667
Batch Number			
96011987	Blank Concentration in $\mu\text{Ci/g}$	5.84E-02	
Rep#	Replicate Concentration in $\mu\text{Ci/g}$	6.31E-02	
1	Average Concentration in $\mu\text{Ci/g}$	6.5782E-02	
Sample Prep			
FUSION01	Rs (Sample Count Rate) = $(\text{TC} / \text{CT}) - \text{BKG}$		
Sample #	ALPHA TOTAL $\mu\text{Ci/g}$ = $\text{Rs} * 1000 \text{mL/L} * \text{DF} / (\text{EFF} * \text{SS} * \text{Dg/L} * 2220000 \text{dpm}\mu\text{Ci})$		
S96T005278			
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } \text{TC} + \text{BKG} * \text{CT}) / (\text{TC} - \text{BKG} * \text{CT})] * 1.96 * 100$		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
SEH			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/g}$ (Average) =	5.58E-02	DETECTION LEVEL
Analyst			
SCL			2.87E-02
Date Complete			$\mu\text{Ci/g}$
12/04/96	RELATIVE COUNTING ERROR	50.0%	
Analysis Date			
12/03/96			
Analysis Time			
01:30 PM			
Sample Point			
AN-104			

(/ system exit) yes-

Analyst:	SCL	Date: 04-Dec-96
Signature of Chemist:	SLF	Date: 12/15/96
SAMPLEWB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: DUPS

AT : LA-508-101 (E-1)

SOLIDS

			DUP	REPLICATE
Type	DETECTOR NUMBER		14	14
DUP	DISH SIZE (1, 2, or 6)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	15	32
15375	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.1	0.1
AT	SAMPLE SIZE in mL	(SS)	1.000	1.000
Test Code	DILUTION FACTOR	(DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.0696	2.0696
Matrix	EFFICIENCY FACTOR	(EFF)	0.2692	0.2692
SOLID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE		0.400	0.967

Batch Number		
96011987	Blank Concentration in $\mu\text{Ci/g}$	3.27E-02
Rerun	Replicate Concentration in $\mu\text{Ci/g}$	7.89E-02
1	Average Concentration in $\mu\text{Ci/g}$	5.5801E-02

Sample Prep	
FUSION01	R_s (Sample Count Rate) = $(TC / CT) - BKG$
Sample #	$ALPHA\ TOTAL\ \mu\text{Ci/g} = R_s * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$
S96T005278	
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Prepared By		
SEH		
Chemist		
SLF	ALPHA TOTAL in $\mu\text{Ci/g}$ (Average) =	5.58E-02
Analyst		DETECTION LEVEL
SCL		
Date Complete		2.94E-02
12/04/96	RELATIVE COUNTING ERROR	69.3%
Analysis Date		$\mu\text{Ci/g}$
12/03/96		
Analysis Time		
01:30 PM		
Sample Point		
AN-104		

(/ system,exit) yes-

Analyst:	SCL	Date: 04-Dec-96
Signature of Chemist:	SLF	Date: 12/5/96
SAMPLEWB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: SPKG

AT : LA-508-101 (E-1) LA-508-113 (A-2) SPIKED SAMPLE

		SPIKE	REPLICATE
Type	DETECTOR NUMBER	14	14
SPK	DISH SIZE 1, 2, or 5 (MS)	2	2
Work List	TOTAL COUNTS (TC)	50576	48427
15375	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.1	0.1
AT	SAMPLE VOLUME in mL (Spiked Vial) (SS)	1.000	1.000
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial) (DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.1208	2.1208
Matrix	SPIKE VOLUME in mL (SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR (SDF)	1	1
Batch Number	SPIKE BOOK NUMBER (Spk BN)	123B43	123B43
96011987	SPIKE VALUE in $\mu\text{Ci/mL}$ (SVal)	3.5859E-02	3.5859E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR (EFF)	0.2692	0.2692
1	SAMPLE + SPIKE $\mu\text{Ci/g}$ (S+S)	1.34E+02	1.29E+02
Sample Prep	AVERAGE or MAXIMUM $\mu\text{Ci/g}$ in SAMPLE	5.5782E-02	
FUSION01			
Sample #			
S96T005278	Rs (Sample Count Rate) = $(TC / CT) - BKG$		
Instrument Code	$SAMPLE + SPIKE \mu\text{Ci/g} = Rs * 1000\text{mL/L} * DF / ((EFF * SS * Dg/L) * 2220000\text{dpm}\mu\text{Ci})$		
WB27807	$QC ACTUAL = SVal$		
Prepared By	$QC FOUND = (((S+S \mu\text{Ci/g} - SAMPLE \mu\text{Ci/g}) * ((SDF/(SVol*1000)) / (DF/SS/Dg/L))))$		
SEH	$PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) * 100$		
Chemist			
SLF			
Analyst			
SCL			
Date Complete			
12/04/96			
Analysis Date			
12/03/96	QC ACTUAL =	3.59E-02	
Analysis Time	QC FOUND =	2.76E-02	
01:30 PM	AVG. PERCENT SPIKE RECOVERY =	77.0%	
Sample Point			
AN-104			

Analyst:	SEH	Date: 04-Dec-96
Signature of Chemist:	SLF	Date: 12/5/96
Spike.WB1 Rev. 1.0 508101ML		

LABCORE Completed RadChem Report for Worklist#: 15498

Analyst: tam

Instrument: AB16

Book# _____

Method: _____ Rev/Mod _____

Worklist Comment: @ALPHA01 FOR AN-104(DET SS USING LUDLUM).IML SPK RTS

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD	0		@ALPHA01 ALPHA01 LIQUID		2.30E-04	1.94E-4	84.348	% Recovery
1 STD	0		@ALPHA01 ALPHA01E LIQUID		1.00	3.35E+00	3.350	% Ct. Error
2 BLNK-PREP	0		@ALPHA01 ALPHA01 LIQUID		1	2.31E-2	23.100e-003	uCi/mL
2 BLNK-PREP	0		@ALPHA01 ALPHA01E LIQUID		1.00	7.61E+01	76.100	uCi/mL
3 BLNK/BKG	0		@ALPHA01 ALPHA01 LIQUID		1.00E+00	1.22E+01	12.200	BLNK/BKG
4 SAMPLE	S96T005978	0	@ALPHA01 ALPHA01 LIQUID		N/A	2.76E-02	163.0e-004	uCi/mL
4 SAMPLE	S96T005978	0	@ALPHA01 ALPHA01E LIQUID		N/A	7.61E+01	0.0e+000	% Ct. Error
5 DUP	S96T005978	0	@ALPHA01 ALPHA01 LIQUID		2.76E-2	2.19E-2	23.030	RPD
5 DUP	S96T005978	0	@ALPHA01 ALPHA01E LIQUID		1.00	8.24E+01	82.400	% Ct. Error
6 SPK	S96T005978	0	@ALPHA01 ALPHA01 LIQUID		3.59E-02	2.88E-02	80.223	% Recovery

Final page for worklist# 15498

Analyst Signature

Date

Analyst Signature

Date

Reviewer Signature

Date

The RPD for 5978 is acceptable due to low alpha activity.
BLNK value indicates possible contamination, however
sample REP and DUP data indicate no contamination
problems with these counts. No rerun requested.

12/18/96

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Data Entry Template for Worklist# 15498

Analyst: JAM Instrument: AB00 16 Book# 106B50

Method: LA-508-101 Rev/Mod E-1

Worklist Comment: @ALPHA01 FOR AN-104(DET SS USING LUDLUM).1ML SPK RTS

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 STD			@ALPHA01	LIQUID		
2 BLNK-PREP			@ALPHA01	LIQUID		
3 BLNK/BKG			@ALPHA01	LIQUID		
4 SAMPLE	S96T005978 0		@ALPHA01	LIQUID	96001174	AN-104
Analytes Requested: ALPHA01 , ALPHA01E						
5 DUP	S96T005978 0		@ALPHA01	LIQUID		
6 SPK	S96T005978 0		@ALPHA01	LIQUID		

Final page for worklist # 15498

JAM 12-17-96
Analyst Signature Date

Lee Hogan 12/18/96
Analyst Signature Date
MBS 12/18/96

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
Work List	GROSS COUNTS (GC)	3416	3512
15498	COUNT TIME in MINUTES (CT)	30	30
AT or IB ?	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)	66B56	66B56
Matrix	EFFICIENCY FACTOR (EFF)	0.2683	0.2683
LIQUID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	113.837	117.037
Batch Number	Standard Value in $\mu\text{Ci/mL}$	2.30E-04	
96012111	Concentration in $\mu\text{Ci/L}$ =	1.91E-01	
ReRun	Replicate Concentration in $\mu\text{Ci/L}$ =	1.96E-01	
0	AVERAGE CONCENTRATION in $\mu\text{Ci/L}$ =	1.9381E-01	
Sample Prep			
N/A	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	ALPHA TOTAL $\mu\text{Ci/L}$ = $R_s * 1000\text{mL/L} * DF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$		
WL15498	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 CONCENTRATION in $\mu\text{Ci/mL}$ =	1.94E-04	
Analyst			DETECTION LEVEL
TAM			
Date Complete			4.00E-07
12/18/96	RELATIVE COUNTING ERROR =	3.4%	$\mu\text{Ci/mL}$
Analysis Date			
12/17/96			
Analysis Time			
11:00 AM			
Sample Point			
AN-104			

Analyst:	SEH	Date: 18-Dec-96
Signature of Chemist:	SLF	Date: 12/18/96

STANDARD.WB1 Rev. 1.0

508101ML

WORKBOOK PAGE: BLANK2

AT : LA-508-101 (E-1) LIQUIDS

		BLNK-PREP	REPLICATE
Type	DETECTOR NUMBER	16	16
BLNK-PREP	DISH SIZE (1, 2, or 6) (MS)	2	2
Work List	GROSS COUNTS (GC)	9	13
15498	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.03	0.03
AT	SAMPLE SIZE in mL (SS)	0.250	0.250
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	0.270	0.403
Batch Number			
96012111	Blank Concentration in $\mu\text{Ci/L}$	1.85E+01	
Repur	Replicate Concentration in $\mu\text{Ci/L}$	2.76E+01	
0	Average Concentration in $\mu\text{Ci/L}$	2.3064E+01	
Sample Prep			
N/A	Rs (Sample Count Rate) = $(\text{TC} / \text{CT}) - \text{BKG}$		
Sample #	ALPHA TOTAL $\mu\text{Ci/L}$ = $\text{Rs} * 1000\text{mL/L} * \text{DF} * \text{DDF} / (\text{EFF} * \text{SS} * 222000\text{dpm}/\mu\text{Ci})$		
WL15498	ALPHA TOTAL $\mu\text{Ci/mL}$ = $\text{ALPHA TOTAL } \mu\text{Ci/L} / 1000\text{mL/L}$		
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } \text{TC} + \text{BKG} * \text{CT}) / (\text{TC} - \text{BKG} * \text{CT})] * 1.96 * 100$		
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) =	2.31E-02	DETECTION LEVEL
Analyst			
TAM			
Date Complete			1.63E-02
12/18/96	RELATIVE COUNTING ERROR	76.1%	$\mu\text{Ci/mL}$
Analysis Date			
12/17/96			
Analysis Time			
11:00 AM			
Sample Point			
AN-104			

Analyst:	TAM	Date: 18-Dec-96
Signature of Chemist:	SLF	Date: 12/18/96

BLANK.WB1 Rev.1.0

508101ML

WORKBOOK PAGE: SAM4

AT : LA-508-101 (E-1) LIQUIDS

		SAMPLE	REPLICATE
Type	DETECTOR NUMBER	16	16
SAMPLE	DISH SIZE (1, 2, or 5)	2	2
Work List	GROSS COUNTS (GC)	9	12
16498	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.03	0.03
AT	SAMPLE SIZE in mL (SS)	0.250	0.250
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	0.270	0.537

Batch Number	
96012111	Blank Concentration in $\mu\text{Ci/L}$ 1.85E+01
ReRun	Replicate Concentration in $\mu\text{Ci/L}$ 3.68E+01
0	Average Concentration in $\mu\text{Ci/L}$ 2.7631E+01

Sample Prep	N/A	R_s (Sample Count Rate) = $(TC / CT) - BKG$
Sample #	S96T005978	$\text{ALPHA TOTAL } \mu\text{Ci/L} = R_s * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$
Instrument Code	WB27805	$\text{ALPHA TOTAL } \mu\text{Ci/mL} = \text{ALPHA TOTAL } \mu\text{Ci/L} / 1000\text{mL/L}$
		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 $\mu\text{Ci/mL}$ (Average) =	2.76E-02
Analyst	TAM		DETECTION LEVEL
Date Complete	12/18/96		1.63E-02 $\mu\text{Ci/mL}$
Analysis Date	12/17/96	RELATIVE COUNTING ERROR	76.1%
Analysis Time	11:00 AM		
Sample Point	AN-104		

(/ system;exit)yes-

Analyst:	TAM	Date: 18-Dec-96
Signature of Chemist:	SLF	Date: 12/18/96

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)	2	2
Work List	GROSS COUNTS (GC)	13	8
16498	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.03	0.03
AT	SAMPLE SIZE in mL (SS)	0.250	0.250
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	0.403	0.237
Batch Number			
96012111	Blank Concentration in $\mu\text{Ci/L}$	2.76E+01	
ReRun	Replicate Concentration in $\mu\text{Ci/L}$	1.62E+01	
0	Average Concentration in $\mu\text{Ci/L}$	2.1922E+01	

Sample Prep	
N/A	$R_s \text{ (Sample Count Rate)} = (TC / CT) - BKG$
Sample #	$ALPHA \text{ TOTAL } \mu\text{Ci/L} = R_s * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$
S96T005978	$ALPHA \text{ TOTAL } \mu\text{Ci/mL} = ALPHA \text{ TOTAL } \mu\text{Ci/L} / 1000\text{mL/L}$
Instrument Code	$Relative \text{ Counting Error} = [(The \text{ Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$
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) = 2.19E-02
Analyst	
TAM	
Date Complete	
12/18/96	RELATIVE COUNTING ERROR 82.4%
Analysis Date	
12/17/96	
Analysis Time	
11:00 AM	
Sample Point	
AN-104	

(/ system;exit)yes-

Analyst:	TAM	Date: 18-Dec-96
Signature of Chemist:	SLF	Date: 12/18/96

SAMPLE.WB1 Rev. 1.0

508101ML

WORKBOOK PAGE: SPK6

AT : LA-508-101 (E-1) LA-508-113 (B-0) SPIKED SAMPLE

		SPIKE	REPLICATE
Type	DETECTOR NUMBER	16	16
SPK	DISH SIZE 1, 2, or 6 (MS)	2	2
Work List	TOTAL COUNTS (TC)	50632	52221
16498	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.03	0.03
AT	SAMPLE VOLUME in mL (Spiked Vial) (SS)	0.250	0.250
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial) (DF)	10201	10201
@ALPHA01	DIGEST DILUTION FACTOR (DDF)	1	1
Matrx	SPIKE VOLUME in mL (SVol)	0.100	0.100
LIQUID	SPIKE DILUTION FACTOR (SDF)	1	1
Batch Number	SPIKE BOOK NUMBER (Spk BN)	123B43	123B43
96012111	SPIKE VALUE in $\mu\text{Ci/mL}$ (SVal)	3.6657E-02	3.6657E-02
ReRun	INSTRUMENT EFFICIENCY FACTOR (EFF)	0.2683	0.2683
0	SAMPLE + SPIKE $\mu\text{Ci/mL}$ (S+S)	1.16E+02	1.19E+02
Sample Prep	AVERAGE or MAXIMUM $\mu\text{Ci/mL}$ in SAMPLE	2.7631E-02	
N/A			
Sample #			
S96T005978	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 = $((S+S \mu\text{Ci/mL} - SAMPLE \mu\text{Ci/mL}) * ((SDF/SVol)/(DF*DDF/SS)))$		
SEH	PERCENT SPIKE RECOVERY = $(QC \text{ FOUND} / QC \text{ ACTUAL}) * 100$		
Chemist			
SLF			
Analyst			
TAM			
Date Complete			
12/18/96			
Analysis Date			
12/17/96	QC ACTUAL	=	3.69E-02
Analysis Time	QC FOUND	=	2.88E-02
11:00 AM	AVG. PERCENT SPIKE RECOVERY	=	80.2%
Sample Point			
AN-104			

Analyst:	SEH	Date: 18-Dec-96
Signature of Chemist:	SLF	Date: 12/18/96

SPIKE.WB1 Rev. 1.0

508101ML

LABCORE Completed RadChem Report for Worklist#: 15509

Analyst: scl Instrument: GEA02 Book# _____

Method: _____ Rev/Mod _____

Worklist Comment: @GEA-02 FOR AN-104 RTS!

Seq Type	Sample# R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD	0	@GEA-02 CO60-02 LIQUID	7.804e-03	7.73e-03	99.052	% Recovery	
1 STD	0	@GEA-02 CO60-02E LIQUID	1	2.56	2.560	% Ct Error	
1 STD	0	@GEA-02 CS13702 LIQUID	7.691e-03	7.49e-03	97.387	% Recovery	
1 STD	0	@GEA-02 CS13702E LIQUID	1	3.37	3.370	% Ct Error	
2 BLNK	0	@GEA-02 CO60-02 LIQUID	1	<9.14e-3		uCi/mL	
2 BLNK	0	@GEA-02 CS13702 LIQUID	1	<2.91e-2		uCi/mL	
2 BLNK	0	@GEA-02 EU15402 LIQUID	1	<3.44e-2		uCi/mL	
2 BLNK	0	@GEA-02 EU15502 LIQUID	1	<3.60e-2		uCi/mL	
2 BLNK	0	@GEA-02 AM24102 LIQUID	1	<6.90e-2		uCi/mL	
3 SAMPLE	S96T005979 0	@GEA-02 CO60-02 LIQUID	N/A	< 1.674e-02	167.4e-004	uCi/mL	
3 SAMPLE	S96T005979 0	@GEA-02 CO60-02E LIQUID	N/A	n/a	0.0e+000	% Ct. Error	
3 SAMPLE	S96T005979 0	@GEA-02 CS13702 LIQUID	N/A	572.	0.0e+000	uCi/mL	
3 SAMPLE	S96T005979 0	@GEA-02 CS13702E LIQUID	N/A	0.210	0.0e+000	% Ct. Error	
3 SAMPLE	S96T005979 0	@GEA-02 EU15402 LIQUID	N/A	< 1.282e-01	128.2e-003	uCi/mL	
3 SAMPLE	S96T005979 0	@GEA-02 EU15402E LIQUID	N/A	n/a	0.0e+000	% Ct. Error	
3 SAMPLE	S96T005979 0	@GEA-02 EU15502 LIQUID	N/A	< 6.573e-01	657.3e-003	uCi/mL	
3 SAMPLE	S96T005979 0	@GEA-02 EU15502E LIQUID	N/A	n/a	0.0e+000	% Ct. Error	
3 SAMPLE	S96T005979 0	@GEA-02 AM24102 LIQUID	N/A	< 1.364e+00	136.4e-002	uCi/mL	
3 SAMPLE	S96T005979 0	@GEA-02 AM24102E LIQUID	N/A	n/a	0.0e+000	% Ct. Error	
4 DUP	S96T005979 0	@GEA-02 CO60-02 LIQUID	<1.67e-2	<1.59e-2		RPD	
4 DUP	S96T005979 0	@GEA-02 CO60-02E LIQUID	1	n/a		% Ct. Error	
4 DUP	S96T005979 0	@GEA-02 CS13702 LIQUID	5.72e+02	5.68e+02	0.702	RPD	
4 DUP	S96T005979 0	@GEA-02 CS13702E LIQUID	1	0.210	0.210	% Ct. Error	
4 DUP	S96T005979 0	@GEA-02 EU15402 LIQUID	<1.28e-1	<1.23e-1		RPD	
4 DUP	S96T005979 0	@GEA-02 EU15402E LIQUID	1	n/a		% Ct. Error	
4 DUP	S96T005979 0	@GEA-02 EU15502 LIQUID	<6.57e-1	<6.54e-1		RPD	
4 DUP	S96T005979 0	@GEA-02 EU15502E LIQUID	1	n/a		% Ct. Error	
4 DUP	S96T005979 0	@GEA-02 AM24102 LIQUID	<1.36e0	<1.35e0		RPD	
4 DUP	S96T005979 0	@GEA-02 AM24102E LIQUID	1	n/a		% Ct. Error	

Comments Section:

Comments for sample# S96T005979 and test @GEA-02 .
DL=0 => n/a.

Final page for worklist# 15509

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Completed RadChem Report for Worklist#: 15509

Seq Type	Sample# R A	Test	Matrix	Actual	Found	DL or Yield	Unit
Analyst Signature	Date				Analyst Signature	Date	

R. MacArthur 12/18/96
Reviewer Signature Date

Units shown for QC (BLK/BKG) may not reflect the actual units.

2186

12/10/96 14:52

A-0004-1

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Page: 1

LABCORE Data Entry Template for Worklist# 15509

Analyst: S.L Instrument: GEA00 2 Book# 6255-6Method: LA-548-121 Rev/Mod E-0

Worklist Comment: @GEA-02 FOR AN-104

RTS!

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 STD			@GEA-02	LIQUID		
2 BLNK			@GEA-02	LIQUID		
3 SAMPLE	S96T005979 0		@GEA-02	LIQUID	96001174	AN-104
	Analytes Requested: AM24102 , AM24102E, CO60-02 , CO60-02E, CS13702 , CS13702E, EU15402 , EU15402E, EU15502 , EU15502E					
4 DUP	S96T005979 0		@GEA-02	LIQUID		

Final page for worklist # 15509

Analyst Signature Sue Lai Date 12-17-96
12-16-96 (S)Analyst Signature [Signature] Date 12/17/96

Data Entry Comments:

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

2187

>>>>>>> SAMPLE INFORMATION <<<<<<<<<

Worklist #: 15509
Sample ID: WL15509-STD
Sample Size: 1.00000E-03 L
Dilution Factor: 1.00000E+00

Removed by:

A. Hurson

>>>>>>> COUNT INFORMATION <<<<<<<<<

Detector ID: GEA2
File Number: dka300:[spec.GEA2]2g2127.cnf
Geometry: 42
Count Time: 0 00:50:00.00 sec
Real Time: 0 00:50:05.29 sec
Dead Time: 0.2%

Verified by:

88machelor 12/17/96

HNF-SD-WM-DP-226, REV. 0

>>>>>>> ANALYSIS INFORMATION <<<<<<<<<

Sample Count Time: 17-DEC-1996 09:47:37.77
Decayed to: 17-DEC-1996 09:47:37.77
Standard Deviations: 2
Analysis Library: ENVGEA
Analyst: AKH
Background Subtract: DKA300:[SPEC.GEA2]2GBACK

>>>>>>> CALIBRATION INFORMATION <<<<<<<<<

Date of last energy calibration: 21-MAR-1994 09:31:55.15
Date of last efficiency calibration: 21-MAR-1994 09:43:42.61

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/L
0	42.55	132	1.20	85.64	82	8	90.8			
0	86.67	111	1.35	173.81	172	5	86.2		NP-237	0.548
									CD-109	1.83
0	122.78	12136	1.16	246.00	240	12	2.4		EU-152	17.7
									CO-57	5.84
									EU-154	12.4
3	244.67	283	1.46	489.63	484	18	41.0	1.47E+00	EU-152	2.06
3	247.75	1536	1.31	495.80	484	18	8.3		EU-154	12.4
0	344.07	682	1.25	688.35	684	9	15.5		EU-152	1.77
0	443.72	175	1.42	887.58	883	10	55.3			
0	581.76	165	1.48	1163.57	1157	13	57.1			
0	591.71	551	1.67	1183.47	1178	13	19.5			
0	661.36*	5395	1.54	1322.73	1314	15	3.4		CS-137	7.49
0	692.30	155	1.55	1384.61	1380	10	48.1		CO-57	117.
0	722.98	1721	1.54	1445.97	1439	14	7.2			
0	756.45	408	1.80	1512.89	1508	11	20.6			
0	778.70	245	1.65	1557.39	1551	13	35.6		EU-152	2.56
0	872.87	1070	1.56	1745.71	1739	16	10.3		EU-154	13.2
0	963.60	158	2.19	1927.19	1923	11	48.6		EU-152	1.78
0	995.74	844	1.76	1991.47	1985	14	11.7		EU-154	13.8
0	1004.33	1361	1.69	2008.65	2000	17	9.3		EU-154	12.9
0	1085.09	146	1.63	2170.21	2166	10	41.4		EU-152	2.69

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/L
0	1111.64	140	1.75	2223.31	2217	15	61.8		EU-152	1.93
0	1172.79	4054	1.93	2345.64	2335	21	3.6		CO-60	7.96
0	1274.00	2073	1.90	2548.11	2539	19	4.9		EU-154	12.6
0	1332.05	3454	1.97	2664.25	2655	20	3.6		CO-60	7.52
0	1396.32	31	1.44	2792.85	2786	13	54.3			
0	1407.30*	166	2.21	2814.82	2807	17	20.3		EU-152	1.81
0	1493.43	46	2.16	2987.15	2979	16	35.3			
0	1595.67	120	2.34	3191.75	3182	17	18.3			

Sample ID : WL15509-STD

Acquisition date : 17-DEC-1996 09:47:37

Total number of lines in spectrum 27
 Number of unidentified lines 6
 Number of lines tentatively identified by NID 21 77.78%

Nuclide Type :

Nuclide	Hlflife	Decay	Wtd Mean Uncorrected uCi/L	Wtd Mean Decay Corr uCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CO-57	271.80D	1.000	1.173E+02	1.173E+02	0.564E+02	48.08	48.08 <i>48.08</i>
CO-60	5.27Y	1.000	7.730E+00	7.730E+00	0.198E+00	2.56	
CD-109	462.90D	1.000	1.826E+00	1.826E+00	1.574E+00	86.20	86.20 <i>86.20</i>
CS-137	30.00Y	1.000	7.486E+00	7.486E+00	0.252E+00	3.37	
EU-152	13.54Y	1.000	1.868E+00	1.868E+00	0.196E+00	10.49	
EU-154	8.59Y	1.000	1.278E+01	1.278E+01	0.044E+01	3.45	
NP-237	2.14E+06Y	1.000	5.478E-01	5.478E-01	4.723E-01	86.20	86.20 <i>86.20</i>
Total Activity :			1.495E+02	1.495E+02			

Grand Total Activity : 1.495E+02 1.495E+02

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Sample ID : WL15509-STD

Acquisition date : 17-DEC-1996 09:47:37

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
BE-7	578.	477.59	9.7534E-01
NA-22	2104.	1274.53	4.4782E-01
NA-24	26.	1368.55	5.3653E-02
K-40	104.	1460.75	1.0385E+00
CR-51	546.	320.08	7.0684E-01
MN-54	310.	834.83	1.1794E-01
CO-56	345.	846.76	1.2605E-01
CO-58	357.	810.78	1.2411E-01
FE-59	285.	1099.25	2.5683E-01
SE-75	729.	264.66	1.2332E-01
SR-85	476.	514.01	1.0161E-01
Y-88	9.	1836.06	3.9286E-02
NB-94	1122.	871.09	2.3263E-01
ZRNB-95	1964.	724.18	6.0216E-01
RU-103	450.	497.08	1.0137E-01
RURH-106	386.	621.93	2.0687E+00
AG-108m	2041.	722.94	2.9495E-01
AG-110M	590.	657.76	1.4046E-01
SN-113	561.	391.69	1.3038E-01
TE-123m	804.	159.00	6.3442E-02
SB-124	397.	602.73	1.0372E-01
SB-125	538.	427.89	2.9965E-01
TE-125m	1214.	109.27	2.5825E+01
I-131	536.	364.48	9.5398E-02
CS-134	345.	604.70	9.7202E-02
BA-140	451.	537.31	4.0446E-01
LA-140	115.	1596.21	1.3202E-01
CEPR-144	770.	133.51	9.2704E-01
EU-155	1278.	105.31	3.5580E-01
HG-203	683.	279.20	8.8823E-02
TL-208	706.	277.36	1.1603E+00
BI-212	347.	727.18	1.6697E+00
PB-212	882.	238.63	1.6947E-01
BI-214	376.	609.31	2.2226E-01
PB-214	566.	351.92	3.8680E-01
RA-224	860.	240.99	1.8567E+00
RA-226	901.	186.10	1.7512E+00
AC-228	365.	911.21	5.1865E-01
TH-228	1191.	84.37	8.1366E+00
TH-229	1250.	88.47	3.9350E-01
PA-233	628.	312.17	1.9439E-01
UTH-233	1300.	245.34	8.5536E+01
PA-234M	570.	1001.03	3.1874E-01
TH-234	769.	63.29	3.8075E+00
U-235	880.	185.71	1.0520E-01
NP-239	1264.	106.12	3.3593E-01
PU-239	794.	129.30	8.2257E+02
AM-241	803.	59.54	6.1943E-01
AM-243	839.	74.67	1.8564E-01

>>>>>>> SAMPLE INFORMATION <<<<<<<<<

Worklist #: 15509
Sample ID: WL15509-BLK
Sample Size: 2.50000E-04 L
Dilution Factor: 1.01000E+02

Removed by:
Sue Hogan

>>>>>>> COUNT INFORMATION <<<<<<<<<

Detector ID: GEA2
File Number: dka300:[spec.GEA2]2g2128.cnf
Geometry: 42
Count Time: 0 00:50:00.00 sec
Real Time: 0 00:50:00.45 sec
Dead Time: 0.0%

Verified by:
R. Bachelor 12/17/96

HNF-SD-WM-DP-226, REV. 0

>>>>>>> ANALYSIS INFORMATION <<<<<<<<<

Sample Count Time: 17-DEC-1996 10:54:11.96
Decayed to: 17-DEC-1996 10:54:11.96
Standard Deviations: 2
Analysis Library: ENVGEA
Analyst: AKH
Background Subtract: DKA300:[SPEC.GEA2]2GBACK

>>>>>>> CALIBRATION INFORMATION <<<<<<<<<

Date of last energy calibration: 21-MAR-1994 09:31:55.15
Date of last efficiency calibration: 21-MAR-1994 09:43:42.61

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/L
0	278.78	30	1.30	557.82	556	5	52.0		HG-203	8.99
0	1460.51*	7	2.77	2921.27	2917	183	23.8		K-40	60.1

Total number of lines in spectrum 2
Number of unidentified lines 0
Number of lines tentatively identified by NID 2 100.00%

Nuclide Type :

Nuclide	Hlfe	Decay	Wtd Mean		Decay Corr	2-Sigma Error	2-Sigma	Flags
			Uncorrected	Decay Corr				
			uCi/L	uCi/L				
K-40	1.28E+09Y	1.000	6.005E+01	6.005E+01	19.44E+01	323.78		
HG-203	46.61D	1.000	8.991E+00	8.993E+00	4.678E+00	52.02		
Total Activity :			6.904E+01	6.905E+01				

Grand Total Activity : 6.904E+01 6.905E+01

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
BE-7	25.	477.59	8.1752E+01
NA-22	9.	1274.53	1.1771E+01
NA-24	9.	1368.55	1.2435E+01
CR-51	51.	320.08	8.7031E+01
MN-54	15.	834.83	1.0371E+01
CO-56	16.	846.76	1.0969E+01
CO-57	66.	122.06	7.3381E+00
CO-58	9.	810.78	7.9124E+00
FE-59	13.	1099.25	2.1914E+01
CO-60	5.	1332.50	9.1404E+00
SE-75	55.	264.66	1.3655E+01
SR-85	38.	514.01	1.1562E+01
Y-88	4.	1836.06	1.0644E+01
NB-94	14.	871.09	1.0640E+01
ZRNB-95	18.	724.18	2.3559E+01
RU-103	18.	497.08	8.2158E+00
RURH-106	15.	621.93	1.6406E+02
AG-108m	16.	722.94	1.0550E+01
CD-109	68.	88.03	2.5524E+02
AG-110M	26.	657.76	1.1907E+01
SN-113	34.	391.69	1.2936E+01
TE-123m	82.	159.00	8.2060E+00
SB-124	20.	602.73	9.3762E+00
SB-125	42.	427.89	3.3894E+01
TE-125m	71.	109.27	2.5232E+03
I-131	46.	364.48	1.1273E+01
CS-134	20.	604.70	9.5234E+00
CS-137	125.	661.66	2.9097E+01
BA-140	30.	537.31	4.2058E+01
LA-140	2.	1596.21	7.0482E+00
CEPR-144	71.	133.51	1.1379E+02
EU-152	3.	1408.01	3.5444E+01
EU-154	9.	1274.51	3.4352E+01
EU-155	80.	105.31	3.6022E+01
TL-208	72.	277.36	1.4974E+02
BI-212	20.	727.18	1.6313E+02
PB-212	78.	238.63	2.0381E+01
BI-214	43.	609.31	3.0239E+01
PB-214	60.	351.92	5.0958E+01
RA-224	79.	240.99	2.2781E+02
RA-226	73.	186.10	2.0160E+02
AC-228	27.	911.21	5.7177E+01
TH-228	74.	84.37	8.1879E+02
TH-229	68.	88.47	3.7124E+01
PA-233	58.	312.17	2.3960E+01
UTH-233	51.	245.34	6.8728E+03
PA-234M	14.	1001.03	1.9959E+01
TH-234	71.	63.29	4.6699E+02
U-235	74.	185.71	1.2316E+01
NP-237	65.	86.48	7.4986E+01
NP-239	75.	106.12	3.3123E+01

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
PU-239	69.	129.30	9.8079E+04
AM-241	61.	59.54	6.8957E+01
AM-243	78.	74.67	2.2795E+01

>>>>>>> SAMPLE INFORMATION <<<<<<<<<
 Worklist #: 15509
 Sample ID: S96T005979-SAM
 Sample Size: 2.50000E-04 L
 Dilution Factor: 1.01000E+02

Removed by:

G. Hinson

>>>>>>> COUNT INFORMATION <<<<<<<<<
 Detector ID: GEA2
 File Number: ~~N13AF:1.cmf~~ 2g 2129 AKH
 Geometry: 42
 Count Time: 0 00:50:00.00 sec
 Real Time: 0 00:52:21.97 sec
 Dead Time: 4.5%

Verified by:

Shadeler 12/17/96

>>>>>>> ANALYSIS INFORMATION <<<<<<<<<
 Sample Count Time: 17-DEC-1996 11:47:30.15
 Decayed to: 17-DEC-1996 11:47:30.15
 Standard Deviations: 2
 Analysis Library: ENVGEA
 Analyst: AKH
 Background Subtract: DKA300:[SPEC.GEA2]2GBACK

HNF-SD-WM-DP-226, REV. 0

>>>>>>> CALIBRATION INFORMATION <<<<<<<<<
 Date of last energy calibration: 21-MAR-1994 09:31:55.15
 Date of last efficiency calibration: 21-MAR-1994 09:43:42.61

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/L
0	661.32*	1019806	1.54	1322.65	1314	18	0.2		CS-137	5.718E+05
0	1321.73	256	3.19	2643.60	2637	23	35.2			

Total number of lines in spectrum 2
Number of unidentified lines 1
Number of lines tentatively identified by NID 1 50.00%

Nuclide Type :

Nuclide	Hlflfe	Decay	Wtd Mean Uncorrected uCi/L	Wtd Mean Decay Corr uCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CS-137	30.00Y	1.000	5.717E+05	5.718E+05	0.012E+05	0.21	
Total Activity :			5.717E+05	5.718E+05			

Grand Total Activity : 5.717E+05 5.718E+05

Flags: "K" = Keyline not found

"E" = Manually edited

"M" = Manually accepted

"A" = Nuclide specific abn. limit

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
BE-7	32164.	477.59	2.9390E+03
NA-22	125.	1274.53	4.4138E+01
NA-24	6.	1368.55	1.0837E+01
K-40	79.	1460.75	3.6684E+02
CR-51	27115.	320.08	2.0132E+03
MN-54	643.	834.83	6.8642E+01
CO-56	652.	846.76	6.9975E+01
CO-57	29063.	122.06	1.5400E+02
CO-58	709.	810.78	7.0660E+01
FE-59	224.	1099.25	9.2017E+01
CO-60	17.	1332.50	1.6742E+01
SE-75	30025.	264.66	3.1979E+02
SR-85	16843.	514.01	2.4428E+02
Y-88	0.	1836.06	0.0000E+00
NB-94	545.	871.09	6.5520E+01
ZRNB-95	1111.	724.18	1.8291E+02
RU-103	20723.	497.08	2.7785E+02
RURH-106	7345.	621.93	3.6474E+03
AG-108m	1117.	722.94	8.8135E+01
CD-109	25855.	88.03	4.9876E+03
AG-110M	51449.	657.76	5.3004E+02
SN-113	29158.	391.69	3.7964E+02
TE-123m	29797.	159.00	1.5603E+02
SB-124	7562.	602.73	1.8300E+02
SB-125	33553.	427.89	9.5571E+02
TE-125m	27281.	109.27	4.9460E+04
I-131	27629.	364.48	2.7684E+02
CS-134	7612.	604.70	1.8443E+02
BA-140	12462.	537.31	8.5882E+02
LA-140	3.	1596.21	8.1990E+00
CEPR-144	29706.	133.51	2.3270E+03
EU-152	12.	1408.01	6.9708E+01
EU-154	125.	1274.51	1.2817E+02
EU-155	26714.	105.31	6.5732E+02
HG-203	28471.	279.20	2.3169E+02
TL-208	28901.	277.36	2.9996E+03
BI-212	1136.	727.18	1.2198E+03
PB-212	33539.	238.63	4.2219E+02
BI-214	7409.	609.31	3.9884E+02
PB-214	27254.	351.92	1.1094E+03
RA-224	33133.	240.99	4.6579E+03
RA-226	38418.	186.10	4.6193E+03
AC-228	441.	911.21	2.3015E+02
TH-228	25265.	84.37	1.5139E+04
TH-229	25912.	88.47	7.2378E+02
PA-233	26939.	312.17	5.1457E+02
UTH-233	32690.	245.34	1.7328E+05
PA-234M	312.	1001.03	9.5334E+01
TH-234	24015.	63.29	8.5979E+03
U-235	37994.	185.71	2.7922E+02
NP-237	25647.	86.48	1.4906E+03

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
NP-239	26727.	106.12	6.2411E+02
PU-239	29696.	129.30	2.0327E+06
AM-241	23848.	59.54	1.3641E+03
AM-243	24535.	74.67	4.0546E+02

* 222-S Laboratory Counting Room 17-DEC-1996 13:36:08.35

>>>>>>> SAMPLE INFORMATION <<<<<<<<<

Worklist #: 15509
Sample ID: S96T005979-DUP
Sample Size: 2.50000E-04 L
Dilution Factor: 1.01000E+02

Removed by:

D. Hudson

>>>>>>> COUNT INFORMATION <<<<<<<<<

Detector ID: GEA2
File Number: dka300:[spec.GEA2]2g2130.cnf
Geometry: 42
Count Time: 0 00:50:00.00 sec
Real Time: 0 00:52:21.04 sec
Dead Time: 4.5%

Verified by:

B. Machele 12/17/96

>>>>>>> ANALYSIS INFORMATION <<<<<<<<<

Sample Count Time: 17-DEC-1996 12:43:00.73
Decayed to: 17-DEC-1996 12:43:00.73
Standard Deviations: 2
Analysis Library: ENVGEA
Analyst: AKH
Background Subtract: DKA300:[SPEC.GEA2]2GBACK

HNF-SD-WM-DP-226, REV. 0

>>>>>>> CALIBRATION INFORMATION <<<<<<<<<

Date of last energy calibration: 21-MAR-1994 09:31:55.15
Date of last efficiency calibration: 21-MAR-1994 09:43:42.61

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/L
0	661.30*	1013844	1.54	1322.62	1314	17	0.2		CS-137	5.684E+05
0	1136.60	38	1.08	2273.23	2271	7	84.7			
0	1321.46	295	2.69	2643.07	2634	19	23.2			

Total number of lines in spectrum 3
Number of unidentified lines 2
Number of lines tentatively identified by NID 1 33.33%

Nuclide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/L	Wtd Mean Decay Corr uCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CS-137	30.00Y	1.000	5.684E+05	5.684E+05	0.012E+05	0.21	
Total Activity :			5.684E+05	5.684E+05			

Grand Total Activity : 5.684E+05 5.684E+05

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
BE-7	32299.	477.59	2.9451E+03
NA-22	116.	1274.53	4.2420E+01
NA-24	10.	1368.55	1.3133E+01
K-40	102.	1460.75	4.1548E+02
CR-51	26732.	320.08	1.9989E+03
MN-54	702.	834.83	7.1702E+01
CO-56	638.	846.76	6.9231E+01
CO-57	28740.	122.06	1.5314E+02
CO-58	741.	810.78	7.2275E+01
FE-59	257.	1099.25	9.8492E+01
CO-60	15.	1332.50	1.5904E+01
SE-75	30044.	264.66	3.1989E+02
SR-85	16739.	514.01	2.4352E+02
Y-88	4.	1836.06	1.0193E+01
NB-94	585.	871.09	6.7872E+01
ZRNB-95	1102.	724.18	1.8223E+02
RU-103	20431.	497.08	2.7589E+02
RURH-106	7127.	621.93	3.5927E+03
AG-108m	1139.	722.94	8.8995E+01
CD-109	25248.	88.03	4.9287E+03
AG-110M	52431.	657.76	5.3508E+02
SN-113	29295.	391.69	3.8053E+02
TE-123m	29661.	159.00	1.5567E+02
SB-124	7386.	602.73	1.8086E+02
SB-125	33710.	427.89	9.5794E+02
TE-125m	26998.	109.27	4.9202E+04
I-131	27308.	364.48	2.7522E+02
CS-134	7314.	604.70	1.8078E+02
BA-140	12540.	537.31	8.6148E+02
LA-140	6.	1596.21	1.2278E+01
CEPR-144	29995.	133.51	2.3383E+03
EU-152	10.	1408.01	6.4711E+01
EU-154	116.	1274.51	1.2320E+02
EU-155	26435.	105.31	6.5389E+02
HG-203	28434.	279.20	2.3154E+02
TL-208	28573.	277.36	2.9825E+03
BI-212	1080.	727.18	1.1895E+03
PB-212	33517.	238.63	4.2205E+02
BI-214	7339.	609.31	3.9694E+02
PB-214	26760.	351.92	1.0991E+03
RA-224	33136.	240.99	4.6580E+03
RA-226	37921.	186.10	4.5893E+03
AC-228	475.	911.21	2.3880E+02
TH-228	24964.	84.37	1.5048E+04
TH-229	25337.	88.47	7.1571E+02
PA-233	26907.	312.17	5.1426E+02
UTH-233	32308.	245.34	1.7226E+05
PA-234M	309.	1001.03	9.4782E+01
TH-234	23556.	63.29	8.5154E+03
U-235	37599.	185.71	2.7777E+02
NP-237	25143.	86.48	1.4759E+03

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
NP-239	26486.	106.12	6.2128E+02
PU-239	29494.	129.30	2.0257E+06
AM-241	23477.	59.54	1.3534E+03
AM-243	24326.	74.67	4.0374E+02

LABCORE Completed RadChem Report for Worklist#: 16200

Analyst: knt Instrument: GEA02 Book# _____

Method: _____ Rev/Mod _____

Worklist Comment: Sample size = 0.750ml. Std: (TNKFUS) 1.0ml. new

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD	0	@GEA-02	C060-02	SOLID	7.719e-03	7.92e-03	102.604	% Recovery
1 STD	0	@GEA-02	C060-02B	SOLID	1	2.45	2.450	% Ct Error
1 STD	0	@GEA-02	CS13702	SOLID	7.676e-03	7.57e-03	98.619	% Recovery
1 STD	0	@GEA-02	CS13702B	SOLID	1	3.31	3.310	% Ct Error
2 BLNK-PREP	0	@GEA-02	C060-02	SOLID	1	<1.40e-2		uCi/g
2 BLNK-PREP	0	@GEA-02	CS13702	SOLID	1	<4.31e-2		uCi/g
2 BLNK-PREP	0	@GEA-02	EU15402	SOLID	1	<6.59e-2		uCi/g
2 BLNK-PREP	0	@GEA-02	EU15502	SOLID	1	<5.79e-2		uCi/g
2 BLNK-PREP	0	@GEA-02	AM24102	SOLID	1	<1.07e-1		uCi/g
3 SAMPLE	S96T005975	0 F	@GEA-02	C060-02	SOLID	N/A	< 2.636e-02	263.6e-004 uCi/g
3 SAMPLE	S96T005975	0 F	@GEA-02	C060-02B	SOLID	N/A	n/a	0.0e+000 % Ct. Error
3 SAMPLE	S96T005975	0 F	@GEA-02	CS13702	SOLID	N/A	3.574e+02	0.0e+000 uCi/g
3 SAMPLE	S96T005975	0 F	@GEA-02	CS13702B	SOLID	N/A	0.330	0.0e+000 % Ct. Error
3 SAMPLE	S96T005975	0 F	@GEA-02	EU15402	SOLID	N/A	< 9.029e-02	902.9e-004 uCi/g
3 SAMPLE	S96T005975	0 F	@GEA-02	EU15402B	SOLID	N/A	n/a	0.0e+000 % Ct. Error
3 SAMPLE	S96T005975	0 F	@GEA-02	EU15502	SOLID	N/A	< 6.724e-01	672.4e-003 uCi/g
3 SAMPLE	S96T005975	0 F	@GEA-02	EU15502B	SOLID	N/A	n/a	0.0e+000 % Ct. Error
3 SAMPLE	S96T005975	0 F	@GEA-02	AM24102	SOLID	N/A	< 1.413e+00	141.3e-002 uCi/g
3 SAMPLE	S96T005975	0 F	@GEA-02	AM24102B	SOLID	N/A	n/a	0.0e+000 % Ct. Error
4 DUP	S96T005975	0 F	@GEA-02	C060-02	SOLID	<2.64e-2	<2.60e-2	RPD
4 DUP	S96T005975	0 F	@GEA-02	C060-02B	SOLID	1	n/a	% Ct. Error
4 DUP	S96T005975	0 F	@GEA-02	CS13702	SOLID	3.57e+02	3.41e+02	4.585 RPD
4 DUP	S96T005975	0 F	@GEA-02	CS13702B	SOLID	1	0.340	0.340 % Ct. Error
4 DUP	S96T005975	0 F	@GEA-02	EU15402	SOLID	<9.03e-2	<1.00e-1	RPD
4 DUP	S96T005975	0 F	@GEA-02	EU15402B	SOLID	1	n/a	% Ct. Error
4 DUP	S96T005975	0 F	@GEA-02	EU15502	SOLID	<6.72e-1	<6.55e-1	RPD
4 DUP	S96T005975	0 F	@GEA-02	EU15502B	SOLID	1	n/a	% Ct. Error
4 DUP	S96T005975	0 F	@GEA-02	AM24102	SOLID	<1.41e0	<1.35e0	RPD
4 DUP	S96T005975	0 F	@GEA-02	AM24102B	SOLID	1	n/a	% Ct. Error

Comments Section:

Comments for sample# S96T005975 and test @GEA-02 .
DL=0 => n/a.

Final page for worklist# 16200

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Completed RadChem Report for Worklist#: 16200

Seq Type	Sample# R A	Test	Matrix	Actual	Found	DL or Yield	Unit
Analyst Signature		Date			Analyst Signature		Date
<i>[Signature]</i>		<i>1/20/97</i>					
Reviewer Signature		Date					

LABCORE Data Entry Template for Worklist# 16200

Analyst: KNT Instrument: GEA00 2 Book# 62B56

Method: LA-548-121 Rev/Mod E-0

Worklist Comment: Sample size = 0.750ml. Std: (TNKFUS) 1.0ml. new

3 Type	Sample#	R A	Test	Matrix	Group#	Project
1 STD			@GEA-02	SOLID		
2 BLNK-PREP			@GEA-02	SOLID		
3 SAMPLE	S96T005975 0 F		@GEA-02	SOLID	96001174 AN-104	
	Analytes Requested: AM24102 , AM24102E, CO60-02 , CO60-02E, CS13702 , CS13702E, EU15402 , EU15402E, EU15502 , EU15502E					
4 DUP	S96T005975 0 F		@GEA-02	SOLID		

Final page for worklist # 16200

Kim Thomas 1-16-97
Analyst Signature Date

[Signature] 1/20/97
Analyst Signature Date

Data Entry Comments:

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

2206

>>>>>>> SAMPLE INFORMATION <<<<<<<<<

Worklist #: 16200
Sample ID: WL16200-STD
Sample Size: 1.00000E-03 L
Dilution Factor: 1.00000E+00

Removed by:
A. J. Hudson

>>>>>>> COUNT INFORMATION <<<<<<<<<

Detector ID: GEA2
File Number: dka300:[spec.GEA2]2g2267.cnf
Geometry: 42
Count Time: 0 00:50:00.00 sec
Real Time: 0 00:50:05.25 sec
Dead Time: 0.2%

Verified by:
D. Bachelor 1/20/97

HNF-SD-WM-DP-226, REV. 0

>>>>>>> ANALYSIS INFORMATION <<<<<<<<<

Sample Count Time: 16-JAN-1997 14:56:55.08
Decayed to: 16-JAN-1997 14:56:55.08
Standard Deviations: 2
Analysis Library: ENVGEA
Analyst: AKH
Background Subtract: DKA300:[SPEC.GEA2]2GBACK

>>>>>>> CALIBRATION INFORMATION <<<<<<<<<

Date of last energy calibration: 21-MAR-1994 09:31:55.15
Date of last efficiency calibration: 21-MAR-1994 09:43:42.61

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/L
0	42.88	156	1.05	86.30	82	8	77.2			
0	86.33*	226	2.00	173.14	170	7	53.7		NP-237	1.12
0	122.83	12101	1.19	246.09	240	13	2.4		EU-152	17.6
									CO-57	5.82
									EU-154	12.3
4	244.87	321	1.52	490.03	483	19	36.2	3.78E+00	EU-152	2.33
4	247.81	1512	1.22	495.92	483	19	7.9		EU-154	12.2
0	344.21	625	1.42	688.63	685	12	20.9		EU-152	1.62
0	582.07*	91	1.17	1164.19	1160	9	78.0			
0	591.67	538	1.40	1183.38	1177	13	19.3			
0	661.56*	5458	1.59	1323.13	1316	15	3.3		CS-137	7.57
0	692.30	160	1.53	1384.60	1380	10	47.7		CO-57	122.
0	723.18	1730	1.47	1446.37	1439	14	7.3		EU-154	11.0
0	756.76	343	1.77	1513.51	1508	10	23.5			
0	778.74	187	1.26	1557.46	1551	13	48.2		EU-152	1.96
0	873.15	949	1.77	1746.28	1740	12	10.4		EU-154	11.7
0	964.36	226	1.89	1928.71	1923	13	39.0		EU-152	2.55
0	996.13	711	1.92	1992.25	1985	14	14.4		EU-154	11.6
0	1004.61	1336	1.82	2009.21	2002	15	8.5		EU-154	12.7
0	1111.99	176	1.32	2224.01	2220	10	32.3		EU-152	2.43
0	1173.11	4008	1.78	2346.27	2336	19	3.6		CO-60	7.87
0	1274.32	1987	1.87	2548.75	2539	20	5.1		EU-154	12.1

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/L
0	1332.37	3660	1.87	2664.90	2655	19	3.4		CO-60	7.96
0	1407.90*	188	1.84	2816.01	2808	17	15.7		EU-152	2.05
0	1493.68	35	2.32	2987.66	2979	16	49.0			
0	1596.64	79	1.34	3193.68	3188	13	29.3			

Total number of lines in spectrum
Number of unidentified lines
Number of lines tentatively identified by NID

24
4
20

83.33%

Nuclide Type :

Nuclide	Hliffe	Decay	Wtd Mean	Wtd Mean	Decay Corr	2-Sigma
			Uncorrected	Decay Corr	2-Sigma Error	%Error Flags
			uCi/L	uCi/L		
CO-57	271.80D	1.000	1.217E+02	1.217E+02	0.581E+02	47.72 ¹⁵⁴ Eu <i>En B22</i>
CO-60	5.27Y	1.000	7.920E+00	7.920E+00	0.194E+00	2.45
CS-137	30.00Y	1.000	7.574E+00	7.574E+00	0.251E+00	3.31
EU-152	13.54Y	1.000	1.950E+00	1.950E+00	0.206E+00	10.55
EU-154	8.59Y	1.000	1.190E+01	1.190E+01	0.037E+01	3.14
NP-237	2.14E+06Y	1.000	1.120E+00	1.120E+00	0.601E+00	53.66 <i>Bu 1.02</i>
Total Activity :			1.521E+02	1.522E+02		

Grand Total Activity :

1.521E+02

1.522E+02

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
BE-7	575.	477.59	9.7260E-01
NA-22	2027.	1274.53	4.3957E-01
NA-24	24.	1368.55	5.1586E-02
K-40	104.	1460.75	1.0422E+00
CR-51	619.	320.08	7.5278E-01
MN-54	307.	834.83	1.1729E-01
CO-56	377.	846.76	1.3171E-01
CO-58	326.	810.78	1.1857E-01
FE-59	294.	1099.25	2.6100E-01
SE-75	731.	264.66	1.2351E-01
SR-85	484.	514.01	1.0246E-01
Y-88	9.	1836.06	3.8784E-02
NB-94	1056.	871.09	2.2574E-01
ZRNB-95	2027.	724.18	6.1175E-01
RU-103	514.	497.08	1.0832E-01
RURH-106	379.	621.93	2.0510E+00
AG-108m	2076.	722.94	2.9740E-01
CD-109	1276.	88.03	2.7427E+00
AG-110M	503.	657.76	1.2968E-01
SN-113	541.	391.69	1.2795E-01
TE-123m	770.	159.00	6.2092E-02
SB-124	379.	602.73	1.0134E-01
SB-125	521.	427.89	2.9468E-01
TE-125m	1219.	109.27	2.5881E+01
I-131	556.	364.48	9.7183E-02
CS-134	399.	604.70	1.0452E-01
BA-140	479.	537.31	4.1679E-01
LA-140	92.	1596.21	1.1814E-01
CEPR-144	822.	133.51	9.5836E-01
EU-155	1289.	105.31	3.5744E-01
HG-203	673.	279.20	8.8196E-02
TL-208	668.	277.36	1.1286E+00
BI-212	328.	727.18	1.6215E+00
PB-212	860.	238.63	1.6732E-01
BI-214	395.	609.31	2.2789E-01
PB-214	619.	351.92	4.0443E-01
RA-224	831.	240.99	1.8256E+00
RA-226	792.	186.10	1.6420E+00
AC-228	341.	911.21	5.0102E-01
TH-228	1206.	84.37	8.1856E+00
TH-229	1265.	88.47	3.9580E-01
PA-233	595.	312.17	1.8928E-01
UTH-233	1224.	245.34	8.2980E+01
PA-234M	440.	1001.03	2.8023E-01
TH-234	772.	63.29	3.8169E+00
U-235	766.	185.71	9.8130E-02
NP-239	1277.	106.12	3.3755E-01
PU-239	817.	129.30	8.3447E+02
AM-241	749.	59.54	5.9825E-01
AM-243	837.	74.67	1.8542E-01

* 222-S Laboratory Counting Room 16-JAN-1997 16:41:46.06 *

>>>>>>>> SAMPLE INFORMATION <<<<<<<<<

Worklist #: 16200
Sample ID: WL16200-BLK
Sample Size: 7.50000E-04 L
Dilution Factor: 1.00000E+00

Removed by:

A. Huxon

>>>>>>>> COUNT INFORMATION <<<<<<<<<

Detector ID: GEA2
File Number: dka300:[spec.GEA2]2g2268.cnf
Geometry: 42
Count Time: 0 00:50:00.00 sec
Real Time: 0 00:50:00.46 sec
Dead Time: 0.0%

Verified by:

S. Madelon 1/20/97

>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<

Sample Count Time: 16-JAN-1997 15:51:05.66
Decayed to: 16-JAN-1997 15:51:05.66
Standard Deviations: 2
Analysis Library: ENVGEA
Analyst: AKH
Background Subtract: DKA300:[SPEC.GEA2]2GBACK

HNF-SD-WM-DP-226, REV. 0

>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<

Date of last energy calibration: 21-MAR-1994 09:31:55.15
Date of last efficiency calibration: 21-MAR-1994 09:43:42.61

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/L
0	295.11*	31	0.90	590.47	587	8	98.0		PB-214	0.245
0	351.88*	38	1.16	703.96	700	9	67.2		PB-214	0.178
0	608.64*	34	0.85	1217.32	1211	11	66.1			
0	1764.90*	5	1.15	3530.43	3525		12169.5			

Total number of lines in spectrum 4
Number of unidentified lines 0
Number of lines tentatively identified by NID 4 100.00%

Nuclide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/L	Wtd Mean Decay Corr uCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
PB-214	26.80M	1.782	1.072E-01	1.910E-01	1.069E-01	55.96	BLK, GR
Total Activity :			1.072E-01	1.910E-01			

Grand Total Activity : 1.072E-01 1.910E-01

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Sample ID : WL16200-BLK

Acquisition date : 16-JAN-1997 15:51:05

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
BE-7	32.	477.59	3.0362E-01
NA-22	12.	1274.53	4.5574E-02
NA-24	7.	1368.55	3.7164E-02
K-40	99.	1460.75	1.3559E+00
CR-51	67.	320.08	3.3091E-01
MN-54	15.	834.83	3.4330E-02
CO-56	15.	846.76	3.5044E-02
CO-57	69.	122.06	2.4790E-02
CO-58	14.	810.78	3.2559E-02
FE-59	9.	1099.25	6.2041E-02
CO-60	4.	1332.50	2.8180E-02
SE-75	48.	264.66	4.2088E-02
SR-85	49.	514.01	4.3702E-02
Y-88	1.	1836.06	1.7564E-02
NB-94	20.	871.09	4.1506E-02
ZRNB-95	21.	724.18	8.2811E-02
RU-103	40.	497.08	4.0143E-02
RURH-106	26.	621.93	7.2207E-01
AG-108m	23.	722.94	4.1591E-02
CD-109	66.	88.03	8.3258E-01
AG-110M	18.	657.76	3.3019E-02
SN-113	41.	391.69	4.7002E-02
TE-123m	69.	159.00	2.4733E-02
SB-124	28.	602.73	3.6463E-02
SB-125	34.	427.89	1.0038E-01
TE-125m	77.	109.27	8.6481E+00
I-131	53.	364.48	4.0179E-02
CS-134	32.	604.70	3.9558E-02
CS-137	101.	661.66	8.6625E-02
BA-140	21.	537.31	1.1568E-01
LA-140	3.	1596.21	3.0370E-02
CEPR-144	81.	133.51	3.9998E-01
EU-152	6.	1408.01	1.6543E-01
EU-154	12.	1274.51	1.3241E-01
EU-155	77.	105.31	1.1641E-01
HG-203	58.	279.20	3.4561E-02
TL-208	48.	277.36	4.0384E-01
BI-212	24.	727.18	5.9024E-01
PB-212	68.	238.63	6.2657E-02
BI-214	59.	609.31	1.1701E-01
RA-224	66.	240.99	6.8553E-01
RA-226	86.	186.10	7.2300E-01
AC-228	17.	911.21	1.5099E-01
TH-228	68.	84.37	2.5913E+00
TH-229	64.	88.47	1.1829E-01
PA-233	53.	312.17	7.5549E-02
UTH-233	58.	245.34	2.4191E+01
PA-234M	12.	1001.03	6.2125E-02
TH-234	62.	63.29	1.4407E+00
U-235	86.	185.71	4.3802E-02
NP-237	71.	86.48	2.5856E-01

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
NP-239	76.	106.12	1.0990E-01
PU-239	83.	129.30	3.5543E+02
AM-241	54.	59.54	2.1411E-01
AM-243	73.	74.67	7.2781E-02

* 222-S Laboratory Counting Room 16-JAN-1997 17:36:42.51

>>>>>>> SAMPLE INFORMATION <<<<<<<<<

Worklist #: 16200
Sample ID: S96T05975-SAM
Sample Size: 7.50000E-04 L
Dilution Factor: 1.00000E+00

Removed by:

proB

>>>>>>> COUNT INFORMATION <<<<<<<<<

Detector ID: GEA2
File Number: dka300:[spec.GEA2]2g2269.cnf
Geometry: 42
Count Time: 0 00:50:00.00 sec
Real Time: 0 00:50:52.51 sec
Dead Time: 1.7%

Verified by:

B. Bachelor 1/20/97

>>>>>>> ANALYSIS INFORMATION <<<<<<<<<

Sample Count Time: 16-JAN-1997 16:45:05.87
Decayed to: 16-JAN-1997 16:45:05.87
Standard Deviations: 2
Analysis Library: ENVGEA
Analyst: AKH
Background Subtract: DKA300:[SPEC.GEA2]2GBACK

HNF-SD-WM-DP-226, REV. 0

>>>>>>> CALIBRATION INFORMATION <<<<<<<<<

Date of last energy calibration: 21-MAR-1994 09:31:55.15
Date of last efficiency calibration: 21-MAR-1994 09:43:42.61

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/L
0	661.52*	388168	1.54	1323.05	1315	17	0.3		CS-137	718.

Total number of lines in spectrum 1
Number of unidentified lines 0
Number of lines tentatively identified by NID 1 100.00%

Nuclide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/L	Wtd Mean Decay Corr uCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CS-137	30.00Y	1.000	7.182E+02	7.182E+02	0.024E+02	0.33	
Total Activity :			7.182E+02	7.182E+02			

Grand Total Activity : 7.182E+02 7.182E+02

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
BE-7	12364.	477.59	6.0138E+00
NA-22	23.	1274.53	6.2426E-02
NA-24	5.	1368.55	2.9926E-02
K-40	114.	1460.75	1.4516E+00
CR-51	10094.	320.08	4.0539E+00
MN-54	103.	834.83	9.0457E-02
CO-56	106.	846.76	9.3120E-02
CO-57	11141.	122.06	3.1468E-01
CO-58	115.	810.78	9.4086E-02
FE-59	34.	1099.25	1.1764E-01
CO-60	15.	1332.50	5.2960E-02
SE-75	11368.	264.66	6.4942E-01
SR-85	6233.	514.01	4.9041E-01
Y-88	2.	1836.06	2.4840E-02
NB-94	90.	871.09	8.7923E-02
ZRNB-95	179.	724.18	2.4235E-01
RU-103	7678.	497.08	5.5818E-01
RURH-106	2559.	621.93	7.1044E+00
AG-108m	186.	722.94	1.1866E-01
CD-109	9775.	88.03	1.0121E+01
AG-110M	12713.	657.76	8.6957E-01
SN-113	10915.	391.69	7.6658E-01
TE-123m	11250.	159.00	3.1641E-01
SB-124	2727.	602.73	3.6267E-01
SB-125	12711.	427.89	1.9413E+00
TE-125m	10421.	109.27	1.0089E+02
I-131	10387.	364.48	5.6018E-01
CS-134	2729.	604.70	3.6446E-01
BA-140	4505.	537.31	1.7042E+00
LA-140	5.	1596.21	3.8088E-02
CEPR-144	11535.	133.51	4.7856E+00
EU-152	10.	1408.01	2.0930E-01
EU-154	23.	1274.51	1.8137E-01
EU-155	10357.	105.31	1.3508E+00
HG-203	10826.	279.20	4.7152E-01
TL-208	10836.	277.36	6.0618E+00
BI-212	157.	727.18	1.4987E+00
PB-212	12925.	238.63	8.6499E-01
BI-214	2781.	609.31	8.0646E-01
PB-214	10372.	351.92	2.2249E+00
RA-224	12605.	240.99	9.4806E+00
RA-226	14633.	186.10	9.4086E+00
AC-228	82.	911.21	3.2853E-01
TH-228	9794.	84.37	3.1107E+01
TH-229	9775.	88.47	1.4672E+00
PA-233	10322.	312.17	1.0512E+00
UTH-233	12305.	245.34	3.5086E+02
PA-234M	53.	1001.03	1.2929E-01
TH-234	9102.	63.29	1.7470E+01
U-235	14500.	185.71	5.6929E-01
NP-237	9801.	86.48	3.0411E+00

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
NP-239	10377.	106.12	1.2833E+00
PU-239	11512.	129.30	4.1767E+03
AM-241	9480.	59.54	2.8385E+00
AM-243	9631.	74.67	8.3839E-01

* 222-S Laboratory Counting Room 16-JAN-1997 18:34:57.18

[Signature]

Bachelor 1/20/97

HNF-SD-WM-DP-226, REV. 0

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/L
0	661.52*	370147	1.54	1323.06	1315	17	0.3		CS-137	685.
0	1333.60	10	1.12	2667.35	2659	121	19.6			

Total number of lines in spectrum 2
Number of unidentified lines 0
Number of lines tentatively identified by NID 2 100.00%

Nuclide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/L	Wtd Mean Decay Corr uCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CS-137	30.00Y	1.000	6.849E+02	6.849E+02	0.023E+02	0.34	
Total Activity :			6.849E+02	6.849E+02			

Grand Total Activity : 6.849E+02 6.849E+02

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
BE-7	11478.	477.59	5.7943E+00
NA-22	28.	1274.53	6.9081E-02
NA-24	7.	1368.55	3.5834E-02
K-40	118.	1460.75	1.4769E+00
CR-51	9731.	320.08	3.9802E+00
MN-54	93.	834.83	8.5904E-02
CO-56	115.	846.76	9.6940E-02
CO-57	10880.	122.06	3.1098E-01
CO-58	95.	810.78	8.5445E-02
FE-59	40.	1099.25	1.2820E-01
CO-60	15.	1332.50	5.2332E-02
SE-75	10837.	264.66	6.3406E-01
SR-85	5948.	514.01	4.7909E-01
Y-88	2.	1836.06	2.4840E-02
NB-94	86.	871.09	8.5970E-02
ZRNB-95	148.	724.18	2.2018E-01
RU-103	7306.	497.08	5.4450E-01
RURH-106	2602.	621.93	7.1651E+00
AG-108m	160.	722.94	1.1002E-01
CD-109	9363.	88.03	9.9056E+00
AG-110M	11967.	657.76	8.4365E-01
SN-113	10465.	391.69	7.5060E-01
TE-123m	10891.	159.00	3.1133E-01
SB-124	2612.	602.73	3.5493E-01
SB-125	12134.	427.89	1.8968E+00
TE-125m	10228.	109.27	9.9945E+01
I-131	9776.	364.48	5.4345E-01
CS-134	2567.	604.70	3.5348E-01
BA-140	4338.	537.31	1.6723E+00
LA-140	2.	1596.21	2.3264E-02
CEPR-144	11137.	133.51	4.7023E+00
EU-152	7.	1408.01	1.7972E-01
EU-154	28.	1274.51	2.0099E-01
EU-155	9829.	105.31	1.3159E+00
HG-203	10313.	279.20	4.6020E-01
TL-208	10349.	277.36	5.9239E+00
BI-212	148.	727.18	1.4531E+00
PB-212	12199.	238.63	8.4034E-01
BI-214	2656.	609.31	7.8811E-01
PB-214	9792.	351.92	2.1608E+00
RA-224	12125.	240.99	9.2983E+00
RA-226	13853.	186.10	9.1545E+00
AC-228	92.	911.21	3.4748E-01
TH-228	9432.	84.37	3.0527E+01
TH-229	9323.	88.47	1.4328E+00
PA-233	9782.	312.17	1.0233E+00
UTH-233	11739.	245.34	3.4269E+02
PA-234M	52.	1001.03	1.2880E-01
TH-234	8810.	63.29	1.7187E+01
U-235	13716.	185.71	5.5368E-01
NP-237	9327.	86.48	2.9667E+00

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
NP-239	9966.	106.12	1.2576E+00
PU-239	11060.	129.30	4.0941E+03
AM-241	8632.	59.54	2.7085E+00
AM-243	8982.	74.67	8.0966E-01

LABCORE Completed RadChem Report for Worklist#: 16176

Analyst: jmv

Instrument: GEA06

Book# _____

Method: _____ Rev/Mod CO

Worklist Comment: AN-104.Std sample size = 1.0ml (ITANK). lad

Seq Type	Sample#	RA	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD	0		GI129-01 I129-01	SOLID	6.13E-04	4.93E-4	80.424	% Recovery
1 STD	0		GI129-01 I129-01C	SOLID	100	5.87E+01	58.700	% Recovery
1 STD	0		GI129-01 I129-01E	SOLID	1.00	1.43E+00	1.430	% Ct. Error
2 BLNK-PREP	0		GI129-01 I129-01	SOLID	1	<3.27E-3		uCi/g
2 BLNK-PREP	0		GI129-01 I129-01C	SOLID	100	4.07E+01	40.700	% Recovery
2 BLNK-PREP	0		GI129-01 I129-01E	SOLID	1.00	0.00E+00	0.000	uCi/g
3 SAMPLE	S96T005977	0 W	GI129-01 I129-01	SOLID	N/A	2.77E-03	277.0e+005	uCi/g
3 SAMPLE	S96T005977	0 W	GI129-01 I129-01C	SOLID	N/A	5.08E+01	0.0e+000	% Recovery
3 SAMPLE	S96T005977	0 W	GI129-01 I129-01E	SOLID	N/A	0.00E+00	0.0e+000	% Ct. Error
4 DUP	S96T005977	0 W	GI129-01 I129-01	SOLID	<2.77E-3	<2.76E-3		RPD
4 DUP	S96T005977	0 W	GI129-01 I129-01C	SOLID	100	4.38E+01	43.800	% Recovery
4 DUP	S96T005977	0 W	GI129-01 I129-01E	SOLID	1.00	0.00E+00	0.000	% Ct. Error

Final page for worklist# 16176

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

[Signature] 3E697
Reviewer Signature Date

01/24/97 09:21
A-0004-1

Page: 1

LABCORE Data Entry Template for Worklist# 16176

Analyst: DM Instrument: GEA00 #6 Book# 77856

Method: LA-378-103 Rev/Mod _____

Worklist Comment: AN-104, Std sample size = 1.0ml (ITANK). lad

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 STD			@I129-01	SOLID		
2 BLNK-PREP			@I129-01	SOLID		
3 SAMPLE	S96T005977 0 W	@I129-01	SOLID		96001174	AN-104
	Analytes Requested: I129-01 , I129-01C, I129-01E					
4 DUP	S96T005977 0 W	@I129-01	SOLID			

Final page for worklist # 16176

Analyst Signature: [Signature]
Date: 1-28-97Analyst Signature: [Signature]
Date: 1/31/97
CJ. Opinen 1/31/97

Data Entry Comments:

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

2224

WORKBOOK PAGE: STD1

I-129: LA-378-101 (C-0), 103 (C-0)

IODINE-129

STANDARD

Type	GROSS WEIGHT	(wt2)	3.4332
STD	TARE WEIGHT	(wt1)	3.4153
Work List	MASS PRECIPITATE	(net wt)	0.0179
16176	I-129 μ Ci / SAMPLE from GEA	(I-129 GEA)	2.896E-4
Test Code	SAMPLE VOLUME in mL	(SS)	1.0000
@I129-01	DILUTION FACTOR	(DF)	1.0000
Matrix	DIGEST DILUTION FACTOR	(DDF)	1.0000
LIQUID	CARRIER FRACTIONAL RECOVERY	(Rec)	0.5869
Batch Number	COUNT TIME IN MINUTES		100
97000025	COUNTING UNCERTAINTY	(%)	1.43
Rerun	STANDARD BOOK NUMBER		77B56
0	STANDARD VALUE in μ Ci /mL		6.13E-04
Sample Prep	One mL of the solution is equivalent to 0.0305 grams. Carrier Percent Recovery = (wt2-wt1)*100/0.0305 I-129 μ Ci/mL = (I-129 GEA)(DF)(DDF) / [(Rec)(SS)]		
NOT LISTED			
Sample #			
WL16176-STD			
Instrument Code			
WC38931			
Prepared By			
MCB			
Chemist			
SAC			
Analyst			
JMV			
Date Complete			
01/31/97			
Analysis Date			
01/30/97			
Analysis Time	Iodine 129 in μ Ci / mL		4.93E-04
01:35 PM	Carrier Percent Recovery		58.7%
Sample Point	Counting Uncertainty		1.4%
AN-104	Standard Recovery	=	80.5%

Analyst:	JMV	Date:	01/31/97
Signature of Chemist:	<i>SAC</i>	Date:	3 Feb 97

STANDARD.WB1 REV. 2.0

37810NML

2225

WORKBOOK PAGE: BLANK2

I-129: LA-378-101 (C-0), 103 (C-0)

IODINE-129

BLNK-PREP

Type	GROSS WEIGHT (wt2)	3.4302
BLNK-PREP	TARE WEIGHT (wt1)	3.4178
Work List	MASS PRECIPITATE (net wt)	0.0124
16176	I-129 μ Ci / SAMPLE from GEA (I-129 GEA)	<6.7964E-6
Test Code	SAMPLE VOLUME in mL (SS)	1.0000
@I129-01	DILUTION FACTOR (DF)	1.0000
Matrix	DIGEST GRAMS OF SOLID / LITER (Dg/L)	5.1050
SOLID	CARRIER FRACTIONAL RECOVERY (Rec)	0.4066
Batch Number	COUNT TIME IN MINUTES	100
97000025	COUNTING UNCERTAINTY (%)	N/A
Rerun	DETECTION LIMIT in μ Ci / g (DL)	3.2746E-03
0		
Sample Prep		
NOT LISTED		
Sample #		
WL16176-BLNK	One mL of the solution is equivalent to 0.0305 grams.	
Instrument Code		
WC38931	Carrier Percent Recovery = $(wt2-wt1)*100/0.0305$	
Prepared By	I-129 μ Ci/g = $(I-129 \text{ GEA})(1000 \text{ mL/L})(DF) / [(Rec)(SS)(D \text{ g/L})]$	
MCB	Detection Limit = I-129 μ Ci/g	
Chemist		
SAC		
Analyst		
JMV		
Date Complete		
01/31/97		
Analysis Date		
01/30/97		
Analysis Time	Iodine 129 in μ Ci / g	< 3.27E-03
01:35 PM	Carrier Percent Recovery	40.7%
Sample Point	Counting Uncertainty	0.0%
AN-104		

Analyst:	JMV	Date: 01/31/97
Signature of Chemist: <i>019Cath</i>	SAC	Date: 3 Feb 97

BLANK.WB1 REV 2.0

37810NML

2226

WORKBOOK PAGE: SAM3

I-129: LA-378-101 (C-0), 103 (C-0)

IODINE-129

		SAMPLE
Type	GROSS WEIGHT	(wt2) 3.4441
SAMPLE	TARE WEIGHT	(wt1) 3.4286
Work List	MASS PRECIPITATE	(net wt) 0.0155
16176	I-129 μ Ci / SAMPLE from GEA	(I-129 GEA) <7.1816E-6
Test Code	SAMPLE VOLUME in mL	(SS) 1.0000
@I129-01	DILUTION FACTOR	(DF) 1.0000
Matrix	DIGEST GRAMS OF SOLID / LITER	(Dg/L) 5.1050
SOLID	CARRIER FRACTIONAL RECOVERY	(Rec) 0.5082
Batch Number	COUNT TIME IN MINUTES	100
97000025	COUNTING UNCERTAINTY	(%) N/A
Rerun	DETECTION LIMIT in μ Ci / g	(DL) 2.7682E-03
0		
Sample Prep		
H2ODIG01		
Sample #		
S96T005977	One mL of the solution is equivalent to 0.0305 grams.	
Instrument Code		
WC38931	Carrier Percent Recovery = $(wt2-wt1)*100/0.0305$	
Prepared By	I-129 μ Ci/g = $(I-129 \text{ GEA})(1000 \text{ mL/L})(DF) / [(Rec)(SS)(D \text{ g/L})]$	
MCB	Detection Limit = I-129 μ Ci/g	
Chemist		
SAC		
Analyst		
JMV		
Date Complete		
01/31/97		
Analysis Date		
01/30/97		
Analysis Time	Iodine 129 in μ Ci / g	< 2.77E-03
01:35 PM	Carrier Percent Recovery	50.8%
Sample Point	Counting Uncertainty	0.0%
AN-104		

Analyst:	JMV	Date: 01/31/97
Signature of Chemist: <i>NA Cate</i>	SAC	Date: 3 Feb 97
SAMPLE.WB1 REV 2. 37810NML		

2227

WORKBOOK PAGE: DUP4

I-129: LA-378-101 (C-0), 103 (C-0)**IODINE-129****DUPLICATE**

Type	GROSS WEIGHT	(wt2)	3.4295
DUP	TARE WEIGHT	(wt1)	3.4143
Work List	MASS PRECIPITATE	(net wt)	0.0152
16176	I-129 μ Ci / SAMPLE from GEA	(I-129 GEA)	<7.2263E-6
Test Code	SAMPLE VOLUME in mL	(SS)	1.0000
@I129-01	DILUTION FACTOR	(DF)	1.0000
Matrix	DIGEST GRAMS OF SOLID / LITER	(Dg/L)	5.2500
SOLID	CARRIER FRACTIONAL RECOVERY	(Rec)	0.4984
Batch Number	COUNT TIME IN MINUTES		100
97000025	COUNTING UNCERTAINTY	(%)	N/A
Rerun	DETECTION LIMIT in μ Ci / g	(DL)	2.7619E-03
0			
Sample Prep			
H2ODIG01			
Sample #			
S96T005977	One mL of the solution is equivalent to 0.0305 grams.		
Instrument Code			
WC38931	Carrier Percent Recovery = $(wt2-wt1)*100/0.0305$		
Prepared By	I-129 μ Ci/g = $(I-129 \text{ GEA})(1000 \text{ mL/L})(DF) / [(Rec)(SS)(D \text{ g/L})]$		
MCB	Detection Limit = I-129 μ Ci/g		
Chemist			
SAC			
Analyst			
JMV			
Date Complete			
01/31/97			
Analysis Date			
01/30/97			
Analysis Time	Iodine 129 in μ Ci / g	<	2.76E-03
01:35 PM	Carrier Percent Recovery		49.8%
Sample Point	Counting Uncertainty		0.0%
AN-104			

Analyst:	JMV	Date:	01/31/97
Signature of Chemist:	<i>SA Cattle</i>	SAC	Date: 3 Feb 97

SAMPLE.WB1 REV 2.

37810NML

>>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<

Removed by:

En Barla

Verified by:

SACatt

2229

Sample ID : WL16176-STD

Acquisition date : 30-JAN-1997 14:12:31

Total number of lines in spectrum	6	HNF-SD-WM-DP-226, REV. 0
Number of unidentified lines	4	
Number of lines tentatively identified by NID	2	33.33%

Nuclide Type :

Nuclide	Hlflife	Decay	Wtd Mean Uncorrected uCi/SAMPLE	Wtd Mean Decay Corr uCi/SAMPLE	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
I-129	5.73E+09D	1.000	2.896E-04	2.896E-04	0.041E-04	1.43	
Total Activity :			2.896E-04	2.896E-04			

Grand Total Activity : 2.896E-04 2.896E-04

Flags: "K" = Keyline not found

"M" = Manually accepted

"E" = Manually edited

"A" = Nuclide specific abn. limit

All nuclides have been identified. No MDA report generated.

HNF-SD-WM-DP-226, REV. 0

* 222-S Laboratory Counting Room 30-JAN-1997 17:40:23.71

Worklist #: 16176
Sample ID: WL16176-BLK
Sample Size: 1.00000E+00 ML
Dilution Factor: 1.00000E+00

Removed by:

```

Detector ID:      GEA6
File Number:      dka300:[spec.GEA6]6g6290.cnf
Geometry:         1
Count Time:       0 01:40:00.00 sec
Real Time:        0 01:40:50.65 sec
Dead Time:        0.8%

```

Verified by:

Sample Count Time: 30-JAN-1997 15:58:56.07
Decayed to: 30-JAN-1997 15:58:56.07
Standard Deviations: 2
Analysis Library: I129
Analyst: EMB
Background Subtract: DKA300:[SPEC.GEA6]6GBACK

```
Date of last energy calibration: 1-OCT-1996 13:47:43.22
Date of last efficiency calibration: 1-OCT-1996 13:49:27.17
```

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/SAMPLE
0	31.20	201	2.15	63.66	57	13	41.1			
0	702.28	488	1.77	1323.28	1320	7	14.6			

Total number of lines in spectrum	2	HNF-SD-WM-DP-226, REV. 0
Number of unidentified lines	2	
Number of lines tentatively identified by NID	0	0.00%

**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found	"M" = Manually accepted
"E" = Manually edited	"A" = Nuclide specific abn. limit

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/SAMPLE)
I-129	210.	39.60	6.7964E-06

HNF-SD-WM-DP-226, REV. 0

* 222-S Laboratory Counting Room 30-JAN-1997 20:47:14.54 *

>>>>>>>> SAMPLE INFORMATION <<<<<<<<<

Worklist #: 16176
Sample ID: S96T005977
Sample Size: 1.00000E+00 ML
Dilution Factor: 1.00000E+00

HNF-SD-WM-DP-226, REV. 0

Removed by:

ke

>>>>>>>> COUNT INFORMATION <<<<<<<<<

Detector ID: GEA6
File Number: dka300:[spec.GEA6]6g6291.cnf
Geometry: 1
Count Time: 0 01:40:00.00 sec
Real Time: 0 01:40:50.40 sec
Dead Time: 0.8%

Verified by:

AKC

>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<

Sample Count Time: 30-JAN-1997 19:05:46.33
Decayed to: 30-JAN-1997 19:05:46.33
Standard Deviations: 2
Analysis Library: I129
Analyst: VR
Background Subtract: DKA300:[SPEC.GEA6]6GBACK

>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<

Date of last energy calibration: 1-OCT-1996 13:47:43.22
Date of last efficiency calibration: 1-OCT-1996 13:49:27.17

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/SAMPLE
0	31.49	88	1.80	64.20	61	8	64.7			
0	702.24	365	1.79	1323.21	1320	7	17.2			

Summary of Nuclide Activity
Sample ID : S96T005977

Page : 2
Acquisition date : 30-JAN-1997 19:05:46

Total number of lines in spectrum 2 HNF-SD-WM-DP-226, REV. 0
Number of unidentified lines 2
Number of lines tentatively identified by NID 0 0.00%
**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Nuclide	Bckgnd Sum	Energy (keV)	MDA	
			(uCi/SAMPLE)	HNF-SD-WM-DP-226, REV. 0
I-129	235.	39.60	7.1816E-06	

 * 222-S Laboratory Counting Room 31-JAN-1997 01:03:48.69 *

>>>>>>> SAMPLE INFORMATION <<<<<<<<

Worklist #: 16176
 Sample ID: S96T005977-DUP
 Sample Size: 1.00000E+00 ML
 Dilution Factor: 1.00000E+00

HNF-SD-WM-DP-226, REV.0

Removed by:

R

>>>>>>> COUNT INFORMATION <<<<<<<<

Detector ID: GEA6
 File Number: dka300:[spec.GEA6]6g6292.cnf
 Geometry: 1
 Count Time: 0 01:40:00.00 sec
 Real Time: 0 01:40:48.34 sec
 Dead Time: 0.8%

Verified by:

[Signature]

>>>>>>> ANALYSIS INFORMATION <<<<<<<<

Sample Count Time: 30-JAN-1997 23:22:24.95
 Decayed to: 30-JAN-1997 23:22:24.95
 Standard Deviations: 2
 Analysis Library: I129
 Analyst: VR
 Background Subtract: DKA300:[SPEC.GEA6]6GBACK

>>>>>>> CALIBRATION INFORMATION <<<<<<<<

Date of last energy calibration: 1-OCT-1996 13:47:43.22
 Date of last efficiency calibration: 1-OCT-1996 13:49:27.17

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/SAMPLE
0	31.32	154	2.31	63.89	57	13	49.9			
0	702.31	340	1.59	1323.33	1320	7	17.9			
0	1554.61	31	1.20	2923.12	2921	6	66.4			

Total number of lines in spectrum	3	
Number of unidentified lines	3	HNF-SD-WM-DP-226, REV. 0
Number of lines tentatively identified by NID	0	0.00%

**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found	"M" = Manually accepted
"E" = Manually edited	"A" = Nuclide specific abn. limit

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/SAMPLE)	HNF-SD-WM-DP-226, REV. 0
I-129	238.	39.60	7.2263E-06	

LABCORE Completed RadChem Report for Worklist#: 16335

Analyst: dgg Instrument: GEA06 Book# _____

Method: _____ Rev/Mod _____

Worklist Comment: An-103. Sample size = 1.0ml AN104 new

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD	0	0	01129-01 1129-01	LIQUID	6.13E+04	4.47E-4	72.920	% Recovery
1 STD	0	0	01129-01 1129-01C	LIQUID	100	5.38E+01	53.800	% Recovery
1 STD	0	0	01129-01 1129-01E	LIQUID	1.00	1.57E+00	1.570	% Ct. Erro
2 BLNK	0	0	01129-01 1129-01	LIQUID	1	<1.17E-5		uCi/mL
2 BLNK	0	0	01129-01 1129-01E	LIQUID	1.00	0.00E+00	0.000	uCi/mL
2 BLNK	0	0	01129-01 1129-01C	LIQUID	100	6.07E+01	60.700	% Recovery
3 SAMPLE	S97T000022	0	01129-01 1129-01	LIQUID	N/A	1.93E-04	107.0e-007	uCi/mL
3 SAMPLE	S97T000022	0	01129-01 1129-01C	LIQUID	N/A	2.49E+01	0.0e+000	% Recovery
3 SAMPLE	S97T000022	0	01129-01 1129-01E	LIQUID	N/A	4.05E+00	0.0e+000	% Ct. Error
4 DUP	S97T000022	0	01129-01 1129-01	LIQUID	1.93E-4	2.22E-4	13.976	RPD
4 DUP	S97T000022	0	01129-01 1129-01C	LIQUID	100	1.77E+01	12.700	% Recovery
4 DUP	S97T000022	0	01129-01 1129-01E	LIQUID	1.00	4.66E+00	4.660	% Ct. Erro
5 SAMPLE	S97T000020	0	01129-01 1129-01	LIQUID	N/A	3.94E+04	953.0e-008	uCi/mL
5 SAMPLE	S97T000020	0	01129-01 1129-01C	LIQUID	N/A	2.79E+01	0.0e+000	% Recovery
5 SAMPLE	S97T000020	0	01129-01 1129-01E	LIQUID	N/A	2.32E+00	0.0e+000	% Ct. Error
6 DUP	S97T000020	0	01129-01 1129-01	LIQUID	3.94E-4	3.64E-4	7.916	RPD
6 DUP	S97T000020	0	01129-01 1129-01C	LIQUID	100	5.18E+01	51.800	% Recovery
6 DUP	S97T000020	0	01129-01 1129-01E	LIQUID	1.00	1.78E+00	1.780	% Ct. Erro

Final page for worklist# 16335

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

MLCatta
Reviewer Signature

30 Jan 97
Date

Carrier recoveries are low, however, they are acceptable because of the solids that were formed during analysis which may have interfered with the extraction. see Units shown for QC (BLK/BKG) may not reflect the actual units.

2241

RUSH

LABCORE Data Entry Template for Worklist# 16335

Analyst: ASB Instrument: GEA00 6 Book# 77 B56
Method: LA-378-103 Rev/Mod C-0 HNF-SD-WM-DP-226, REV. 0
Worklist Comment: An-103. Sample size = 1.0ml. new

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 STD			@I129-01	LIQUID		
2 BLNK			@I129-01	LIQUID		
3 SAMPLE	S97T000022 0		@I129-01	LIQUID	96001174	AN-104
	Analytes Requested: I129-01 , I129-01C, I129-01E					
4 DUP	S97T000022 0		@I129-01	LIQUID		
5 SAMPLE	S97T000020 0		@I129-01	LIQUID	96001318	AN-103
	Analytes Requested: I129-01 , I129-01C, I129-01E					
6 DUP	S97T000020 0		@I129-01	LIQUID		

Final page for worklist # 16335

ASB Sullivan 1-29-97 / 0430
Analyst Signature Date

Waymond 1-30-97
Analyst Signature Date
Shee Abgan 1-30-97

Data Entry Comments:

WORKBOOK PAGE: STD1

HNF-SD-WM-DP-226, REV. 0

I-129: LA-378-101 (C-0), 103 (C-0)

IODINE-129

		STANDARD
Type	GROSS WEIGHT (wt2)	3.4597
STD	TARE WEIGHT (wt1)	3.4433
Work List	MASS PRECIPITATE (net wt)	0.0164
16335	I-129 μ Ci / SAMPLE from GEA (I-129 GEA)	2.401E-4
Test Code	SAMPLE VOLUME in mL (SS)	1.0000
@I129-01	DILUTION FACTOR (DF)	1.0000
Matrix	DIGEST DILUTION FACTOR (DDF)	1.0000
LIQUID	CARRIER FRACTIONAL RECOVERY (Rec)	0.5377
Batch Number	COUNT TIME IN MINUTES	100
97000183	COUNTING UNCERTAINTY (%)	1.57
Rerun	STANDARD BOOK NUMBER	77B56
0	STANDARD VALUE in μ Ci/mL	6.13E-04
Sample Prep	NOT LISTED NOT LISTED One mL of the solution is equivalent to 0.0305 grams. Carrier Percent Recovery = $(wt2 - wt1) * 100 / 0.0305$ $I-129 \mu Ci/mL = (I-129 \text{ GEA})(DF)(DDF) / [(Rec)(SS)]$	
NOT LISTED		
Sample #		
NOT LISTED		
Instrument Code		
WC38931		
Prepared By		
VAR		
Chemist		
SAC		
Analyst		
DGG		
Date Complete		
01/30/97		
Analysis Date		
01/29/97		
Analysis Time	Iodine 129 in μ Ci / mL	4.47E-04
04:30 AM	Carrier Percent Recovery	53.8%
Sample Point	Counting Uncertainty	1.6%
AN-104	Standard Recovery	72.9%

Analyst:	DGG	Date: 01/30/97
Signature of Chemist: <i>SA Catlow</i>	SAC	Date: 30 Jan 97

STANDARD.WB1 REV. 2.0

37810NML

2243

10/19/97

HNF-SD-WM-DP-223, REV. 0

WORKBOOK PAGE: BLANK2

I-129: LA-378-101 (C-0), 103 (C-0)

IODINE-129

BLANK

Type	GROSS WEIGHT	(wt2)	3.4338
BLNK	TARE WEIGHT	(wt1)	3.4153
Work List	MASS PRECIPITATE	(net wt)	0.0185
16335	I-129 μ Ci / SAMPLE from GEA	(I-129 GEA)	<7.0677E-6
Test Code	SAMPLE VOLUME in mL	(SS)	1.0000
@I129-01	DILUTION FACTOR	(DF)	1.0000
Matrix	DIGEST DILUTION FACTOR	(DDF)	1.0000
LIQUID	CARRIER FRACTIONAL RECOVERY	(Rec)	0.6066
Batch Number	COUNT TIME IN MINUTES		100
97000183	COUNTING UNCERTAINTY	(%)	N/A
Rerun	DETECTION LIMIT in μ Ci / mL	(DL)	1.1652E-05
0			
Sample Prep			
NOT LISTED			
Sample #			
NOT LISTED	One mL of the solution is equivalent to 0.0305 grams.		
Instrument Code			
WC36931	Carrier Percent Recovery = $(wt2-wt1)*100/0.0305$		
Prepared By	I-129 μ Ci/mL = $(I-129 \text{ GEA})(DF)(DDF) / [(Rec)(SS)]$		
VAR	Detection Limit = I-129 μ Ci/mL		
Chemist			
SAC			
Analyst			
DGG			
Date Complete			
01/30/97			
Analysis Date			
01/29/97			
Analysis Time	Iodine 129 in μ Ci / mL	<	1.17E-05
04:30 AM	Carrier Percent Recovery		60.7%
Sample Point	Counting Uncertainty		0.0%
AN-104			

Analyst:	DGG	Date:	01/30/97
Signature of Chemist:	<i>da Catta</i>	SAC	Date: 20 Jan 97

BLANK.WB1 REV 2.0

37810NML

2244

11/25-19-97

HNF-SD-WM-DP-226, REV. 0

HNF-SD-WM-DP-223, REV. 0

WORKBOOK PAGE: SAM3

I-129: LA-378-101 (C-0), 103 (C-0)

IODINE-129

		SAMPLE
Type	GROSS WEIGHT (wt2)	3.4590
SAMPLE	TARE WEIGHT (wt1)	3.4514
Work List	MASS PRECIPITATE (net wt)	0.0076
16335	I-129 μ Ci / SAMPLE from GEA (I-129 GEA)	4.817E-5
Test Code	SAMPLE VOLUME in mL (SS)	1.0000
@I129-01	DILUTION FACTOR (DF)	1.0000
Matrix	DIGEST DILUTION FACTOR (DDF)	1.0000
LIQUID	CARRIER FRACTIONAL RECOVERY (Rec)	0.2492
Batch Number	COUNT TIME IN MINUTES	100
97000183	COUNTING UNCERTAINTY (%)	4.05
Rerun	DETECTION LIMIT in μ Ci / mL (DL)	1.0655E-05
0		
Sample Prep		
NOT LISTED		
Sample #		
S97T000022	One mL of the solution is equivalent to 0.0305 grams.	
Instrument Code		
WC38931	Carrier Percent Recovery = $(wt2-wt1)*100/0.0305$	
Prepared By	I-129 μ Ci/mL = $(I-129 \text{ GEA})(DF)(DDF) / [(Rec)(SS)]$	
VAR	Detection Limit = $(2.655E-06)(DF)(DDF)/[(SS)(Rec)]$	
Chemist		
SAC		
Analyst		
DGG		
Date Complete		
01/30/97		
Analysis Date		
01/29/97		
Analysis Time	Iodine 129 in μ Ci / mL	1.93E-04
04:30 AM	Carrier Percent Recovery	24.9%
Sample Point	Counting Uncertainty	4.1%
AN-104		

Analyst:	DGG	Date: 01/30/97
Signature of Chemist: <i>S. A. Cuth</i>	SAC	Date: 30 Jan 97

SAMPLE.WB1 REV 2.

37810NML

2245

Note 5-19-97

WORKBOOK PAGE: DUP4

I-129: LA-378-101 (C-0), 103 (C-0)

IODINE-129

		DUPLICATE
Type	GROSS WEIGHT (wt2)	3.4197
DUP	TARE WEIGHT (wt1)	3.4143
Work List	MASS PRECIPITATE (net wt)	0.0054
16335	I-129 μ Ci / SAMPLE from GEA (I-129 GEA)	3.924E-5
Test Code	SAMPLE VOLUME in mL (SS)	1.0000
@I129-01	DILUTION FACTOR (DF)	1.0000
Matrix	DIGEST DILUTION FACTOR (DDF)	1.0000
LIQUID	CARRIER FRACTIONAL RECOVERY (Rec)	0.1770
Batch Number	COUNT TIME IN MINUTES	100
97000183	COUNTING UNCERTAINTY (%)	4.66
Rerun	DETECTION LIMIT in μ Ci / mL (DL)	1.4996E-05
0		
Sample Prep		
NOT LISTED		
Sample #		
S97T000022	One mL of the solution is equivalent to 0.0305 grams.	
Instrument Code		
WC38931	Carrier Percent Recovery = $(wt2-wt1)*100/0.0305$	
Prepared By	I-129 μ Ci/mL = $(I-129 \text{ GEA})(DF)(DDF) / [(Rec)(SS)]$	
VAR	Detection Limit = $(2.655E-06)(DF)(DDF)/[(SS)(Rec)]$	
Chemist		
SAC		
Analyst		
DGG		
Date Complete		
01/30/97		
Analysis Date		
01/29/97		
Analysis Time	Iodine 129 in μ Ci / mL	2.22E-04
04:30 AM	Carrier Percent Recovery	17.7%
Sample Point	Counting Uncertainty	4.7%
AN-104		

Analyst:	DGG	Date: 01/30/97
Signature of Chemist: <i>SA Carter</i>	SAC	Date: 30 Jan 97

SAMPLE.WB1 REV 2.

37810NML

2246

 * 222-S Laboratory Counting Room 29-JAN-1997 09:30:00.34 *

>>>>>>> SAMPLE INFORMATION <<<<<<<<<

~~HNF-SD-WM-DP-223, REV. 0~~

~~DATE 5-19-93~~

Removed by:

Worklist #: 16335
 Sample ID: WL16335-STD
 Sample Size: 1.00000E+00 ML
 Dilution Factor: 1.00000E+00

>>>>>>> COUNT INFORMATION <<<<<<<<<

Verified by:

Detector ID: GEA6
 File Number: NI3B0:1.cnf
 Geometry: 1
 Count Time: 0 01:40:00.00 sec
 Real Time: 0 01:40:37.37 sec
 Dead Time: 0.6%

>>>>>>> ANALYSIS INFORMATION <<<<<<<<<

HNF-SD-WM-DP-226, REV. 0

Sample Count Time: 29-JAN-1997 07:16:50.66
 Decayed to: 29-JAN-1997 07:16:50.66
 Standard Deviations: 2
 Analysis Library: I129
 Analyst: EMB
 Background Subtract: DKA300:[SPEC.GEA6]6GBACK

>>>>>>> CALIBRATION INFORMATION <<<<<<<<<

Date of last energy calibration: 1-OCT-1996 13:47:43.22
 Date of last efficiency calibration: 1-OCT-1996 13:49:27.17

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/SAMPLE
0	18.31	673	2.27	39.48	34	12	18.3			
3	28.76	20508	2.38	59.09	49	25	1.6	1.51E+01	I-129	2.401E-04
3	33.16	4708	2.28	67.34	49	25	5.0			
0	39.46	2773	2.16	79.17	74	13	5.1			
0	410.62	19	1.23	775.84	773		6107.8			
0	702.26	511	2.04	1323.24	1320	7	13.6			
0	1554.53	21	1.57	2922.96	2921	5	79.6			

Summary of Nuclide Activity

Sample ID : WL16335-STD

Acquisition date : 29-JAN-1997 07:16:50

Total number of lines in spectrum 7
 Number of unidentified lines 5
 Number of lines tentatively identified by NID 2

~~HNF-SD-WM-DP-226, REV. 0~~

NE 2-6-19-97

28.57%

Nuclide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/SAMPLE	Wtd Mean Decay Corr uCi/SAMPLE	Decay Corr	2-Sigma Error	2-Sigma %Error	Flags
I-129	5.73E+09D	1.000	2.401E-04	2.401E-04	0.038E-04		1.57	
Total Activity :			2.401E-04	2.401E-04				

Grand Total Activity : 2.401E-04

2.401E-04

Flags: "K" = Keyline not found

"E" = Manually edited

"M" = Manually accepted

"A" = Nuclide specific abn. limit

Minimum Detectable Activity Report
Sample ID : WL16335-STD

Page : 3
Acquisition date : 29-JAN-1997 07:16:50

All nuclides have been identified. No MDA report generated.

LAD 5/19/97
~~HNF-SD-WM-DP-223, REV. 0~~

HNF-SD-WM-DP-226, REV. 0

Summary of Nuclide Activity
Sample ID : WL16335-BLNK

Page : 2
Acquisition date : 29-JAN-1997 09:34:10

Total number of lines in spectrum

3

~~HNF-SD-WM-DP-226, REV. 0~~

Number of unidentified lines

3

Number of lines tentatively identified by NID

0

0.00%

**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found

"M" = Manually accepted

"E" = Manually edited

"A" = Nuclide specific abn. limit

HNF-SD-WM-DP-226, REV. 0

Minimum Detectable Activity Report

Sample ID : WL16335-BLNK

Page : 3

Acquisition date : 29-JAN-1997 09:34:10

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/SAMPLE)	HNF-SD-WM-DP-226, REV. 0 640519k7
I-129	228.	39.60	7.0677E-06	

HNF-SD-WM-DP-226, REV. 0

~~INF-SD-WM-DP-223, REV. 0~~

Removed by:

Ch. Pinner

Verified by:

HNF-SD-WM-DP-226, REV. 0

HNF-SD-WM-DP-226, REV. 0

HNF-SD-WM-DP-226, REV. 0

HNF-SD-WM-DP-226, REV. 0

HNF-SD-WM-DP-226, REV. 0

HNF-SD-WM-DP-226, REV. 0

HNF-SD-WM-DP-226, REV. 0

HNF-SD-WM-DP-226, REV. 0

Summary of Nuclide Activity

Sample ID : S97T000022-SAM

Acquisition date : 29-JAN-1997 11:24:32

11/20/97

HNF-SD-WM-DP-223, REV. 0

Total number of lines in spectrum 7

Number of unidentified lines 5

Number of lines tentatively identified by NID 2

28.57%

Nuclide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/SAMPLE	Wtd Mean Decay Corr uCi/SAMPLE	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
I-129	5.73E+09D	1.000	4.817E-05	4.817E-05	0.195E-05	4.05	

Total Activity : 4.817E-05

4.817E-05

HNF-SD-WM-DP-226, REV. 0

Grand Total Activity : 4.817E-05

4.817E-05

Flags: "K" = Keyline not found

"E" = Manually edited

"M" = Manually accepted

"A" = Nuclide specific abn. limit

Minimum Detectable Activity Report
Sample ID : S97T000022-SAM

Page : 3
Acquisition date : 29-JAN-1997 11:24:32

All nuclides have been identified. No MDA report generated.

425/97
HNF-SD-WM-DP-226, REV. 0

HNF-SD-WM-DP-226, REV. 0

Summary of Nuclide Activity
Sample ID : S97T000022-DUP

Page : 2
Acquisition date : 29-JAN-1997 13:12:14

Total number of lines in spectrum 4
Number of unidentified lines 2
Number of lines tentatively identified by NID 2 50.00%

~~HNF-SD-WM-DP-223, REV. 0~~
LAD 5/11/97

Nuclide Type :

Nuclide	Hlife	Decay	Wtd Mean Uncorrected uCi/SAMPLE	Wtd Mean Decay Corr uCi/SAMPLE	Decay Corr 2-Sigma Error	2-Sigma %Error Flags
I-129	5.73E+09D	1.000	3.924E-05	3.924E-05	0.183E-05	4.66
Total Activity :			3.924E-05	3.924E-05		
Grand Total Activity :			3.924E-05	3.924E-05		

HNF-SD-WM-DP-226, REV. 0

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Minimum Detectable Activity Report
Sample ID : S97T000022-DUP

Page : 3
Acquisition date : 29-JAN-1997 13:12:14

All nuclides have been identified. No MDA report generated.

100 5/19/97
~~HNF-SD-WM-DP-226, REV. 0~~

HNF-SD-WM-DP-226, REV. 0

LABCORE Completed RadChem Report for Worklist#: 15504

Analyst: rga Instrument: AB12 Book# _____

Method: _____ Rev/Mod _____

Worklist Comment: @SR90-01 FOR AN-104(DET SS USING LUDLUM) RTS!

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD	0		@SR90-01 SR90-01 LIQUID		1.39E-03	1.44E-3	103.597	% Recovery
1 STD	0		@SR90-01 SR90-01C LIQUID		100	8.97E+01	89.700	% Recovery
1 STD	0		@SR90-01 SR90-01E LIQUID		1.00	1.71E+00	1.710	% Ct. Err
2 BLNK	0		@SR90-01 SR90-01 LIQUID		1	2.52E-1	0.252	uCi/mL
2 BLNK	0		@SR90-01 SR90-01C LIQUID		100	9.02E+01	90.200	% Recovery
2 BLNK	0		@SR90-01 SR90-01E LIQUID		1.00	1.50E+01	15.000	uCi/mL
3 BLNK/BKG	0		@SR90-01 SR90-01 LIQUID		1	6.73E+00	6.730	BLNK/BKG
4 SAMPLE	S96T005980	0	@SR90-01 SR90-01 LIQUID		N/A	3.34E-01	275.0e-004	uCi/mL
4 SAMPLE	S96T005980	0	@SR90-01 SR90-01C LIQUID		N/A	9.01E+01	0.0e+000	% Recovery
4 SAMPLE	S96T005980	0	@SR90-01 SR90-01E LIQUID		N/A	1.26E+01	0.0e+000	% Ct. Error
5 DUP	S96T005980	0	@SR90-01 SR90-01 LIQUID		3.34E-1	3.42E-1	2.167	RPD
5 DUP	S96T005980	0	@SR90-01 SR90-01C LIQUID		100	8.97E+01	89.700	% Recovery
5 DUP	S96T005980	0	@SR90-01 SR90-01E LIQUID		1.00	1.25E-01	12.500	% Ct. Err

Final page for worklist# 15504

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

S.D. Catlin *18 Dec 96*
Reviewer Signature Date

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Data Entry Template for Worklist# 15504

Analyst:

ROA

Instrument: AB00

12

Book#

62B56

Method: LA-220-101

Rev/Mod

D-1

Worklist Comment: @SR90-01 FOR AN-104(DET SS USING LUDLUM)

RTS!

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	STD				@SR90-01	LIQUID		
2	BLNK				@SR90-01	LIQUID		
3	BLNK/BKG				@SR90-01	LIQUID		
4	SAMPLE	S96T005980 0			@SR90-01	LIQUID	96001174	AN-104
					Analytes Requested: SR90-01 , SR90-01C, SR90-01E			
5	DUP	S96T005980 0			@SR90-01	LIQUID		

Final page for worklist # 15504

Analyst Signature

Date

12-16-96

Analyst Signature

Date

Sue Hogan 12/17/96

MFB 12/17/96

Data Entry Comments:

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

WORKBOOK PAGE: STD1

Sr-89/90 : LA-220-101 (D-1), 102 (E-3), 104 (D-1) LIQUIDS

Sr-89/90 : LA-220-101 (D-1), 102 (E-3), 104 (D-1) LIQUIDS					STANDARD
Type	DETECTOR NUMBER		12	CARRIER ADDED in mL (CVA)	1.000
STD	TOTAL COUNTS (TC)		13285	GROSS WEIGHT (W2)	7.9472
Work List	COUNT TIME in MINUTES (CT)		10	TARE WEIGHT (W1)	7.8575
15504	BACKGROUND in cpm (BKG)		4.0	NET WEIGHT (W3)	0.0897
Test Code	SAMPLE VOLUME in mL (SS)		1.000	DELTA TIME (HOURS) (DT)	9.25
@SR90-01	DILUTION FACTOR (DF)		1		
Matrix	DIGEST DILUTION FACTOR (DDF)		1		
LIQUID	SAMPLE COUNT RATE (Rs)		1324.50	SR-90 EFFICIENCY FACTO (C1)	0.4180
Batch Number	CRITICAL LEVEL (Lc)		1.20	Y-90 EFFICIENCY FACTOR (C2)	0.4660
96012117	TIME OF SEPARATION (ST)		14:15	Rmax	N/A
Run	DATE OF SEPARATION (SD)		12/16/96	DETECTION LIMIT (Ld)	2.50
0	TIME OF COUNT (TOC)		23:30	Sr-89/90 CONC. in µCi/L	1.4388E+00
Sample Prep	DATE OF COUNT (DOC)		12/16/96		
N/A	STANDARD BOOK #		62B56		
Sample #	STANDARD VALUE in µCi/mL		1.3943E-03		
WL15504					
Instrument Code					
WB27811	Sample Count Rate (Rs) = (Total Counts (TC) / Count Time (CT)) - Background in cpm (BKG)				
Prepared By	Sr-89/90 CONC in µCi/mL REPLACE RS WITH RMAX IF RS<=Lc AND RS>=0 OR REPLACE RS WITH Lc IF RS<0				
SEH	RS*DF*DDF*1000/((C1+C2*(1-e to the power of ((-natural log 2)/64.2*DT))))*SS*REC*2220000				
Chemist	NOTE: 64.2 = Half Life for Y-90 and Rec. = Fractional Carrier Recovery ((W2-W1) / (CVA * 0.1000))				
SAC	Relative Counting Error = The Square Root of ((TC + BKG * CT) / (TC - BKG * CT)*1.96)				
Analyst	Percent Carrier Recovery = (Net Weight / Expected weight) * 100				
RGA	NOTE: Expected weight = CVA * 0.1				
Date Complete	Detection Levels and Less Than Values are determined from Procedure LA-508-002.				
12/17/96	Delta Time (hours) = ((DOC - SD) * 24) + (TOC - ST) / 100				
Analysis Date					DETECTION LEVEL 2.72E-06 µCi/L
12/16/96	Sr-89/90 CONCENTRATION	1.44E-03	µCi/mL		
Analysis Time					
03:00 PM	RELATIVE COUNTING ERROR	1.7%			
Sample Point					
AN-104	PERCENT CARRIER RECOVERY		89.7%		

Analyst:	RGA	Date:	17-Dec-96
Signature of Chemist:	SAC	Date:	18 Dec 96

STANDARD:WB1 REV 2.0

22010NML

WORKBOOK PAGE: BLANK2

LA-220-101 / D-1 Sr-89/90 : LA-220-101 (D-1), 102 (E-3), 104 (D-1)

Type	DETECTOR NUMBER		12	CARRIER ADDED In mL	(CVA)	BLNK	
BLNK	TOTAL COUNTS	(TC)	289	GROSS WEIGHT	(W2)	7.8986	
Work List	COUNT TIME In MINUTES	(CT)	10	TARE WEIGHT	(W1)	7.8084	
15504	BACKGROUND In cpm	(BKG)	4.0	NET WEIGHT	(W3)	0.0902	
Test Code	SAMPLE VOLUME In mL	(SS)	1.000	DELTA TIME (HOURS)	(DT)	9.58	
@SR90-01	DILUTION FACTOR	DF	10201				
Matrix	DIGEST DILUTION FACTOR	(DDF)	1				
LIQUID	SAMPLE COUNT RATE	(Rs)	22.90	SR-90 EFFICIENCY FACTOR	(C1)	0.4180	
Batch Number	CRITICAL LEVEL	(Lc)	1.20	Y-90 EFFICIENCY FACTOR	(C2)	0.4660	
96012117	TIME OF SEPARATION	(ST)	14:15	Rmax		N/A	
Rerun	DATE OF SEPARATION	(SD)	12/16/96	DETECTION LIMIT	(Ld)	2.50	
0	TIME OF COUNT	(TOC)	23:50	Sr-89/90 CONC In µCi/L		2.5163E+02	
Sample Prep	DATE OF COUNT	(DOC)	12/16/96				
N/A							
Sample #							
WL15504							
Instrument Code	Sample Count Rate (Rs) = (Total Counts (TC) / Count Time (CT)) - Background in cpm (BKG)						
WB27811	Sr-89/90 CONC In µCi/L Replace RS with RMAX if RS<=Lc and RS>=0 or Replace RS with Lc if RS<0						
Prepared By	RS*DF*DDF/((C1+C2*(1-e to the power of ((-natural log 2)/(64.2*DT))))*SS*REC*2220000)						
SEH	NOTE: 64.2 = Half Life for Y-90 and Rec. = Fractional Carrier Recovery ((W2-W1) / (CVA * 0.1000))						
Chemist	Relative Counting Error = (The Square Root of (TC + BKG * CT) / (TC - BKG * CT))*1.96						
SAC	Percent Carrier Recovery = (Net Weight / Expected weight) * 100						
Analyst	NOTE: Expected weight = CVA * 0.1						
RGA	Detection Levels and Less Than Values are determined from Procedure LA-508-002.						
Date Complete	Delta Time (hours) = ((DOC - SD) * 24) + (TOC - ST) / 100						
12/17/96							
Analysis Date							
12/16/96	Sr-89/90 CONCENTRATION		2.52E-01	µCi/mL		DETECTION LEVEL 2.75E-02 µCi/mL	
Analysis Time							
03:00 PM	RELATIVE COUNTING ERROR		15.0%				
Sample Point							
AN-104	PERCENT CARRIER RECOVERY		90.2%				

Analyst:	RGA	Date:	17-Dec-96
Signature of Chemist: <i>SAC</i>	SAC	Date:	18 Dec 96

BLANK.WB1 REV 2.0

22010NML

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WORKBOOK PAGE: SAM4

Sr-89/90 : LA-220-101 (D-1), 102 (E-3), 104 (D-1)

						SAMPLE	
Type	DETECTOR NUMBER		12	CARRIER ADDED In mL	(CVA)		1.000
SAMPLE	TOTAL COUNTS	(TC)	344	GROSS WEIGHT	(W2)		7.9332
Work List	COUNT TIME In MINUTES	(CT)	10	TARE WEIGHT	(W1)		7.8431
15504	BACKGROUND In cpm	(BKG)	4.0	NET WEIGHT	(W3)		0.0901
Test Code	SAMPLE VOLUME In mL	(SS)	1.000	DELTA TIME (HOURS)	(DT)		9.73
@SR90-01	DILUTION FACTOR	DF	10201				
Matrix	DIGEST DILUTION FACTOR	(DDF)	1				
LIQUID	SAMPLE COUNT RATE	(Rs)	30.40	SR-90 EFFICIENCY FACTOR	(C1)		0.4180
Batch Number	CRITICAL LEVEL	(Lc)	1.20	Y-90 EFFICIENCY FACTOR	(C2)		0.4660
96012117	TIME OF SEPARATION	(ST)	14:15	Rmax			N/A
Re-run	DATE OF SEPARATION	(SD)	12/16/96	DETECTION LIMIT	(Ld)		2.50
0	TIME OF COUNT	(TOC)	23:59	Sr-89/90 CONC In µCi/L			3.3378E+02
Sample Prep	DATE OF COUNT	(DOC)	12/16/96				
N/A							
Sample #							
S66T005980							
Instrument Code	Sample Count Rate (Rs) = (Total Counts (TC) / Count Time (CT)) - Background in cpm (BKG)						
WB27811	Sr-89/90 CONC In µCi/L Replace RS with RMAX if RS<=Lc and RS>=0 or Replace RS with Lc if RS<0						
Prepared By	RS*DF*DDF/((C1+C2*(1-e to the power of ((-natural log 2)/64.2*DT)))*SS*REC*2220000)						
SEH	NOTE: 64.2 = Half Life for Y-90 and Rec. = Fractional Carrier Recovery ((W2-W1) / (CVA * 0.1000))						
Chemist	Relative Counting Error = (The Square Root of (TC + BKG * CT) / (TC - BKG * CT))*1.96						
SAC	Percent Carrier Recovery = (Net Weight / Expected weight) * 100						
Analyst	NOTE: Expected weight = CVA * 0.1						
RGA	Detection Levels and Less Than Values are determined from Procedure LA-508-002.						
Date Complete	Delta Time (hours) = ((DOC - SD) * 24) + (TOC - ST) / 100						
12/17/96							
Analysis Date							DETECTION LEVEL 2.75E-02 µCi/mL
12/16/96	Sr-89/90 CONCENTRATION		3.34E-01		µCi/mL		
Analysis Time	RELATIVE COUNTING ERROR		12.6%				
03:00 PM							
Sample Point							
AN-104	PERCENT CARRIER RECOVERY		90.1%				

Analyst:	RGA	Date:	17-Dec-96
Signature of Chemist:	SAC	Date:	18-Dec-96

SAMPLE.WB1 REV 2.0

22010NML

2263

WORKBOOK PAGE: DUP5

Sr-89/90 : LA-220-101 (D-1), 102 (E-3), 104 (D-1)

					DUP	
Type	DETECTOR NUMBER		12	CARRIER ADDED In mL	(CVA)	1.000
DUP	TOTAL COUNTS	(TC)	351	GROSS WEIGHT	(W2)	7.8189
Work List	COUNT TIME In MINUTES	(CT)	10	TARE WEIGHT	(W1)	7.8292
15504	BACKGROUND In cpm	(BKG)	4.0	NET WEIGHT	(W3)	0.0897
Test Code	SAMPLE VOLUME In mL	(SS)	1.000	DELTA TIME (HOURS)	(DT)	9.92
@SR90-01	DILUTION FACTOR	DF	10201			
Matrix	DIGEST DILUTION FACTOR	(DDF)	1			
LIQUID	SAMPLE COUNT RATE	(Rs)	31.10	SR-90 EFFICIENCY FACTOR	(C1)	0.4180
Batch Number	CRITICAL LEVEL	(Lc)	1.20	Y-90 EFFICIENCY FACTOR	(C2)	0.4660
96012117	TIME OF SEPARATION	(ST)	14:15	Rmax		N/A
Remun	DATE OF SEPARATION	(SD)	12/16/96	DETECTION LIMIT	(Ld)	2.50
0	TIME OF COUNT	(TOC)	00:10	Sr-89/90 CONC In µCi/L		3.4238E+02
Sample Prep	DATE OF COUNT	(DOC)	12/17/96			
N/A						
Sample #						
S96T005980						
Instrument Code	Sample Count Rate (Rs) = (Total Counts (TC) / Count Time (CT)) - Background in cpm (BKG)					
WB27811	Sr-89/90 CONC In µCi/L Replace RS with RMAX if RS < Lc and RS >= 0 or Replace RS with Lc if RS < 0					
Prepared By	RS * DF * DDF / (((C1 + C2 * (1 - e to the power of ((-natural log 2) / 64.2 * DT)))) * SS * REC * 2220000)					
SEH	NOTE: 64.2 = Half Life for Y-90 and Rec. = Fractional Carrier Recovery ((W2 - W1) / (CVA * 0.1000))					
Chemist	Relative Counting Error = (The Square Root of (TC + BKG * CT)) / (TC - BKG * CT) * 1.96					
SAC	Percent Carrier Recovery = (Net Weight / Expected weight) * 100					
Analyst	NOTE: Expected weight = CVA * 0.1					
RGA	Detection Levels and Less Than Values are determined from Procedure LA-508-002.					
Date Complete	Delta Time (hours) = ((DOC - SD) * 24) + (TOC - ST) / 100					
12/17/96						
Analysis Date						DETECTION LEVEL 2.75E-02 µCi/mL
12/16/96	Sr-89/90 CONCENTRATION	3.42E-01	µCi/mL			
Analysis Time						
03:00 PM	RELATIVE COUNTING ERROR	12.5%				
Sample Point						
AN-104	PERCENT CARRIER RECOVERY	89.7%				

Analyst:	RGA	Date:	17-Dec-96
Signature of Chemist: <i>SAC</i>	SAC	Date:	18 Dec 96
SAMPLE.WB1 REV 2.0		22010NML	

LABCORE Completed RadChem Report for Worklist#: 16221

Analyst: smf

Instrument: AB10

Book# _____

Method: _____ Rev/Mod _____

Worklist Comment: Determine sample size using ludlum. Std: (TNKFUS) 1.0ml.new

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD	0		QSR90-01 SR90-01 SOLID		1.69E-03	1.72E-3	101.775	% Recovery
1 STD	0		QSR90-01 SR90-01C SOLID		100	9.21E+01	92.100	% Recovery
1 STD	0		QSR90-01 SR90-01E SOLID		1.00	1.54E+00	1.540	% Ct. Error
2 BLNK-PREP	0		QSR90-01 SR90-01 SOLID		1	7.66E-2	76.600e-003	uCi/g
2 BLNK-PREP	0		QSR90-01 SR90-01C SOLID		100	9.20E+01	92.000	% Recovery
2 BLNK-PREP	0		QSR90-01 SR90-01E SOLID		1.00	2.55E+01	25.500	uCi/g
3 BLNK/BKG	0		QSR90-01 SR90-01 SOLID		1	2.34E+00	2.340	BLNK/BKG
4 SAMPLE	S96T005975	0 F	QSR90-01 SR90-01 SOLID		N/A	3.38E+01	213.0e-004	uCi/g
4 SAMPLE	S96T005975	0 F	QSR90-01 SR90-01C SOLID		N/A	9.18E+01	0.9e+000	% Recovery
4 SAMPLE	S96T005975	0 F	QSR90-01 SR90-01E SOLID		N/A	7.71E-01	0.0e+000	% Ct. Error
5 DUP	S96T005975	0 F	QSR90-01 SR90-01 SOLID		3.38E+1	3.47E+1	2.628 RPD	
5 DUP	S96T005975	0 F	QSR90-01 SR90-01C SOLID		100	9.16E+01	91.600	% Recovery
5 DUP	S96T005975	0 F	QSR90-01 SR90-01E SOLID		1.00	7.61E-01	0.761	% Ct. Err

Final page for worklist# 16221

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

SJ Cath 22 Jan 97
Reviewer Signature Date

01/16/97 11:21
A-0004-1

LABCORE Data Entry Template for Worklist# 16221

Analyst: SMF Instrument: AB00 #10 Book# 75B563Method: LA-220-101 Rev/Mod D-1

Worklist Comment: Determine sample size using ludlum. Std: (TNKFUS) 1.0ml.new

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 STD			@SR90-01	SOLID		
2 BLNK-PREP			@SR90-01	SOLID		
3 BLNK/BKG			@SR90-01	SOLID		
4 SAMPLE	S96T005975 0 F		@SR90-01	SOLID	96001174	AN-104
	Analytes Requested: SR90-01 , SR90-01C, SR90-01E					
5 DUP	S96T005975 0 F		@SR90-01	SOLID		

Final page for worklist # 16221

Lucille M. Dalton 1-20-97
Analyst Signature DateSharon L. Logan 1-21-97
Analyst Signature Date
Sharon L. Logan 1-22-97

Data Entry Comments:

SV Carrier # 8N19-B 1.0ml

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

WORKBOOK PAGE: STD1

Sr-89/90 : LA-220-101 (D-1), 102 (E-3), 104 (D-1) LIQUIDS

WORKBOOK PAGE: STUDY					STANDARD	
Sr-89/90 : LA-220-101 (D-1), 102 (E-3), 104 (D-1) LIQUIDS						
Type	DETECTOR NUMBER	10	CARRIER ADDED In mL (CVA)	1.000		
STD	TOTAL COUNTS (TC)	16513	GROSS WEIGHT (W2)	7.9233		
Work List	COUNT TIME in MINUTES (CT)	10	TARE WEIGHT (W1)	7.8312		
16221	BACKGROUND in cpm (BKG)	11.0	NET WEIGHT (W3)	0.0921		
Test Code	SAMPLE VOLUME In mL (SS)	1.000	DELTA TIME (HOURS) (DT)	13.67		
@SR90-01	DILUTION FACTOR (DF)	1				
Matrix	DIGEST DILUTION FACTOR DDF	1				
LIQUID	SAMPLE COUNT RATE (Rs)	1640.30	SR-90 EFFICIENCY FACTO (C1)	0.4051		
Batch Number	CRITICAL LEVEL (Lc)	2.00	Y-90 EFFICIENCY FACTOR (C2)	0.4503		
97000071	TIME OF SEPARATION (ST)	14:00	Rmax	N/A		
Refun	DATE OF SEPARATION (SD)	01/20/97	DETECTION LIMIT (Ld)	4.09		
0	TIME OF COUNT (TOC)	03:40	Sr-89/90 CONC. In µCi/L		1.7183E+00	
Sample Prep	DATE OF COUNT (DOC)	01/21/97				
N/A	STANDARD BOOK #	75B55				
Sample #	STANDARD VALUE in µCi/mL	1.6854E-03				
WL16221						
Instrument Code						
WB26870						
Prepared By	Sample Count Rate (Rs) = (Total Counts (TC) / Count Time (CT)) - Background in cpm (BKG)					
SEH	Sr-89/90 CONC in µCi/mL REPLACE RS WITH RMAX IF RS<=Lc AND RS>=0 OR REPLACE RS WITH Lc IF RS<0					
Chemist	RS*DF*DDF*1000/(((C1+C2*(1-e to the power of ((-natural log 2)/64.2*DT))))*SS*REC*2220000)					
SAC	NOTE: 64.2 = Half Life for Y-90 and Rec. = Fractional Carrier Recovery ((W2-W1) / (CVA * 0.1000))					
Analyst	Relative Counting Error = The Square Root of ((TC + BKG * CT) / (TC - BKG * CT)*1.96)					
SME	Percent Carrier Recovery = (Net Weight / Expected weight) * 100					
Date Complete	NOTE: Expected weight = CVA * 0.1					
01/21/97	Detection Levels and Less Than Values are determined from Procedure LA-508-002.					
Analysis Date	Delta Time (hours) = ((DOC - SD) * 24) + (TOC - ST) / 100					
01/20/97	Sr-89/90 CONCENTRATION	1.72E-03	µCi/mL	DETECTION LEVEL		
Analysis Time						
02:00 PM	RELATIVE COUNTING ERROR	1.5%	4.28E-06 µCi/L			
Sample Point						
AN-104	PERCENT CARRIER RECOVERY	92.1%				

Analyst:	SMF	Date:	21-Jan-97
Signature of Chemist: SA Carter	SAC	Date:	21 Jan 97

STANDARD.WB1 REV 2.0

22010NML

WORKBOOK PAGE: BLANK2

LA-220-101 / D-1 Sr-89/90 : LA-220-101 (D-1), 102 (E-3), 104 (D-1)

BLANK-PREP					
Type	DETECTOR NUMBER		10	CARRIER ADDED in mL (CVA)	1.000
BLNK-PREP	TOTAL COUNTS (TC)	257	GROSS WEIGHT (W2)	7.9570	
Work List	COUNT TIME in MINUTES (CT)	10	TARE WEIGHT (W1)	7.8650	
16221	BACKGROUND in cpm (BKG)	11.0	NET WEIGHT (W3)	0.0920	
Test Code	SAMPLE VOLUME in mL (SS)	0.100	DELTA TIME (HOURS) (DT)	13.92	
@SR90-01	DILUTION FACTOR (DF)	1			
Matrix	DIGEST FACTOR (g/L) (D g/L)	2.0088			
SOLID	SAMPLE COUNT RATE (Rs)	14.70	SR-90 EFFICIENCY FACTOR (C1)	0.4051	
Batch Number	CRITICAL LEVEL (Lc)	2.00	Y-90 EFFICIENCY FACTOR (C2)	0.4503	
97000071	TIME OF SEPARATION (ST)	14:00	Rmax	N/A	
Rerun	DATE OF SEPARATION (SD)	01/20/97	DETECTION LIMIT (Ld)	4.08	
0	TIME OF COUNT (TOC)	03:55	Sr-89/90 CONC in µCi/g	7.6571E-02	
Sample Prep	DATE OF COUNT (DOC)	01/21/97			
N/A					
Sample #					
WL16221					
Instrument Code	Sample Count Rate (Rs) = (Total Counts (TC) / Count Time (CT)) - Background in cpm (BKG)				
WB26870	Sr-89/90 CONC in µCi/g Replace RS with RMAX if RS<=Lc and RS>=0 or Replace RS with Lc if RS<0				
Prepared By	RS*1000*DF/((C1+C2*(1-e to the power of ((-natural log 2)/64.2*DT))))*SS*(Dg/L)*REC*2220000)				
SEH	NOTE: 64.2 = Half Life for Y-90 and Rec. = Fractional Carrier Recovery ((W2-W1) / (CVA * 0.1000))				
Chemist	Relative Counting Error = (The Square Root of (TC + BKG * CT) / (TC - BKG * CT))*1.96				
SAC	Percent Carrier Recovery = (Net Weight / Expected weight) * 100				
Analyst	NOTE: Expected weight = CVA * 0.1				
SMF	Detection Levels and Less Than Values are determined from Procedure LA-508-002.				
Date Complete	Delta Time (hours) = ((DOC - SD) * 24) + (TOC - ST) / 100				
01/21/97					
Analysis Date					
01/20/97	Sr-89/90 CONCENTRATION	7.66E-02	µCi/g		
Analysis Time					
02:00 PM	RELATIVE COUNTING ERROR	25.5%			
Sample Point					
AN-104	PERCENT CARRIER RECOVERY	92.0%			

DETECTION
LEVEL

2.13E-02
µCi/g

Analyst:	SMF	Date:	21-Jan-97
Signature of Chemist:	SAC	Date:	22 Jan 97

BLANK.WB1 REV 2.0

22010NML

WORKBOOK PAGE: SAM4

Sr-89/90 : LA-220-101 (D-1), 102 (E-3), 104 (D-1)

					SAMPLE	
Type	DETECTOR NUMBER		10	CARRIER ADDED In mL	(CVA)	1.000
SAMPLE	TOTAL COUNTS	(TC)	85017	GROSS WEIGHT	(W2)	7.9246
Work List	COUNT TIME In MINUTES	(CT)	10	TARE WEIGHT	(W1)	7.8327
16221	BACKGROUND In cpm	(BKG)	11.0	NET WEIGHT	(W3)	0.0918
Test Code	SAMPLE VOLUME In mL	(SS)	0.100	DELTA TIME (HOURS)	(DT)	14.08
@SR90-01	DILUTION FACTOR	DF	1			
Matrix	DIGEST FACTOR (g/L)	(D g/L)	2.0088			
SOLID	SAMPLE COUNT RATE	(Rs)	6490.70	SR-90 EFFICIENCY FACTOR	(C1)	0.4051
Batch Number	CRITICAL LEVEL	(Lc)	2.00	Y-90 EFFICIENCY FACTOR	(C2)	0.4503
97000071	TIME OF SEPARATION	(ST)	14:00	Rmax		N/A
Rerun	DATE OF SEPARATION	(SD)	01/20/97	DETECTION LIMIT	(Ld)	4.09
0	TIME OF COUNT	(TOC)	04:05	Sr-89/90 CONC In $\mu\text{Ci/g}$		3.3833E+01
Sample Prep	DATE OF COUNT	(DOC)	01/21/97			
FUSION01						
Sample #						
S96T05975						
Instrument Code	Sample Count Rate (Rs) = (Total Counts (TC) / Count Time (CT)) - Background in cpm (BKG)					
WB26870	Sr-89/90 CONC In $\mu\text{Ci/g}$ Replace RS with RMAX if RS<=Lc and RS>=0 or Replace RS with Lc if RS<0					
Prepared By	RS*1000*DF/((C1+C2*(1-e to the power of ((-natural log 2)/64.2*DT))))*SS*(Dg/L)*REC*2200000					
SEH	NOTE: 64.2 = Half Life for Y-90 and Rec. = Fractional Carrier Recovery ((W2-W1) / (CVA * 0.1000))					
Chemist	Relative Counting Error = (The Square Root of (TC + BKG * CT)) / (TC - BKG * CT)*1.96					
SAC	Percent Carrier Recovery = (Net Weight / Expected weight) * 100					
Analyst	NOTE: Expected weight = CVA * 0.1					
SMF	Detection Levels and Less Than Values are determined from Procedure LA-508-002.					
Date Complete	Delta Time (hours) = ((DOC - SD) * 24) + (TOC - ST) / 100					
01/21/97						
Analysis Date						DETECTION LEVEL 2.13E-02 $\mu\text{Ci/g}$
01/20/97	Sr-89/90 CONCENTRATION 3.38E+01 $\mu\text{Ci/g}$					
Analysis Time						
02:00 PM	RELATIVE COUNTING ERROR 0.8%					
Sample Point						
AN-104	PERCENT CARRIER RECOVERY 91.8%					

Analyst:	SMF	Date:	21-Jan-97
Signature of Chemist:	<i>SMF</i>	SAC	Date: 22 Jan 97
SAMPLE.WB1 REV 2.0		22010NML	

2269

WORKBOOK PAGE: DUPS

Sr-89/90 : LA-220-101 (D-1), 102 (E-3), 104 (D-1)

						DUP
Type	DETECTOR NUMBER		10	CARRIER ADDED in mL	(CVA)	1.000
DUP	TOTAL COUNTS	(TC)	66651	GROSS WEIGHT	(W2)	7.9418
Work List	COUNT TIME in MINUTES	(CT)	10	TARE WEIGHT	(W1)	7.8502
16221	BACKGROUND in cpm	(BKG)	11.0	NET WEIGHT	(W3)	0.0916
Test Code	SAMPLE VOLUME in mL	(SS)	0.100	DELTA TIME (HOURS)	(DT)	14.33
@SR90-01	DILUTION FACTOR	DF	1			
Matrix	DIGEST FACTOR (g/L)	(D g/L)	2.0096			
SOLID	SAMPLE COUNT RATE	(Rs)	6654.10	SR-90 EFFICIENCY FACTOR	(C1)	0.4051
Batch Number	CRITICAL LEVEL	(Le)	2.00	Y-90 EFFICIENCY FACTOR	(C2)	0.4503
97000071	TIME OF SEPARATION	(ST)	14:00	Rmax		N/A
Retun	DATE OF SEPARATION	(SD)	01/20/97	DETECTION LIMIT	(Ld)	4.09
0	TIME OF COUNT	(TOC)	04:20	Sr-89/90 CONC in µCi/g		3.4669E+01
Sample Prep	DATE OF COUNT	(DOC)	01/21/97			
FUSION01						
Sample #						
S96T005975						
Instrument Code	Sample Count Rate (Rs) = (Total Counts (TC) / Count Time (CT)) - Background in cpm (BKG)					
WB26870	Sr-89/90 CONC in µCi/g Replace RS with RMAX if RS<=Le and RS>=0 or Replace RS with Le if RS<0					
Prepared By	RS*1000*DF/((C1+C2*(1-e to the power of ((-natural log 2)/64.2*DT))) * SS*(Dg/L)*REC*2220000)					
SEH	NOTE: 64.2 = Half Life for Y-90 and Rec. = Fractional Carrier Recovery ((W2-W1) / (CVA * 0.1000))					
Chemist	Relative Counting Error = (The Square Root of (TC + BKG * CT)) / (TC - BKG * CT) * 1.96					
SAC	Percent Carrier Recovery = (Net Weight / Expected weight) * 100					
Analyst	NOTE: Expected weight = CVA * 0.1					
SMF	Detection Levels and Less Than Values are determined from Procedure LA-508-002.					
Date Complete	Delta Time (hours) = ((DOC - SD) * 24) + (TOC - ST) / 100					
01/21/97						
Analysis Date						DETECTION LEVEL 2.13E-02 µCi/g.
01/20/97	Sr-89/90 CONCENTRATION	3.47E+01	µCi/g			
Analysis Time						
02:00 PM	RELATIVE COUNTING ERROR	0.8%				
Sample Point						
AN-104	PERCENT CARRIER RECOVERY	91.6%				

Analyst:	SMF	Date:	21-Jan-97
Signature of Chemist:	<i>SAC</i>	Date:	22 Jan 97

SAMPLE.WB1 REV 2.0

22010NML

2270

LABCORE Completed RadChem Report for Worklist#: 16333

Analyst: knt Instrument: LSC02 Book# _____

Method: _____ Rev/Mod _____

Worklist Comment: Re-Re-Run of WL#16254, use 1 ml. jfr 24Jan97

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD	0		0TC99-01 TC99-01 SOLID		7.22E-03	7.76E-3	107.479	% Recovery ✓
1 STD	0		0TC99-01 TC99-01T SOLID		100	7.54E+01	75.400	% Recovery ✓
1 STD	0		0TC99-01 TC99-01E SOLID		1	5.00E-01	0.500	% Ct. Error
2 BLNK-PREP	0		0TC99-01 TC99-01 SOLID		1	<3.76E-3		uCi/g
2 BLNK-PREP	0		0TC99-01 TC99-01E SOLID		1.00	9.44E+00	9.440	uCi/g
2 BLNK-PREP	0		0TC99-01 TC99-01T SOLID		100	6.91E+01	69.100	% Recovery ✓
3 SAMPLE	S96T005975	0 F	0TC99-01 TC99-01 SOLID		N/A	1.41E-01	366.0e-005	uCi/g
3 SAMPLE	S96T005975	0 F	0TC99-01 TC99-01T SOLID		N/A	7.11E+01	0.0e+000	% Recovery ✓
3 SAMPLE	S96T005975	0 F	0TC99-01 TC99-01E SOLID		N/A	2.66E+00	0.0e+000	% Ct. Error
4 DUP	S96T005975	0 F	0TC99-01 TC99-01 SOLID		1.41E-1	1.28E-1	9.665	RPD
4 DUP	S96T005975	0 F	0TC99-01 TC99-01E SOLID		1.00	2.79E+00	2.790	% Ct. Error
4 DUP	S96T005975	0 F	0TC99-01 TC99-01T SOLID		100	7.08E+01	70.800	% Recovery ✓

Final page for worklist# 16333

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

John Pelya 30 Jan 97
 Reviewer Signature _____ Date _____
Vali Latorre

LABCORE Data Entry Template for Worklist# 16333

Analyst: KNT Instrument: LSC00 2 Book# 75856

Method: LA-438-101 Rev/Mod 0-2

Worklist Comment: Re-Re-Run of WL#16254, use 1 ml. jfr 24Jan97

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 STD			@TC99-01	SOLID		
2 BLNK-PREP			@TC99-01	SOLID		
3 SAMPLE	S96T005975	O F	@TC99-01	SOLID	96001174	AN-104
	Analytes Requested: TC99-01 , TC99-01E, TC99-01T					
4 DUP	S96T005975	O F	@TC99-01	SOLID		

Final page for worklist # 16333

Kim Thomas 1-28-97
Analyst Signature Date

Sue Hogan 1-29-97
Analyst Signature Date

Em Barba 1-29-97

Data Entry Comments:

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

PAGE: 1

28 JAN 1997 07:08

ID: TC 99

USER: 5

COMMENT: LS 6000

PRESET TIME : 20.00

DATA CALC : SL DPM H# : YES SAMPLE REPEATS: 1 PRINTER : STD

COUNT BLANK : YES IC# : NO REPLICATES : 1 RS232 : EDIT

TWO PHASE : YES AGC : NO CYCLE REPEATS : 1

SCINTILLATOR: LIQUID LUMEX: YES LOW SAMPLE REJ: 0

LOW LEVEL : NO HALF LIFE CORRECTION DATE: none

ISOTOPE 1: TC99 %ERROR: 0.00 FACTOR: 1.000000 BKG. SUB: 0

BACKGROUND QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

Quench Limits Low: 90.823 High: 343.63

SAM	POS	TIME MIN	H#	TC99		TC99 DPM	TC99 EFF-1	LUMEX %	ELAPSED 2P TIME
				CPM	%ERROR				
B1	**1	20.00	196.4	47.30	6.67	50.44	93.78	4.45	21.12 2P
Blank Average				DPM for	TC99 :	50.44	COEF. OF VAR: 0.000		
1	**3	20.00	169.8	8258.35	0.50	8659.21	94.82	4.63	45.67
2	**4	20.00	172.8	11304.35	0.43	11884.13	94.72	3.01	70.04 2P
3	**5	20.00	180.0	48.85	9.44	1.27	94.47	48.80	92.52 2P
4	**6	20.00	180.7	2841.00	0.85	2957.86	94.44	1.83	114.93 2P
5	**7	20.00	179.0	328.95	2.66	297.65	94.50	13.93	137.39 2P
6	**8	20.00	182.3	3197.55	0.80	3337.57	94.38	1.73	159.89 2P
7	**9	20.00	181.3	302.00	2.79	269.42	94.42	14.53	182.31 2P
8	**10	20.00	182.1	3160.75	0.80	3298.28	94.39	1.38	204.68 2P

Tc-99 Data Collection Sheet

Worklist Number: 16333

Date/Time: 1-28-97, 0225

Tracer Book No.: 32 B56

Tracer Volume: _____

0.700 ml

[illegible]

WORKBOOK PAGE: STD1

Tc-99 : LA-438-101 (D-2)

LIQUID

		STANDARD
Type	Tracer Book Number (Tr BN)	32B56
STD	Activity for 100µl of Spike Added in dpm	6415.8
Work List	Volume of Sample in mL (SS)	1
16333	Dilution Factor (DF)	1
Test Code	Digest Dilution Factor (DDF)	1
@TC99-01	dpm of Sample from Liquid Scintillation Counter (dm1)	8659.21
Matrix	dpm of Sample+Spike from Liquid Scintillation Counter (dm2)	11884.13
LIQUID	Background cpm (BKG cpm)	47.3
Batch Number	Background Time Counted in Minutes (BKG time)	20
97000197	Instrument Fractional Efficiency (EFF)	0.9482
Rerun	% Counting Error	0.5
0	Standard Value µCi/mL	7.220E-03
Sample Prep	Standard Book # (Std BN)	75B56
N/A	Detection Limit (Ld)	7.70
Sample #	Critical Level (Lc)	3.58
WL16333	Tc-99 Concentration in µCi/L =	7.7599E+00
Instrument Code	Critical Level (Lc) = $2.33 * \text{the Square Root of (BKG cpm / BKG time)}$	
WC16085	Detection Limit (Ld) = $((2.72 / \text{BKG time}) + (2 * \text{Lc})) / \text{EFF}$	
Prepared By	Detection Level = $\text{Ld} * \text{dm3} * \text{DF} * \text{DDF} / ((2220000 \text{dpm}/\mu\text{Ci}) * \text{SS} * (\text{dm2} - \text{dm1}))$	
SEH	Tc-99 µCi/L = $(\text{dm1} * (1000 \text{mL/L}) * \text{dm3} * \text{DF} * \text{DDF}) / ((2220000 \text{dpm}/\mu\text{Ci}) * \text{SS} * (\text{dm2} - \text{dm1}))$	
Chemist	JFR	
JFR	Spike (Tracer) Recovery = $(\text{dm2} - \text{dm1}) * 1.5 * 100 / \text{dm3}$	
Analyst	KNT	
KNT	Date Complete	
01/29/97	Tc-99 Concentration in µCi/mL =	7.76E-03
Analysis Date	DETECTION LEVEL	
01/28/97	% Counting Error =	0.5
Analysis Time	6.90E-06 µCi/mL	
02:25 AM	Spike (Tracer) Recovery =	75.4%
Sample Point	AN-104	

Analyst:	KNT	Date:	01/29/97
Signature of Chemist:	<i>John Relyea</i>	JFR	Date: 30 Jan 97
STANDARD.WB1 REV 2.0		438101ML	

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WORKBOOK PAGE: BLANK2

Tc-99 : LA-438-101 (D-2)

SOLIDS

BLNK-PREP	
Type	Tracer Book Number (Tr BN) 32B56
BLNK-PREP	Activity for 100µl of Spike Added in dpm 6415.8
Work List	Volume of Sample in mL (SS) 1
16333	Dilution Factor (DF) 1
Test Code	Digest Grams of Solids/Liter (Dg/L) 2.0088
@TC99-01	dpm of Sample from Liquid Scintillation Counter (dm1) 1.27
Matrix	dpm of Sample+Spike from Liquid Scintillation Counter (dm2) 2957.86
SOLID	Background cpm (BKG cpm) 47.3
Batch Number	Background Time Counted in Minutes (BKG time) 20
97000197	Instrument Fractional Efficiency (EFF) 0.9447
Rerun	% Counting Error 9.44
0	Detection Limit (Ld) 7.73
Sample Prep	Critical Level (Lc) 3.58
N/A	Tc-99 Concentration in µCi/g = < 3.7613E-03
Sample #	Critical Level (Lc) = 2.33 * the Square Root of (BKG cpm / BKG time)
WL16333	Detection Limit (Ld) = ((2.72 / BKG time) * (2 * Lc)) / EFF
Instrument Code	Detection Level = Ld * dm3 * DF * DDF / ((2220000dpm/µCi) * SS * (dm2 - dm1))
WC16065	Tc-99 µCi/g = (dm1 * (1000mL/L) * dm3 * DF) / ((2220000dpm/µCi) * SS * Dg/L * (dm2 - dm1))
Prepared By	SEH
Chemist	Spike (Tracer) Recovery = (dm2 - dm1) * 1.5 * 100 / dm3
JFR	
Analyst	NOTE: Reported result is a LESS THAN value calculated from the statistical Detection Limit (Ld).
KNT	
Date Complete	Tc-99 Concentration in µCi/g = < 3.76E-03
01/29/97	
Analysis Date	% Counting Error = 9.4
01/28/97	
Analysis Time	Spike (Tracer) Recovery = 69.1%
02:25 AM	
Sample Point	
AN-104	

Analyst:	KNT	Date:	01/29/97
Signature of Chemist:	<i>John Relyea</i>	Date:	30 Jan 97
BLANK.WB1 REV 2.0	438101ML		

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WORKBOOK PAGE: SAM3

Tc-99 : LA-438-101 (D-2)

SOLIDS

		SAMPLE
Type	Tracer Book Number (Tr BN)	32B56
SAMPLE	Activity for 100µl of Spike Added in dpm (dm3)	6415.8
Work List	Volume of Sample in mL (SS)	1
16333	Dilution Factor (DF)	1
Test Code	Digest Grams of Solids/Liter (Dg/L)	2.0088
@TC99-01	dpm of Sample from Liquid Scintillation Counter (dm1)	297.65
Matrix	dpm of Sample+Spike from Liquid Scintillation Counter (dm2)	3337.57
SOLID	Background cpm (BKG cpm)	47.3
Batch Number	Background Time Counted in Minutes (BKG time)	20
97000197	Instrument Fractional Efficiency (EFF)	0.945
Rerun	% Counting Error	2.66
2	Detection Limit (Ld)	7.73
Sample Prep	Critical Level (Lc)	3.58
FUSION01	Tc-99 Concentration in µCi/g	1.4087E-01
Sample #	Critical Level (Lc) = 2.33 * the Square Root of (BKG cpm / BKG time)	
S96T005975		
Instrument Code	Detection Limit (Ld) = ((2.72 / BKG time) + (2 * Lc)) / EFF	DETECTION LEVEL
WC16085	Detection Level = Ld * dm3 * DF * DDF / ((2220000dpm/µCi) * SS * (dm2 - dm1))	
Prepared By	Tc-99 µCi/g = (dm1 * (1000mL/L) * dm3 * DF) / ((2220000dpm/µCi) * SS * Dg/L * (dm2 - dm1))	3.66E-03 µCi/g
SEH		
Chemist	Spike (Tracer) Recovery = (dm2 - dm1) * 1.5 * 100 / dm3	71.1%
JFR		
Analyst		ANALYST
KNT		
Date Complete	Tc-99 Concentration in µCi/g	1.41E-01
01/29/97		
Analysis Date	% Counting Error	2.7
01/28/97		
Analysis Time	Spike (Tracer) Recovery	71.1%
02:25 AM		
Sample Point		
AN-104		

Analyst:	KNT	Date:	01/29/97
Signature of Chemist:	<i>John Belyea</i>	JFR	Date: 02 Jan 97
SAMPLE.WB1 REV 2.0	438101ML		

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WORKBOOK PAGE: DUP4

Tc-99 : LA-438-101 (D-2)

SOLIDS

		DUP
Type	Tracer Book Number	32B56
DUP	Activity for 100µl of Spike Added in dpm	6415.8
Work List	Volume of Sample in mL	1
16333	Dilution Factor	1
Test Code	Digest Grams of Solids/Liter	2.0096
@TC99-01	dpm of Sample from Liquid Scintillation Counter	269.42
Matrix	dpm of Sample+Spike from Liquid Scintillation Counter	3298.28
SOLID	Background cpm	47.3
Batch Number	Background Time Counted in Minutes	20
97000197	Instrument Fractional Efficiency	0.9442
Rerun	% Counting Error	2.79
2	Detection Limit	7.73
Sample Prep	Critical Level	3.58
FUSION01	Tc-99 Concentration in µCi/g	1.2792E-01
Sample #	Critical Level (Lc) = $2.33 * \text{the Square Root of (BKG cpm / BKG time)}$	
S96T005975	Detection Limit (Ld) = $((2.72 / \text{BKG time}) + (2 * \text{Lc})) / \text{EFF}$	
Instrument Code	Detection Level = $\text{Ld} * \text{dm3} * \text{DF} * \text{DDF} / ((2220000 \text{dpm}/\mu\text{Ci}) * \text{SS} * (\text{dm2} - \text{dm1}))$	
WC16085	Tc-99 µCi/g = $(\text{dm1} * (1000 \text{mL/L}) * \text{dm3} * \text{DF}) / ((2220000 \text{dpm}/\mu\text{Ci}) * \text{SS} * \text{Dg/L} * (\text{dm2} - \text{dm1}))$	
Prepared By	Spike (Tracer) Recovery = $(\text{dm2} - \text{dm1}) * 1.5 * 100 / \text{dm3}$	
SEH		
Chemist		
JFR		
Analyst		
KNT		
Date Complete		
01/29/97	Tc-99 Concentration in µCi/g	1.28E-01
Analysis Date		
01/28/97	% Counting Error	2.8
Analysis Time		
02:25 AM	Spike (Tracer) Recovery	70.8%
Sample Point		
AN-104		

Analyst:	KNT	Date:	01/29/97
Signature of Chemist:	<i>John Relyea</i>	JFR	Date: 30 Jan 97
SAMPLE.WB1 REV 2.0	438101ML		

2278

LABCORE Completed RadChem Report for Worklist#: 16337

Analyst: rga

Instrument: LSC02

Book# _____

Method: _____ Rev/Mod _____

Worklist Comment: 0.25ml sample size. STD: TNKFUS 1.0ml.

new

AN103 4
AN104

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD	0		ATC99-01 TC99-01T LIQUID		7.22E-03	6.45E-3	89.335	% Recovery
1 STD	0		ATC99-01 TC99-01T LIQUID		100	6.35E+01	63.500	% Recovery
1 STD	0		ATC99-01 TC99-01E LIQUID		1	6.00E-01	0.600	% Ct. Error
2 BLNK	0		ATC99-01 TC99-01T LIQUID		1	<9.46E-6		uCi/mL
2 BLNK	0		ATC99-01 TC99-01E LIQUID		1.00	8.13E+00	8.130	uCi/mL
2 BLNK	0		ATC99-01 TC99-01T LIQUID		100	5.35E+01	53.500	% Recovery
3 SAMPLE	S97T000022	0	ATC99-01 TC99-01T LIQUID		N/A	2.22E-04	962.0e+008	uCi/mL
3 SAMPLE	S97T000022	0	ATC99-01 TC99-01T LIQUID		N/A	5.26E+01	0.0e+000	% Recovery
3 SAMPLE	S97T000022	0	ATC99-01 TC99-01E LIQUID		N/A	3.32E+00	0.0e+000	% Ct. Error
4 DUP	S97T000022	0	ATC99-01 TC99-01T LIQUID		2.22E-4	2.17E-4	2.278	RPD
4 DUP	S97T000022	0	ATC99-01 TC99-01E LIQUID		1.00	3.37E+00	3.370	% Ct. Error
4 DUP	S97T000022	0	ATC99-01 TC99-01T LIQUID		100	5.15E+01	51.500	% Recovery
5 SAMPLE	S97T000020	0	ATC99-01 TC99-01T LIQUID		N/A	1.79E-04	102.0e+007	uCi/mL
5 SAMPLE	S97T000020	0	ATC99-01 TC99-01T LIQUID		N/A	4.98E+01	0.0e+000	% Recovery
5 SAMPLE	S97T000020	0	ATC99-01 TC99-01E LIQUID		N/A	3.66E+00	0.0e+000	% Ct. Error
6 DUP	S97T000020	0	ATC99-01 TC99-01T LIQUID		1.79E-4	1.56E-4	13.731	RPD
6 DUP	S97T000020	0	ATC99-01 TC99-01E LIQUID		1.00	3.79E+00	3.790	% Ct. Error
6 DUP	S97T000020	0	ATC99-01 TC99-01T LIQUID		100	5.20E+01	52.000	% Recovery

Final page for worklist# 16337

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

John Pelya 30 Jan 97
Reviewer Signature _____ Date _____
Validated

LABCORE Data Entry Template for Worklist# 16337

Analyst: RGA Instrument: LSC00 Book# 75B56

Method: LA-438-101 Rev/Mod D-2

Worklist Comment: 0.25ml sample size. STD: TNKFUS 1.0ml. new

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 STD			@TC99-01	LIQUID		
2 BLNK			@TC99-01	LIQUID		
3 SAMPLE	S97T000022 0		@TC99-01	LIQUID	96001174	AN-104
Analytes Requested: TC99-01 , TC99-01E, TC99-01T						
4 DUP	S97T000022 0		@TC99-01	LIQUID		
5 SAMPLE	S97T000020 0		@TC99-01	LIQUID	96001318	AN-103
Analytes Requested: TC99-01 , TC99-01E, TC99-01T						
6 DUP	S97T000020 0		@TC99-01	LIQUID		

Final page for worklist # 16337

[Signature] 1-27-97
Analyst Signature Date

[Signature] 1-28-97
Analyst Signature Date
[Signature] 1-28-97

Data Entry Comments:

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

Tc99 Data Collection Sheet

Worklist Number: 16337

Date/Time: 127-97 /

Spike Book Number: 32B56

Spike Volume: 100mL

[illegible]

PAGE: 1

ID: TC 99

27 JAN 1997 16:10

USER: 5

COMMENT:LS 6000

PRESET TIME : 20.00

DATA CALC : SL DPM H# :YES SAMPLE REPEATS: 1 PRINTER : STD

COUNT BLANK : YES IC# : NO REPLICATES : 1 RS232 :EDIT

TWO PHASE : YES AGC : NO CYCLE REPEATS : 1

SCINTILLATOR: LIQUID LUMEX:YES LOW SAMPLE REJ: 0

LOW LEVEL : NO HALF LIFE CORRECTION DATE: none

ISOTOPE 1: TC99 %ERROR: 0.00 FACTOR: 1.000000 BKG. SUB: 0

BACKGROUND QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

Quench Limits Low:90.823 High:343.63

SAM NO	POS	TIME MIN	H#	TC99		TC99 DPM	TC99 EFF-1	LUMEX %	ELAPSED 2P TIME
				CPM	%ERROR				
B1	** -1	20.00	209.2	44.15	6.96	47.41	93.12	5.67	21.14 2P
Blank Average				DPM for	TC99 :	47.41	COEF. OF	VAR:	0.000
1	** -3	20.00	175.2	5785.90	0.60	6066.29	94.44	3.18	44.67 2P
2	** -4	20.00	183.9	8329.90	0.50	8784.32	94.32	2.21	68.21 2P
3	** -5	20.00	186.8	47.50	8.13	3.02	94.20	32.75	90.30 2P
4	** -6	20.00	191.4	2199.40	0.96	2292.25	94.01	1.33	112.45 2P
5	** -7	20.00	186.6	207.60	3.32	172.95	94.21	11.84	134.60 2P
6	** -8	20.00	192.1	2321.75	0.93	2423.23	93.97	1.15	156.70 2P
7	** -9	20.00	188.9	200.00	3.37	165.10	94.11	11.41	178.81 2P
8	** -10	20.00	190.7	2271.35	0.94	2367.95	94.04	1.25	200.93 2P
9	** -11	20.00	187.5	169.10	3.66	132.16	94.17	11.32	222.97 2P
10	** -12	20.00	185.7	2175.35	0.96	2260.78	94.25	0.94	245.00 2P
11	** -1	20.00	185.3	158.10	3.79	120.31	94.26	11.22	267.10 2P
12	** -2	20.00	188.5	2252.90	0.95	2346.03	94.13	0.89	289.10 2P

WORKBOOK PAGE: STD1

Tc-99 : LA-438-101 (D-2)

LIQUID

		STANDARD
Type	Tracer Book Number (Tr BN)	32B56
STD	Activity for 100µl of Spike Added in dpm	6415.8
Work List	Volume of Sample in mL (SS)	1
16337	Dilution Factor (DF)	1
Test Code	Digest Dilution Factor (DDF)	1
@TC99-01	dpm of Sample from Liquid Scintillation Counter (dm1)	6066.29
Matrix	dpm of Sample+Spike from Liquid Scintillation Counter (dm2)	8784.32
LIQUID	Background cpm (BKG cpm)	44.15
Batch Number	Background Time Counted in Minutes (BKG time)	20
97000185	Instrument Fractional Efficiency (EFF)	0.9464
Rerun	% Counting Error	0.6
0	Standard Value µCi/mL	7.220E-03
Sample Prep	Standard Book # (Std BN)	75B56
N/A	Detection Limit (Ld)	7.46
Sample #	Critical Level (Lc)	3.46
WL16337	Tc-99 Concentration in µCi/L =	6.4501E+00
Instrument Code	Critical Level (Lc) = 2.33 * the Square Root of (BKG cpm / BKG time)	
WC16085	Detection Limit (Ld) = ((2.72 / BKG time) + (2 * Lc)) / EFF	
Prepared By	Detection Level = Ld * dm3 * DF * DDF / ((2220000dpm/µCi) * SS * (dm2 - dm1))	
SEH	Tc-99 µCi/L = (dm1 * (1000mL/L) * dm3 * DF * DDF) / ((2220000dpm/µCi) * SS * (dm2 - dm1))	
Chemist	JFR	
Analyst	Spike (Tracer) Recovery = (dm2 - dm1) * 1.5 * 100 / dm3	
RGA		
Date Complete	Tc-99 Concentration in µCi/mL =	6.45E-03
01/28/97		DETECTION LEVEL
Analysis Date	% Counting Error =	0.6
01/27/97		7.93E-06
Analysis Time	Spike (Tracer) Recovery =	63.5%
06:00 PM		µCi/mL
Sample Point		
AN-104		

Analyst:	RGA	Date:	01/28/97
Signature of Chemist:	<i>John Relyea</i>	JFR	Date: 20 Jan 97

STANDARD.WB1 REV 2.0

438101ML

2283

WORKBOOK PAGE: BLANK2

Tc-99 : LA-438-101 (D-2)

LIQUID

BLNK

Type	Tracer Book Number	(Tr BN)	32B56
BLNK	Activity for 100µl of Spike Added in dpm		6415.8
Work List	Volume of Sample in mL	(SS)	1
16337	Dilution Factor	(DF)	1
Test Code	Digest Dilution Factor	(DDF)	1
@TC99-01	dpm of Sample from Liquid Scintillation Counter	(dm1)	3.02
Matrix	dpm of Sample+Spike from Liquid Scintillation Counter	(dm2)	2292.25
LIQUID	Background cpm	(BKG cpm)	44.15
Batch Number	Background Time Counted in Minutes	(BKG time)	20
97000185	Instrument Fractional Efficiency	(EFF)	0.942
Rerun	% Counting Error		8.13
0	Detection Limit	(Ld)	7.49
Sample Prep	Critical Level	(Lc)	3.46
N/A	Tc-99 Concentration in µCi/L	=	< 9.4611E-03
Sample #	Critical Level (Lc) = $2.33 * \text{the Square Root of (BKG cpm / BKG time)}$		
WL16337	Detection Limit (Ld) = $((2.72 / \text{BKG time}) + (2 * \text{Lc})) / \text{EFF}$		
Instrument Code	Detection Level = $\text{Ld} * \text{dm3} * \text{DF} * \text{DDF} / ((2220000 \text{dpm}/\mu\text{Ci}) * \text{SS} * (\text{dm2} - \text{dm1}))$		
WC16085	Tc-99 µCi/L = $(\text{dm1} * (1000 \text{mL/L}) * \text{dm3} * \text{DF} * \text{DDF}) / ((2220000 \text{dpm}/\mu\text{Ci}) * \text{SS} * (\text{dm2} - \text{dm1}))$		
Prepared By	Tc-99 µCi/mL = $\mu\text{Ci/L} / (1000 \text{mL/L})$		
SEH	Spike (Tracer) Recovery = $(\text{dm2} - \text{dm1}) * 1.5 * 100 / \text{dm3}$		
Chemist	NOTE: Reported result is a LESS THAN value calculated from the statistical Detection Limit (Ld).		
JFR			
Analyst			
RGA			
Date Complete	Tc-99 Concentration in µCi/mL	=	< 9.46E-06
01/28/97			DETECTION
Analysis Date			LEVEL
01/27/97	% Counting Error	=	8.1
Analysis Time			9.46E-06
06:00 PM	Spike (Tracer) Recovery	=	53.5%
Sample Point			µCi/mL
AN-104			

Analyst:	RGA	Date:	01/28/97
Signature of Chemist:	<i>John Relyea</i>	JFR	Date: 30 Jan 97

BLANK.WB1 REV 2.0

438101ML

2284

WORKBOOK PAGE: SAM3

Tc-99 : LA-438-101 (D-2)

LIQUID

		SAMPLE
Type	Tracer Book Number (Tr BN)	32E66
SAMPLE	Activity for 100µl of Spike Added in dpm (dm3)	6415.8
Work List	Volume of Sample in mL (SS)	1
16337	Dilution Factor (DF)	1
Test Code	Digest Dilution Factor (DDF)	1
@TC99-01	dpm of Sample from Liquid Scintillation Counter (dm1)	172.95
Matrix	dpm of Sample+Spike from Liquid Scintillation Counter (dm2)	2423.23
LIQUID	Background cpm (BKG cpm)	44.16
Batch Number	Background Time Counted in Minutes (BKG time)	20
97000185	Instrument Fractional Efficiency (EFF)	0.9421
Rerun	% Counting Error	3.32
0	Detection Limit (Ld)	7.49
Sample Prep	Critical Level (Lc)	3.46
N/A	Tc-99 Concentration in µCi/L	2.2212E-01
Sample #	$\text{Critical Level (Lc)} = 2.33 * \text{the Square Root of (BKG cpm / BKG time)}$ $\text{Detection Limit (Ld)} = ((2.72 / \text{BKG time}) + (2 * \text{Lc})) / \text{EFF}$ $\text{Detection Level} = \text{Ld} * \text{dm3} * \text{DF} * \text{DDF} / ((2220000 \text{dpm}/\mu\text{Ci}) * \text{SS} * (\text{dm2} - \text{dm1}))$ $\text{Tc-99 } \mu\text{Ci/L} = (\text{dm1} * (1000 \text{mL/L}) * \text{dm3} * \text{DF} * \text{DDF}) / ((2220000 \text{dpm}/\mu\text{Ci}) * \text{SS} * (\text{dm2} - \text{dm1}))$ $\text{Tc-99 } \mu\text{Ci/mL} = \mu\text{Ci/L} / (1000 \text{mL/L})$ $\text{Spike (Tracer) Recovery} = (\text{dm2} - \text{dm1}) * 1.5 * 100 / \text{dm3}$	
S977000022		
Instrument Code		
WC16065		
Prepared By		
SEH		
Chemist		
JFR		
Analyst		
RGA		
Date Complete	Tc-99 Concentration in µCi/mL	2.22E-04
01/28/97		
Analysis Date		
01/27/97	% Counting Error	3.3
Analysis Time		
06:00 PM	Spike (Tracer) Recovery	52.6%
Sample Point		
AN-104		

Analyst:	RGA	Date:	01/28/97
Signature of Chemist:	<i>John Rehya</i>	Date:	30 Jan 97

SAMPLE.WB1 REV 2.0

438101ML

2285

WORKBOOK PAGE: DUP4

Tc-99 : LA-438-101 (D-2)

LIQUID

		DUP
Type	Tracer Book Number (Tr BN)	32B56
DUP	Activity for 100µl of Spike Added in dpm (dm3)	6415.8
Work List	Volume of Sample in mL (SS)	1
16337	Dilution Factor (DF)	1
Test Code	Digest Dilution Factor (DDF)	1
@TC99-01	dpm of Sample from Liquid Scintillation Counter (dm1)	165.1
Matrix	dpm of Sample+Spike from Liquid Scintillation Counter (dm2)	2367.95
LIQUID	Background cpm (BKG cpm)	44.15
Batch Number	Background Time Counted in Minutes (BKG time)	20
97000185	Instrument Fractional Efficiency (EFF)	0.9411
Rerun	% Counting Error	3.37
0	Detection Limit (Ld)	7.50
Sample Prep	Critical Level (Lc)	3.46
N/A	Tc-99 Concentration in µCi/L	2.1660E-01
Sample #		
S97T000022	Critical Level (Lc) = $2.33 * \text{the Square Root of (BKG cpm / BKG time)}$	
Instrument Code	Detection Limit (Ld) = $((2.72 / \text{BKG time}) + (2 * \text{Lc})) / \text{EFF}$	
WC16085	Detection Level = $\text{Ld} * \text{dm3} * \text{DF} * \text{DDF} / ((2220000 \text{dpm}/\mu\text{Ci}) * \text{SS} * (\text{dm2} - \text{dm1}))$	
Prepared By	Tc-99 µCi/L = $(\text{dm1} * (1000 \text{mL}/\text{L}) * \text{dm3} * \text{DF} * \text{DDF}) / ((2220000 \text{dpm}/\mu\text{Ci}) * \text{SS} * (\text{dm2} - \text{dm1}))$	
SEH	Tc-99 µCi/mL = $\mu\text{Ci}/\text{L} / (1000 \text{mL}/\text{L})$	
Chemist	Spike (Tracer) Recovery = $(\text{dm2} - \text{dm1}) * 1.5 * 100 / \text{dm3}$	
JFR		
Analyst		
RGA		
Date Complete		
01/26/97	Tc-99 Concentration in µCi/mL	2.17E-04
Analysis Date		DETECTION LEVEL
01/27/97	% Counting Error	3.4
Analysis Time		9.84E-06 µCi/mL
06:00 PM	Spike (Tracer) Recovery	51.5%
Sample Point		
AN-104		

Analyst:	RGA	Date:	01/28/97
Signature of Chemist:	<i>John Delany</i>	Date:	Jan 97

SAMPLE.WB1 REV 2.0

438101ML

2286

01/28/97 14:07:20

LABCORE Completed RadChem Report for Worklist#: 15499

Analyst: jmv

Instrument: AB19

Book# 62B56

Method: LA-953-103 Rev/Mod B-4

Worklist Comment: @AM24102 FOR AN-104)DET SS USING LUDLUM)(NEED CM242) RTS!

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD	0	0	0AM24102 AM24101	LIQUID	1.19E-04	1.09E-4	91.597	% Recovery
1 STD	0	0	0AM24102 AM24101E	LIQUID	1.00	1.81E+00	1.810	% Ct Error
1 STD	0	0	0AM24102 AM24101T	LIQUID	100	9.44E+01	94.400	% Recovery
2 BLNK	0	0	0AM24102 AM24101	LIQUID	1	<2.93E-4		uCi/mL
2 BLNK	0	0	0AM24102 AM24101E	LIQUID	1.00	1.00E+02	100.000	% Ct Error
2 BLNK	0	0	0AM24102 AM24101T	LIQUID	100	9.20E+01	92.000	% Recovery
2 BLNK	0	0	0AM24102 CM24301	LIQUID	1	<2.93E-4		uCi/mL
2 BLNK	0	0	0AM24102 CM24301E	LIQUID	1.00	1.00E+02	100.000	uCi/mL
3 SAMPLE	S96T005980	0	0AM24102 AM24101	LIQUID	N/A	< 3.51E-04	351.0e-006	uCi/mL
3 SAMPLE	S96T005980	0	0AM24102 AM24101E	LIQUID	N/A	1.00E+02	0.0e+000	% Ct. Error
3 SAMPLE	S96T005980	0	0AM24102 AM24101T	LIQUID	N/A	8.08E+01	0.0e+000	% Recovery
3 SAMPLE	S96T005980	0	0AM24102 CM24301	LIQUID	N/A	< 3.51E-04	351.0e-006	uCi/mL
3 SAMPLE	S96T005980	0	0AM24102 CM24301E	LIQUID	N/A	1.00E+02	0.0e+000	% Ct. Error
4 DUP	S96T005980	0	0AM24102 AM24101	LIQUID	<3.51E-4	<3.43E-4		RPD
4 DUP	S96T005980	0	0AM24102 AM24101E	LIQUID	1.00	1.00E+02	100.000	% Ct Error
4 DUP	S96T005980	0	0AM24102 AM24101T	LIQUID	100	8.23E+01	82.300	% Recovery
4 DUP	S96T005980	0	0AM24102 CM24301	LIQUID	<3.51E-4	<3.43E-4		RPD
4 DUP	S96T005980	0	0AM24102 CM24301E	LIQUID	1.00	1.00E+02	100.000	% Ct. Error

Final page for worklist# 15499

Analyst Signature

Date

Analyst Signature

Date

John Relyea 16 Dec 96
Reviewer Signature Date
Validated

LABCORE Data Entry Template for Worklist# 15499

Analyst: DMJ Instrument: AM01 19 Book# 62856

Method: LA-953-103 Rev/Mod _____

Worklist Comment: @AM24102 FOR AN-104)DET SS USING LUDLUM)(NEED CM242) RTS!

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 STD			@AM24102	LIQUID		
2 BLNK			@AM24102	LIQUID		
3 SAMPLE	S96T005980 0		@AM24102	LIQUID	96001174	AN-104
	Analytes Requested: AM24101 , AM24101E, AM24101T, CM24301 , CM24301E					
4 DUP	S96T005980 0		@AM24102	LIQUID		

Final page for worklist # 15499

DMJ
Analyst Signature

12-12-96
Date

M. E. Brown
Analyst Signature

12/14/96
Date

Jue Hogan
12/16/96

Data Entry Comments:

MATRIX: SOLID LIQUID EACH
(CIRCLE ONE)

TRACER BK.# 125843

(at elevator)

2289

[illegible]

WORKBOOK PAGE: STD1

Am 241 and Cm 243/244: LA-953-103 (B-0)

LIQUID

WORKBOOK PAGE: STD1

Am 241 and Cm 243/244: LA-953-103 (B-0)				LIQUID		STD
Type	Date Counted	DEC-13-96	Am 241 AEA Frac. (C241)			0.504
STD	Sample Volume in mL (SS)	1.000	Am 243 AEA Frac. (C243)			0.426
Work List	Sample D.F. (DF)	1	Cm 243/244 AEA Frac. (Cm)			0
15499	Tracer Volume in mL (SPKV)	0.200	Total AT Counts			4570
Test Code	Digest D.F. (DDF)	1.000	AT Count Time (min) (TC)			30
@AM24102	Tracer Book No.	125B43	Background in cpm (Bkg)			0.13
Matrix	Am-243 Tracer Value (dpm/mL)	1027	Am 241 cpm			53.27
LIQUID	Detector Number	19	Am 243 cpm			45.01
Batch Number	Detector Efficiency (DetEff)	0.3345	Cm 243/244 cpm			0
96012112	Standard Book No	62B56	AEA Count Time (min)			480
Rerun	Standard Value in $\mu\text{Ci/mL}$	1.186E-04	Am 241 $\mu\text{Ci/L}$ =			1.0946E-01
0			Cm 243/244 $\mu\text{Ci/L}$ =			< 1.1507E-02
Sample Prep						
N/A						
Sample Number	Am-241 $\mu\text{Ci/L}$ = (C241 * Am-243 Tracer Value * SPKV * DF * DDF * (1000mL/L)) / (C243 * SS * (2220000dpm/ μCi))					
WL15499	Cm-243/244 $\mu\text{Ci/L}$ = (Cm * Am-243 Tracer Value * SPKV * DF * DDF * (1000mL/L)) / (C243 * SS * (2220000dpm/ μCi))					
Instrument Code	Relative Counting Error = Square Root of [(1/(Am-243 cpm * min)) * (1 / (Am-241 or Cm-243/244 cpm * min)))] * 1.95 * 100					
WC16100	Am 243 Tracer Recovery = (Total AT Counts / TC - Bkg) * (1/DetEff) * C243 * 100 / Am-243 Tracer Value * SPKV					
Prepared By						
MCB						
Chemist						
JFR	Am 241 $\mu\text{Ci/mL}$ =	1.09E-04	DETECTION LEVELS in $\mu\text{Ci/mL}$			
Analyst	Relative Counting Error =	1.8%				
JMV						
Date Complete	NOTE: Cm-243/244 Result is a LESS THAN Value.					
12/16/96	Cm 243/244 $\mu\text{Ci/mL}$	< 1.15E-05	Am 241			
Analyst Date	Relative Counting Error =	100.0%	Cm 243/244			
12/13/96	Am 243 Tracer Recovery =	94.4%	1.15E-05			
Analyst Time						
01:55 PM						
Sample Point						
AN-104						

Analyst:	JMV	Date:	12/16/96
Signature of Chemist:	JFR	Date:	16 Dec 96
STANDARD.WB1 REV 1.2	953103ML		

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WORKBOOK PAGE: BLANK2

Am 241 and Cm 243/244: LA-953-103 (B-0)

LIQUID / SOLID

WORKBOOK PAGE: 21

Am 241 and Cm 243/244: LA-953-103 (B-0)		LIQUID / SOLID		BLNK
Type	Date Counted	DEC-13-96	Am 241 AEA Frac. (C241)	0
BLNK	Sample Volume in mL (SS)	0.200	Am 243 AEA Frac. (C243)	0.945
Work List	Sample D.F. (DF)	11	Cm 243/244 AEA Frac. (Cm)	0
15499	Tracer Volume in mL (SPKV)	0.200	Total AT Counts	2011
Test Code	Digest D.F. (DDF)	1.000	AT Count Time (min) (TC)	30
@AM24102	Tracer Book No.	125B43	Background in cpm (Bkg)	0.13
Matrix	Am-243 Tracer Value (dpm/mL)	1027	Am 241 cpm	0
LIQUID	Detector Number	19	Am 243 cpm	40.43
Batch Number	Detector Efficiency (DetEff)	0.3345	Cm 243/244 cpm	0
96012112			AEA Count Time (min)	480
ReRun			Am 241 $\mu\text{Ci/L}$ =	< 2.9259E-01
0			Cm 243/244 $\mu\text{Ci/L}$ =	< 2.9259E-01
Sample Prep				
N/A				
Sample Number	Am-241 $\mu\text{Ci/L}$ = (C241 * Am-243 Tracer Value * SPKV * DF * DDF * (1000mL/L)) / (C243 * SS * (2220000dpm/ μCi))			
WL15499	Cm-243/244 $\mu\text{Ci/L}$ = (Cm * Am-243 Tracer Value * SPKV * DF * DDF * (1000mL/L)) / (C243 * SS * (2220000dpm/ μCi))			
Instrument Code	Relative Counting Error = Square Root of [(1/(Am-243 cpm * min)) + (1 / (Am-241 or Cm-243/244 cpm * min))] * 1.96 * 100			
WC16100	Am 243 Tracer Recovery = (Total AT Counts / TC - Bkg) * (1/DetEff) * C243 * 100 / Am-243 Tracer Value * SPKV			
Prepared By				
MCB				
Chemist	NOTE: Am-241 Result is a LESS THAN Value.			
JFR	Am 241 $\mu\text{Ci/mL}$ =	< 2.93E-04	DETECTION LEVELS in $\mu\text{Ci/mL}$	Am 241 2.93E-04
Analyst	Relative Counting Error =	100.0%		
JMV				
Date Complete	NOTE: Cm-243/244 Result is a LESS THAN Value.			
12/16/96	Cm 243/244 $\mu\text{Ci/mL}$ =	< 2.93E-04	Cm 243/244 2.93E-04	
Analysis Date	Relative Counting Error =	100.0%		
12/13/96	Am 243 Tracer Recovery =	92.0%		
Analysis Time				
01:55 PM				
Sample Point				
AN-104				

Analyst:	JMV	Date:	12/16/96
Signature of Chemist:	JFR	Date:	16 Dec 96
BLANK.WB1 REV 1.2	953103ML		

WORKBOOK PAGE: SAM3

Am 241 and Cm 243/244: LA-953-103 (B-0)

LIQUID / SOLID

WORKBOOK PAGE: SAWS

Am 241 and Cm 243/244: LA-953-103 (B-0)		LIQUID / SOLID		SAMPLE
Type	Date Counted	DEC-13-96	Am 241 AEA Frac. (C241)	0
SAMPLE	Sample Volume in mL (SS)	0.200	Am 243 AEA Frac. (C243)	0.898
Work List	Sample D.F. (DF)	11	Cm 243/244 AEA Frac. (Cm)	0
15499	Tracer Volume in mL (SPKV)	0.200	Total AT Counts	1858
Test Code	Digest D.F. (DDF)	1.000	AT Count Time (min) (TC)	30
@AM24102	Tracer Book No.	125B43	Background in cpm (Bkg)	0.13
Matrix	Am-243 Tracer Value (dpm/mL)	1027	Am 241 cpm	0
LIQUID	Detector Number	19	Am 243 cpm	38.03
Batch Number	Detector Efficiency (DetEff)	0.3345	Cm 243/244 cpm	0
96012112			AEA Count Time (min)	480
RetUn			Am 241 $\mu\text{Ci/L}$ =	< 3.5076E-01
0			Cm 243/244 $\mu\text{Ci/L}$ =	< 3.5076E-01
Sample Prep				
N/A				
Sample Number	Am-241 $\mu\text{Ci/L}$ = (C241 * Am-243 Tracer Value * SPKV * DF * DDF * (1000mL/L)) / (C243 * SS * (2220000dpm/ μCi))			
S96T005980	Cm-243/244 $\mu\text{Ci/L}$ = (Cm * Am-243 Tracer Value * SPKV * DF * DDF * (1000mL/L)) / (C243 * SS * (2220000dpm/ μCi))			
Instrument Code	Relative Counting Error = Square Root of [(1/(Am-243 cpm * min)) + (1 / (Am-241 or Cm-243/244 cpm * min))] * 1.96 * 100			
WC16100	Am 243 Tracer Recovery = (Total AT Counts / TC - Bkg) * (1/DetEff) * C243 * 100 / Am-243 Tracer Value * SPKV			
Prepared By				
MCB				
Chemist	NOTE: Am-241 Result is a LESS THAN Value.			
JFR	Am 241 $\mu\text{Ci/mL}$ =	< 3.51E-04	DETECTION LEVELS in $\mu\text{Ci/mL}$	
Analyst	Relative Counting Error =	100.0%		
JMV				
Date Complete	NOTE: Cm-243/244 Result is a LESS THAN Value.			
12/16/96	Cm 243/244 $\mu\text{Ci/mL}$	< 3.51E-04	Am 241	
Analysis Date	Relative Counting Error =	100.0%	Cm 243/244	
12/13/96	Am 243 Tracer Recovery =	80.8%	3.51E-04	
Analysis Time				
01:55 PM				
Sample Point				
AN-104				

Analyst:	JMV	Date:	12/16/96
Signature of Chemist:	JFR	Date:	16 Dec 96
SAMPLE.WB1 REV 1.2 953103ML			

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WORKBOOK PAGE: DUP4

Am 241 and Cm 243/244: LA-953-103 (B-0)

LIQUID / SOLID

DUP

Type	Date Counted	DEC-13-96	Am 241 AEA Frac. (C241)	0	
DUP	Sample Volume in mL (SS)	0.200	Am 243 AEA Frac. (C243)	0.9	
Work List	Sample D.F. (DF)	11	Cm 243/244 AEA Frac. (Cm)	0	
15499	Tracer Volume in mL (SPKV)	0.200	Total AT Counts	1889	
Test Code	Digest D.F. (DDF)	1.000	AT Count Time (min) (TC)	30	
@AM24102	Tracer Book No.	125B43	Background in cpm (Bkg)	0.13	
Matrix	Am-243 Tracer Value (dpm/mL)	1027	Am 241 cpm	0	
LIQUID	Detector Number	19	Am 243 cpm	42.38	
Batch Number	Detector Efficiency (DetEff)	0.3345	Cm 243/244 cpm	0	
96012112			AEA Count Time (min)	480	
Rerun			Am 241 $\mu\text{Ci/L}$ =	< 3.4346E-01	
0			Cm 243/244 $\mu\text{Ci/L}$ =	< 3.4346E-01	
Sample Prep					
N/A					
Sample Number	Am-241 $\mu\text{Ci/L}$ = (C241 * Am-243 Tracer Value * SPKV * DF * DDF * (1000mL/L)) / (C243 * SS * (2220000dpm/ μCi))				
S96T005980	Cm-243/244 $\mu\text{Ci/L}$ = (Cm * Am-243 Tracer Value * SPKV * DF * DDF * (1000mL/L)) / (C243 * SS * (2220000dpm/ μCi))				
Instrument Code					
WC16100	Relative Counting Error = Square Root of [(1/(Am-243 cpm * min)) + (1 / (Am-241 or Cm-243/244 cpm * min))] * 1.96 * 100				
Prepared By	Am 243 Tracer Recovery = (Total AT Counts / TC - Bkg) * (1/DetEff) * C243 * 100 / Am-243 Tracer Value * SPKV				
MCB					
Chemist	NOTE: Am-241 Result is a LESS THAN Value.				
JFR	Am 241 $\mu\text{Ci/mL}$ =	< 3.43E-04	DETECTION LEVELS In $\mu\text{Ci/mL}$		
Analyst	Relative Counting Error =	100.0%			
JMV					
Date Complete	NOTE: Cm-243/244 Result is a LESS THAN Value.				
12/16/96	Cm 243/244 $\mu\text{Ci/mL}$	< 3.43E-04	Am 241		
Analysis Date	Relative Counting Error =	100.0%	Cm 243/244		
12/13/96	Am 243 Tracer Recovery =	82.3%	3.43E-04		
Analysis Time					
01:55 PM					
Sample Rbint					
AN-104					

Analyst:	JMV	Date:	12/16/96
Signature of Chemist:	JFR	Date:	16 Dec 96
SAMPLE.WB1 REV 1.2	953103ML		

Westinghouse Hanford Co.

GENERAL ALPHA ENERGY ANALYSIS

Rev. 2.02

DATA REDUCTION REPORT

SAMPLE

WL15499-STD

File ID: 13a1358.CNF

Counted on: 12/13/96 @20:59
 Detector:
 Geometry number: 1
 Count time: 28800. Sec

PEAK ANALYSIS

Peak ID	Peak height		Peak center		FWHM		Tau	
	Initial	Final	Initial	Final	Initial	Final	Initial	Final
1	1801.9	1801.9	300.487	300.487	12.000	5.296	6.000	2.577
2	1627.1	1627.1	254.801	254.795	10.000	4.130	5.000	2.009

PEAK RESULTS

Peak Error Limit: 30%

Peak ID	Isotope	AEA Frac	Peak Centroid			Count Rate	%err @95	d/m	Activity uCi/ea
			Exp.	Obs.	Diff.	c/m			
1	Pu238	0.504	5.487	5.482	0.005	53.27	1.2	1782.7	0.803E-03
	Am241		5.479	5.482	-0.003			1365.5	0.615E-03
2	Am243	0.426	5.270	5.268	0.002	45.01	1.3	1095.6	0.494E-03
Totals:		0.930	<--valid peaks only-->			98.28			

DETECTOR CALIBRATION

Energy (MEV) = 4.070 + (0.0047)*Channel

Energy range (MeV): 4.070 TO 6.477

Efficiency = 0.0415 CPM/DPM

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	50737.0	100.000
Smoothed	50736.2	99.999
Composite fit	47175.9	92.981
Residuals	3561.1	7.019

Analyzed by:

EMB

1 Legend: Raw = Modeled Peaks = 1,2,..., etc Display Max.: 12165.2

[illegible]

2296

Westinghouse Hanford Co.

GENERAL ALPHA ENERGY ANALYSIS

Rev. 2.02

DATA REDUCTION REPORT

SAMPLE

WL15499-BLK

File ID: 14a1443.CNF

Counted on: 12/13/96 @21: 0
 Detector:
 Geometry number: 1
 Count time: 28805. Sec

PEAK ANALYSIS

Peak ID	Peak height		Peak center		FWHM		Tau	
	Initial	Final	Initial	Final	Initial	Final	Initial	Final
1	1198.3	1198.3	254.456	254.456	10.000	4.907	5.000	1.771

PEAK RESULTS

Peak Error Limit: 30%

Peak ID	Isotope	AEA Frac	Peak Centroid			Count Rate	%err c/m @95	d/m	Activity uCi/ea
		Exp.	Obs.	Diff.	FWHM				
1	Am243	0.945	5.270	5.266	0.0040.02	40.43	1.4	984.1	0.443E-03
Totals:		0.945	<--valid peaks only-->			40.43			

DETECTOR CALIBRATION

Energy(MEV) = 4.070 + (0.0047)*Channel

Energy range (MeV): 4.070 TO 6.477

Efficiency = 0.0415 CPM/DPM

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	20547.0	100.000
Smoothed	20547.3	100.001
Composite fit	19410.2	94.468
Residuals	1136.8	5.532

Analyzed by:

EMB

1 Legend: Raw = Modeled Peaks = 1,2,..., etc Display Max.: 8327.8

.
1
..1
.....1
..... 1
.....1.
.....1..
.....1
.....

Raw Data Dump for AEA Spectrum:	14a1443.CNF								
1	0.	0.	1.	0.	0.	0.	0.	0.	0.
11	1.	0.	1.	0.	3.	1.	1.	0.	0.
21	0.	0.	1.	0.	0.	0.	2.	0.	0.
31	0.	2.	2.	0.	1.	2.	2.	0.	1.
41	0.	1.	0.	0.	1.	3.	0.	0.	2.
51	1.	1.	1.	0.	1.	0.	0.	0.	0.
61	1.	0.	0.	0.	0.	0.	1.	1.	3.
71	0.	4.	1.	0.	0.	0.	0.	1.	3.
81	1.	0.	0.	0.	2.	1.	1.	0.	3.
91	1.	3.	1.	1.	2.	0.	2.	1.	0.
101	1.	1.	1.	0.	3.	2.	4.	2.	0.
111	1.	3.	1.	1.	0.	2.	0.	0.	2.
121	4.	3.	2.	2.	2.	1.	3.	0.	2.
131	1.	2.	3.	3.	3.	0.	3.	3.	0.
141	2.	0.	2.	2.	2.	2.	1.	4.	1.
151	5.	4.	4.	3.	2.	5.	6.	3.	3.
161	4.	2.	2.	5.	4.	6.	5.	5.	8.
171	8.	8.	2.	7.	2.	10.	7.	9.	3.
181	6.	6.	6.	9.	7.	9.	7.	12.	12.
191	10.	9.	10.	7.	14.	9.	11.	11.	13.
201	18.	10.	14.	15.	21.	33.	26.	19.	11.
211	32.	23.	24.	27.	39.	36.	47.	31.	34.
221	46.	51.	62.	73.	63.	76.	78.	90.	80.
231	120.	135.	138.	169.	177.	199.	206.	238.	266.
241	354.	430.	438.	491.	616.	617.	735.	774.	890.
251	1038.	1130.	1235.	1280.	1340.	1298.	1065.	723.	375.
261	129.	122.	93.	88.	78.	79.	68.	76.	52.
271	29.	23.	14.	4.	2.	0.	1.	0.	0.
281	2.	0.	1.	2.	1.	0.	0.	4.	2.
291	0.	1.	1.	1.	2.	0.	3.	3.	2.
301	2.	1.	2.	1.	1.	2.	0.	0.	0.
311	0.	0.	0.	0.	0.	0.	0.	0.	0.
321	0.	1.	0.	0.	0.	1.	0.	1.	1.
331	0.	0.	0.	0.	0.	0.	0.	0.	0.
341	0.	1.	0.	1.	1.	1.	0.	0.	0.
351	0.	0.	0.	0.	0.	0.	0.	1.	1.
361	0.	1.	0.	0.	2.	0.	0.	1.	0.
371	0.	0.	0.	0.	0.	0.	0.	0.	0.
381	0.	0.	0.	0.	0.	0.	0.	0.	0.
391	0.	0.	0.	0.	0.	0.	0.	0.	0.
401	0.	0.	0.	0.	0.	0.	0.	0.	0.
411	0.	0.	0.	0.	0.	0.	1.	0.	0.
421	0.	0.	0.	0.	0.	1.	0.	0.	1.
431	0.	0.	0.	1.	0.	0.	1.	1.	0.
441	0.	0.	0.	0.	0.	0.	0.	0.	0.
451	0.	0.	0.	0.	0.	0.	0.	0.	1.
461	0.	0.	0.	0.	0.	0.	0.	0.	0.
471	0.	0.	0.	0.	1.	0.	0.	0.	0.
481	0.	0.	0.	0.	0.	0.	0.	0.	0.
491	0.	0.	0.	0.	0.	0.	0.	0.	0.
511	0.	0.							

Westinghouse Hanford Co.

GENERAL ALPHA ENERGY ANALYSIS

Rev. 2.02

DATA REDUCTION REPORT

SAMPLE

S96T05980-SAM

File ID: 15a1517.CNF

Counted on: 12/13/96 @21: 0
 Detector:
 Geometry number: 1
 Count time: 28803. Sec

PEAK ANALYSIS

Peak ID	Peak height		Peak center		FWHM		Tau	
	Initial	Final	Initial	Final	Initial	Final	Initial	Final
1	1305.9	1305.9	255.069	255.069	12.000	4.176	6.000	1.845

PEAK RESULTS

Peak Error Limit: 30%

Peak ID	Isotope	AEA		Peak Centroid			Count Rate c/m	%err @95	d/m	Activity uCi/ea
		Frac	Exp.	Obs.	Diff.	FWHM				
1	Am243	0.898	5.270	5.269	0.001	10.02	38.03	1.5	925.6	0.417E-03
Totals:		0.898	<--valid peaks only-->				38.03			

DETECTOR CALIBRATION

Energy(MEV) = 4.070 + (0.0047)*Channel
 Energy range (MeV): 4.070 TO 6.477
 Efficiency = 0.0415 CPM/DPM

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	20338.0	100.000
Smoothed	20338.8	100.004
Composite fit	18255.4	89.760
Residuals	2082.6	10.240

Analyzed by:

EMB

1 Legend: Raw = Modeled Peaks = 1,2,..., etc Display Max.: 8173.9

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1..
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Raw	Data	Dump	for	AEA	Spectrum:	15a1517.CNF	15a1517.CNF	15a1517.CNF	15a1517.CNF	15a1517.CNF	15a1517.CNF	15a1517.CNF	15a1517.CNF
1	0.	0.	0.	0.	0.	1.	0.	1.	0.	0.	0.	0.	0.
11	0.	1.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	2.
21	1.	0.	0.	0.	0.	2.	1.	2.	1.	0.	0.	2.	0.
31	0.	0.	2.	2.	1.	0.	2.	2.	2.	0.	0.	0.	0.
41	1.	0.	0.	1.	2.	2.	0.	0.	1.	1.	1.	3.	0.
51	0.	0.	1.	2.	3.	1.	2.	0.	2.	0.	2.	0.	0.
61	4.	1.	1.	1.	1.	0.	0.	0.	2.	1.	1.	3.	0.
71	4.	2.	1.	2.	1.	1.	1.	3.	1.	3.	1.	2.	0.
81	0.	2.	3.	0.	3.	2.	1.	3.	3.	3.	1.	1.	0.
91	3.	2.	2.	3.	2.	3.	1.	3.	3.	3.	4.	4.	0.
101	1.	2.	0.	1.	0.	0.	2.	1.	4.	0.	0.	0.	0.
111	0.	3.	2.	0.	1.	5.	3.	1.	2.	0.	0.	0.	0.
121	0.	3.	4.	5.	3.	3.	5.	4.	4.	3.	3.	3.	0.
131	3.	2.	3.	3.	2.	4.	2.	5.	4.	5.	5.	5.	0.
141	2.	7.	6.	0.	1.	6.	5.	5.	7.	3.	3.	3.	0.
151	5.	6.	1.	4.	5.	1.	5.	5.	5.	3.	3.	3.	0.
161	6.	4.	4.	5.	7.	4.	8.	8.	4.	5.	5.	5.	0.
171	4.	3.	13.	9.	11.	4.	7.	16.	5.	6.	6.	6.	0.
181	8.	5.	6.	5.	9.	10.	11.	6.	14.	10.	10.	10.	0.
191	13.	15.	15.	11.	8.	12.	17.	24.	21.	10.	10.	10.	0.
201	20.	9.	24.	20.	23.	21.	17.	31.	30.	17.	17.	17.	0.
211	18.	31.	36.	32.	28.	30.	48.	40.	32.	54.	54.	54.	0.
221	44.	44.	55.	69.	71.	69.	76.	58.	97.	113.	113.	113.	0.
231	121.	134.	121.	143.	173.	175.	182.	202.	244.	265.	265.	265.	0.
241	279.	320.	368.	358.	448.	532.	576.	671.	709.	793.	793.	793.	0.
251	908.	980.	1261.	1417.	1523.	1542.	1251.	901.	477.	252.	252.	252.	0.
261	139.	120.	107.	99.	77.	86.	86.	73.	65.	49.	49.	49.	0.
271	38.	30.	13.	9.	4.	2.	1.	1.	2.	2.	2.	2.	0.
281	0.	1.	3.	0.	0.	0.	2.	1.	0.	0.	0.	0.	0.
291	2.	2.	5.	3.	2.	2.	2.	4.	4.	7.	7.	7.	0.
301	3.	3.	3.	2.	1.	2.	1.	1.	0.	0.	0.	0.	0.
311	2.	1.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
321	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.
331	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
341	0.	1.	1.	0.	1.	1.	1.	3.	1.	1.	1.	1.	0.
351	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.	0.	0.	0.
361	0.	4.	0.	0.	0.	1.	1.	0.	0.	0.	0.	0.	0.
371	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
381	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
391	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
401	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
411	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
421	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.
431	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
441	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
451	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
461	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
471	0.	0.	1.	0.	0.	2.	1.	2.	0.	0.	0.	0.	0.
481	1.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.
491	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
511	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

HNF-SD-WM-DP-226, REV. 0
Westinghouse Hanford Co.
GENERAL ALPHA ENERGY ANALYSIS
Rev. 2.02

DATA REDUCTION REPORT

SAMPLE
S96T05980-DUP
File ID: 16a1692.CNF

Counted on: 12/13/96 @21: 1
Detector:
Geometry number: 1
Count time: 28802. Sec

PEAK ANALYSIS

Peak ID	Peak height		Peak center		FWHM		Tau	
	Initial	Final	Initial	Final	Initial	Final	Initial	Final
1	1435.8	1435.8	256.383	256.383	10.000	4.162	5.000	1.790

PEAK RESULTS

Peak Error Limit: 30%

Peak ID	Isotope	AEA	Peak Centroid			Count Rate	%err @95	d/m	Activity uCi/ea
			Frac	Exp.	Obs. Diff.				
1	Am243	0.900	5.270	5.275	-0.005	42.38	1.4	1031.6	0.465E-03
Totals:		0.900	<--valid peaks only-->			42.38			

DETECTOR CALIBRATION

Energy(MEV) = 4.070 + (0.0047)*Channel
Energy range (MeV): 4.070 TO 6.477
Efficiency = 0.0415 CPM/DPM

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	22602.0	100.000
Smoothed	22605.1	100.014
Composite fit	20345.6	90.017
Residuals	2256.4	9.983

Analyzed by: _____

EMB

1 Legend: Raw = Modeled Peaks = 1,2,..., etc

Display Max.:

8213.8

[illegible]

Raw Data Dump for AEA Spectrum: 16a1692.CNF										
1	0.	0.	1.	2.	2.	0.	0.	2.	1.	0.
11	2.	0.	0.	2.	1.	1.	0.	2.	1.	0.
21	1.	0.	1.	0.	2.	0.	1.	0.	1.	1.
31	0.	0.	0.	2.	0.	4.	2.	1.	1.	1.
41	3.	3.	0.	2.	1.	1.	2.	0.	1.	2.
51	2.	2.	4.	1.	3.	0.	1.	0.	0.	0.
61	0.	0.	0.	0.	0.	0.	2.	2.	0.	0.
71	1.	1.	1.	1.	1.	3.	3.	1.	2.	1.
81	8.	1.	1.	0.	1.	1.	1.	2.	0.	3.
91	0.	1.	2.	2.	2.	2.	2.	1.	2.	3.
101	3.	2.	2.	2.	2.	3.	5.	2.	4.	3.
111	4.	3.	2.	1.	3.	0.	3.	2.	5.	2.
121	1.	4.	2.	0.	1.	1.	4.	7.	3.	5.
131	5.	3.	4.	3.	2.	2.	4.	4.	5.	8.
141	3.	1.	3.	0.	10.	3.	4.	5.	4.	1.
151	4.	4.	8.	3.	5.	5.	4.	6.	4.	2.
161	4.	5.	4.	8.	5.	12.	8.	8.	6.	8.
171	8.	9.	10.	8.	5.	6.	7.	10.	8.	16.
181	9.	9.	8.	14.	11.	3.	11.	14.	11.	16.
191	8.	10.	7.	11.	15.	14.	14.	18.	14.	17.
201	12.	19.	22.	18.	24.	30.	22.	32.	17.	27.
211	29.	32.	29.	36.	28.	27.	47.	38.	55.	45.
221	61.	46.	41.	66.	71.	77.	90.	87.	96.	106.
231	99.	117.	142.	134.	152.	162.	184.	197.	235.	245.
241	265.	310.	321.	364.	432.	500.	555.	679.	738.	782.
251	908.	1029.	1181.	1297.	1417.	1595.	1716.	1576.	1056.	634.
261	315.	188.	152.	117.	108.	100.	90.	78.	76.	63.
271	59.	40.	30.	24.	11.	0.	3.	0.	1.	2.
281	1.	1.	2.	1.	0.	1.	1.	1.	0.	0.
291	3.	0.	1.	4.	3.	0.	1.	3.	6.	8.
301	4.	3.	7.	3.	0.	1.	0.	1.	0.	0.
311	0.	0.	0.	1.	0.	0.	0.	1.	0.	0.
321	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.
331	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.
341	0.	1.	0.	0.	1.	0.	1.	0.	0.	0.
351	0.	1.	0.	1.	0.	1.	2.	2.	0.	0.
361	0.	2.	0.	1.	2.	0.	0.	2.	1.	2.
371	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
381	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
391	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
401	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
411	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
421	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.
431	0.	0.	0.	1.	0.	1.	0.	0.	0.	0.
441	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
451	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
461	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.
471	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.
481	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
491	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.
511	0.	0.								

LABCORE Completed Worklist Report for Worklist# 16198

Analyst: smf

Instrument: AB14

Book# _____

Method: _____ Rev/Mod _____

Worklist Comment: Determine sample size using ludlum. Std: (TNKFUS) 1.0ml. new

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD	0		0AM24102 AM24101	SOLID	1.19E+04	1.13E+4	94.958 % Recovery	
1 STD	0		0AM24102 AM24101E	SOLID	1.00	1.56E+00	1.560 % Ct Error	
1 STD	0		0AM24102 AM24101T	SOLID	100	9.40E+01	94.000 % Recovery	
2 BLNK-PREP	0		0AM24102 AM24101	SOLID	1	<2.68E-3	uCi/g	
2 BLNK-PREP	0		0AM24102 AM24101E	SOLID	1.00	5.17E+00	5.170 % Ct Error	
2 BLNK-PREP	0		0AM24102 AM24101T	SOLID	100	9.18E+01	91.800 % Recovery	
2 BLNK-PREP	0		0AM24102 CM24301	SOLID	1	<2.68E-3	uCi/g	
2 BLNK-PREP	0		0AM24102 CM24301E	SOLID	1.00	1.00E+02	100.000 uCi/g	
3 SAMPLE	S96T005975	0 F	0AM24102 AM24101	SOLID	N/A	1.88E-02	3.99E-003 uCi/g	
3 SAMPLE	S96T005975	0 F	0AM24102 AM24101E	SOLID	N/A	2.3E+00	% Ct. Error	
3 SAMPLE	S96T005975	0 F	0AM24102 AM24101T	SOLID	N/A	8.70E+01	% Recovery	
3 SAMPLE	S96T005975	0 F	0AM24102 CM24301	SOLID	N/A	3.99E-03	3.99E-003 uCi/g	
3 SAMPLE	S96T005975	0 F	0AM24102 CM24301E	SOLID	N/A	9.5E+00	% Ct. Error	
4 DUP	S96T005975	0 F	0AM24102 AM24101	SOLID	1.88E-2	1.96E-2	4.167 RPD	
4 DUP	S96T005975	0 F	0AM24102 AM24101E	SOLID	1.00	2.07E+00	2.070 % Ct Error	
4 DUP	S96T005975	0 F	0AM24102 AM24101T	SOLID	100	8.98E+01	89.800 % Recovery	
4 DUP	S96T005975	0 F	0AM24102 CM24301	SOLID	<3.99E-3	<3.77E-3	RPD	
4 DUP	S96T005975	0 F	0AM24102 CM24301E	SOLID	1.00	8.68E+00	8.680 % Ct. Error	

Final page for worklist# 16198

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

John Relyea 23 Jan 97
Reviewer Signature _____ Date _____
Validated

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Data Entry Template for Worklist# 16198

Analyst: SMF Instrument: AM01 14 Book# 62B56

Method: LA-953-103 Rev/Mod B-D

Worklist Comment: Determine sample size using ludlum. Std: (TNKFUS) 1.0ml. new

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	STD				@AM24102	SOLID		
2	BLNK-PREP				@AM24102	SOLID		
3	SAMPLE	S96T005975	0	F	@AM24102	SOLID	96001174	AN-104
		Analytes Requested: AM24101 , AM24101E, AM24101T, CM24301 , CM24301E						
4	DUP	S96T005975	0	F	@AM24102	SOLID		

Final page for worklist # 16198

Lusie M. Dulton 1-21-97
Analyst Signature Date

Ch. Owen 1/22/97
Analyst Signature Date
Sylvia Z. Chuane 1/22/97

Data Entry Comments:

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

AMERICUM A

ANALYSIS DATE: 1-21-97

(CIRCLE ONE)

ANALYSIS TIME: 1530

TRACER BK.# 125B43

(at elevator)

2308

WORKBOOK PAGE: STD1

Am 241 and Cm 243/244: LA-953-103 (B-0)

LIQUID

STD

Type	Date Counted	JAN-21-97	Am 241 AEA Frac. (C241)	0.538
STD	Sample Volume in mL (SS)	1.000	Am 243 AEA Frac. (C243)	0.441
Work List	Sample D.F. (DF)	1	Cm 243/244 AEA Frac. (Cm)	0
16198	Tracer Volume in mL (SPKV)	0.200	Total AT Counts	3829
Test Code	Digest D.F. (DDF)	1.000	AT Count Time (min) (TC)	30
@AM24102	Tracer Book No.	125B43	Background in cpm (Bkg)	0.2
Matrix	Am-243 Tracer Value (dpm/mL)	1027	Am 241 cpm	72.55
LIQUID	Detector Number	14	Am 243 cpm	59.54
Batch Number	Detector Efficiency (DetEff)	0.2910	Cm 243/244 cpm	0
97000044	Standard Book No	62B56	AEA Count Time (min)	480
Rerun	Standard Value in $\mu\text{Ci/mL}$	1.186E-04	Am 241 $\mu\text{Ci/L}$ =	1.1287E-01
0			Cm 243/244 $\mu\text{Ci/L}$ =	< 1.1157E-02
Sample Prep				
N/A				
Sample Number	Am-241 $\mu\text{Ci/L}$ = (C241 * Am-243 Tracer Value * SPKV * DF * DDF * (1000mL/L)) / (C243 * SS * (2220000dpm/ μCi))			
WL16198	Cm-243/244 $\mu\text{Ci/L}$ = (Cm * Am-243 Tracer Value * SPKV * DF * DDF * (1000mL/L)) / (C243 * SS * (2220000dpm/ μCi))			
Instrument Code	Relative Counting Error = Square Root of [(1/(Am-243 cpm * min)) * (1 / (Am-241 or Cm-243/244 cpm * min))] * 1.96 * 100			
WB27807	Am 243 Tracer Recovery = (Total AT Counts / TC - Bkg) * (1/DetEff) * C243 * 100 / Am-243 Tracer Value * SPKV			
Prepared By				
CJO				
Chemist				
JFR	Am 241 $\mu\text{Ci/mL}$ =	1.13E-04	DETECTION LEVELS in $\mu\text{Ci/mL}$	
Analyst	Relative Counting Error =	1.6%		
SMF				
Date Complete	NOTE: Cm-243/244 Result is a LESS THAN Value.			
01/22/97	Cm 243/244 $\mu\text{Ci/mL}$	< 1.12E-05	Am 241	
Analysis Date	Relative Counting Error =	100.0%	Cm 243/244	
01/21/97	Am 243 Tracer Recovery =	94.0%	1.12E-05	
Analysis Time				
02:30 PM				
Sample Point				
AN-104				

Analyst:	SMF	Date:	01/22/97
Signature of Chemist:	JFR	Date:	23 Jan 97
STANDARD.WB1 REV 1.2	953103ML		

Am 241 and Cm 243/244: LA-953-103 (B-0)

LIQUID / SOLID

BLNK-PREP

Type	Date Counted	JAN-21-97	Am 241 AEA Frac. (C241)	BLNK-PREP
BLNK-PREP	Sample Volume in mL (SS)	1.000	Am 243 AEA Frac. (C243)	0.048
Work List	Sample D.F. (DF)	1	Cm 243/244 AEA Frac. (Cm)	0
16198	Tracer Volume in mL (SPKV)	0.200	Total AT Counts	1764
Test Code	Digest Grams of Solids/L (Dg/L)	2.009	AT Count Time (min) (TC)	30
@AM24102	Tracer Book No.	125B43	Background in cpm (Bkg)	0.2
Matrix	Am-243 Tracer Value (dpm/mL)	1027	Am 241 cpm	3.15
SOLID	Detector Number	14	Am 243 cpm	60.99
Batch Number	Detector Efficiency (DetEff)	0.2910	Cm 243/244 cpm	0
97000044			AEA Count Time (min)	480
Rerun			Am 241 $\mu\text{Ci/g}$ =	< 2.6812E-03
0			Cm 243/244 $\mu\text{Ci/g}$ =	< 2.6812E-03
Sample Prep.				
N/A				
Sample Number	Am-241 $\mu\text{Ci/g}$ = (C241) (Am-243 Tracer Value) (SPKV) (1000mL/L) (DF) / [(C243) (SS) (D g/L) (2220000dpm/ μCi)]			
WL16198	Cm-243/244 $\mu\text{Ci/g}$ = (Cm) (Am-243 Tracer Value) (SPKV) (1000mL/L) (DF) / [(C243) (SS) (D g/L) (2220000dpm/ μCi)]			
Instrument Code				
WB7807	Relative Counting Error = Square Root of [(1/(Am-243 cpm * min)) + (1 / (Am-241 or Cm-243/244 cpm * min))] * 1.96 * 100			
Prepared By	Am 243 Tracer Recovery = (Total AT Counts / TC - Bkg) * (1/DetEff) * C243 * 100 / Am-243 Tracer Value * SPKV			
CJO				
Chemist	NOTE: Am-241 Result is a LESS THAN Value.			
JFR	Am241 $\mu\text{Ci/g}$ =	< 2.68E-03	DETECTION LEVELS in $\mu\text{Ci/g}$	
Analyst	Relative Counting Error =	5.2%		
SMF			Am 241	
Date Complete	NOTE: Cm-243/244 Result is a LESS THAN Value.		2.68E-03	
01/22/97	Cm 243/244 $\mu\text{Ci/g}$	< 2.68E-03	Cm 243/244	
Analysis Date	Relative Counting Error =	100.0%	2.68E-03	
01/21/97	Am 243 Tracer Recovery =	91.8%		
Analysis Time				
02:30 PM				
Sample Point				
AN-104				

Analyst:	SMF	Date:	01/22/97
Signature of Chemist:	JFR	Date:	23 Jan 97

BLANK.WB1 REV 1.2

953103ML

2310

WORKBOOK PAGE: SAM3

Am 241 and Cm 243/244: LA-953-103 (B-0)

LIQUID / SOLID

				LIQUID / SOLID		SAMPLE
Type	Date Counted	JAN-21-97	Am 241 AEA Frac. (C241)		0.27	
SAMPLE	Sample Volume In mL (SS)	1.000	Am 243 AEA Frac. (C243)		0.663	
Work List	Sample D.F. (DF)	1	Cm 243/244 AEA Frac. (Cm)		0.011	
16198	Tracer Volume In mL (SPKV)	0.200	Total AT Counts		2359	
Test Code	Digest Grams of Solids/L (Dg/L)	2.009	AT Count Time (min) (TC)		30	
AM24102	Tracer Book No.	125B45	Background In cpm (Bkg)		0.2	
Matrix	Am-243 Tracer Value (dpm/mL)	1027	Am 241 cpm		22.08	
SOLID	Detector Number	14	Am 243 cpm		54.2	
Batch Number	Detector Efficiency (DetEff)	0.2910	Cm 243/244 cpm		0.9	
97000044			AEA Count Time (min)		480	
ReRun			Am 241 $\mu\text{Ci/g}$ =		1.8757E-02	
0			Cm 243/244 $\mu\text{Ci/g}$ =		< 3.9925E-03	
Sample Prep						
FUSION01						
Sample Number	Am-241 $\mu\text{Ci/g}$ = (C241) (Am-243 Tracer Value) (SPKV) (1000mL/L) (DF) / [(C243) (SS) (D g/L) (2220000dpm/ μCi)]					
S96T005975	Cm-243/244 $\mu\text{Ci/g}$ = (Cm) (Am-243 Tracer Value) (SPKV) (1000mL/L) (DF) / [(C243) (SS) (D g/L) (2220000dpm/ μCi)]					
Instrument Code						
WB27807	Relative Counting Error = Square Root of [(1/(Am-243 cpm * min)) + (1 / (Am-241 or Cm-243/244 cpm * min))] * 1.96 * 100					
Prepared By	Am 243 Tracer Recovery = (Total AT Counts / TC - Bkg) * (1/DetEff) * C243 * 100 / Am-243 Tracer Value * SPKV					
CJO						
Chemist						
JFR	Am241 $\mu\text{Ci/g}$ =	1.88E-02	DETECTION			
Analyst	Relative Counting Error =	2.3%	LEVELS			
SMF			In $\mu\text{Ci/g}$			
Date Complete	NOTE: Cm-243/244 Result is a LESS THAN Value.		Am 241			
01/22/97	Cm 243/244 $\mu\text{Ci/g}$	< 3.99E-03	3.99E-03			
Analysis Date	Relative Counting Error =	9.5%	Cm 243/244			
01/21/97	Am 243 Tracer Recovery =	87.0%	3.99E-03			
Analysis Time						
02:30 PM						
Sample Point						
AN-104						

Analyst:	SMF	Date:	01/22/97
Signature of Chemist:	JFR	Date:	23 Jan 97
SAMPLE.WB1 REV 1.2	953103ML		

2311

WORKBOOK PAGE: DUP4

Am 241 and Cm 243/244: LA-953-103 (B-0)

LIQUID / SOLID

				DUP
Type	Date Counted	JAN-21-97	Am 241 AEA Frac. (C241)	0.29
DUP	Sample Volume in mL (SS)	1.000	Am 243 AEA Frac. (C243)	0.68
Work List	Sample D.F. (DF)	1	Cm 243/244 AEA Frac. (Cm)	0.012
16198	Tracer Volume in mL (SPKV)	0.200	Total AT Counts	2374
Test Code	Digest Grams of Solids/L (Dg/L)	2.010	AT Count Time (min) (TC)	30
@AM24102	Tracer Book No.	125B43	Background in cpm (Bkg)	0.2
Matrix	Am-243 Tracer Value (dpm/mL)	1027	Am 241 cpm	26.67
SOLID	Detector Number	14	Am 243 cpm	62.51
Batch Number	Detector Efficiency (DetEff)	0.2910	Cm 243/244 cpm	1.08
97000044			AEA Count Time (min)	480
Rerun			Am 241 $\mu\text{Ci/g}$ =	1.9635E-02
0			Cm 243/244 $\mu\text{Ci/g}$ =	< 3.7698E-03
Sample Prep				
FUSION01				
Sample Number	Am-241 $\mu\text{Ci/g}$ = (C241) (Am-243 Tracer Value) (SPKV) (1000mL/L) (DF) / [(C243) (SS) (D g/L) (2220000dpm/ μCi)]			
S96T005975	Cm-243/244 $\mu\text{Ci/g}$ = (Cm) (Am-243 Tracer Value) (SPKV) (1000mL/L) (DF) / [(C243) (SS) (D g/L) (2220000dpm/ μCi)]			
Instrument Code				
WB27807	Relative Counting Error = Square Root of [(1/(Am-243 cpm * min)) + (1 / (Am-241 or Cm-243/244 cpm * min))] * 1.96 * 100			
Prepared By	Am 243 Tracer Recovery = (Total AT Counts / TC - Bkg) * (1/DetEff) * C243 * 100 / Am-243 Tracer Value * SPKV			
CJO				
Chemist				
JFR	Am241 $\mu\text{Ci/g}$ = 1.96E-02		DETECTION	
Analyst	Relative Counting Error = 2.1%		LEVELS	
SMF			in $\mu\text{Ci/g}$	
Date Complete	NOTE: Cm-243/244 Result is a LESS THAN Value.		Am 241	
01/22/97	Cm 243/244 $\mu\text{Ci/g}$ < 3.77E-03		3.77E-03	
Analysis Date	Relative Counting Error = 8.7%		Cm 243/244	
01/21/97	Am 243 Tracer Recovery = 89.8%		3.77E-03	
Analysis Time				
02:30 PM				
Sample Point				
AN-104				

Analyst:	SMF	Date:	01/22/97
Signature of Chemist:	JFR	Date:	23 Jan 97
SAMPLE.WB1 REV 1.2	953103ML		

Westinghouse Hanford Co.
 GENERAL ALPHA ENERGY ANALYSIS
 Rev. 2.02

DATA REDUCTION REPORT

SAMPLE
 S96T1575-DUP
 File ID: 8a8861.CNF

Counted on: 1/21/97 @20:58
 Detector: AEA8
 Geometry number: 1
 Count time: 28802. Sec

PEAK ANALYSIS

Peak ID	Peak height		Peak center		FWHM		Tau	
	Initial	Final	Initial	Final	Initial	Final	Initial	Final
1	22.6	22.6	367.433	367.433	26.000	12.886	13.000	3.703
2	479.1	479.1	300.129	300.128	20.000	17.216	10.000	4.228
3	1166.1	1166.1	254.291	254.205	20.000	15.418	10.000	3.858

PEAK RESULTS
 Peak Error Limit: 30%

Peak ID	Isotope	AEA Frac	Peak Centroid			FWHM	Count Rate c/m	%err @95	d/m	Activity uCi/ea
			Exp.	Obs.	Diff.					
1	Cm243	0.012	5.779	5.755	0.024	0.06	1.08	8.6	18.1	0.817E-05
	Pu236		5.755	5.755	0.000				13.5	0.609E-05
2	Am241	0.290	5.479	5.446	0.033	0.08	26.67	1.7	347.6	0.157E-03
	Pu238		5.487	5.446	0.041				453.9	0.204E-03
3	Pu239	0.680	5.147	5.235	-0.088	0.07	62.51	1.2	766.1	0.345E-03
	Am243		5.270	5.235	0.035				773.8	0.349E-03
Totals:			0.982	<--invalid peaks only-->			90.26			

DETECTOR CALIBRATION
 Energy(MEV) = 4.065 + (0.0046)*Channel
 Energy range (MeV): 4.065 TO 6.420
 Efficiency = 0.0816 CPM/DPM

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	44113.0	100.000
Smoothed	44113.0	100.000
Composite fit	43327.1	98.219
Residuals	785.9	1.781

Analyzed by:

EMB

1 Legend: Raw = Modeled Peaks = 1,2,..., etc Display Max.: 9049.9

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Raw Data Dump for AEA Spectrum:				8a8861.CNF		HNF-SD-WM-DP-226, REV. 0				
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	1.	2.	0.	1.	1.
21	1.	2.	1.	0.	2.	2.	0.	0.	0.	0.
31	1.	1.	0.	0.	3.	1.	3.	1.	1.	0.
41	2.	3.	3.	1.	0.	3.	0.	0.	1.	3.
51	0.	0.	1.	2.	1.	1.	4.	3.	2.	1.
61	0.	2.	0.	0.	1.	3.	3.	6.	3.	1.
71	1.	0.	0.	1.	1.	1.	8.	1.	1.	1.
81	4.	3.	3.	3.	1.	1.	0.	2.	4.	1.
91	4.	1.	0.	3.	2.	4.	2.	1.	2.	1.
101	2.	1.	2.	4.	3.	1.	3.	2.	2.	5.
111	3.	3.	4.	3.	4.	3.	4.	1.	4.	3.
121	4.	7.	2.	2.	4.	5.	4.	5.	7.	6.
131	5.	2.	4.	0.	2.	6.	2.	11.	1.	6.
141	5.	5.	8.	6.	5.	9.	6.	6.	8.	5.
151	3.	9.	9.	9.	10.	9.	11.	4.	6.	11.
161	6.	9.	2.	9.	7.	12.	10.	16.	14.	10.
171	15.	6.	22.	10.	12.	15.	15.	16.	15.	19.
181	15.	20.	19.	20.	12.	23.	22.	27.	30.	19.
191	26.	24.	33.	23.	24.	39.	28.	40.	39.	40.
201	44.	42.	31.	57.	50.	59.	61.	62.	54.	59.
211	64.	65.	68.	81.	94.	90.	120.	112.	90.	113.
221	97.	141.	140.	155.	180.	164.	196.	213.	222.	258.
231	263.	276.	320.	351.	378.	433.	428.	455.	506.	550.
241	597.	686.	719.	762.	838.	894.	937.	987.	1101.	1165.
251	1179.	1189.	1192.	1235.	1278.	1166.	1133.	1023.	932.	840.
261	686.	601.	541.	434.	311.	260.	239.	207.	174.	168.
271	125.	133.	102.	131.	107.	112.	113.	133.	130.	140.
281	132.	162.	168.	171.	205.	227.	225.	271.	267.	300.
291	356.	340.	372.	391.	439.	454.	456.	487.	524.	489.
301	495.	499.	428.	427.	356.	342.	326.	229.	230.	161.
311	121.	134.	102.	77.	45.	42.	27.	25.	8.	13.
321	7.	12.	3.	2.	2.	3.	1.	3.	3.	0.
331	2.	3.	2.	2.	2.	4.	3.	2.	8.	3.
341	3.	5.	4.	3.	1.	5.	7.	3.	8.	6.
351	9.	6.	4.	11.	12.	9.	10.	15.	13.	18.
361	20.	19.	22.	33.	17.	21.	13.	24.	23.	18.
371	14.	18.	7.	16.	13.	7.	6.	6.	4.	4.
381	1.	1.	1.	1.	0.	1.	1.	1.	1.	1.
391	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.
401	0.	0.	0.	1.	0.	0.	1.	0.	0.	1.
411	0.	0.	0.	0.	1.	0.	0.	2.	0.	0.
421	0.	1.	0.	3.	1.	2.	2.	1.	1.	2.
431	1.	1.	3.	1.	1.	0.	0.	0.	1.	1.
441	0.	1.	1.	1.	0.	1.	0.	0.	0.	0.
451	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
461	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
471	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
481	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.
491	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.
511	0.	0.								

Westinghouse Hanford Co.
 GENERAL ALPHA ENERGY ANALYSIS
 Rev. 2.02

DATA REDUCTION REPORT

SAMPLE
 WL16198-STD
 File ID: 5a5077.CNF

Counted on: 1/21/97 @20:56
 Detector: AEA5
 Geometry number: 1
 Count time: 28803. Sec

PEAK ANALYSIS

Peak ID	Peak height		Peak center		FWHM		Tau	
	Initial	Final	Initial	Final	Initial	Final	Initial	Final
1	1500.6	1500.6	300.211	300.211	18.000	12.306	9.000	3.382
2	1292.6	1292.6	253.984	253.855	16.000	10.181	8.000	2.811
3?	12.5	12.5	181.522	180.510	62.000	356.385	31.000	105.737
4?	0.0	0.1	168.483	168.483	0.000	0.100	0.000	0.100

PEAK RESULTS

Peak Error Limit: 30%

Peak ID	Isotope	AEA Frac	Peak Centroid			Count Rate c/m	%err @95	d/m	Activity uCi/ea
			Exp.	Obs.	Diff.				
1	Am241	0.538	5.479	5.463	0.0160.06	72.55	1.1	201.5	0.908E-04
			5.487	5.463	0.024			263.1	0.119E-03
2	Am243	0.441	5.270	5.250	0.0200.05	59.54	1.2	157.0	0.707E-04
3		????		4.913		2.34	35.1		
4		????		4.857		0.00	9813.		
Totals:		0.979	<--valid peaks only-->			132.09			

DETECTOR CALIBRATION

Energy(MEV) = 4.082 + (0.0046)*Channel
 Energy range (MeV): 4.082 TO 6.438
 Efficiency = 0.3830 CPM/CPM

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	64789.0	100.000
Smoothed	64789.0	100.000
Composite fit	64534.2	99.607
Residuals	254.8	0.393

Analyzed by:

EMB

1 Legend: Raw = Modeled Peaks = 1,2,..., etc Display Max.: 11270.4

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31.....2...
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1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	3.	0.	3.	2.
21	3.	1.	3.	3.	0.	2.	0.	3.	2.	1.
31	2.	1.	3.	0.	2.	1.	2.	1.	0.	1.
41	3.	1.	1.	3.	2.	3.	3.	1.	0.	1.
51	0.	0.	2.	4.	4.	3.	4.	0.	2.	3.
61	0.	2.	2.	1.	3.	0.	0.	2.	0.	1.
71	2.	1.	1.	1.	1.	3.	3.	1.	1.	0.
81	2.	4.	1.	4.	4.	0.	4.	2.	5.	2.
91	6.	2.	2.	2.	2.	4.	2.	1.	4.	3.
101	2.	7.	4.	3.	3.	7.	1.	4.	5.	2.
111	4.	4.	4.	5.	2.	4.	4.	5.	4.	8.
121	3.	5.	5.	0.	7.	7.	2.	6.	5.	5.
131	4.	4.	7.	2.	7.	4.	4.	2.	7.	3.
141	3.	5.	3.	4.	6.	8.	9.	6.	8.	4.
151	5.	7.	7.	8.	7.	14.	9.	8.	11.	9.
161	10.	8.	11.	9.	11.	9.	9.	15.	18.	10.
171	8.	9.	11.	13.	13.	13.	6.	15.	18.	22.
181	22.	15.	18.	20.	13.	15.	15.	19.	28.	16.
191	23.	26.	23.	24.	28.	25.	44.	37.	36.	44.
201	48.	30.	44.	46.	49.	50.	61.	45.	64.	61.
211	60.	75.	69.	81.	68.	94.	93.	92.	114.	130.
221	115.	117.	140.	145.	138.	158.	196.	163.	218.	270.
231	241.	292.	288.	319.	354.	391.	439.	438.	517.	535.
241	605.	658.	743.	819.	881.	938.	1003.	1090.	1166.	1196.
251	1270.	1382.	1430.	1416.	1430.	1305.	1227.	1023.	934.	703.
261	547.	425.	350.	270.	267.	214.	252.	209.	214.	222.
271	213.	231.	215.	229.	243.	259.	289.	291.	311.	354.
281	365.	415.	453.	512.	537.	594.	737.	770.	784.	904.
291	933.	1019.	1149.	1221.	1272.	1382.	1428.	1481.	1554.	1620.
301	1556.	1524.	1342.	1210.	1071.	869.	707.	555.	431.	352.
311	295.	206.	177.	133.	102.	78.	56.	25.	23.	11.
321	1.	4.	4.	3.	1.	2.	0.	1.	0.	0.
331	1.	2.	0.	0.	1.	1.	2.	2.	1.	0.
341	0.	1.	0.	0.	0.	1.	1.	0.	1.	0.
351	3.	0.	2.	3.	0.	1.	0.	2.	0.	3.
361	2.	0.	1.	1.	1.	0.	0.	1.	0.	1.
371	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.
381	0.	1.	0.	0.	0.	0.	1.	0.	0.	0.
391	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
401	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
411	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.
421	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.
431	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.
441	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
451	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
461	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
471	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
481	0.	1.	0.	0.	1.	0.	2.	0.	0.	0.
491	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
511	0.	0.								

Westinghouse Hanford Co.
 G E N E R A L A L P H A E N E R G Y A N A L Y S I S
 Rev. 2.02

DATA REDUCTION REPORT

SAMPLE
 WL16198-BLK
 File ID: 6a6897.CNF

Counted on: 1/21/97 @20:57
 Detector: AEA6
 Geometry number: 1
 Count time: 28805. Sec

PEAK ANALYSIS

Peak ID	Peak height		Peak center		FWHM		Tau	
	Initial	Final	Initial	Final	Initial	Final	Initial	Final
1	25.8	25.8	298.652	298.652	20.000	19.120	10.000	1.458
2	1173.4	1173.4	252.822	252.810	18.000	13.147	9.000	3.238

PEAK RESULTS

Peak Error Limit: 30%

Peak ID	Isotope	AEA Frac	Peak Centroid			FWHM	Count Rate	%err c/m @95	d/m	Activity uCi/ea
			Exp.	Obs.	Diff.					
1	Am241	0.048	5.479	5.479	0.0000.09	3.15	5.0	12.5	0.565E-05	
	Pu238		5.487	5.479	0.008			16.4	0.738E-05	
2	Pu239	0.936	5.147	5.264	-.1170.06	60.99	1.2	228.5	0.103E-03	
	Am243		5.270	5.264	0.006			230.8	0.104E-03	
Totals:			0.984	<---valid peaks only-->			64.13			

DETECTOR CALIBRATION

Energy(MEV) = 4.076 + (0.0047)*Channel
 Energy range (MeV): 4.076 TO 6.482
 Efficiency = 0.2669 CPM/DPM

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	31284.0	100.000
Smoothed	31284.3	100.001
Composite fit	30789.9	98.421
Residuals	494.1	1.579

Analyzed by: _____

EMB

1 Legend: Raw = Modeled Peaks = 1,2,..., etc Display Max.: 9079.0

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1

Raw	Data	Dump	for	AEA	Spectrum:	6a6897.CNF	HNF-SD-WM-DP-z20, REV. 0						
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	2.	1.	1.	1.	0.	0.	0.	0.
21	1.	1.	0.	0.	1.	0.	2.	0.	0.	0.	1.	1.	1.
31	1.	1.	0.	3.	0.	1.	3.	1.	0.	0.	1.	1.	1.
41	0.	1.	2.	1.	1.	0.	2.	0.	0.	0.	0.	0.	0.
51	0.	1.	1.	2.	1.	0.	0.	2.	3.	1.	1.	1.	1.
61	3.	1.	1.	3.	1.	1.	0.	1.	2.	2.	0.	0.	0.
71	1.	4.	2.	1.	1.	1.	0.	2.	2.	2.	2.	2.	2.
81	1.	2.	2.	0.	1.	2.	0.	1.	1.	0.	0.	0.	0.
91	4.	1.	4.	0.	4.	1.	1.	2.	3.	1.	1.	1.	1.
101	3.	1.	0.	5.	3.	5.	1.	2.	1.	5.	5.	5.	5.
111	3.	2.	1.	2.	0.	3.	5.	2.	2.	1.	1.	1.	1.
121	3.	1.	2.	1.	5.	3.	4.	5.	1.	2.	2.	2.	2.
131	2.	4.	1.	4.	4.	4.	4.	8.	6.	1.	1.	1.	1.
141	6.	4.	2.	5.	5.	7.	7.	4.	3.	4.	4.	4.	4.
151	6.	7.	6.	4.	7.	5.	9.	14.	8.	7.	7.	7.	7.
161	9.	13.	9.	9.	9.	14.	9.	10.	12.	9.	9.	9.	9.
171	7.	15.	16.	14.	17.	18.	16.	12.	12.	17.	17.	17.	17.
181	28.	13.	20.	24.	27.	24.	15.	15.	24.	25.	25.	25.	25.
191	28.	21.	30.	23.	23.	35.	41.	32.	40.	45.	45.	45.	45.
201	35.	40.	66.	55.	50.	61.	58.	52.	61.	72.	72.	72.	72.
211	64.	89.	85.	89.	81.	119.	92.	121.	126.	124.	124.	124.	124.
221	124.	144.	159.	175.	192.	205.	235.	226.	275.	271.	271.	271.	271.
231	262.	311.	357.	366.	421.	423.	468.	540.	624.	641.	641.	641.	641.
241	715.	723.	793.	846.	878.	942.	987.	1100.	1109.	1214.	1214.	1214.	1214.
251	1215.	1213.	1232.	1231.	1145.	1108.	950.	833.	732.	532.	532.	532.	532.
261	435.	320.	254.	204.	177.	126.	101.	92.	84.	52.	52.	52.	52.
271	53.	43.	41.	39.	27.	19.	11.	10.	8.	13.	13.	13.	13.
281	6.	17.	11.	19.	7.	10.	13.	18.	16.	18.	18.	18.	18.
291	14.	26.	30.	20.	20.	25.	27.	29.	24.	30.	30.	30.	30.
301	23.	20.	27.	23.	19.	10.	18.	15.	11.	10.	10.	10.	10.
311	4.	1.	4.	2.	3.	2.	1.	1.	1.	1.	1.	1.	1.
321	2.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
331	1.	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.
341	0.	0.	0.	0.	2.	0.	1.	1.	0.	1.	1.	1.	1.
351	1.	0.	0.	0.	1.	1.	2.	0.	1.	1.	1.	1.	1.
361	2.	1.	0.	2.	1.	0.	0.	0.	0.	0.	0.	0.	0.
371	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.
381	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
391	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
401	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
411	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
421	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
431	0.	0.	0.	1.	0.	0.	0.	0.	0.	1.	1.	1.	1.
441	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
451	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
461	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
471	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
481	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
491	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
511	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

Westinghouse Hanford Co.
GENERAL ALPHA ENERGY ANALYSIS
Rev. 2.02

DATA REDUCTION REPORT

SAMPLE
S96T5975-SAM
File ID: 7a7661.CNF

Counted on: 1/21/97 @20:58
Detector: AEA7
Geometry number: 1
Count time: 28805. Sec

PEAK ANALYSIS

Peak ID	Peak height		Peak center		FWHM		Tau	
	Initial	Final	Initial	Final	Initial	Final	Initial	Final
1	17.8	17.8	371.076	371.076	12.000	5.286	6.000	1.056
2	386.9	386.9	302.079	302.075	18.000	13.610	9.000	2.870
3	1010.6	1010.6	255.486	255.404	18.000	13.142	9.000	3.053

PEAK RESULTS

Peak Error Limit: 30%

Peak ID	Isotope	AEA Frac	Peak Centroid			FWHM	Count Rate	%err c/m @95	d/m	Activity uCi/ea
			Exp.	Obs.	Diff.					
1	Cm244	0.011	5.795	5.783	0.012	0.02	0.90	9.4	2.6	0.118E-05
	Cm243		5.779	5.783	-0.004				3.6	0.162E-05
2	Am241	0.270	5.479	5.466	0.013	0.06	22.08	1.9	68.8	0.310E-04
	Pu238		5.487	5.466	0.021				89.9	0.405E-04
3	Pu239	0.663	5.147	5.251	-0.104	0.06	54.20	1.3	158.9	0.716E-04
	Am243		5.270	5.251	0.019				160.5	0.723E-04
Totals:			0.944	<--invalid peaks only-->			77.18			

DETECTOR CALIBRATION

Energy(MEV) = 4.076 + (0.0046)*Channel
Energy range (MeV): 4.076 TO 6.432
Efficiency = 0.3412 CPM/DPM

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	39269.0	100.000
Smoothed	39269.2	100.000
Composite fit	37052.2	94.355
Residuals	2216.8	5.645

Analyzed by:

EMB

1 Legend: Raw = Modeled Peaks = 1,2,..., etc Display Max.: 7507.1

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Raw Data Dump for AEA Spectrum:	7a7661.CNF	HNF-SD-WM-DP-226_REV.0
1	0.	0.
11	0.	0.
21	4.	2.
31	5.	1.
41	3.	3.
51	2.	1.
61	3.	0.
71	1.	2.
81	6.	5.
91	5.	2.
101	4.	2.
111	1.	8.
121	8.	5.
131	6.	1.
141	9.	13.
151	8.	13.
161	14.	24.
171	28.	20.
181	19.	33.
191	39.	50.
201	63.	65.
211	102.	95.
221	149.	161.
231	269.	267.
241	496.	509.
251	964.	962.
261	754.	555.
271	118.	127.
281	126.	146.
291	237.	255.
301	414.	365.
311	139.	104.
321	11.	5.
331	1.	1.
341	1.	3.
351	5.	6.
361	10.	17.
371	24.	17.
381	1.	2.
391	1.	1.
401	0.	0.
411	0.	0.
421	0.	0.
431	0.	0.
441	1.	0.
451	0.	0.
461	0.	0.
471	0.	0.
481	0.	0.
491	0.	0.
511	1.	0.

LABCORE Completed RadChem Report for Worklist#: 15503

Analyst: jmv

Instrument: AB19

Book# 62 B56

Method: LA-943-128 Rev/Mod B-4

Worklist Comment: @PU23901 FOR AN-104(DET SS USING LUDLUM)

RTS!

Seq	Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD	0	@PU23901	PU23901	L IQUID	1.49E-04	1.36E-4	91.275	% Recovery
1	STD	0	@PU23901	PU23901E	L IQUID	1.00	1.44E+00	1.440	% Ct Error
1	STD	0	@PU23901	PU23901T	L IQUID	100	1.03E+02	103.000	% Recovery
2	BLNK	0	@PU23901	PU23901	L IQUID	1	<1.82E-4		uCi/mL
2	BLNK	0	@PU23901	PU23901T	L IQUID	100	9.51E+01	95.100	% Recovery
2	BLNK	0	@PU23901	PU23901E	L IQUID	1.00	1.00E+02	100.000	uCi/mL
3	SAMPLE	S96T005980	0	@PU23901	PU23901	L IQUID	N/A	1.74E-04	174.0E-006
3	SAMPLE	S96T005980	0	@PU23901	PU23901T	L IQUID	N/A	9.74E+01	0.0E+000
3	SAMPLE	S96T005980	0	@PU23901	PU23901E	L IQUID	N/A	1.00E+02	0.0E+000
4	DUP	S96T005980	0	@PU23901	PU23901	L IQUID	<1.74E-4	<1.76E-4	RPD
4	DUP	S96T005980	0	@PU23901	PU23901T	L IQUID	100	9.69E+01	96.900
4	DUP	S96T005980	0	@PU23901	PU23901E	L IQUID	1.00	1.00E+02	100.000

Final page for worklist# 15503

Analyst Signature

Date

Analyst Signature

Date

Reviewer Signature

Date

Validated

LABCORE Data Entry Template for Worklist# 15503

Analyst: DMJ Instrument: PU01 19 Book# 62856

Method: LA-943-128 Rev/Mod _____

Worklist Comment: @PU23901 FOR AN-104(DET SS USING LUDLUM) RTS!

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 STD			@PU23901	LIQUID		
2 BLNK			@PU23901	LIQUID		
3 SAMPLE	S96T005980 0		@PU23901	LIQUID	96001174	AN-104
			Analytes Requested: PU23901 , PU23901E, PU23901T			
4 DUP	S96T005980 0		@PU23901	LIQUID		

Final page for worklist # 15503

DMJ 12-12-96
Analyst Signature Date

DMJ 12/16/96
Analyst Signature Date
Joe Hogan 12/16/96

Data Entry Comments:

DATA COLLECTION SHEET FOR AMERICIUM AND PLUTONIUM

WORKLIST# 15803

ANALYSIS DATE: 12-13-96

MATRIX: SOLID LIQUID EACH
(CIRCLE ONE)

(CIRCLE ONE)

CHEM TECH

ANALYSIS TIME: 14 45
(at elevator)

TRACER BK.# 126843

(PRINT INITIALS)

[illegible]

WORKBOOK PAGE: STD1

Pu 238 and 239/240 : LA-943-128 (B-0)**LIQUID**

WORKBOOK PAGE: STD 1

Pu 238 and 239/240 : LA-943-128 (B-0)				LIQUID		STD
Type	DATE COUNTED	DEC-13-96	Pu 238 AEA FRAC (C236)		0.403	
STD	SAMPLE VOLUME in mL	SS	1.000	Pu 238 AEA FRAC (C238)	0.000	
Work List	SAMPLE DILUTION FACTOR	DF	1.000	Pu 239 AEA FRAC (C239)	0.548	
15503	TRACER VOLUME in mL	SPKV	0.100	TOTAL AT COUNTS	5727	
Test Code	DIGEST DILUTION FACTOR	DDF	1.000	AT COUNT TIME (MIN)	30	
@PU23901	TRACER BOOK NO	126B43	BACKGROUND in cpm (Bkg)		0.130	
Matrix	DETECTOR NUMBER	19	Pu 238 cpm		67.450	
LIQUID	EFFICIENCY FACTOR	EFF	0.335	Pu 238 cpm	0.000	
Batch Number	TRACER PREPARATION DATE	07/12/96	Pu 239 cpm		91.690	
96012116	TRACER PREPARATION VALUE (dpm/mL)	2464.000	AEA COUNT TIME		480	
Refut	PU-236 DECAY CORR'D VALUE (dpm/mL)	2223.852	Pu 239/240 µCi/L		1.3622E-01	
0	PU-238 TRACER VALUE (dpm/mL)	0.000				
Sample Prep	STANDARD BOOK NO	62B56				
N/A	STANDARD VALUE in µCi/mL	1.485E-04				
Sample #						
WL15503						
Instrument Code	Decay Time = Date Counted - Tracer Preparation Date					
WC16100	Pu-236 Decay Corr'd Value = Pu-236 Preparation Value * [e to the power of {-(ln2 * Decay Time/1040.95)}]					
Prepared By	Pu 236 Tracer Recovery = (Total AT Counts / TC - Bkg) * 1/EFF * C236 * 100 / Pu-236 Decay Corr'd Value * SPKV					
MCB	Pu 239/240 µCi/L = (C239) / (Pu 236 Decay Corr'd Value) / (SPKV) / (1000mL/L) / (DF) / (DDF) / [(C236) / (SS) / (2220000 dpm/µCi)]					
Chemist	Pu 238 dpm = [(Total AT Counts / TC) - Bkg * 1/EFF * C238] - (Pu-238 Tracer Value * SPKV * Pu 238 Tracer Recovery / 100)					
JFR	Pu 238 µCi/L = [(Pu 238 dpm) / (DF) / (DDF) / (1000mL/L)] / [(Pu-238 Tracer Recovery / 100) / (2220000 dpm/µCi) / (D g/L) / (SS)]					
Analysis	Relative Counting Error = Square Root of [(1 / (Pu 238 cpm * min)) + (1 / (Pu 238 or 239/240 cpm * min))] * 1.96 * 100					
JMV						
Date Complete						
12/16/96	Pu 239/240 µCi/mL	1.36E-04	DETECTION LEVELS in µCi/mL Pu 239/240 7.46E-06			
Analysis Date	Relative Counting Error =	1.4%				
12/13/96						
Analysis Time						
02:45 PM						
Sample Point						
AN-104	Pu 236 Tracer Recovery =	103.4%				

Analyst:	JMV	Date:	16-Dec-96
Signature of Chemist:	JFR	Date:	16 Dec 96
STANDARD.WB1 REV 1.0	943128ML		

2328

WORKBOOK PAGE: BLANK2

Pu 238 and 239/240 : LA-943-128 (B-0)

LIQUID / SOLID

				BLNK
Type	DATE COUNTED		DEC-13-96	Pu 238 AEA FRAC (C238) 0.954
BLNK	SAMPLE VOLUME in mL	SS	0.200	Pu 238 AEA FRAC (C238) 0.000
Work List	SAMPLE DILUTION FACTOR	DF	11.000	Pu 239 AEA FRAC (C239) 0.000
15503	TRACER VOLUME in mL	SPKV	0.100	TOTAL AT COUNTS 2228
Test Code	DIGEST DILUTION FACTOR	DDF	1.0000	AT COUNT TIME (MIN) 30
@PU23901	TRACER BOOK NO		126B43	BACKGROUND in cp (Bkg) 0.130
Matrix	DETECTOR NUMBER		19	Pu 238 cpm 64.670
LIQUID	EFFICIENCY FACTOR	EFF	0.3345	Pu 238 cpm 0.000
Batch Number	TRACER PREPARATION DATE		07/12/96	Pu 239 cpm 0.000
96012116	TRACER PREPARATION VALUE (dpm/mL)		2464.00	AEA COUNT TIME 480
Refun	PU-236 DECAY CORR'D VALUE (dpm/mL)		2223.85	Pu 239/240 μ Ci/L = < 1.822E-01
0	PU-238 TRACER VALUE (dpm/mL)		0.00	
Sample Prep				
N/A				
Sample #	Decay Time = Date Counted - Tracer Preparation Date			
WL15530	Pu-236 Decay Corr'd Value = Pu-236 Preparation Value * [e to the power of ((-ln2 * Decay Time/1040.95))]			
Instrument Code	Pu 236 Tracer Recovery = (Total AT Counts / TC - Bkg) * C236 * 100 / (Pu-236 Decay Corr'd Value * SPKV * EFF)			
WC16100	Pu 239/240 μ Ci/L = (C239) / (Pu 236 Decay Corr'd Value) * (SPKV) / (1000mL/L) * (DF) * (DDF) / ((C238) * (SS) * (D g/L) * (2220000 dpm/ μ Ci))			
Prepared By	Pu 238 dpm = [(Total AT Counts / TC) - Bkg * 1/EFF * C238] - (Pu-238 Tracer Value * SPKV * Pu 236 Tracer Recovery / 100)			
MCB	Pu 238 μ Ci/L = [(Pu 238 dpm) * (DF) * (DDF) / (1000mL/L)] / [(Pu-238 Tracer Recovery / 100) * (2220000 dpm/ μ Ci) * (D g/L) * (SS)]			
Chemist	Relative Counting Error = Square Root of [(1 / (Pu 236 cpm * min)) + (1 / (Pu 238 or 239/240 cpm * min))] * 1.96 * 100			
JFR				
Analyst				
JMV				
Date Complete				
12/16/96	Pu 239/240 μ Ci/mL	< 1.82E-04	DETECTION LEVELS in μ Ci/mL	
Analysis Date	Relative Counting Error	= 100.0%		
12/13/96			Pu 239/240 1.82E-04	
Analysis Time	NOTE: Pu 238 Result is a LESS THAN Value.			
02:45 PM	Pu 238 μ Ci/mL	< 1.82E-04	Pu 238 1.82E-04	
Sample Point	Relative Counting Error	= 100.0%	Pu 238 1.82E-04	
AN-104	Pu 236 Tracer Recovery	= 95.1%		

Analyst:	JMV	Date:	16-Dec-96
Signature of Chemist:	JFR	Date:	16 Dec 96

BLANKWB1 REV 1.0

943126ML

2329

WORKBOOK PAGE: SAM3

Pu 238 and 239/240 : LA-943-128 (B-0)

LIQUID / SOLID

				SAMPLE	
Type	DATE COUNTED	DEC-13-96	PU 236 AEA FRAC (C236)		0.976
SAMPLE	SAMPLE VOLUME in mL	SS	0.200	PU 238 AEA FRAC (C238)	0.000
Work Unit	SAMPLE DILUTION FACTOR	DF	11.000	PU 239 AEA FRAC (C239)	0.000
15503	TRACER VOLUME in mL	SPKV	0.100	TOTAL AT COUNTS	2232
Fast Code	DIGEST DILUTION FACTOR	DDF	1.0000	AT COUNT TIME (MIN)	30
@PU23901	TRACER BOOK NO	126B43	BACKGROUND in cpm (Bkg)		0.130
Matrix	DETECTOR NUMBER	19	PU 236 cpm		58.460
LIQUID	EFFICIENCY FACTOR	EFF	0.335	PU 238 cpm	0.000
Batch Number	TRACER PREPARATION DATE	07/12/96	PU 239 cpm		0.000
98012116	TRACER PREPARATION VALUE (dpm/mL)	2464.000	AEA COUNT TIME		480
Result	PU-236 DECAY CORR'D VALUE (dpm/mL)	2223.852	Pu 239/240 $\mu\text{Ci/L}$ =	<	1.7379E-01
0	PU-238 TRACER VALUE (dpm/mL)	0.000			
Sample Prep					
N/A					
Sample #	Decay Time = Date Counted - Tracer Preparation Date				
S96T005980	Pu-236 Decay Cor'd Value = Pu-236 Preparation Value * [e to the power of $\{(-\ln 2) \text{ Decay Time}/1040.95\}]$				
Instrument Code	Pu 236 Tracer Recovery = (Total AT Counts / TC - Bkg) * C236 * 100 / (Pu-236 Decay Cor'd Value * SPKV * EFF)				
WC16100	Pu 239/240 $\mu\text{Ci/L}$ = (C239) (Pu 236 Decay Cor'd Value) (SPKV) (1000mL/L) (DF) (DDF) / [(C236) (SS) (D g/L) (2220000 dpm/ μCi)]				
Prepared By	Pu 238 dpm = [(Total AT Counts / TC) - Bkg * 1/EFF * C238] - (Pu-238 Tracer Value * SPKV * Pu 236 Tracer Recovery / 100)				
MCB	Pu 238 $\mu\text{Ci/L}$ = [(Pu 238 dpm) (DF) (DDF) (1000mL/L)] / [(Pu-236 Tracer Recovery / 100) (2220000 dpm/ μCi) (D g/L) (SS)]				
Chemist	Relative Counting Error = Square Root of $\{[1/(\text{Pu 236 cpm} * \text{min})] + [1/(\text{Pu 238 or 239/240 cpm} * \text{min})]\} * 1.96 * 100$				
JFR					
Analyst					
JMV					
Date Complete					
12/16/96	Pu 239/240 $\mu\text{Ci/mL}$	< 1.74E-04	DETECTION LEVELS in $\mu\text{Ci/mL}$		
Analysis Date	Relative Counting Error =	100.0%			
12/13/96			Pu 239/240 1.74E-04		
Analysis Time	NOTE: Pu 238 Result is a LESS THAN Value.				
02:45 PM	Pu 238 $\mu\text{Ci/mL}$	< 1.74E-04	Pu 238 1.74E-04		
Sample Point	Relative Counting Error =	100.0%	Pu 238 1.74E-04		
AN-104	Pu 236 Tracer Recovery =	97.4%			

Analyst:	JMV	Date:	16-Dec-96
Signature of Chemist:	JFR	Date:	16 Dec 96
SAMPLE.WB1 REV 1.0 943128ML			

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WORKBOOK PAGE: DUP4

Pu 238 and 239/240 : LA-943-128 (B-0)**LIQUID / SOLID**

				DUP
Type	DATE COUNTED		DEC-13-96	PU 236 AEA FRAC (C236)
DUP	SAMPLE VOLUME in mL	SS	0.200	PU 238 AEA FRAC (C238)
Work List	SAMPLE DILUTION FACTOR	DF	11.000	PU 239 AEA FRAC (C239)
15503	TRACER VOLUME in mL	SPKV	0.100	TOTAL AT COUNTS
Test Code	DIGEST DILUTION FACTOR	DDF	1.0000	AT COUNT TIME (MIN)
@PU23901	TRACER BOOK NO		126B43	BACKGROUND in cpm (Bkg)
Matrix	DETECTOR NUMBER		19	PU 236 cpm
LIQUID	EFFICIENCY FACTOR	EFF	0.335	PU 238 cpm
Batch Number	TRACER PREPARATION DATE		07/12/96	PU 239 cpm
96012116	TRACER PREPARATION VALUE (dpm/mL)		2464.000	AEA COUNT TIME
ReRun	PU-236 DECAY CORR'D VALUE (dpm/mL)		2223.852	Pu 239/240 µCi/L =
0	PU-238 TRACER VALUE (dpm/mL)		0.000	< 1.7607E-01
Sample Prep				
N/A				
Sample #	Decay Time = Date Counted - Tracer Preparation Date			
S96T005980	Pu-236 Decay Corr'd Value = Pu-236 Preparation Value * [e to the power of {(-ln2 * Decay Time/1040.95)}]			
Instrument Code	Pu 236 Tracer Recovery = (Total AT Counts / TC - Bkg) * C236 * 100 / (Pu-236 Decay Corr'd Value * SPKV * EFF)			
WC16100	Pu 239/240 µCi/L = (C239) / (Pu 236 Decay Corr'd Value) * (SPKV) / (1000mL/L) * (DF) * (DDF) / [(C236) * (SS) * (D g/L) * (2220000 dpm/µCi)]			
Prepared By	Pu 238 dpm = [(Total AT Counts / TC) - Bkg * 1/EFF * C238] - (Pu-238 Tracer Value * SPKV * Pu 236 Tracer Recovery / 100)			
MCB	Pu 238 µCi/L = [(Pu 238 dpm) * (DF) * (DDF) * (1000mL/L)] / [(Pu-236 Tracer Recovery / 100) * (2220000 dpm/µCi) * (D g/L) * (SS)]			
Chemist	Relative Counting Error = Square Root of [(1 / (Pu 236 cpm * min)) + (1 / (Pu 238 or 239/240 cpm * min))] * 1.96 * 100			
JFR				
Analyst				
JMV				
Date Complete				
12/16/96	Pu 239/240 µCi/mL	< 1.76E-04	DETECTION LEVELS in µCi/mL	
Analysis Date	Relative Counting Error	= 100.0%		
12/13/96			Pu 239/240	
Analysis Time	NOTE: Pu 238 Result is a LESS THAN Value.		1.76E-04	
02:45 PM	Pu 238 µCi/mL	< 1.76E-04	Pu 238	
Sample Point	Relative Counting Error	= 100.0%	1.76E-04	
AN-104	Pu 236 Tracer Recovery	= 96.9%		

Analyst:	JMV	Date:	16-Dec-96
Signature of Chemist:	<i>John Relyea</i>	JFR	Date: 16 Dec-96
SAMPLE.WB1 REV 1.0	943128ML		

2331

Westinghouse Hanford Co.
 GENERAL ALPHA ENERGY ANALYSIS
 Rev. 2.02

DATA REDUCTION REPORT

SAMPLE
 WL15503-STD
 File ID: 5a5002.CNF

Counted on: 12/13/96 @20:57
 Detector: AEA5
 Geometry number: 1
 Count time: 28803. Sec

PEAK ANALYSIS

Peak ID	Peak height		Peak center		FWHM		Tau	
	Initial	Final	Initial	Final	Initial	Final	Initial	Final
1	1781.5	1781.5	362.204	362.204	14.000	5.715	7.000	1.787
2?	25.9	25.9	304.239	302.872	30.000	10.620	15.000	15.500
3	42.2	42.2	288.337	287.468	16.000	6.082	8.000	1.780
4?	9.2	9.2	271.494	270.085	10.000	2.233	5.000	0.100
5	2766.7	2766.7	229.348	229.347	12.000	5.367	6.000	2.077

PEAK RESULTS

Peak Error Limit: 30%

Peak ID	Isotope	AEA Frac	Peak Centroid Exp.	Obs.	Diff.	FWHM	Count Rate	%err @95	d/m	Activity uCi/ea
1	Pu236	0.403	5.755	5.747	0.008	0.03	67.45	1.1	255.9	0.115E-03
2		????		5.474			0.84	16.3		
3	Th228	0.010	5.400	5.403	-0.003	0.03	1.68	8.1	8.8	0.397E-05
4		????		5.323			1.57	8.5		
5	Pu239	0.548	5.147	5.135	0.012	0.02	91.69	0.9	340.9	0.154E-03
	Pu240		5.144	5.135	0.009				340.9	0.154E-03
Totals:		0.960	<--valid peaks only-->				160.83			

DETECTOR CALIBRATION

Energy (MeV) = 4.081 + (0.0046)*Channel
 Energy range (MeV): 4.081 TO 6.436
 Efficiency = 0.2690 CPM/DPM

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	80383.0	100.000
Smoothed	80383.0	100.000
Composite fit	78363.4	97.487
Residuals	2019.6	2.513

Analyzed by:

 EMB

1 Legend: Raw = Modeled Peaks = 1,2,..., etc Display Max.: 19787.2

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1	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.
11	0.	3.	1.	0.	1.	0.	1.	1.	3.	2.
21	1.	2.	0.	0.	2.	2.	1.	0.	0.	1.
31	1.	2.	0.	1.	0.	2.	0.	0.	2.	2.
41	0.	1.	1.	2.	1.	2.	2.	2.	1.	1.
51	0.	0.	1.	3.	2.	0.	2.	2.	4.	1.
61	3.	4.	1.	0.	0.	3.	2.	2.	3.	0.
71	2.	2.	1.	4.	2.	2.	2.	2.	2.	2.
81	1.	1.	1.	2.	2.	1.	2.	2.	5.	0.
91	4.	5.	4.	0.	3.	1.	8.	3.	3.	3.
101	2.	6.	2.	3.	1.	5.	3.	3.	5.	4.
111	4.	6.	4.	4.	2.	5.	2.	3.	4.	5.
121	4.	8.	7.	3.	2.	5.	6.	6.	7.	4.
131	6.	9.	9.	12.	12.	9.	6.	8.	3.	8.
141	10.	4.	9.	12.	5.	13.	9.	10.	11.	11.
151	10.	18.	12.	7.	19.	13.	18.	24.	6.	16.
161	18.	19.	26.	19.	22.	23.	27.	21.	33.	24.
171	18.	40.	32.	36.	50.	35.	50.	47.	49.	41.
181	60.	53.	51.	52.	71.	63.	76.	72.	76.	74.
191	98.	109.	104.	111.	123.	152.	145.	155.	175.	164.
201	215.	177.	211.	249.	259.	268.	321.	351.	383.	420.
211	453.	481.	582.	624.	702.	768.	908.	992.	1093.	1267.
221	1342.	1526.	1758.	1886.	2064.	2397.	2776.	2916.	3088.	3117.
231	2889.	2370.	1763.	1220.	726.	411.	181.	79.	30.	26.
241	15.	17.	11.	8.	8.	7.	10.	6.	10.	11.
251	11.	8.	8.	14.	8.	11.	13.	12.	12.	9.
261	14.	18.	16.	12.	12.	13.	16.	19.	19.	24.
271	25.	24.	19.	19.	21.	20.	14.	21.	32.	28.
281	31.	30.	34.	35.	53.	47.	52.	47.	53.	43.
291	47.	41.	28.	27.	22.	25.	18.	29.	27.	27.
301	33.	26.	33.	43.	33.	26.	36.	27.	24.	39.
311	32.	36.	34.	42.	39.	49.	43.	43.	50.	55.
321	62.	54.	54.	56.	84.	92.	92.	90.	104.	116.
331	102.	119.	131.	143.	139.	162.	196.	195.	205.	263.
341	284.	286.	309.	352.	396.	424.	502.	578.	684.	816.
351	899.	990.	1038.	1139.	1222.	1279.	1340.	1479.	1691.	1731.
361	1793.	1985.	1925.	1775.	1559.	1191.	735.	482.	249.	112.
371	44.	12.	8.	6.	4.	6.	2.	0.	1.	1.
381	1.	1.	0.	0.	1.	0.	0.	0.	0.	0.
391	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.
401	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
411	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
421	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.
431	0.	0.	0.	0.	1.	1.	0.	0.	0.	0.
441	0.	0.	0.	0.	0.	0.	1.	0.	0.	1.
451	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
461	0.	0.	0.	0.	0.	2.	2.	2.	1.	1.
471	4.	1.	1.	0.	3.	2.	2.	2.	1.	4.
481	2.	1.	2.	0.	2.	0.	0.	0.	0.	0.
491	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
511	0.	0.								

Westinghouse Hanford Co.
GENERAL ALPHA ENERGY ANALYSIS
Rev. 2.02

DATA REDUCTION REPORT

SAMPLE
WL15503-BLK
File ID: 6a6821.CNF

Counted on: 12/13/96 @20:58
Detector: AEA6
Geometry number: 1
Count time: 28806. Sec

PEAK ANALYSIS

Peak ID	Peak height		Peak center		FWHM		Tau	
	Initial	Final	Initial	Final	Initial	Final	Initial	Final
1	1438.6	1438.6	359.332	359.332	14.000	8.957	7.000	2.452
2	34.7	34.7	286.476	286.072	14.000	16.212	7.000	3.884
3?	8.9	8.9	256.262	255.206	16.000	8.105	8.000	5.021
4?	2.9	2.9	252.902	251.533	8.000	0.042	4.000	3.786

PEAK RESULTS

Peak Error Limit: 30%

Peak ID	Isotope	AEA Frac	Peak Centroid			Count Rate c/m	%err @95	d/m	Activity uCi/ea
			Exp.	Obs.	Diff.				
1	Cm243	0.954	5.779	5.739	0.0400.04	64.67	1.1	232.6	0.105E-03
	Pu236		5.755	5.739	0.016			173.2	0.780E-04
2	Th228	0.028	5.400	5.402	-.0020.07	1.92	8.1	7.1	0.320E-05
	Am243		5.270	5.402	-.132			5.1	0.230E-05
3		????		5.260		0.28	29.7		
4		????		5.243		0.01	889.		
Totals:			0.982	<--valid peaks only-->			66.59		

DETECTOR CALIBRATION

Energy(MEV) = 4.086 + (0.0046)*Channel
Energy range (MeV): 4.086 TO 6.442
Efficiency = 0.3809 CPM/DPM

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	32551.0	100.000
Smoothed	32554.4	100.011
Composite fit	32106.9	98.636
Residuals	444.1	1.364

Analyzed by:

EMB

1 Legend: Raw = Modeled Peaks = 1,2,..., etc Display Max.: 10318.6

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1	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	1.	2.	0.	0.	0.	2.	0.	0.
21	0.	0.	0.	0.	0.	0.	0.	0.	0.
31	0.	1.	0.	2.	1.	0.	1.	0.	1.
41	2.	0.	0.	0.	1.	0.	0.	0.	0.
51	1.	0.	1.	0.	0.	1.	1.	0.	0.
61	1.	0.	1.	2.	0.	2.	0.	1.	1.
71	0.	0.	0.	0.	0.	0.	0.	0.	0.
81	1.	1.	0.	1.	1.	0.	0.	0.	0.
91	0.	0.	1.	0.	1.	0.	0.	1.	0.
101	0.	0.	0.	2.	0.	1.	1.	2.	0.
111	0.	1.	0.	0.	0.	0.	1.	1.	0.
121	3.	1.	1.	1.	1.	1.	1.	0.	2.
131	0.	0.	2.	1.	1.	0.	0.	2.	1.
141	0.	1.	1.	0.	0.	0.	0.	0.	1.
151	0.	0.	1.	0.	2.	2.	0.	0.	2.
161	2.	3.	0.	0.	1.	1.	2.	1.	1.
171	1.	2.	3.	0.	0.	0.	0.	2.	3.
181	2.	0.	4.	2.	4.	2.	1.	1.	4.
191	0.	2.	2.	3.	2.	2.	2.	2.	1.
201	2.	3.	2.	1.	4.	2.	3.	2.	1.
211	3.	6.	5.	1.	3.	4.	0.	1.	3.
221	4.	6.	5.	7.	5.	4.	3.	4.	2.
231	4.	6.	8.	6.	6.	10.	5.	11.	3.
241	7.	3.	8.	7.	10.	5.	4.	11.	5.
251	14.	20.	14.	13.	8.	16.	18.	12.	10.
261	9.	10.	14.	14.	19.	15.	17.	18.	17.
271	11.	27.	18.	22.	26.	24.	29.	25.	24.
281	25.	33.	38.	43.	43.	44.	44.	42.	43.
291	24.	19.	27.	20.	22.	25.	28.	24.	26.
301	41.	51.	34.	44.	45.	37.	50.	39.	33.
311	41.	54.	54.	59.	55.	68.	54.	77.	70.
321	81.	75.	87.	90.	105.	137.	120.	133.	163.
331	157.	174.	161.	201.	226.	255.	267.	277.	308.
341	358.	409.	456.	504.	605.	648.	708.	783.	852.
351	975.	1053.	1153.	1225.	1272.	1369.	1350.	1540.	1518.
361	1457.	1341.	1101.	947.	702.	570.	406.	254.	170.
371	48.	28.	13.	5.	3.	1.	1.	1.	0.
381	1.	1.	0.	0.	0.	0.	0.	0.	0.
391	0.	0.	0.	0.	0.	0.	0.	0.	0.
401	1.	0.	0.	0.	0.	0.	0.	0.	0.
411	0.	0.	0.	0.	0.	0.	0.	0.	1.
421	0.	0.	0.	1.	0.	0.	0.	0.	1.
431	0.	0.	1.	0.	0.	0.	0.	0.	0.
441	0.	0.	1.	0.	0.	1.	0.	0.	1.
451	0.	0.	0.	1.	0.	0.	0.	1.	0.
461	0.	1.	0.	1.	0.	0.	1.	0.	0.
471	2.	1.	0.	2.	0.	2.	3.	2.	4.
481	2.	2.	1.	5.	3.	1.	0.	0.	1.
491	0.	0.	0.	0.	0.	0.	0.	0.	0.
511	0.	0.							

Westinghouse Hanford Co.
 G E N E R A L A L P H A E N E R G Y A N A L Y S I S
 Rev. 2.02

DATA REDUCTION REPORT

SAMPLE
 S96T05980-SAM
 File ID: 7a7588.CNF

Counted on: 12/13/96 @20:58
 Detector: AEA7
 Geometry number: 1
 Count time: 28801. Sec

PEAK ANALYSIS

Peak ID	Peak height		Peak center		FWHM		Tau	
	Initial	Final	Initial	Final	Initial	Final	Initial	Final
1	877.7	877.7	363.684	363.684	28.000	36.195	14.000	10.232
2	17.9	17.9	292.380	291.994	14.000	11.085	7.000	1.057

PEAK RESULTS

Peak Error Limit: 30%

Peak ID	Isotope	AEA Frac	Peak Centroid			Count Rate	%err @95	d/m	Activity uCi/ea
			Exp.	Obs.	Diff.				
1	Cm243	0.976	5.779	5.762	0.0170.17	58.46	1.2	243.0	0.109E-03
	Pu236		5.755	5.762	-.007			181.0	0.815E-04
2	Th228	0.029	5.400	5.425	-.0250.05	1.73	8.0	7.4	0.333E-05
Totals:			1.005	<--valid peaks only-->			60.19		

DETECTOR CALIBRATION

Energy(MEV) = 4.052 + (0.0047)*Channel
 Energy range (MeV): 4.052 TO 6.459
 Efficiency = 0.3295 CPM/DPM

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	28743.0	100.000
Smoothed	28743.6	100.002
Composite fit	28890.9	100.514
Residuals	-147.9	-0.514

Analyzed by: _____

EMB

1 Legend: Raw = Modeled Peaks = 1,2,..., etc Display Max.: 6746.9

[illegible]

1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21	1.	0.	0.	0.	0.	0.	1.	0.	0.	1.
31	0.	0.	0.	0.	1.	1.	0.	0.	0.	0.
41	0.	1.	0.	1.	0.	0.	0.	0.	0.	0.
51	0.	0.	0.	0.	0.	0.	1.	0.	1.	0.
61	0.	1.	0.	1.	0.	0.	0.	0.	0.	0.
71	0.	0.	1.	1.	0.	0.	0.	0.	0.	0.
81	0.	0.	0.	0.	0.	0.	0.	3.	1.	1.
91	0.	1.	0.	2.	0.	1.	0.	0.	0.	0.
101	3.	1.	1.	0.	0.	0.	2.	0.	0.	1.
111	0.	1.	1.	0.	1.	0.	0.	2.	0.	1.
121	0.	0.	0.	0.	0.	1.	0.	0.	1.	0.
131	0.	0.	0.	0.	0.	0.	1.	0.	1.	0.
141	0.	1.	1.	1.	2.	2.	0.	1.	1.	1.
151	1.	0.	1.	0.	0.	0.	0.	0.	1.	0.
161	1.	0.	0.	1.	2.	0.	1.	0.	1.	0.
171	0.	1.	0.	0.	0.	1.	1.	2.	0.	0.
181	0.	2.	0.	0.	0.	1.	0.	0.	0.	1.
191	1.	0.	1.	1.	3.	0.	1.	0.	1.	2.
201	0.	1.	2.	0.	1.	0.	1.	1.	2.	4.
211	1.	1.	0.	0.	0.	1.	3.	3.	0.	1.
221	4.	1.	3.	4.	0.	1.	2.	2.	5.	3.
231	2.	1.	3.	5.	4.	5.	1.	3.	2.	3.
241	1.	8.	6.	1.	5.	3.	4.	6.	6.	9.
251	5.	5.	3.	3.	6.	4.	5.	10.	3.	4.
261	6.	4.	10.	5.	8.	12.	11.	10.	6.	7.
271	15.	11.	23.	14.	8.	19.	17.	18.	19.	16.
281	11.	16.	21.	19.	14.	19.	21.	13.	22.	14.
291	22.	29.	24.	20.	17.	20.	17.	17.	8.	21.
301	19.	16.	18.	17.	16.	24.	8.	16.	19.	24.
311	17.	22.	21.	21.	20.	19.	31.	26.	36.	39.
321	36.	43.	47.	51.	44.	53.	58.	74.	72.	85.
331	80.	88.	105.	110.	139.	142.	151.	174.	185.	216.
341	260.	265.	301.	331.	360.	393.	429.	446.	513.	535.
351	552.	615.	700.	701.	805.	798.	811.	848.	832.	888.
361	768.	884.	897.	941.	856.	866.	781.	791.	744.	709.
371	670.	616.	542.	494.	456.	418.	402.	307.	275.	259.
381	203.	189.	168.	131.	113.	95.	77.	66.	63.	45.
391	35.	38.	27.	17.	25.	16.	11.	11.	11.	4.
401	5.	4.	3.	3.	2.	1.	0.	4.	3.	3.
411	2.	1.	1.	1.	1.	2.	0.	0.	1.	0.
421	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.
431	0.	0.	1.	1.	0.	0.	0.	1.	0.	0.
441	0.	1.	1.	0.	0.	0.	0.	0.	0.	0.
451	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.
461	0.	0.	1.	0.	0.	0.	1.	1.	0.	1.
471	1.	0.	2.	0.	0.	0.	0.	1.	2.	0.
481	0.	1.	1.	1.	2.	0.	0.	2.	1.	1.
491	1.	0.	1.	1.	0.	2.	2.	0.	0.	0.
511	0.	0.								

Westinghouse Hanford Co.
 G E N E R A L A L P H A E N E R G Y A N A L Y S I S
 Rev. 2.02

DATA REDUCTION REPORT

SAMPLE
 S96T05980-DUP
 File ID: 8a8789.CNF

Counted on: 12/13/96 @20:59
 Detector: AEA8
 Geometry number: 1
 Count time: 28806. Sec

PEAK ANALYSIS

Peak ID	Peak height		Peak center		FWHM		Tau	
	Initial	Final	Initial	Final	Initial	Final	Initial	Final
1	1457.0	1457.0	361.917	361.917	18.000	10.759	9.000	3.497
2?	19.3	19.3	303.632	302.285	26.000	4.154	13.000	12.970
3	27.3	27.3	289.149	288.728	16.000	6.543	8.000	1.181

PEAK RESULTS

Peak Error Limit: 30%

Peak ID	Isotope	AEA Frac	Peak Centroid			Count Rate	%err c/m @95	d/m	Activity uCi/ea
			Exp.	Obs.	Diff.	FWHM			
1	Cm243	0.969	5.779	5.741	0.038	0.05	62.74	1.1	352.4 0.159E-03
	Pu236		5.755	5.741	0.014				262.5 0.118E-03
2		????		5.466			0.39	23.0	
3	Th228	0.024	5.400	5.404	-0.004	0.03	1.52	8.4	8.8 0.396E-05
Totals:		0.993	<--invalid peaks only-->				64.27		

DETECTOR CALIBRATION

Energy(MEV) = 4.076 + (0.0046)*Channel
 Energy range (MeV): 4.076 TO 6.431
 Efficiency = 0.2439 CPM/DPM

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	31086.0	100.000
Smoothed	31086.0	100.000
Composite fit	31042.3	99.859
Residuals	43.7	0.141

Analyzed by: _____

EMB

[illegible]

Raw Data Dump for AEA Spectrum: 8a8789.CNF HNF-SU-VVM-LF-220, 12.7.0

1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	1.	0.	0.	0.	1.	1.	0.	0.	0.	1.
21	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.
31	0.	0.	2.	0.	0.	0.	0.	2.	0.	1.
41	1.	0.	0.	0.	0.	0.	0.	0.	1.	0.
51	1.	0.	1.	0.	1.	0.	0.	0.	0.	0.
61	0.	1.	1.	0.	0.	1.	1.	0.	0.	0.
71	1.	0.	1.	0.	0.	0.	0.	0.	0.	0.
81	1.	0.	0.	0.	0.	0.	0.	0.	0.	1.
91	1.	0.	2.	0.	1.	0.	0.	2.	0.	0.
101	0.	0.	0.	1.	1.	0.	0.	1.	0.	0.
111	2.	0.	0.	1.	1.	0.	0.	2.	2.	0.
121	1.	0.	0.	0.	0.	0.	0.	1.	0.	0.
131	0.	0.	1.	0.	0.	0.	1.	0.	0.	1.
141	0.	1.	3.	0.	1.	0.	1.	0.	2.	1.
151	1.	0.	0.	1.	0.	1.	0.	0.	3.	0.
161	0.	1.	1.	0.	1.	0.	0.	0.	1.	1.
171	0.	0.	0.	0.	1.	4.	1.	2.	0.	0.
181	1.	1.	1.	1.	0.	1.	1.	0.	0.	2.
191	1.	0.	1.	2.	1.	0.	0.	1.	0.	1.
201	2.	1.	3.	1.	1.	1.	2.	2.	0.	0.
211	0.	0.	3.	2.	4.	0.	1.	1.	1.	2.
221	3.	4.	4.	2.	1.	4.	3.	7.	3.	3.
231	6.	6.	3.	7.	3.	6.	3.	4.	5.	7.
241	3.	2.	3.	5.	2.	2.	3.	11.	5.	2.
251	4.	7.	8.	6.	13.	6.	13.	6.	11.	5.
261	8.	7.	5.	11.	10.	17.	5.	12.	10.	11.
271	18.	11.	11.	22.	9.	18.	18.	15.	12.	17.
281	22.	19.	17.	28.	29.	29.	29.	28.	36.	26.
291	33.	25.	20.	15.	23.	18.	21.	16.	20.	22.
301	16.	17.	13.	36.	16.	19.	11.	13.	17.	18.
311	26.	24.	20.	20.	20.	23.	29.	30.	25.	35.
321	40.	33.	49.	54.	53.	58.	54.	49.	80.	86.
331	89.	113.	121.	111.	98.	139.	175.	141.	175.	199.
341	218.	262.	316.	309.	313.	417.	468.	549.	612.	702.
351	770.	859.	932.	1058.	1194.	1185.	1223.	1327.	1410.	1451.
361	1552.	1544.	1563.	1353.	1345.	1117.	984.	771.	601.	454.
371	305.	204.	135.	67.	39.	19.	13.	8.	1.	2.
381	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
391	0.	1.	0.	0.	0.	1.	0.	0.	0.	0.
401	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.
411	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
421	0.	0.	0.	1.	1.	1.	0.	0.	0.	0.
431	0.	0.	2.	0.	1.	0.	0.	0.	0.	0.
441	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.
451	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
461	0.	0.	1.	0.	0.	1.	1.	1.	1.	0.
471	0.	3.	0.	2.	4.	2.	4.	3.	0.	1.
481	0.	2.	1.	2.	1.	3.	0.	0.	4.	0.
491	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
511	0.	0.								

LABCORE Completed Worklist Report for Worklist# 16217

Analyst: smf Instrument: AB18 Book# _____

Method: _____ Rev/Mod _____

Worklist Comment: Determine sample size using ludlum. Std: (TNKFUS) 1.0ML. new

Seq Type	Sample# R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD	0	APU23901 PU23901 SOLID		1.49E+04	1.471E+4	98.725	% Recovery
1 STD	0	APU23901 PU23901T SOLID		100	98.2E+00	98.200	% Recovery
1 STD	0	APU23901 PU23901E SOLID		1	1.4E+00	1.400	% Ct Error
2 BLNK-PREP	0	APU23901 PU23901 SOLID		1	<1.75E-3		uCi/g
2 BLNK-PREP	0	APU23901 PU23901T SOLID		100	1.015E+02	101.500	% Recovery
2 BLNK-PREP	0	APU23901 PU23901E SOLID		1	100E+00	100.000	uCi/g
3 SAMPLE	S96T005975 0 F	APU23901 PU23901 SOLID		N/A	3.59E-03	1.83E-003	uCi/g
3 SAMPLE	S96T005975 0 F	APU23901 PU23901T SOLID		N/A	1.053E+02		% Recovery
3 SAMPLE	S96T005975 0 F	APU23901 PU23901E SOLID		N/A	4.5E+00		% Ct Error
4 DUP	S96T005975 0 F	APU23901 PU23901 SOLID		3.59E-3	3.71E-3	3.288	RPD
4 DUP	S96T005975 0 F	APU23901 PU23901T SOLID		100	1.013E+02	101.300	% Recovery
4 DUP	S96T005975 0 F	APU23901 PU23901E SOLID		1.00	4.30E+00	4.300	% Ct Error

Final page for worklist# 16217

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

John Relyea
Reviewer Signature Date 24 Jan 97

Validated

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Data Entry Template for Worklist# 16217

Analyst: STP Instrument: PU01 18 Book# 42B56

Method: LA-943-128 Rev/Mod B-0

Worklist Comment: Determine sample size using ludlum. Std: (TNKFUS) 1.0ML. new

S Type	Sample#	R A Test	Matrix	Group#	Project
1 STD			@PU23901 SOLID		
2 BLNK-PREP			@PU23901 SOLID		
3 SAMPLE	S96T005975 0 F	@PU23901 SOLID		96001174 AN-104	
	Analytes Requested: PU23901 , PU23901E, PU23901T				
4 DUP	S96T005975 0 F	@PU23901 SOLID			

Final page for worklist # 16217

Lurie M. Julton 1-21-97
Analyst Signature Date

C.J. Osien 1/22/97
Analyst Signature Date
Sylvia Z. Chom 1/22/97

Data Entry Comments:

DATA COLLECTION SHEET FOR AMERICIUM AND PLUTONIUM

WORKLIST# 16217

ANALYSIS DATE: 1-21-97

MATRIX: (SOLID) LIQUID EACH

CHEM TECH SYF

ANALYSIS TIME: ~~15~~ 1700

(CIRCLE ONE)
TRACER BK.# 128B43

(PRINT INITIALS)

Sgt. (at elevator)

[illegible]

WORKBOOK PAGE: STD1

Pu 238 and 239/240 : LA-943-128 (B-0)

LIQUID

				STD
Type	DATE COUNTED	JAN-22-97	Pu 238 AEA FRAC (C238)	0.426
STD	SAMPLE VOLUME in mL	SS	1.000	0.000
Work List	SAMPLE DILUTION FACTOR	DF	1.000	0.580
16217	TRACER VOLUME in mL	SPKV	0.100	4618
Test Code	DIGEST DILUTION FACTOR	DDF	1.000	30
@PU23901	TRACER BOOK NO	128B43	BACKGROUND in cpm (Bkg)	0.030
Minix	DETECTOR NUMBER	18	Pu 238 cpm	72.960
LIQUID	EFFICIENCY FACTOR	EFF	0.269	0.000
Batch Number	TRACER PREPARATION DATE	11/15/96	Pu 239 cpm	95.960
97000066	TRACER PREPARATION VALUE (dpm/mL)	2600.000	AEA COUNT TIME	480
Retun	PU-236 DECAY CORR'D VALUE (dpm/mL)	2484.898	Pu 239/240 μ Ci/L	1.4714E-01
0	PU-238 TRACER VALUE (dpm/mL)	0.000		
Sample Prep	STANDARD BOOK NO	62B58		
N/A	STANDARD VALUE in μ Ci/mL	1.485E-04		
Sample #				
WL16217				
Instrument Code	Decay Time = Date Counted - Tracer Preparation Date			
WB27809	Pu-236 Decay Corr'd Value = Pu-236 Preparation Value * [e to the power of {(-ln2 * Decay Time)/1040.95}]			
Prepared By	Pu 236 Tracer Recovery = (Total AT Counts / TC - Bkg) * 1/EFF * C238*100/Pu-236 Decay Corr'd Value * SPKV			
CJO	Pu 239/240 μ Ci/L = (C239/Pu 236 Decay Corr'd Value)(SPKV)(1000mL/L)(DF)(DDF) / [(C236)(SS)(2220000 dpm/ μ Ci)]			
Chemist	Pu 238 dpm = [(Total AT Counts / TC) - Bkg * 1/EFF * C238] - (Pu-238 Tracer Value * SPKV * Pu 236 Tracer Recovery / 100)			
JFR	Pu 238 μ Ci/L = [(Pu 238 dpm)(DF)(DDF)(1000mL/L)] / [(Pu-236 Tracer Recovery / 100)(2220000 dpm/ μ Ci)(D g/L)(SS)]			
Analyst	Relative Counting Error = Square Root of [(1/(Pu 236 cpm * min)) + (1 / (Pu 238 or 239/240 cpm * min))] * 1.96 * 100			
SMF				
Date Complete				
01/22/97	Pu 239/240 μ Ci/mL	1.47E-04	DETECTION LEVELS in μ Ci/mL Pu 239/240 8.02E-06	
Analysis Date	Relative Counting Error	= 1.4%		
01/21/97				
Analysis Date				
05:00 PM				
Sample Point				
AN-104	Pu 236 Tracer Recovery	= 98.2%		

Analyst:	SMF	Date:	22-Jan-97
Signature of Chemist:	JFR	Date:	24 Jan 97
STANDARD.WB1 REV 1.0	943128ML		

2347

WORKBOOK PAGE: BLANK2

Pu 238 and 239/240 : LA-943-128 (B-0)

LIQUID / SOLID

BLNK-PREP

Type	DATE COUNTED	JAN-22-97	PU 236 AEA FRAC (C236)	0.953
BLNK-PREP	SAMPLE VOLUME in mL SS	1.000	PU 238 AEA FRAC (C238)	0.000
Work List	SAMPLE DILUTION FACTOR DF	1.000	PU 239 AEA FRAC (C239)	0.000
16217	TRACER VOLUME in mL SPKV	0.100	TOTAL AT COUNTS	2134
Test Code	DIGEST GRAMS of SOLIDS/L Dg/L	2.0088	AT COUNT TIME (MIN)	30
@PU23901	TRACER BOOK NO	128B43	BACKGROUND in cpm (Bkg)	0.030
Matrix	DETECTOR NUMBER	18	PU 236 cpm	72.600
SOLID	EFFICIENCY FACTOR EFF	0.2686	PU 238 cpm	0.000
Batch Number	TRACER PREPARATION DATE	11/15/96	PU 239 cpm	0.000
97000066	TRACER PREPARATION VALUE (dpm/mL)	2600.00	AEA COUNT TIME	480
Runin	PU-236 DECAY CORR'D VALUE (dpm/mL)	2484.90	Pu 239/240 $\mu\text{Ci/g}$ =	< 1.754E-03
0	PU-238 TRACER VALUE (dpm/mL)	0.00		

Sample Prep

N/A

Sample #

Decay Time = Date Counted - Tracer Preparation Date

WL16217

Pu-236 Decay Corr'd Value = Pu-236 Preparation Value * [e to the power of $\{-\ln 2 * \text{Decay Time}/1040.95\}$]

Instrument Code

Pu 236 Tracer Recovery = (Total AT Counts / TC - Bkg) * C236 * 100 / (Pu-236 Decay Corr'd Value * SPKV * EFF)

WB27809

Pu 239/240 $\mu\text{Ci/g}$ = (C239) / (Pu 236 Decay Corr'd Value) * (SPKV) / (1000 mL/L) * (DF) / [(C236) * (SS) * (D g/L) * (2220000 dpm/ μCi)]

Prepared By

Pu 238 dpm = [(Total AT Counts / TC) - Bkg * 1/EFF * C238] - (Pu-238 Tracer Value * SPKV * Pu 236 Tracer Recovery / 100)

CJO

Pu 238 $\mu\text{Ci/g}$ = [(Pu 238 dpm) * (DF) / (1000 mL/L)] / [(Pu-236 Tracer Recovery / 100) * (2220000 dpm/ μCi) * (D g/L) * (SS)]

Chemist

Relative Counting Error = Square Root of $\{[1 / (\text{Pu 236 cpm} * \text{min})] + [1 / (\text{Pu 238 or 239/240 cpm} * \text{min})]\} * 1.96 * 100$

JFR

Analyst

SMF

Date Complete

01/22/97

Pu 239/240 $\mu\text{Ci/g}$ < 1.75E-03

Analysis Date

01/21/97

Relative Counting Error = 100.0%

Analysis Time

05:00 PM

NOTE: Pu 238 Result is a LESS THAN Value.

Pu 238 $\mu\text{Ci/g}$ < 1.75E-03

Sample Point

AN-104

Relative Counting Error = 100.0%

Pu 236 Tracer Recovery = 101.5%

DETECTION
LEVELS
in $\mu\text{Ci/g}$

Pu 239/240

1.75E-03

Pu 238

1.75E-03

Analyst:

SMF

Date:

22-Jan-97

Signature of Chemist:

JFR

Date:

24 Jan 97

BLANK.WB1 REV 1.0

943128ML

2348

WORKBOOK PAGE: SAM3

Pu 238 and 239/240 : LA-943-128 (B-0)

LIQUID / SOLID

				SAMPLE	
Type	DATE COUNTED		JAN-22-97	PU 238 AEA FRAC (C236)	0.818
SAMPLE	SAMPLE VOLUME in mL	SS	1.000	PU 238 AEA FRAC (C238)	0.000
Work List	SAMPLE DILUTION FACTOR	DF	1.000	PU 239 AEA FRAC (C239)	0.069
16217	TRACER VOLUME in mL	SPKV	0.100	TOTAL AT COUNTS	2306
Test Code	DIGEST GRAMS of SOLIDS/L	Dg/L	2.0098	AT COUNT TIME (MIN)	30
@PU23901	TRACER BOOK NO		126B43	BACKGROUND in cpm (Bkg)	0.030
Matrix	DETECTOR NUMBER		19	PU 236 cpm	64.060
SOLID	EFFICIENCY FACTOR	EFF	0.269	PU 238 cpm	0.000
Batch Number	TRACER PREPARATION DATE		11/15/96	PU 239 cpm	4.140
97000066	TRACER PREPARATION VALUE (dpm/mL)		2600.000	AEA COUNT TIME	480
Recon	PU-236 DECAY CORR'D VALUE (dpm/mL)		2484.898	Pu 239/240 $\mu\text{Ci/g}$	3.5929E-03
0	PU-238 TRACER VALUE (dpm/mL)		0.000		
Sample File					
FUSION01					
Sample #	Decay Time = Date Counted - Tracer Preparation Date				
S96T005975	Pu-236 Decay Corr'd Value = Pu-236 Preparation Value * [e to the power of $\{-(\ln 2 * \text{Decay Time}/1040.95)\}$]				
Instrument Code	Pu 236 Tracer Recovery = (Total AT Counts / TC - Bkg) * C236 * 100 / (Pu-236 Decay Corr'd Value * SPKV * EFF)				
WB27809	Pu 239/240 $\mu\text{Ci/g}$ = (C239) (Pu 236 Decay Corr'd Value) (SPKV) (1000mL/L) (DF) / [(C236) (SS) (D g/L) (2220000 dpm/ μCi)]				
Prepared By	Pu 238 dpm = [(Total AT Counts / TC) - Bkg * 1/EFF * C238] - (Pu-238 Tracer Value * SPKV * Pu 236 Tracer Recovery / 100)				
CJO	Pu 238 $\mu\text{Ci/g}$ = [(Pu 238 dpm) (DF) (1000mL/L)] / [(Pu-238 Tracer Recovery / 100) (2220000 dpm/ μCi) (D g/L) (SS)]				
Chemist	Relative Counting Error = Square Root of $\{[1/(\text{Pu 236 cpm} * \text{min})] + [1/(\text{Pu 238 or 239/240 cpm} * \text{min})]\} * 1.96 * 100$				
JFR					
Analyst					
SMF					
Date Completed					
01/22/97	Pu 239/240 $\mu\text{Ci/g}$	3.59E-03	DETECTION LEVELS in $\mu\text{Ci/g}$		
Analysis Date	Relative Counting Error	= 4.5%			
01/21/97			Pu 239/240		
Analysis Time	NOTE: Pu 238 Result is a LESS THAN Value.		1.83E-03		
05:00 PM	Pu 238 $\mu\text{Ci/g}$	< 1.83E-03	Pu 238		
Sample Point	Relative Counting Error	= 100.0%	1.83E-03		
AN-104	Pu 236 Tracer Recovery	= 105.3%			

Analyst:	SMF	Date:	22-Jan-97
Signature of Chemist:	JFR	Date:	27 Jan 97
SAMPLE.WB1 REV 1.0 943128ML			

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WORKBOOK PAGE: DUP4

Pu 238 and 239/240 : LA-943-128 (B-0)

LIQUID / SOLID

DUP

Type	DATE COUNTED	JAN-22-97	Pu 236 AEA FRAC (C236)	0.900
DUP	SAMPLE VOLUME in mL	SS	Pu 238 AEA FRAC (C238)	0.000
Work List	SAMPLE DILUTION FACTOR	DF	Pu 239 AEA FRAC (C239)	0.060
16217	TRACER VOLUME in mL	SPKV	TOTAL AT COUNTS	2254
Test Code	DIGEST GRAMS of SOLIDS/L	Dg/L	AT COUNT TIME (MIN)	30
@Pu23901	TRACER BOOK NO	126B43	BACKGROUND in cpm (Bkg)	0.030
Matrix	DETECTOR NUMBER	18	Pu 236 cpm	68.160
SOLID	EFFICIENCY FACTOR	EFF	Pu 238 cpm	0.000
Batch Number	TRACER PREPARATION DATE	11/15/96	Pu 239 cpm	4.670
97000066	TRACER PREPARATION VALUE (dpm/mL)	2600.000	AEA COUNT TIME	480
Retun	Pu-236 DECAY CORR'D VALUE (dpm/mL)	2484.898	Pu 239/240 μ Ci/g	3.7133E-03
0	Pu-238 TRACER VALUE (dpm/mL)	0.000		
Sample Prep				
FUSION01				
Sample #	Decay Time = Date Counted - Tracer Preparation Date			
S96T005976	Pu-236 Decay Corr'd Value = Pu-236 Preparation Value * [e to the power of ((-ln2 * Decay Time/1040.95))]			
Instrument Code	Pu 236 Tracer Recovery = (Total AT Counts / TC - Bkg) * C236 * 100 / (Pu-236 Decay Corr'd Value * SPKV * EFF)			
WB27809	Pu 239/240 μ Ci/g = (C239) / (Pu 236 Decay Corr'd Value) (SPKV) (1000 mL/L) (DF) / [(C236) (SS) (D g/L) (2220000 dpm/ μ Ci)]			
Prepared By	Pu 238 dpm = [(Total AT Counts / TC) - Bkg * 1/EFF * C238] - (Pu-238 Tracer Value * SPKV * Pu 236 Tracer Recovery / 100)			
CJO	Pu 238 μ Ci/g = [(Pu 238 dpm) (DF) (1000 mL/L)] / [(Pu-236 Tracer Recovery / 100) (2220000 dpm/ μ Ci) (D g/L) (SS)]			
Chemist	Relative Counting Error = Square Root of [(1 / (Pu 236 cpm * min)) + (1 / (Pu 238 or 239/240 cpm * min))] * 1.96 * 100			
JFR				
Analyst				
SMF				
Date Complete				
01/22/97	Pu 239/240 μ Ci/g	3.71E-03	DETECTION LEVELS in μ Ci/g	
Analysis Date	Relative Counting Error	= 4.3%		
01/21/97			Pu 239/240	
Analysis Time	NOTE: Pu 238 Result is a LESS THAN Value.		1.86E-03	
05:00 PM	Pu 238 μ Ci/g	< 1.86E-03	Pu 238	
Sample Point	Relative Counting Error	= 100.0%	1.86E-03	
AN-104	Pu 236 Tracer Recovery	= 101.3%		

Analyst:	SMF	Date:	22-Jan-97
Signature of Chemist:	<i>Johan Delzen</i>	JFR	24 Jan 97

SAMPLE.WB1 REV 1.0

943128ML

Westinghouse Hanford Co.
GENERAL ALPHA ENERGY ANALYSIS
Rev. 2.02

DATA REDUCTION REPORT

SAMPLE
WL16217-STD
File ID: 5a5081.CNF

Counted on: 1/23/97 @11:41
Detector: AEA5
Geometry number: 1
Count time: 28800. Sec

PEAK ANALYSIS

Peak ID	Peak height		Peak center		FWHM		Tau	
	Initial	Final	Initial	Final	Initial	Final	Initial	Final
1	1151.6	1151.6	361.507	361.507	16.000	9.533	8.000	1.551
2	1650.0	1650.0	229.213	229.210	14.000	8.154	7.000	1.449
3?	9.1	9.1	107.623	107.257	14.000	62.852	7.000	19.866
4?	0.3	0.1	102.422	99.000	4.000	0.100	2.000	0.100

PEAK RESULTS

Peak Error Limit: 30%

Peak ID	Isotope	AEA Frac	Exp.	Obs.	Centroid Diff.	FWHM	Count Rate	%err c/m @95	d/m	Activity uCi/ea
1	Cm243	0.426	5.779	5.747	0.032	0.04	72.96	1.0	267.8	0.121E-03
	Pu236		5.755	5.747	0.008				199.4	0.898E-04
2	Pu239	0.560	5.147	5.138	0.009	0.04	95.96	0.9	257.1	0.116E-03
	Pu240		5.144	5.138	0.006				257.1	0.116E-03
3		????		4.577			0.74	19.4		
4		????		4.539			0.00	6227.		
Totals:			0.986	<---valid peaks only-->			168.93			

DETECTOR CALIBRATION

Energy (MEV) = 4.084 + (0.0046)*Channel
Energy range (MeV): 4.084 TO 6.439
Efficiency = 0.3733 CPM/DPM

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	82202.0	100.000
Smoothed	82202.0	100.000
Composite fit	81442.4	99.076
Residuals	759.6	0.924

Analyzed by:

SZC

1 Legend: Raw = Modeled Peaks = 1,2,..., etc Display Max.: 12414.4

[illegible]

2353

Westinghouse Hanford Co.
GENERAL ALPHA ENERGY ANALYSIS
Rev. 2.02

DATA REDUCTION REPORT

SAMPLE
WL16217-BLANK
File ID: 6a6901.CNF

Counted on: 1/23/97 @11:42
Detector: AEA6
Geometry number: 1
Count time: 28801. Sec

PEAK ANALYSIS

Peak ID	Peak height		Peak center		FWHM		Tau	
	Initial	Final	Initial	Final	Initial	Final	Initial	Final
1	1230.7	1230.7	360.457	360.457	18.000	11.316	9.000	2.132
2	12.4	12.4	247.583	247.131	78.000	1.000	39.000	0.100
3?	12.9	12.9	227.008	226.524	14.000	6.679	7.000	2.677

PEAK RESULTS

Peak Error Limit: 30%

Peak ID	Isotope	AEA Frac	Peak Centroid		FWHM	Count Rate	%err c/m @95	d/m	Activity uCi/ea
			Exp.	Obs. Diff.					
1	Cm243	0.953	5.779	5.767	0.012	0.05	72.60	1.0	455.6 0.205E-03
	Pu236		5.755	5.767	-0.012				339.4 0.153E-03
2		0.013		5.235	0.00		1.00	9.8	4.6 0.207E-05
3		????		5.138			0.44	23.7	
Totals:		0.966	<--valid peaks only-->				73.60		

DETECTOR CALIBRATION

Energy(MEV) = 4.073 + (0.0047)*Channel
Energy range (MeV): 4.073 TO 6.480
Efficiency = 0.2183 CPM/CPM

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	36560.0	100.000
Smoothed	36561.1	100.003
Composite fit	35543.6	97.220
Residuals	1016.4	2.780

Analyzed by: _____

SZC

1 Legend: Raw = Modeled Peaks = 1,2,..., etc

Display Max.:

[illegible]

Raw Data Dump for AEA Spectrum: 6a6901.CNF										
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	1.	1.	0.	0.	1.	1.
21	0.	4.	0.	1.	1.	0.	0.	0.	0.	0.
31	1.	0.	0.	0.	0.	0.	0.	1.	1.	2.
41	0.	1.	0.	1.	0.	0.	1.	1.	1.	1.
51	2.	1.	0.	2.	0.	0.	1.	0.	0.	0.
61	1.	0.	1.	1.	0.	0.	1.	0.	1.	2.
71	2.	1.	1.	0.	1.	1.	0.	2.	2.	1.
81	0.	0.	0.	0.	1.	0.	0.	2.	0.	0.
91	1.	0.	0.	0.	0.	0.	0.	1.	2.	0.
101	0.	1.	1.	1.	0.	1.	1.	1.	2.	1.
111	2.	1.	1.	0.	2.	1.	2.	0.	0.	2.
121	1.	1.	1.	1.	2.	1.	2.	2.	2.	2.
131	3.	3.	3.	4.	2.	4.	2.	3.	4.	3.
141	1.	3.	0.	2.	1.	2.	0.	4.	1.	0.
151	1.	2.	2.	2.	0.	0.	1.	4.	2.	1.
161	2.	3.	2.	1.	0.	2.	2.	3.	3.	2.
171	2.	0.	2.	4.	2.	4.	2.	5.	6.	1.
181	2.	5.	3.	2.	2.	3.	4.	5.	4.	4.
191	4.	7.	7.	5.	8.	4.	3.	4.	3.	2.
201	5.	12.	2.	11.	5.	7.	7.	5.	7.	12.
211	6.	10.	8.	10.	7.	12.	12.	16.	13.	11.
221	12.	17.	17.	18.	21.	25.	25.	16.	26.	14.
231	17.	14.	13.	18.	14.	16.	14.	9.	9.	11.
241	4.	8.	12.	10.	12.	12.	16.	18.	9.	16.
251	6.	11.	15.	13.	14.	13.	24.	20.	21.	22.
261	23.	24.	24.	24.	20.	22.	19.	35.	29.	26.
271	20.	32.	30.	27.	37.	44.	44.	44.	32.	46.
281	46.	46.	50.	47.	60.	41.	54.	64.	56.	55.
291	64.	38.	56.	55.	46.	41.	51.	69.	57.	65.
301	57.	54.	56.	74.	64.	77.	78.	86.	85.	73.
311	76.	101.	86.	80.	86.	123.	121.	116.	139.	125.
321	135.	145.	158.	187.	174.	196.	213.	197.	224.	239.
331	251.	280.	289.	332.	321.	370.	354.	406.	388.	458.
341	491.	513.	523.	584.	635.	685.	725.	791.	805.	905.
351	934.	983.	1056.	1051.	1123.	1147.	1204.	1233.	1291.	1249.
361	1282.	1212.	1250.	1112.	998.	804.	652.	513.	306.	218.
371	146.	83.	39.	16.	11.	3.	4.	1.	1.	0.
381	1.	0.	0.	0.	1.	1.	0.	0.	0.	0.
391	0.	0.	0.	0.	1.	0.	0.	0.	1.	0.
401	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
411	0.	1.	0.	1.	0.	2.	0.	1.	1.	1.
421	2.	1.	2.	0.	2.	1.	1.	1.	0.	0.
431	0.	0.	2.	1.	0.	0.	0.	1.	0.	1.
441	0.	0.	0.	1.	0.	1.	2.	1.	2.	2.
451	0.	0.	0.	0.	1.	2.	0.	2.	0.	1.
461	2.	2.	1.	0.	3.	2.	0.	3.	2.	2.
471	1.	0.	3.	2.	3.	3.	3.	4.	3.	6.
481	3.	6.	3.	1.	3.	2.	0.	1.	0.	0.
491	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.
511	0.	0.								

Westinghouse Hanford Co.
 GENERAL ALPHA ENERGY ANALYSIS
 Rev. 2.02

DATA REDUCTION REPORT

SAMPLE
 WL16217-SAM
 File ID: 7a7665.CNF

Counted on: 1/23/97 @11:43
 Detector: AEA7
 Geometry number: 1
 Count time: 28802. Sec

PEAK ANALYSIS

Peak ID	Peak height		Peak center		FWHM		Tau	
	Initial	Final	Initial	Final	Initial	Final	Initial	Final
1	1062.5	1062.5	359.669	359.669	16.000	10.487	8.000	1.873
2	68.2	68.2	225.865	225.832	20.000	20.149	10.000	4.506

PEAK RESULTS

Peak Error Limit: 30%

Peak ID	Isotope	AEA Frac	Peak Centroid				Count Rate c/m	%err @95	d/m	Activity uCi/ea	
			Exp.	Obs.	Diff.	FWHM					
1	Cm243	0.915	5.779	5.740	0.039	0.05	64.06	1.1	225.9	0.102E-03	
	Pu236		5.755	5.740	0.015				168.3	0.758E-04	
2	Pu239	0.059	5.147	5.124	0.023	0.09	4.14	4.5	10.7	0.480E-05	
	Pu240		5.144	5.124	0.020				10.7	0.480E-05	
Totals:			0.974	<--valid peaks only-->				68.20			

DETECTOR CALIBRATION

Energy(MEV) = 4.085 + (0.0046)*Channel
 Energy range (MeV): 4.085 TO 6.440
 Efficiency = 0.3885 CPM/DPM

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	33608.0	100.000
Smoothed	33609.4	100.004
Composite fit	32739.1	97.415
Residuals	868.9	2.585

Analyzed by:

SZC

7973.7

2358

Raw Data Dump for AEA Spectrum: 7a7665.CNF										
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	1.	1.	0.	0.	0.	1.
21	0.	1.	0.	0.	0.	1.	2.	0.	2.	1.
31	1.	1.	0.	3.	0.	0.	2.	0.	1.	0.
41	0.	0.	0.	2.	1.	3.	0.	0.	0.	0.
51	1.	1.	1.	2.	0.	0.	1.	2.	0.	0.
61	0.	3.	1.	0.	1.	0.	1.	1.	0.	0.
71	2.	0.	2.	0.	1.	1.	0.	1.	0.	0.
81	1.	2.	1.	0.	2.	0.	1.	2.	1.	0.
91	1.	1.	0.	1.	1.	0.	0.	1.	2.	2.
101	0.	1.	1.	1.	1.	0.	3.	5.	3.	3.
111	3.	0.	0.	2.	1.	4.	4.	1.	1.	1.
121	0.	4.	3.	4.	0.	4.	2.	3.	3.	0.
131	3.	1.	2.	3.	1.	4.	3.	4.	3.	6.
141	1.	1.	4.	0.	0.	5.	3.	3.	3.	2.
151	2.	3.	3.	2.	2.	2.	7.	1.	1.	4.
161	2.	4.	3.	10.	3.	5.	6.	2.	5.	2.
171	2.	8.	2.	6.	1.	5.	2.	5.	10.	7.
181	10.	9.	7.	7.	11.	4.	8.	9.	10.	12.
191	9.	11.	12.	14.	21.	18.	14.	13.	22.	18.
201	25.	20.	19.	19.	22.	25.	30.	26.	33.	32.
211	35.	31.	32.	41.	31.	29.	44.	52.	54.	44.
221	55.	64.	60.	75.	79.	67.	84.	56.	65.	65.
231	66.	58.	59.	47.	38.	25.	20.	15.	17.	16.
241	16.	11.	13.	8.	11.	10.	13.	20.	20.	13.
251	7.	11.	16.	19.	18.	14.	27.	19.	17.	24.
261	24.	27.	23.	20.	17.	28.	20.	24.	26.	26.
271	30.	32.	30.	35.	35.	39.	35.	36.	39.	47.
281	39.	60.	42.	57.	54.	49.	57.	59.	61.	36.
291	48.	62.	43.	43.	65.	57.	50.	50.	63.	65.
301	76.	70.	68.	80.	76.	78.	52.	73.	89.	67.
311	80.	67.	90.	72.	102.	108.	117.	129.	122.	137.
321	156.	157.	157.	124.	162.	186.	197.	199.	212.	219.
331	282.	227.	268.	263.	263.	314.	342.	355.	382.	418.
341	466.	498.	553.	570.	570.	662.	694.	701.	788.	850.
351	903.	885.	925.	968.	987.	1072.	1069.	1036.	1106.	1093.
361	1083.	1073.	942.	826.	658.	537.	399.	322.	185.	91.
371	79.	45.	18.	7.	4.	4.	1.	0.	2.	0.
381	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
391	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
401	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
411	1.	0.	0.	1.	0.	0.	0.	0.	1.	0.
421	3.	2.	3.	0.	0.	0.	0.	0.	0.	2.
431	0.	0.	0.	0.	1.	0.	0.	2.	1.	0.
441	2.	2.	3.	0.	1.	0.	1.	0.	1.	0.
451	1.	2.	0.	2.	2.	2.	0.	2.	0.	1.
461	0.	1.	3.	2.	1.	0.	2.	1.	3.	0.
471	1.	2.	2.	2.	3.	1.	0.	2.	1.	3.
481	1.	1.	0.	0.	0.	1.	0.	0.	0.	0.
491	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.
511	2.	0.								

Westinghouse Hanford Co.

GENERAL ALPHA ENERGY ANALYSIS

Rev. 2.02

DATA REDUCTION REPORT

SAMPLE *Dup*
WL16217

File ID: 8a8865.CNF

Counted on: 1/23/97 @11:44
 Detector: AEA8
 Geometry number: 1
 Count time: 28801. Sec

PEAK ANALYSIS

Peak ID	Peak height		Peak center		FWHM		Tau	
	Initial	Final	Initial	Final	Initial	Final	Initial	Final
1	1101.0	1101.0	360.929	360.929	22.000	13.428	11.000	2.461
2	68.6	68.6	230.865	230.771	20.000	13.438	10.000	2.202

PEAK RESULTS

Peak Error Limit: 30%

Peak ID	Isotope	AEA Frac	Peak Centroid			FWHM	Count Rate c/m	%err @95	d/m	Activity uCi/ea
			Exp.	Obs.	Diff.					
1	Cm243	0.900	5.779	5.739	0.040	0.06	68.18	1.1	203.4	0.916E-04
	Pu236		5.755	5.739	0.016				151.5	0.682E-04
	Pu239	0.060	5.147	5.140	0.007	0.06	4.57	4.3	9.9	0.448E-05
	Pu240		5.144	5.140	0.004				9.9	0.448E-05
Totals:		0.960	<--valid peaks only-->				72.75			

DETECTOR CALIBRATION

Energy(MEV) = $4.078 + (0.0046) \cdot \text{Channel}$
 Energy range (MeV): 4.078 TO 6.434
 Efficiency = 0.4593 CPM/DPM

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	36369.0	100.000
Smoothed	36369.0	100.000
Composite fit	34921.4	96.020
Residuals	1447.6	3.980

Analyzed by:

SZC

1 Legend: Raw = Modeled Peaks = 1,2,..., etc Display Max.: 7951.9

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1	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	1.	2.	0.	1.
21	0.	0.	3.	1.	1.	0.	2.	1.	1.
31	2.	0.	0.	2.	1.	1.	0.	2.	0.
41	3.	0.	1.	0.	2.	1.	1.	0.	0.
51	1.	0.	1.	0.	0.	1.	2.	0.	2.
61	2.	0.	4.	2.	1.	0.	1.	0.	0.
71	2.	3.	1.	0.	2.	2.	1.	0.	1.
81	1.	0.	2.	2.	2.	0.	2.	0.	1.
91	1.	1.	0.	4.	1.	2.	3.	2.	3.
101	0.	2.	1.	3.	0.	1.	2.	5.	0.
111	1.	2.	4.	3.	1.	2.	2.	1.	3.
121	2.	4.	1.	6.	2.	3.	3.	3.	1.
131	2.	2.	3.	3.	3.	0.	5.	4.	2.
141	3.	2.	2.	2.	3.	1.	1.	3.	5.
151	8.	2.	5.	7.	6.	6.	7.	3.	4.
161	2.	2.	5.	5.	5.	4.	5.	4.	8.
171	7.	7.	6.	4.	8.	7.	9.	7.	9.
181	4.	9.	11.	13.	9.	6.	11.	14.	9.
191	12.	11.	16.	16.	16.	15.	12.	16.	16.
201	21.	24.	21.	24.	20.	14.	24.	27.	31.
211	28.	34.	33.	29.	30.	46.	44.	48.	50.
221	59.	60.	67.	67.	82.	51.	73.	59.	71.
231	71.	63.	86.	50.	58.	48.	45.	22.	33.
241	14.	7.	21.	9.	9.	9.	23.	17.	5.
251	11.	19.	12.	17.	13.	13.	13.	14.	29.
261	32.	20.	13.	24.	25.	29.	20.	24.	31.
271	36.	35.	25.	22.	39.	31.	38.	31.	38.
281	32.	50.	50.	42.	59.	57.	61.	59.	62.
291	66.	70.	62.	45.	48.	66.	74.	68.	74.
301	78.	86.	71.	71.	78.	88.	80.	85.	95.
311	74.	82.	95.	89.	103.	108.	119.	128.	109.
321	134.	134.	148.	156.	175.	179.	200.	228.	203.
331	275.	282.	314.	281.	290.	296.	367.	373.	379.
341	440.	489.	503.	508.	579.	611.	647.	694.	723.
351	818.	894.	987.	896.	959.	1056.	1057.	1085.	1104.
361	1108.	1108.	1115.	1073.	897.	854.	690.	620.	485.
371	255.	169.	97.	63.	34.	16.	13.	8.	4.
381	0.	3.	0.	0.	1.	0.	0.	1.	0.
391	0.	0.	0.	1.	0.	1.	0.	0.	0.
401	0.	0.	0.	0.	0.	0.	1.	1.	0.
411	0.	0.	1.	0.	0.	2.	0.	1.	0.
421	0.	0.	3.	1.	1.	0.	0.	0.	1.
431	1.	1.	1.	0.	1.	0.	0.	1.	1.
441	0.	0.	0.	1.	0.	2.	2.	2.	0.
451	0.	2.	2.	1.	2.	0.	1.	0.	0.
461	1.	0.	0.	1.	2.	1.	1.	0.	3.
471	1.	3.	2.	4.	3.	3.	3.	2.	3.
481	3.	4.	3.	1.	1.	1.	1.	1.	1.
491	0.	0.	0.	0.	0.	0.	0.	0.	0.
511	0.	0.							

DISTRIBUTION SHEET

To Distribution	From Production Planning & Control	Page 1 of 1		
		Date: 06/04/97		
Project Title/Work Order HNF-SD-WM-DP-226, Rev. 0 "Tank 241-AN-104, Cores 163 and 164 Analytical Results for the Final Report"		EDT NO.: EDT-620405		
		ECN NO.: N/A		
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