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Document Information

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Project Hanford Management Contractor for the
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K. E. Bell
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**TANK 241-SY-102, FEBRUARY 2000 COMPATIBILITY
GRAB SAMPLES,
ANALYTICAL RESULTS FOR THE FINAL REPORT**

Project Coordinator: Kevin Bell

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

by

**222-S Laboratory
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222-S LABORATORY

TANK 241-SY-102, FEBRUARY 2000 COMPATIBILITY GRAB SAMPLES, ANALYTICAL RESULTS FOR THE FINAL REPORT

1.0 INTRODUCTION

This document is the format IV, final report for the tank 241-SY-102 (SY-102) grab samples taken in February 2000 to address waste compatibility concerns. Chemical, radiochemical, and physical analyses on the tank SY-102 samples were performed as directed in *Compatibility Grab Sampling and Analysis Plan for Fiscal Year 2000* (Sasaki 1999 and Sasaki 2000). No notification limits were exceeded.

Preliminary data on samples 2SY-00-1, -2, and -3 were reported in "Format II Report on Tank 241-SY-102 Waste Compatibility Grab Samples Taken in February 2000" (Lockrem 2000). The data presented here represent the final results.

2.0 SAMPLE RECEIVING AND APPEARANCE

Five grab samples were taken from riser 003 of tank SY-102 in February 2000 by the River Protection Project (RPP) per the tank sampling and analysis plan (TSAP) (Sasaki 1999). All samples were delivered to the 222-S Laboratory three days later. No field or trip blank samples were delivered to the laboratory.

Sampling and appearance data for each sample are provided in Table 1. The actual sampling depths differed from those identified in the TSAP (Sasaki 2000). The appearance and volume percent solids observations were made after the samples had been allowed to stand for at least 16 hours.

Samples 2SY-00-1 and -3 contained less than 2% settled solids by volume. Samples 2SY-00-4 and -5 contained significant amounts of sludge, as expected. Sample 2SY-00-2 contained 10% settled solids by volume, although the comment section of the chain-of-custody form states "no solids present". The solids were white and crystalline, while solids in samples 2SY-00-4 and -5 were dark and muddy. These facts strongly suggest that the solids in sample 2SY-00-2 formed upon cooling and were probably not present immediately after the sample was removed from the tank. The solids in sample 2SY-00-2 were not analyzed.

All tank supernate samples were loaded into the 222-S Laboratory 11A hot cells where they were broken down and subsampled. Sample breakdown diagrams included as Attachment 1 show how each sample was subsampled and the analyses associated with each subsample. Copies of the chain-of-custody forms accompanying the samples are provided as Attachment 2.

Table 1. Sampling and Appearance Information for Tank SY-102 Grab Samples.

Sample Number	Date Sampled (m/d/y)	Date Received (m/d/y)	Sample Depth¹ (in.)	Settled Solids (%)	Sample Description
2SY-00-1	2/25/00	2/28/00	491	< 2	Clear, light-yellow liquid. No organic layer was observed.
2SY-00-2	2/25/00	2/28/00	560	10	Clear, light-yellow liquid. No organic layer was observed. The solids were white and crystalline.
2SY-00-3	2/25/00	2/28/00	620	< 2	Clear, light-yellow liquid. No organic layer was observed.
2SY-00-4	2/25/00	2/28/00	655	54.9	Clear, light-yellow supernate over gray, muddy sludge. No organic layer was observed.
2SY-00-5	2/25/00	2/28/00	670	61.0	Clear, light-yellow supernate over gray, muddy sludge. No organic layer was observed.

¹Measured from the top of the riser to the mouth of the sample bottle.

3.0 SAMPLE HANDLING

Sample material in the parent samples was separated into sample portions. The four sample portions were supernate, decanted supernate, interstitial liquid, and centrifuged solids. The terms “decanted supernate”, “interstitial liquid”, and “centrifuged solids” will be respectively abbreviated as DS, IL, and CS throughout this narrative.

Supernate was the only sample portion analyzed from samples 2SY-00-1, -2, and -3. The supernate in these samples was clear, thus these samples were neither centrifuged nor filtered before they were subsampled by pipette directly from the parent jars. The clear liquids in samples 2SY-00-4 and -5 were decanted into separate jars to separate the DS sample portions from the sludge. There was little perturbation of the sludge during decantation, nevertheless the DS portions were allowed to stand for several days before they were subsampled by pipette. The sludge material in samples 2SY-00-4 and -5 was centrifuged to separate the IL portions from the CS portions. Refer to the breakdown diagrams for a graphic representation of how the parent samples were broken down.

Both CS portions were analyzed by polarized light microscopy (PLM). The analytical data report for this analysis was reported as an interoffice memorandum (Herting 2000). The report is also presented as Attachment 3.

4.0 ANALYSIS REQUIREMENTS

All analyses were performed at the 222-S Laboratory. Analyses required by the TSAP are presented in Table 2. Results of all requested analyses except PLM are reported in the data summary tables as Attachment 4. Some of the analytical methods reported results that were not specifically requested. Those analyte results were opportunistic and are reported in Appendix A. Quality control (QC) parameters for opportunistic results were not evaluated.

The second column in the data summary tables is labeled "A#". This indicates the type of sample preparation performed before analysis. A "D" in column 2 indicates that an acid dilution was performed on a liquid sample. An "A" in the second column means that an acid digestion was performed on a solid sample. The designations "F" and "W" mean that a fusion or water digest was performed on the solid sample, respectively. No letter designation in the column indicates that the sample was analyzed directly or following dilution with water.

5.0 ANALYTICAL RESULTS DISCUSSION BY TEST

Each analysis was discussed in the Inorganic or Radiochemical section of this narrative. The QC criteria associated with an analysis varied depending on the analysis. All analyses were covered under the 222-S Laboratory quality assurance plan (Markel 2000). In addition, the desired QC parameters associated with analyses of liquid and solid samples were identified respectively in Table 3-1 and Table 4-1 of the TSAP (Sasaki 1999).

5.1 INORGANIC ANALYSES

5.1.1 Bulk Density

The bulk density was measured on the centrifuged solids (CS) sample portions from parent samples 2SY-00-4 and -5. The results were very similar for both samples at 1.51 and 1.48 g/mL. All QC requirements were met.

5.1.2 Ammonia by Ion-Specific Electrode (ISE)

An ammonia-specific electrode was used to determine the ammonia concentrations in the supernate or decanted supernate (DS) portion from all samples, and on the interstitial liquid (IL) and CS portions from samples 2SY-00-4 and -5. As required in the TSAP, ammonia analyses were performed on acid-digestions of the solid samples. Water digests of the solid samples were also analyzed.

Ammonia was detected in all samples. Mean concentrations in the liquid samples ranged from 419 $\mu\text{g/mL}$ in the supernate from sample 2SY-00-4 to $1.22 \times 10^3 \mu\text{g/mL}$ in the supernate from sample 2SY-00-2. Mean results from the two acid-digested CS portions were different by

Table 2. Tank SY-102 Required Analyses and Analytical Procedures Used.

Method	Required Analyte	Procedure
Visual	Organic Layer, Settled Solids	LA-519-151, Rev. G-3
Gravimetry	Bulk Density	LA-519-132, Rev. E-2
Differential Scanning Calorimetry (DSC)	Reaction Exotherm	LA-514-114, Rev. D-4 or LA-514-115, Rev. B-0
DSC	Reaction Exotherm (dry-wt.)	LA-514-114/115, Rev A-0
Thermogravimetric Analysis	Percent Water	LA-514-114, Rev. D-4
Gravimetry	Specific Gravity	LA-510-112, Rev. E-2
Oxidation/Coulometry	Total Organic Carbon	LA-342-100, Rev. F-4
Coulometry	Total Inorganic Carbon	LA-342-100, Rev. F-4
Atomic Absorption Spectroscopy	Hg	LA-325-106, Rev. A-3
Hydrogen Ion Electrode	pH	LA-212-106, Rev. C-6 or LA-212-105, Rev. C-4
Titration	Hydroxide	LA-211-102, Rev. D-3
Ammonia Electrode	Ammonia	LA-631-001, Rev. D-2
Ion Chromatography ¹	Cl ⁻ , F ⁻ , NO ₂ ⁻ , NO ₃ ⁻ , SO ₄ ²⁻ , PO ₄ ³⁻ , C ₂ O ₄ ²⁻	LA-533-105, Rev. F-2
Inductively Coupled Plasma ¹	Al, Fe, Mn, Ni, Cr	LA-505-161, Rev. C-5
Polarized-Light Microscopy	Crystal identification	LT-161-100, Rev. A-1
ICP/Mass Spectroscopy ¹	⁹⁹ Tc, ²³⁵ U, ²³⁸ U	LA-506-101, Rev. A-3
Phosphorescence	Total Uranium	LA-925-009, Rev. D-1
Separation/Beta Counting	⁹⁰ Sr	LA-220-101, Rev. E-5
Separation/Alpha Energy Analysis	²³⁸ Pu, ^{239/240} Pu, ²⁴¹ Am, ^{243/244} Cm	LA-953-104, Rev. B-3
Gamma Energy Analysis ¹	¹³⁷ Cs, ⁶⁰ Co, ¹⁵⁴ Eu, ¹⁵⁵ Eu	LA-548-121, Rev. F-2

¹ Method provides opportunistic data.

more than a factor of 30. This was not consistent with the other analytical data, which showed that these samples were similar in composition. Therefore, ammonia was also measured on water-digested CS portions. Mean results from the water-digested samples were 2.14×10^3 $\mu\text{g/g}$ and 1.88×10^3 $\mu\text{g/g}$ for CS portions from samples 2SY-00-4 and -5, respectively.

The ammonia results on the water-digests were consistent with the other analytical data, however they may be biased low. The water digests were surely basic due to the high hydroxide levels in the samples. This would have ensured that nearly all ammonia was in its unprotonated form, thus it was subject to loss. In addition, several weeks passed from creation of the water digests to sample analyses. Results from the acid-digested samples were probably erratic due to differences in preparation of the acid digests. The two CS portions were acid-digested in two separate analytical batches. One sample/duplicate set of digests was most likely heated for a longer time (as allowed in the procedure to ensure complete dissolution), resulting in loss of ammonia.

One of the acid-digested samples had a relative percent difference (RPD) between sample and duplicate analyses of 26.3, which was greater than the TSAP limit of 20. The RPD values on the water-digested samples met the TSAP requirements. All other QC requirements were met.

5.1.3 Anions by Ion Chromatography (IC)

The concentrations of the anions chloride, fluoride, nitrate, nitrite, oxalate, phosphate, and sulfate were measured by IC on all sample portions. The results for bromide were opportunistic and appear in Appendix A. Liquid samples were analyzed directly following dilution. Water digests of the solid samples were analyzed.

Nitrate then nitrite were the most abundant target anions in the liquid samples. Oxalate and nitrate were the most abundant target anions in the solid samples. Mean nitrate concentrations in the liquid portions varied from $7.93 \times 10^4 \mu\text{g/mL}$ in the IL from sample 2SY-00-5 to $1.81 \times 10^5 \mu\text{g/mL}$ in the IL from sample 2SY-00-4. Mean nitrate levels in the two solid samples were similar at 7.04×10^4 and $6.39 \times 10^4 \mu\text{g/g}$. Nitrite concentrations in the liquid sample portions were in the $4.79 \times 10^4 \mu\text{g/mL}$ (2SY-00-1) to $1.10 \times 10^5 \mu\text{g/mL}$ (IL from 2SY-00-4) range. Mean nitrite levels in the two solid samples were similar at 4.40×10^4 and $4.04 \times 10^4 \mu\text{g/g}$.

The next most abundant anions in the liquid samples were chloride, phosphate, then sulfate. Chloride concentration variations among the samples followed the same pattern as those for nitrate and nitrite. The lowest and highest concentrations in liquid portions were $3.89 \times 10^3 \mu\text{g/mL}$ found in sample 2SY-00-1 and $9.06 \times 10^3 \mu\text{g/mL}$ found in the IL from sample 2SY-00-4. Chloride levels in the two CS portions were similar at 3.74×10^3 and $3.48 \times 10^3 \mu\text{g/g}$.

The concentrations of phosphate and sulfate among the samples analyzed were more varied than the chloride concentrations, most likely because the concentrations found were typically less than ten times the detection limit. Average concentrations of phosphate in the liquid portions ranged from $3.85 \times 10^3 \mu\text{g/mL}$ in sample 2SY-00-3 to $7.03 \times 10^3 \mu\text{g/mL}$ in the IL from sample 2SY-00-4. Concentrations of sulfate in the liquid portions ranged from $1.63 \times 10^3 \mu\text{g/mL}$ in sample 2SY-00-1 to $3.73 \times 10^3 \mu\text{g/mL}$ in the IL from sample 2SY-00-4. As with the other target anions, there was little variation of the phosphate and sulfate concentrations between the two CS portions. Phosphate levels were between 2.22×10^3 and $2.52 \times 10^3 \mu\text{g/g}$, and sulfate levels were between 1.26×10^3 and $1.52 \times 10^3 \mu\text{g/g}$.

The only liquid sample with a detectable amount of oxalate was the supernate from sample 2SY-00-1. It had a mean oxalate concentration of $846.5 \mu\text{g/mL}$. Oxalate was detected in the water-digested CS portions from 2SY-00-4 and -5 at mean, respective concentrations of 7.89×10^4 and $6.33 \times 10^4 \mu\text{g/g}$. Fluoride was only detected in supernate from samples 2SY-00-1 and -2. Mean concentrations were 390.8 and 335.5 $\mu\text{g/g}$, respectively.

Matrix spikes were added to the supernate from sample 2SY-00-2, to the IL from sample 2SY-00-4, and to the water-digested CS from sample 2SY-00-4 (post-digestion spike). The only QC failures were high spike recoveries for nitrate and nitrite in the IL portions. It is

unlikely that a re-analysis of the sample without re-digesting it would have improved these spike recoveries. Also, the QC parameters associated with the other target anions in this sample were well within the acceptable limits. For these reasons, the sample was not re-run.

5.1.4 Differential Scanning Calorimetry (DSC)

All sample portions were analyzed directly by DSC. Heat absorbed by the sample from a net endothermic reaction or process, or heat given up by the sample from a net exothermic reaction or process was measured as a function of temperature. The samples were heated from approximately 25° C to 500° C.

No exotherms were observed in the supernate from samples 2SY-00-1, -2, or -3. Exotherms below 50 J/g were observed in all other subsamples. For each sample with an exotherm, the endotherm associated with the sample was larger in magnitude. The exotherms found in the DS and IL portions from samples 2SY-00-4 and -5 were similar. Mean results between sample and duplicate runs varied from 20.69 J/g on IL from sample 2SY-00-4 to 29.32 J/g from the DS from sample 2SY-00-4. The highest exotherm among the liquid samples on a dry-weight basis was 75.72 J/g found in the DS from sample 2SY-00-5. The CS portions from samples 2SY-00-4 and -5 had respective, average exotherms of 46.64 and 35.71 J/g. The former exothermic value corresponded to 113.8 J/g on a dry-weight basis. This is well below the notification limit of 480 J/g. All QC requirements were met.

5.1.5 Hydroxide

Hydroxide concentrations were determined by titration directly on all supernate, DS, and IL samples and on the water-digested CS portions.

The mean hydroxide concentrations in the supernate or DS portions increased from 1.14×10^4 µg/mL in sample 2SY-00-1 to 2.58×10^4 µg/mL in DS from sample 2SY-00-5. Consistent with most other analytes, the analyte concentration in each IL sample portion was similar to its respective DS counterpart. Typically, the differences were less than 10%.

Hydroxide was detected in both water-digested samples. The respective, mean concentrations in CS from samples 2SY-00-4 and -5 were 2.34×10^3 and 2.08×10^3 µg/g. There were no QC failures associated with the hydroxide analyses.

5.1.6 Mercury by Atomic Absorption (AA) Spectroscopy

All sample portions were analyzed for mercury (Hg). No Hg was detected in any of the liquid samples. The highest result was $< 3.2 \times 10^{-3}$ µg/mL. Low levels of Hg were detected in the two CS portions. Respective, average results on samples 2SY-00-4 and -5 were 0.708 and 0.674 µg/g.

All QC requirements were met. Matrix spikes were added to the supernate portion of sample 2SY-00-2, to the IL from sample 2SY-00-4, and to the CS from sample 2SY-00-4.

5.1.7 Metals by Inductively Coupled Plasma (ICP)

Inductively coupled plasma together with atomic emission spectroscopy was used to determine the concentrations of aluminum (Al), chromium (Cr), iron (Fe), manganese (Mn), and nickel (Ni) in the liquid samples and in acid-digested solid samples. Concentrations of additional metals, determined opportunistically, are shown in Appendix A.

The most abundant target metal in the liquid and solid samples was Al. The next most plentiful target analyte was Cr. Mean Al concentrations in the liquids were in the 1.06×10^4 to 2.38×10^4 $\mu\text{g/mL}$ range. The acid-digested solid samples had Al concentrations of 3.16×10^4 and 2.66×10^4 $\mu\text{g/g}$ for portions from samples 2SY-00-4 and -5, respectively. At 76.65 $\mu\text{g/mL}$, the Cr concentration in supernate from sample 2SY-00-1 was lower than in the other liquid samples. Their concentrations varied from 355.5 to 447.5 $\mu\text{g/mL}$. There were much higher levels of Cr in the CS portions. Average results for the two samples were 2.50×10^4 and 2.29×10^4 $\mu\text{g/g}$.

Also found in the liquid and solid samples was Ni. However, no Fe or Mn was detected in any of the liquid samples. Average levels of Ni in the liquids were similar, only varying from 49.35 to 60.75 $\mu\text{g/mL}$. As with Cr, there was more Ni in the solids where the mean results were 307.5 and 298.5 $\mu\text{g/g}$. The method detection limit for Fe in the liquid samples was 20.10 or 10.10 $\mu\text{g/mL}$, depending on the sample. The method detection limit for Mn in the liquid samples was 10.10 or 4.01, depending on the sample. The concentrations of Fe in the two CS portions were similar at approximately 1.5×10^3 $\mu\text{g/g}$. There was less Mn in the same samples where the results were also similar at approximately 390 $\mu\text{g/g}$.

Matrix spikes were added to the supernate portion from sample 2SY-00-2 and to the IL portion from sample 2SY-00-4. Pre-digestion and post-digestion matrix spikes were added to the CS portion from sample 2SY-00-4. There were two matrix spike failures, but all other QC requirements were met.

The Al and Cr matrix spike recoveries in the CS portion were negative. This is a common occurrence for samples with high concentrations of the spiked analyte. Post-digestion matrix spike results for Al and Cr in this sample (S00T000513) were 97.9 and 99.0 %. In addition to matrix spikes, serial dilutions were performed on the same samples to assess the accuracy of the ICP method. The serial dilution results are shown in Table 3 and should be within 10% of the initial dilution. The serial dilution results for Al and Cr in sample S00T000513 were excellent. The poor results for Al and Cr in sample S00T000505 were most likely due to a dilution error rather than to a matrix effect, since the matrix spike recoveries for this sample were excellent. The concentration of Ni in the serial dilution of sample S00T000513 was less than 10 times the method detection limit. This was the most likely reason for the poor Ni serial dilution results for the sample. Again, the matrix spike recovery for Ni was excellent.

Table 3. Tank SY-102 ICP Serial Dilution Results for Detected Analytes.

Sample #	Analyte	Sample Result ($\mu\text{g/mL}$)	Serial Dilution Result ($\mu\text{g/mL}$)	Percent Difference (%)
S00T000505	Al	2.37E+04	1.28E+04	59.7
S00T000505	Cr	3.49E+02	2.01E+02	53.8
S00T000505	Ni	5.66E+01	not detected	n/a
S00T000513	Al	1.49E+04	1.31E+04	6.64
S00T000513	Cr	3.98E+02	4.00E+02	0.501
S00T000513	Ni	5.98E+01	7.28E+01	19.6
S00T000620	Al	3.10E+04	3.21E+04	3.49
S00T000620	Cr	2.46E+04	2.50E+04	1.61
S00T000620	Fe	1.53E+03	1.62E+03	5.71
S00T000620	Mn	4.02E+02	4.24E+02	5.33
S00T000620	Ni	3.10E+02	3.43E+02	10.1

5.1.8 Percent Water by Thermogravimetric Analysis (TGA)

Thermogravimetric analysis was performed on all sample portions. The percentage of water in a sample was determined through TGA by measuring the total weight loss of the sample between 25° C and approximately 200° C. Additional information may be obtained by examining the raw data.

The average result for supernate from sample 2SY-00-1 was 75.39%. The mean percent-water values in the remaining liquid samples were very close, ranging from 60.97 to 65.08%. The higher percent water value in sample 2SY-00-1 was consistent with the lower concentrations of most other analytes in the sample. As expected, there was less water in the centrifuged solid samples. Respective mean results on samples 2SY-00-4 and -5 were 59.02 and 58.12%. There were no QC failures.

5.1.9 pH

A pH measurement was made on all sample portions. The supernate from samples 2SY-00-2 and -3, and the DS from samples 2SY-00-4 and -5, had pH values greater than or equal to 13.5. The mean pH of sample 2SY-00-1 supernate was 13.43. The two CS samples had lower pH values. The mean results on samples 2SY-00-4 and -5 were 12.43 and 12.62. All QC parameters were met.

5.1.10 Polarized Light Microscopy (PLM)

The CS portions collected from samples 2SY-00-4 and -5 were analyzed by PLM to identify the major crystalline constituents of the solids. The complete data report is presented as Attachment 3.

The solids in the CS portions were found to consist of roughly equal amounts of sodium phosphate, sodium aluminate, and aluminum hydroxide. The form of sodium phosphate present was not identified. There were two types of crystals: agglomerations of small crystals made from sodium aluminate and aluminum hydroxide, and large hexagonal rods made of sodium phosphate.

5.1.11 Specific Gravity

Specific gravity measurements were taken of all liquid sample portions and all results were very similar. Mean values ranged from 1.212 on the supernate from sample 2SY-00-1 to 1.300 on the supernate from sample 2SY-00-2. All QC parameters were met.

5.1.12 ⁹⁹Tc by ICP/MS

All sample portions were analyzed for ⁹⁹Tc by inductively coupled plasma/mass spectroscopy (ICP/MS). Before analysis, the liquid samples were prepared by acid dilution and acid digests were performed on the solid samples.

With a mean concentration of 7.188 µg/mL, the supernate from sample 2SY-00-1 was slightly less concentrated in ⁹⁹Tc than the remaining liquid samples. Their average ⁹⁹Tc concentrations were similar, ranging from 10.97 to 13.56 µg/mL. The CS portions also had detectable levels of ⁹⁹Tc. Average results from samples 2SY-00-4 and -5 were 13.55 and 13.13 µg/g, respectively.

Matrix spikes were added to the supernate from samples 2SY-00-2 and -4, and to the IL and CS portions from sample 2SY-00-4. All matrix spike recoveries and all other QC requirements were met.

5.1.13 Total Inorganic Carbon (TIC)

Total inorganic carbon was measured directly on all sample portions by acid addition followed by coulometric titration of the resulting carbon dioxide. The average result for supernate from sample 2SY-00-1 was 1.93×10^3 µg/mL. The mean results on the remaining liquid samples were very close, ranging from 3.46×10^3 µg/mL in sample 2SY-00-2 to 3.75×10^3 µg/mL in the IL from sample 2SY-00-5. Average concentrations of TIC in the CS portions were between 3.18×10^3 µg/g and 3.69×10^3 µg/g.

For TIC analyses, Total Inorganic Carbon Analysis Report worksheets were included for each sample in the raw data section. Due to programming limitations with the instrument software, the sample size listed on the worksheet may be incorrect. The incorrect values are not used to calculate the TIC concentrations and have no bearing on the reported results. All raw data in the spreadsheets are correct.

As is usually the case, a small amount of TIC was found in the analytical blank. The highest concentration was 5.40 µg/mL and was negligible compared to the levels in the samples. The source of the TIC was most likely carbon dioxide absorbed from the atmosphere. Matrix spikes were added to the supernate from sample 2SY-00-2 and to the IL and CS portions from sample 2SY-00-4. All matrix spike recoveries and all other QC requirements were met.

5.1.14 Total Organic Carbon (TOC)

Total organic carbon was measured directly on all sample portions by persulfate oxidation followed by coulometric titration of the resulting carbon dioxide. The mean results on the liquid samples were very close, ranging from 4.34×10^3 µg/mL in sample 2SY-00-1 to 5.34×10^3 µg/mL in the DS from sample 2SY-00-4. Average concentrations of TOC in the CS portions were between 2.82×10^4 and 3.96×10^4 µg/g.

For TOC analyses, Total Organic Carbon Analysis Report worksheets were included for each sample in the raw data section. Due to programming limitations with the instrument software, the sample size listed on the worksheet may be incorrect. The incorrect values are not used to calculate the TOC concentrations and have no bearing on the reported results. All raw data in the spreadsheets are correct.

The TSAP notification limit for TOC is 4.5×10^4 µg/g on a dry-weight basis. The highest dry-weight TOC result was calculated by dividing the mean TOC concentration in supernate from 2SY-00-4 by that sample's specific gravity, then correcting to zero percent moisture using the percent water in the sample. This gave 1.06×10^4 µg/g as the result, which was well below the notification limit.

A small amount of TOC was detected in the analytical blanks. The highest concentration was 7.4 µg/mL and was negligible compared to the sample concentrations. Matrix spikes were added to the supernate from sample 2SY-00-2 and to the IL and CS portions from sample 2SY-00-4. All matrix spike recoveries and all other QC requirements were met.

5.1.15 Total Uranium by Phosphorescence

Total uranium was measured directly by LASER phosphorescence on liquid samples and on fusion digests of the CS samples. Mean results on the liquid samples ranged from 1.29 µg/mL in sample 2SY-00-1 to 4.06 µg/mL in the DS from sample 2SY-00-5. No U was detected in the CS from sample 2SY-00-4, where the result was $< 1.02 \times 10^3$ µg/g. The CS from 2SY-00-5

did have a detectable U concentration of 365.5 $\mu\text{g/g}$. These U results compare well with the corresponding result for ^{238}U obtained by ICP/MS discussed in the next section.

Matrix spikes were added to the supernate from sample 2SY-00-2 and to the IL and CS portions from sample 2SY-00-4. All matrix spike recoveries and all other QC requirements were met, although the initial calibration verification (ICV) standard recoveries associated with analysis of liquid and solid subsamples from samples 2SY-00-4 and -5 were over the 110% limit. An ICV standard is not required by the laboratory QAPP (Markel 2000), but is used by the chemist along with the laboratory control standard (LCS) to evaluate performance of the instrument. The LCS recoveries were well within the laboratory and TSAP limits.

5.1.16 Uranium Isotopics by ICP/MS

All sample portions were analyzed for the isotopes ^{235}U and ^{238}U by ICP/MS. The isotopes ^{233}U , ^{234}U , and ^{236}U were determined opportunistically and these results appear in Appendix A.

Liquid samples were analyzed directly following dilution. The CS portions were analyzed following acid digestion.

No ^{235}U was detected in any of the liquid samples. All results were $<0.485 \mu\text{g/mL}$. Mean ^{235}U concentrations in the CS portions were 2.967 and 3.090 $\mu\text{g/g}$. Mean concentrations of ^{238}U in the liquid samples varied from 1.476 $\mu\text{g/mL}$ in the 2SY-00-1 supernate to 4.923 $\mu\text{g/mL}$ in the DS from sample 2SY-00-5. The CS samples had ^{238}U concentrations of 449.6 and 475.4 $\mu\text{g/g}$.

Matrix spikes were added to the supernate from sample 2SY-00-2 and to the IL and CS portions from sample 2SY-00-4. All matrix spike recoveries and all other QC requirements were met.

5.2 RADIOCHEMICAL ANALYSES

5.2.1 ^{241}Am and $^{243/244}\text{Cm}$

All liquid and solid sample portions were analyzed for ^{241}Am and $^{243/244}\text{Cm}$ activities by chemical separation followed by alpha counting. The solids samples were prepared by fusion digestion.

Detectable activities of ^{241}Am were present in all samples. Mean results in the liquids varied from $1.46 \times 10^{-3} \mu\text{Ci/mL}$ in the IL from sample 2SY-00-5 to $7.30 \times 10^{-3} \mu\text{Ci/mL}$ in the supernate from sample 2SY-00-1. Significantly higher activities of ^{241}Am were found in the two CS samples. Results were 0.126 and 0.176 $\mu\text{Ci/mL}$.

No $^{243/244}\text{Cm}$ activity was detected in any sample. The highest result on a liquid sample was $<7.54 \times 10^{-4} \mu\text{Ci/mL}$ (2SY-00-2 supernate). The highest result between the solid samples was

$< 1.08 \times 10^{-2} \mu\text{Ci/g}$. There was no matrix spike associated with this analysis; instead, the Am and Cm raw results were corrected by the ^{243}Am tracer recovery. Curium was eluted along with Am from the separation media. All QC parameters were met.

5.2.2 Gamma Energy Analysis (GEA)

The activities of ^{60}Co , ^{137}Cs , ^{154}Eu , and ^{155}Eu were determined by GEA on all sample portions. Liquids were analyzed directly following dilution. The solids samples were prepared by fusion digestion. The activities of additional radionuclides were reported in Appendix A on an opportunistic basis.

The radionuclide ^{60}Co was detected in all liquid samples except the DS from sample 2SY-00-5. Mean results varied from $8.70 \times 10^{-2} \mu\text{Ci/mL}$ in the 2SY-00-1 supernate to $1.19 \times 10^{-3} \mu\text{Ci/mL}$ in the 2SY-00-2 supernate. No ^{60}Co was detected in either CS portion. Results on those samples were below $6.43 \times 10^{-2} \mu\text{Ci/g}$.

All samples were found to have detectable ^{137}Cs activities. At $265.5 \mu\text{Ci/mL}$, supernate from sample 2SY-00-2 had the highest average activity among the liquid samples. The lowest activity was found in the supernate from sample 2SY-00-1 at $152.5 \mu\text{Ci/mL}$. The mean activities in the CS samples were identical at $132.9 \mu\text{Ci/g}$. No samples exceeded the TSAP notification limit of $4.10 \times 10^5 \mu\text{Ci/L}$.

Neither ^{154}Eu nor ^{155}Eu was detected in any of the liquid samples. The highest ^{154}Eu result was $< 2.47 \times 10^{-2} \mu\text{Ci/mL}$. The highest ^{155}Eu result was $< 0.242 \mu\text{Ci/mL}$. Both results were from the DS from sample 2SY-00-5. Both ^{154}Eu and ^{155}Eu were detected in the CS from samples 2SY-00-4 and -5. Mean ^{154}Eu results were 0.677 and $0.777 \mu\text{Ci/g}$ respectively. The ^{155}Eu results on the same samples were slightly lower at 0.309 and $0.409 \mu\text{Ci/g}$.

One RPD value associated with ^{60}Co analysis of supernate from 2SY-00-4 exceeded the TSAP limit of 20. The sample was not re-analyzed because the result was very near the minimum detectable activity. All other QC requirements were met.

5.2.3 ^{238}Pu and $^{239/240}\text{Pu}$

Determined by chemical separation followed by alpha counting were the ^{238}Pu and $^{239/240}\text{Pu}$ activities. The solids samples were prepared by fusion digestion. Only two of the liquid samples had detectable activities of ^{238}Pu . The supernate from 2SY-00-4 had an average activity of $4.05 \times 10^{-5} \mu\text{Ci/mL}$. No ^{238}Pu activity was found in the duplicate analysis of IL from sample 2SY-00-4, but the sample had an activity of $4.04 \times 10^{-5} \mu\text{Ci/mL}$. The solid samples had activities of ^{238}Pu hundreds of times higher than the liquid samples. Respective mean results of the two CS portions from samples 2SY-00-4 and -5 were 2.71×10^{-2} and $1.39 \times 10^{-2} \mu\text{Ci/g}$.

No $^{239/240}\text{Pu}$ was detected in the supernate from samples 2SY-00-1, -2, or -3. The highest result was $< 3.39 \times 10^{-4} \mu\text{Ci/mL}$. The remaining liquid samples had mean activities between 1.21×10^{-4} and $1.62 \times 10^{-4} \mu\text{Ci/mL}$. As with the ^{238}Pu activity, the CS from 2SY-00-4 contained about twice the activity as CS from 2SY-00-5. Respective results were 0.137 and $7.23 \times 10^{-2} \mu\text{Ci/g}$. The notification limit for $^{239/240}\text{Pu}$ was $61.5 \mu\text{Ci/mL}$.

All QC requirements were met and the reported results were corrected for the ^{236}Pu tracer recovery.

5.2.4 $^{89/90}\text{Sr}$

Chemical separation followed by beta counting provided the activity of $^{89/90}\text{Sr}$ in each sample portion. The two CS samples were prepared by fusion digestion.

Mean activities in the liquid samples were similar, ranging from 2.24 to $3.115 \mu\text{Ci/mL}$. The mean activities in the CS portions were also similar with results of 81.2 and $87.5 \mu\text{Ci/g}$ on samples 2SY-00-4 and -5. All activities were corrected for carrier recoveries and all QC requirements were met. No sample results exceeded the notification limit of $2.88 \times 10^5 \mu\text{Ci/L}$.

6.0 WASTE COMPATIBILITY CONCERNS

6.1 Nitrate (NO_3^-), Hydroxide (OH^-) and Nitrite (NO_2^-) - Corrosion Decision Rule

The NO_3^- , OH^- , and NO_2^- results with respect to the waste compatibility corrosion rules are presented in Table 4. Only the supernate portions from samples 2SY-00-1, -2, and -3 were evaluated.

The table compares the results to the concentration ranges specified in Sasaki (1999) for double-shell tanks with temperatures below 212°F . A "YES" appeared in the appropriate space for the condition that was met. Only one of three sets of conditions must be met for OH^- and NO_2^- based on the range in which the NO_3^- concentration falls. All results for the three samples analyzed were within the acceptable concentration ranges required for corrosion control.

7.0 REFERENCES

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Table 4. Tank 241-SY-102 Waste Compatibility Corrosion Rules for DSTs with Temperatures Below 212° F.

Sample ID, Description	Analyte	Mean Result (ug/mL)	Mean Result (M)	Is [NO ₃ ⁻]...	Is [OH ⁻]...	Is [NO ₂ ⁻]...
2SY-00-1 Supernate	NO ₃ ⁻	8.14E+04	1.31	1.0M < [NO ₃ ⁻] ≤ 3.0M? YES	(0.10)[NO ₃ ⁻] ≤ [OH ⁻] ≤ 10.0 M? YES	([OH ⁻]+[NO ₂ ⁻] ≥ 0.4[NO ₃ ⁻]? YES
	OH ⁻	1.14E+04	0.671			
	NO ₂ ⁻	4.79E+04	1.04			

Sample ID, Description	Analyte	Mean Result (ug/mL)	Mean Result (M)	Is [NO ₃ ⁻]...	Is [OH ⁻]...	Is [NO ₂ ⁻]...
2SY-00-2 Supernate	NO ₃ ⁻	1.19E+05	1.92	1.0M < [NO ₃ ⁻] ≤ 3.0M? YES	(0.10)[NO ₃ ⁻] ≤ [OH ⁻] ≤ 10.0 M? YES	([OH ⁻]+[NO ₂ ⁻] ≥ 0.4[NO ₃ ⁻]? YES
	OH ⁻	1.88E+04	1.106			
	NO ₂ ⁻	7.40E+04	1.61			

Sample ID, Description	Analyte	Mean Result (ug/mL)	Mean Result (M)	Is [NO ₃ ⁻]...	Is [OH ⁻]...	Is [NO ₂ ⁻]...
2SY-00-3 Supernate	NO ₃ ⁻	1.20E+05	1.94	1.0M < [NO ₃ ⁻] ≤ 3.0M? YES	(0.10)[NO ₃ ⁻] ≤ [OH ⁻] ≤ 10.0 M? YES	([OH ⁻]+[NO ₂ ⁻] ≥ 0.4[NO ₃ ⁻]? YES
	OH ⁻	1.88E+04	1.106			
	NO ₂ ⁻	7.92E+04	1.72			

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SAMPLE BREAKDOWN

ATTACHMENT 1

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SY-102 Grab Sample Breakdown

Project SY-102 GRAB6

Sample **2SY-00-1**, Supernate for Inorganic/Radchem

LABCORE group 20000085

Parent Sample S00T000**498**

Vol. % Settled Solids
Organic Layer

S00T000**503**

DSC
DSC (dry weight)
TGA
Ammonia
Hydroxide
Sp. Gravity
U Isotopics
Tc-99 (by ICP/MS)
pH
Total U

S00T000**506**

TIC
TOC
Hg (by AA)
ICP: Al, Cr, Fe, Mn, Ni
IC: Cl⁻, F⁻, NO₂⁻, NO₃⁻, PO₄⁻³, SO₄⁻², C₂O₄⁻²
GEA: Cs-137, Co-60, Eu-154, Eu-155
Sr-89/90
Pu-238
Pu-239/240
Am-241
Cm-243/244

SY-102 Grab Sample Breakdown

Project SY-102 GRAB6

Sample 2SY-00-2, Supernate for Inorganic/Radchem

LABCORE group 20000085

Parent Sample S00T000497

Vol. % Settled Solids
Organic Layer

S00T000502

DSC
DSC (dry weight)
TGA
Ammonia
Hydroxide
Sp. Gravity
U Isotopics
Tc-99 (by ICP/MS)
pH
Total U

S00T000505

TIC
TOC
Hg (by AA)
ICP: Al, Cr, Fe, Mn, Ni
IC: Cl⁻, F⁻, NO₂⁻, NO₃⁻, PO₄⁻³, SO₄⁻², C₂O₄⁻²
GEA: Cs-137, Co-60, Eu-154, Eu-155
Sr-89/90
Pu-238
Pu-239/240
Am-241
Cm-243/244

SY-102 Grab Sample Breakdown

Project SY-102 GRAB6

Sample 2SY-00-3, Supernate for Inorganic/Radchem

LABCORE group 20000085

Parent Sample S00T0000499

Vol. % Settled Solids
Organic Layer

S00T0000504

DSC
DSC (dry weight)
TGA
Ammonia
Hydroxide
Sp. Gravity
U Isotopics
Tc-99 (by ICP/MS)
pH
Total U

S00T0000507

TIC
TOC
Hg (by AA)
ICP: Al, Cr, Fe, Mn, Ni
IC: Cl⁻, F⁻, NO₂⁻, NO₃⁻, PO₄³⁻, SO₄²⁻, C₂O₄²⁻
GEA: Cs-137, Co-60, Eu-154, Eu-155
Sr-89/90
Pu-238
Pu-239/240
Am-241
Cm-243/244

SY-102 Grab Sample Breakdown

Project SY-102 GRAB6

Sample 2SY-00-4, Sludge for Inorganic/Radchem

LABCORE group 20000085

SY-102 Grab Sample Breakdown

Project SY-102 GRAB6

Sample 2SY-00-5, Sludge for Inorganic/Radchem

LABCORE group 2000085

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CHAIN OF CUSTODY

ATTACHMENT 2

HNF-1699 REV. 0

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CHAIN-OF-CUSTODY RECORD FOR CPO

(1) Sample Number 2SY-00-1		(2) Supervisor/Sampler RJ Praznik		(9) Seal Intact Upon Release? ☒ Yes ☐ No
(3) Tank SY-102	(4) Riser 003	(5) Cask/Pig Serial No. 400-16		(10) Seal Intact Upon Receipt? ☒ Yes ☐ No
(6) Shipment Description:				(11) Seal Number AND Cask/Pig SERIAL Number consistent with this record? (Block 5 & 6b) ☒ Yes ☐ No
A. Work Package Number W5-00-00024		Y ☐ N ☐		(12) Laboratory Comments:
B. Cask/Pig Seal Number 12647		Sampling Data		
C. Date Sample Collected 2-25-00		- Lithium Bromide		
D. Time Sample Collected 1203 hr		Amount		
		Concentration		
		- X-Ray		
		- Partial Sample		
		Retrieved Partial Sample Stroke Length		
(8) Field Comments: sample clear, green in color; no solids present Jag 2.25.00				
(13) Relinquished By (Sign and PRINT) Bill Roberty		(14) Received By (Sign and PRINT) B. Watkins		(15) Date/Time 11:00 AM
(17) Relinquished By (Sign and PRINT) Bill Roberty		(18) Received By (Sign and PRINT) B. Watkins		(19) Date/Time 2-25-00
(21) Relinquished By (Sign and PRINT) Bill Roberty		(22) Received By (Sign and PRINT) B. Watkins		(23) Date/Time 2-25-00
(25) Relinquished By (Sign and PRINT)		(26) Received By (Sign and PRINT)		(27) Date/Time
(28) Relinquished By (Sign and PRINT)		(29) Received By (Sign and PRINT)		(30) Date/Time

CHAIN-OF-CUSTODY RECORD FOR CPO

(1) Sample Number 2SY-00-2		(2) Supervisor/Sampler RJ Praznik		(9) Seal Intact Upon Release? ☒ Yes ☐ No
(3) Tank SY-102	(4) Riser 003	(5) Cask/Pig Serial No. 460-10		(10) Seal Intact Upon Receipt? ☒ Yes ☐ No
(6) Shipment Description:				(11) Seal Number AND Cask/Pig SERIAL Number consistent with this record? (Block 5 & 6b) ☒ Yes ☐ No
A. Work Package Number WS-00-00024		(7) Sampling Data		(12) Laboratory Comments:
B. Cask/Pig Seal Number 12648		Y N ☐ ☐ - Lithium Bromide Amount Concentration - X-Ray - Partial Sample Retrieved Partial Sample Stroke Length		
C. Date Sample Collected 2-25-00				
D. Time Sample Collected 1222 hr				
(8) Field Comments: clear, light green; no solids present pg 2.25.00				
(14) Relinquished By (Sign and PRINT) [Signature]		(14) Received By (Sign and PRINT) [Signature] B. WATKINS		(15) Date/Time 11:00 AM
(17) Relinquished By (Sign and PRINT) [Signature]		(17) Received By (Sign and PRINT) [Signature] R. T. STEEL		(19) Date/Time 2-28-00
(21) Relinquished By (Sign and PRINT) [Signature]		(21) Received By (Sign and PRINT) [Signature]		(23) Date/Time 2-28-00
(25) Relinquished By (Sign and PRINT) [Signature]		(25) Received By (Sign and PRINT) [Signature]		(27) Date/Time [Signature]
				(16) Receiver Comments
				(20) Receiver Comments
				(24) Receiver Comments
				(28) Receiver Comments

CHAIN-OF-CUSTODY RECORD FOR CPO

(1) Sample Number ZSV-00-3		(2) Supervisor/Sampler RJ Praznik		(9) Seal Intact Upon Release? ☒ Yes ☐ No
(3) Tank SV-102	(4) Riser 003	(5) Cask/Pig Serial No. 4600-09		(10) Seal Intact Upon Receipt? ☒ Yes ☐ No
(6) Shipment Description:				(11) Seal Number AND Cask/Pig SERIAL Number consistent with this record? (Block 5 & 6b) ☒ Yes ☐ No
A. Work Package Number WS-00-00024		(7) Sampling Data		(12) Laboratory Comments:
B. Cask/Pig Seal Number 12649		Y ☐ N ☐ - Lithium Bromide Amount Concentration - X-Ray - Partial Sample Retrieved Partial Sample Stroke Length		
C. Date Sample Collected 2-23-00				
D. Time Sample Collected 1232hr				
(8) Field Comments: mostly clear, some cloudiness, green in color JG 2.25.00				
(15) Relinquished By (Sign and PRINT) V. Matthews	(14) Received By (Sign and PRINT) V. Matthews	(15) Date/Time 2-28-00	(16) Receiver Comments	
(17) Relinquished By (Sign and PRINT) V. Matthews	(18) Received By (Sign and PRINT) R. Steels	(19) Date/Time 1130	(20) Receiver Comments	
(21) Relinquished By (Sign and PRINT)	(22) Received By (Sign and PRINT)	(23) Date/Time	(24) Receiver Comments	
(25) Relinquished By (Sign and PRINT)	(26) Received By (Sign and PRINT)	(27) Date/Time	(28) Receiver Comments	

CHAIN-OF-CUSTODY RECORD FOR CPO

(1) Sample Number 2SV-00-4		(2) Supervisor/Sampler RJ Praznik		(9) Seal Intact Upon Release? ☒ Yes ☐ No
(3) Tank SV-102	(4) Riser 003	(5) Cask/Pig Serial No. 460-07		(10) Seal Intact Upon Receipt? ☒ Yes ☐ No
(6) Shipment Description:				(11) Seal Number AND Cask/Pig SERIAL Number consistent with this record? (Block 5 & 6b) ☒ Yes ☐ No
A. Work Package Number WS-00-00024 B. Cask/Pig Seal Number 12650 C. Date Sample Collected 2-25-00 D. Time Sample Collected 1240 hr				(12) Laboratory Comments:
(7) Sampling Data - Lithium Bromide Y ☐ N ☐ Amount NA Concentration 2.11 - X-Ray ☐ - Partial Sample ☐ - Retrieved Partial Sample Stroke Length				
(8) Field Comments: cloudy, gray "mud" 2-25-00				
(13) Relinquished By (Sign and PRINT) Robert J Praznik		(14) Received By (Sign and PRINT) V. Matthews		(15) Date/Time 2-28-00
(17) Relinquished By (Sign and PRINT) V. Matthews		(18) Received By (Sign and PRINT) R. J. Praznik		(19) Date/Time 2-28-00
(21) Relinquished By (Sign and PRINT)		(22) Received By (Sign and PRINT)		(23) Date/Time
(25) Relinquished By (Sign and PRINT)		(26) Received By (Sign and PRINT)		(27) Date/Time
				(28) Receiver Comments

CHAIN-OF-CUSTODY RECORD FOR CPO

(1) Sample Number 2SV-00-5	(2) Supervisor/Sampler RJ Praznik	(9) Seal Intact Upon Release? ☒ Yes ☐ No
(3) Tank SV-102	(4) Riser 003	(10) Seal intact Upon Receipt? ☒ Yes ☐ No
(5) Cask/Pig Serial No. 400-15		(11) Seal Number AND Cask/Pig SERIAL Number consistent with this record? (Block 5 & 6b) ☒ Yes ☐ No
(6) Shipment Description: A. Work Package Number WS-00-00024 B. Cask/Pig Seal Number 12651 C. Date Sample Collected 2-25-00 D. Time Sample Collected 1247		(12) Laboratory Comments:
(7) Sampling Data - Lithium Bromide ☐ Y ☐ N Amount N/A Concentration 9.1.00 - X-Ray ☐ - Partial Sample ☐ Retrieved Partial Sample Stroke Length		
(8) Field Comments: Solids present; muddy; debris on outside of bottle. 2-25-00		
(13) Relinquished By (Sign and PRINT) Robert Praznik	(14) Received By (Sign and PRINT) V. Matthews V. Syja	(15) Date/Time 2-28-00
(17) Relinquished By (Sign and PRINT) V. Matthews V. Syja	(18) Received By (Sign and PRINT) Robert Praznik	(19) Date/Time 2-28-00
(21) Relinquished By (Sign and PRINT)	(22) Received By (Sign and PRINT)	(23) Date/Time
(25) Relinquished By (Sign and PRINT)	(26) Received By (Sign and PRINT)	(27) Date/Time
		(28) Receiver Comments

POLARIZED LIGHT MICROSCOPY REPORT

ATTACHMENT 3

In this section:

QA signed for completion of the work.

Scientist signed for quality & technical
content

QA Is-L. Jung Date 6/28/00

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FLUOR GLOBAL SERVICES

Memorandum

To: K. E. Bell T6-12 Date: 8D500-DLH-00-037
June 27, 2000

From: D. L. Herting, Chemist *DLH* T6-07 Telephone: 373-2532

cc: R. A. Esch T6-12
L. L. Lockrem *LL* T6-07
W. I. Winters T6-07
DLH File/LB

Subject: MICROSCOPY ANALYSIS OF SOLIDS FROM TANK 241-SY-102

Microscopy analysis of the solids from four grab samples from tank 241-SY-102 has been completed. The samples were:

S00T001071 from grab sample 2SY-00-4,
S00T001072 from grab sample 2SY-00-5,
S00T000945 from grab sample 2SY-00-9, and
S00T000942 from grab sample 2SY-00-10.

All four of the samples were analyzed by polarized light microscopy (PLM), and one of the samples (S00T000942) was analyzed by scanning electron microscopy with energy dispersive x-ray spectroscopy (SEM/EDS).

The four samples were similar in most respects. The three most significant phases present in the samples were sodium phosphate (of unidentified nature), sodium aluminate, and aluminum hydroxide, all in roughly equal proportions. The significant features of the samples were:

- All of the samples contained agglomerates made of tiny particles. Figure 1 shows a PLM photograph of a few agglomerates (~ 1000 μ m) that have been largely broken up into their component particles (~ 1 – 5 μ m) by applying pressure to the cover glass.
- Three of the four samples (none seen in S00T001071) contained very large hexagonal rods, typically 1000 x 100 μ m, as shown in the PLM photograph in Figure 2. These rods resembled the typical sodium phosphate dodecahydrate crystals ($\text{Na}_3\text{PO}_4 \cdot 12\text{H}_2\text{O} \cdot \frac{1}{4}\text{NaOH}$), but the optical properties did not match.
- Analysis of the large rods by SEM/EDS confirmed that they contain sodium, phosphorus, oxygen, and no other elements, but the Na:P mole ratio was only ~1.5, instead of the 3.25

expected for $\text{Na}_3\text{PO}_4 \cdot 12\text{H}_2\text{O} \cdot \frac{1}{4}\text{NaOH}$. The exact chemical composition of these large rods remains unknown. The EDS spectrum is shown in Figure 3, and the elemental composition determined by the semi-quantitative EDS analysis software is shown in Table 1.

- Analysis of the tiny particles by SEM/EDS revealed the presence of two forms of aluminum compounds. Figure 4 shows an SEM photograph of sample S00T000942, showing only the tiny particles and not the large hexagonal rods. Crystals that appeared to be more-or-less cubic (see particle #1 in Figure 4) contained mainly aluminum and oxygen only, with traces of Na and Cr. These crystals are relatively pure aluminum hydroxide. Crystals that were somewhat elongated (see particle #2 in Figure 4) contained sodium and aluminum in a 1:1 Na:Al mole ratio, indicative of sodium aluminate. These crystals also contained a significant amount of chromium and traces (~1% by weight each) of potassium, calcium, and chlorine. The EDS spectra of particle #1 and particle #2 are shown in Figures 5 and 6, respectively.

Figure 1. SY-102 Sample S00T0001071, PLM with uncrossed polars

Figure 2. SY-102 Sample S00T0001072, PLM with crossed polars

Figure 3. EDS Spectrum of rod-shaped crystals in Figure 2.

Figure 4. SEM Photo of SY-102 sample S00T000942 (large hexagonal rods not shown).

Figure 5. EDS Spectrum of Particle #1 (cubic) in Figure 4.

Figure 6. EDS Spectrum of Particle #2 (elongated) in Figure 4.

Table 1. Semi-quantitative Elemental Analysis by EDS.

Element	Large hexagonal rod		Particle #1 in Fig. 4		Particle #2 in Fig. 4	
	Wt%	Mol%	Wt%	Mol%	Wt%	Mol%
O	45.4	57.7	63.2	74.3	43.8	58.2
P	26.4	25.0	0	0	0	0
Na	28.2	17.3	4.4	3.6	19.5	18.0
Al	0	0	30.9	21.5	21.8	17.2
Cl	0	0	1.4	0.5	1.3	0.8
K	0	0	0	0	0.9	0.5
Ca	0	0	0	0	1.4	0.7
Cr	0	0	< 1	< 1	11.3	4.6

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SAMPLE DATA SUMMARY

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A-0002-1(14.1)

Tank 241-SY-102 - Data Summary Report for Project
SY-102 GRAB6

CORE NUMBER: n/a
SEGMENT #: 2SY-00-1

SEGMENT PORTION: Supernate

Sample#	R A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S00T000498		Appearance of Sample- Hot Cell		n/a	n/a	clear	n/a	n/a	n/a	n/a	n/a	n/a
S00T000498		Volume % Settled Solids	%	n/a	n/a	< 2.000	n/a	n/a	n/a	n/a	1.00e-01	n/a
S00T000498		Color of Sample		n/a	n/a	yellow	n/a	n/a	n/a	n/a	n/a	n/a
S00T000498		Organic Vol Present / hotcell	ml	n/a	n/a	0.00e+00	n/a	n/a	n/a	n/a	n/a	n/a
S00T000503		DSC Exotherm on Perkin Elmer	Joules/g	106.0	n/a	0.00e+00	0.00e+00	0.00e+00	n/a	n/a	n/a	n/a
S00T000503		DSC Exotherm Dry Calculated	Joules/g Dry	n/a	n/a	0.00e+00	0.00e+00	0.00e+00	n/a	n/a	n/a	n/a
S00T000503		Ammonia by ISE-Std Additions	ug/mL	102.7	<2.50E+2	4.83e+02	486.0	484.5	0.62	n/a	250.0	n/a
S00T000503		OH- by Pot. Titration	ug/mL	100.6	<2500	1.15e+04	1.14e+04	1.14e+04	0.87	n/a	2.50e+03	n/a
S00T000503		pH Direct	pH	n/a	n/a	13.44	13.41	13.43	0.22	n/a	1.00e-02	n/a
S00T000503		Specific Gravity	Sp. G.	98.53	n/a	1.210	1.214	1.212	0.33	n/a	1.00e-03	n/a
S00T000503		% Water by TGA on Perkin Elmer	%	98.86	n/a	75.45	75.33	75.39	0.16	n/a	n/a	n/a
S00T000503		Uranium by Phosphorescence	ug/mL	99.80	<1.88e-1	1.270	1.310	1.290	3.10	n/a	1.88e-01	n/a
S00T000503		D Uranium-235 by ICP/MS Acid Add	ug/mL	98.59	<1.20e-5	<4.85e-01	<4.85e-1	n/a	n/a	n/a	4.85e-01	n/a
S00T000503		D Uranium-238 by ICP/MS Acid Add	ug/mL	102.0	<1.20e-5	1.442	1.510	1.476	4.75	n/a	4.85e-01	n/a
S00T000503		D Tc 99 by ICP/MS Acid Addition	ug/mL	104.4	<2.00e-6	7.086	7.290	7.188	2.78	n/a	8.08e-02	n/a
S00T000506		Mercury by CVAA (PE) with FIAS	ug/mL	107.1	<8.0e-5	<3.2e-3	<3.2e-3	n/a	n/a	n/a	3.20e-03	n/a
S00T000506		TIC by Acid/Coulometry	ug/mL	94.22	4.10E+0	1.95e+03	1.91e+03	1.93e+03	2.07	n/a	5.000	n/a
S00T000506		TOC by Persulfate/Coulometry	ug/mL	96.01	4.50E+0	4.38e+03	4.30e+03	4.34e+03	1.84	n/a	40.00	n/a
S00T000506		Strontium-89/90 High Level	uci/mL	99.36	<1.79E-2	3.000	3.230	3.115	7.38	n/a	3.71e-02	3.82E+00
S00T000506		Pu-239/240 by TRU-SPEC Resin	uci/mL	100.0	<3.23E-4	<3.32e-04	<3.38E-4	n/a	n/a	n/a	3.32e-04	7.72E+00
S00T000506		Pu-238 by TRU-SPEC Resin IonEx	uci/mL	n/a	<3.23E-4	<3.32e-04	<3.38E-4	n/a	n/a	n/a	3.32e-04	1.11E+01
S00T000506		D Aluminum-ICP-Acid Dil.	ug/mL	100.4	<5.00e-2	1.27e+04	1.23e+04	1.25e+04	3.20	n/a	10.10	n/a
S00T000506		D Chromium-ICP-Acid Dil.	ug/mL	98.20	<1.00e-2	77.60	75.70	76.65	2.48	n/a	2.010	n/a
S00T000506		D Iron-ICP-Acid Dil.	ug/mL	101.0	<5.00e-2	< 10.10	<1.01e1	n/a	n/a	n/a	10.10	n/a
S00T000506		D Manganese-ICP-Acid Dil.	ug/mL	97.80	<1.00e-2	< 2.010	<2.01e0	n/a	n/a	n/a	2.010	n/a
S00T000506		D Nickel-ICP-Acid Dil.	ug/mL	99.60	<2.00e-2	50.30	48.40	49.35	3.85	n/a	4.020	n/a
S00T000506		Fluoride-IC-Dionex 4000/4500	ug/mL	106.9	<1.20e-2	3.68e+02	414.0	390.8	11.8	n/a	25.45	n/a
S00T000506		Chloride-IC-Dionex 4000/4500	ug/mL	103.6	<1.70e-2	3.89e+03	3.89e+03	3.89e+03	0.00	n/a	36.06	n/a
S00T000506		Nitrate by IC-Dionex 4000/4500	ug/mL	95.58	<1.08e-1	4.78e+04	4.79e+04	4.79e+04	0.21	n/a	229.1	n/a
S00T000506		Nitrite by IC-Dionex 4000/4500	ug/mL	99.58	<1.39e-1	8.10e+04	8.19e+04	8.14e+04	1.10	n/a	575.6	n/a
S00T000506		Phosphate-IC-Dionex 4000/4500	ug/mL	110.8	<1.20e-1	3.78e+03	4.01e+03	3.89e+03	5.91	n/a	254.5	n/a
S00T000506		Sulfate by IC-Dionex 4000/4500	ug/mL	106.0	<1.38e-1	1.64e+03	1.61e+03	1.63e+03	1.85	n/a	292.7	n/a
S00T000506		Oxalate-IC-Dionex 4000/450	ug/mL	100.0	<1.05e-1	8.76e+02	817.0	846.5	6.97	n/a	222.7	n/a
S00T000506		Cobalt-60 by GEA	uci/mL	102.8	<1.90e-3	9.01e-03	8.38e-03	8.70e-03	7.25	n/a	n/a	17.7
S00T000506		Cesium-137 by GEA	uci/mL	104.1	<4.17e-3	1.52e+02	153.0	152.5	0.66	n/a	n/a	0.120
S00T000506		Europium-154 by GEA	uci/mL	n/a	<4.28e-3	<1.34e-02	<8.85e-3	n/a	n/a	n/a	1.34e-02	n/a
S00T000506		Europium-155 by GEA	uci/mL	n/a	<4.19e-3	<7.85e-02	<7.87e-2	n/a	n/a	n/a	7.85e-02	n/a
S00T000506		Am-241 by TRU-SPEC Resin IonEx	uci/mL	97.20	<3.50E-4	7.43e-03	7.71e-03	7.30e-03	3.42	n/a	7.54e-04	2.40E+00
S00T000506		Cm-243/244 by TRU SPEC Resin	uci/mL	n/a	<3.50E-4	<7.54e-04	<6.81E-4	n/a	n/a	n/a	7.54e-04	7.86E+00

Tank 241-SY-102 - Data Summary Report for Project
SY-102 GRAB6CORE NUMBER: n/a
SEGMENT #: 2SY-00-2

SEGMENT PORTION: Supernate

Sample#	R A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S00T000497		Appearance of Sample- Hot Cell		n/a	n/a	clear	n/a	n/a	n/a	n/a	n/a	n/a
S00T000497		Volume % Settled Solids	%	n/a	n/a	10.00	n/a	n/a	n/a	n/a	1.00e-01	n/a
S00T000497		Color of Sample		n/a	n/a	yellow	n/a	n/a	n/a	n/a	n/a	n/a
S00T000497		Organic Vol Present / hotcell	mL	n/a	n/a	0.00e+00	n/a	n/a	n/a	n/a	n/a	n/a
S00T000502		DSC Exotherm on Perkin Elmer	Joules/g	106.0	n/a	0.00e+00	0.00e+00	0.00e+00	n/a	n/a	n/a	n/a
S00T000502		DSC Exotherm Dry - Calculated	Joules/g Dry	n/a	n/a	0.00e+00	0.00e+00	0.00e+00	n/a	n/a	n/a	n/a
S00T000502		Ammonia by ISE-Std Additions	ug/mL	102.7	<2.50E+2	1.14e+03	1.29e+03	1.22e+03	12.3	99.18	250.0	n/a
S00T000502		OH- by Pot. Titration	ug/mL	100.6	<2500	1.88e+04	1.88e+04	1.88e+04	0.00	n/a	2.50e+03	n/a
S00T000502		pH Direct	pH	n/a	n/a	>13.50	>13.50	n/a	n/a	n/a	1.00e-02	n/a
S00T000502		Specific Gravity	Sp.G.	98.53	n/a	1.309	1.292	1.300	1.31	n/a	1.00e-03	n/a
S00T000502		% Water by IGA on Perkin Elmer	%	98.86	n/a	65.08	65.08	65.08	0.00	n/a	n/a	n/a
S00T000502		Uranium by Phosphorescence	ug/mL	99.80	<1.88e-1	2.170	2.110	2.140	2.80	80.60	1.88e-01	n/a
S00T000502		D Uranium-235 by ICP/MS Acid Add	ug/mL	98.59	<1.20e-5	<4.85e-01	<4.85e-01	n/a	n/a	93.66	4.85e-01	n/a
S00T000502		D Uranium-238 by ICP/MS Acid Add	ug/mL	102.0	<1.20e-5	2.574	2.440	2.507	5.19	87.50	4.85e-01	n/a
S00T000502		D Tc 99 by ICP/MS Acid Addition	ug/mL	104.4	<2.00e-6	10.74	11.20	10.97	4.57	103.2	8.08e-02	n/a
S00T000505		Mercury by CVA4 (PE) with FIAS	ug/mL	107.1	<8.0e-5	<3.2e-3	<3.2e-3	n/a	n/a	104.9	3.20e-03	n/a
S00T000505		TIC by Acid/Coulometry	ug/mL	94.22	4.10E+0	3.45e+03	3.48e+03	3.46e+03	0.87	104.0	5.000	n/a
S00T000505		TOC by Persulfate/Coulometry	ug/mL	96.01	4.50E+0	5.09e+03	5.38e+03	5.24e+03	5.54	97.40	40.00	n/a
S00T000505		Strontium-89/90 High Level	uci/mL	99.36	<1.79E-2	3.110	3.090	3.100	0.65	n/a	3.60e-02	3.69E+00
S00T000505		Pu-239/240 by TRU-SPEC Resin	uci/mL	100.0	<3.23E-4	<3.33e-04	<3.30E-4	n/a	n/a	n/a	3.33e-04	9.73E+00
S00T000505		Pu-238 by TRU-SPEC Resin IonEx	uci/mL	n/a	<3.23E-4	<3.33e-04	<3.30E-4	n/a	n/a	n/a	3.33e-04	1.00E+02
S00T000505		D Aluminum-ICP-Acid Dil.	ug/mL	100.8	<5.00e-2	2.37e+04	2.38e+04	2.38e+04	0.42	99.70	201.0	n/a
S00T000505		D Chromium-ICP-Acid Dil.	ug/mL	100.6	<1.00e-2	3.49e+02	362.0	355.5	3.66	102.0	4.010	n/a
S00T000505		D Iron-ICP-Acid Dil.	ug/mL	102.0	<5.00e-2	< 20.10	<2.01e1	n/a	n/a	101.0	20.10	n/a
S00T000505		D Manganese-ICP-Acid Dil.	ug/mL	95.60	<1.00e-2	< 4.010	<4.01e0	n/a	n/a	91.20	4.010	n/a
S00T000505		D Nickel-ICP-Acid Dil.	ug/mL	99.20	<2.00e-2	56.60	57.00	56.80	0.70	99.20	8.020	n/a
S00T000505		Fluoride-IC-Dionex 4000/4500	ug/mL	106.9	<1.20e-2	3.34e+02	337.0	335.5	0.89	98.81	49.69	n/a
S00T000505		Chloride-IC-Dionex 4000/4500	ug/mL	103.6	<1.70e-2	6.00e+03	6.05e+03	6.02e+03	0.83	119.6	70.40	n/a
S00T000505		Nitrite-IC - Dionex 4000/4500	ug/mL	95.58	<1.08e-1	7.40e+04	7.41e+04	7.40e+04	0.14	121.5	447.2	n/a
S00T000505		Nitrate by IC-Dionex 4000/4500	ug/mL	99.58	<1.39e-1	1.19e+05	1.18e+05	1.19e+05	0.84	108.7	575.6	n/a
S00T000505		Phosphate-IC-Dionex 4000/4500	ug/mL	110.8	<1.20e-1	4.26e+03	3.90e+03	4.08e+03	8.82	114.5	496.9	n/a
S00T000505		Sulfate by IC-Dionex 4000/4500	ug/mL	106.0	<1.38e-1	2.72e+03	2.82e+03	2.77e+03	3.61	104.0	571.5	n/a
S00T000505		Oxalate-IC-Dionex 4000/4500	ug/mL	100.0	<1.05e-1	<4.35e+02	826.0	n/a	n/a	100.8	434.8	n/a
S00T000505		Cobalt-60 by GEA	uci/mL	102.8	<1.90e-3	1.09e-02	1.30e-02	1.19e-02	17.6	n/a	n/a	23.5
S00T000505		Cesium-137 by GEA	uci/mL	104.1	<4.17e-3	2.66e+02	265.0	265.5	0.38	n/a	n/a	0.0900
S00T000505		Europium-154 by GEA	uci/mL	n/a	<5.28e-3	<9.70e-03	<9.59e-3	n/a	n/a	n/a	9.70e-03	n/a
S00T000505		Europium-155 by GEA	uci/mL	n/a	<4.19e-3	<1.04e-01	<1.04e-1	n/a	n/a	n/a	1.04e-01	n/a
S00T000505		Am-241 by TRU-SPEC Resin IonEx	uci/mL	97.20	<3.50E-4	2.68e-03	2.82e-03	2.75e-03	5.09	n/a	5.04e-04	3.31E+00
S00T000505		Cm-243/244 by TRU SPEC Resin	uci/mL	n/a	<3.50E-4	<5.04e-04	<5.32E-4	n/a	n/a	n/a	5.04e-04	1.46E+01

Tank 241-SY-102 - Data Summary Report for Project
SY-102 GRAB6CORE NUMBER: n/a
SEGMENT #: 2SY-00-3

SEGMENT PORTION: Supernate

Sample#	R A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S00T000499		Appearance of Sample- Hot Cell		n/a	n/a	clear	n/a	n/a	n/a	n/a	n/a	n/a
S00T000499		Volume % Settled Solids	%	n/a	n/a	< 2.000	n/a	n/a	n/a	n/a	1.00e-01	n/a
S00T000499		Color of Sample		n/a	n/a	yellow	n/a	n/a	n/a	n/a	n/a	n/a
S00T000499		Organic Vol Present / hotcell	mL	n/a	n/a	0.00e+00	n/a	n/a	n/a	n/a	n/a	n/a
S00T000504		DSC Exotherm on Perkin Elmer	Joules/g	106.0	n/a	0.00e+00	0.00e+00	0.00e+00	n/a	n/a	n/a	n/a
S00T000504		DSC Exotherm Dry Calculated	Joules/g Dry	n/a	n/a	0.00e+00	0.00e+00	0.00e+00	n/a	n/a	n/a	n/a
S00T000504		Ammonia by ISE-Std Additions	ug/mL	102.7	<2.50E+2	1.06e+03	1.01e+03	1.04e+03	4.83	n/a	250.0	n/a
S00T000504		OH- by Pot. Titration	ug/mL	100.6	<2500	1.87e+04	1.88e+04	1.88e+04	0.53	n/a	2.50e+03	n/a
S00T000504		pH Direct	pH	n/a	n/a	>13.50	>13.50	n/a	n/a	n/a	1.00e-02	n/a
S00T000504		Specific Gravity	Sp.G.	98.53	n/a	1.197	1.194	1.196	0.25	n/a	1.00e-03	n/a
S00T000504		% Water by TGA on Perkin Elmer	%	98.86	n/a	64.63	64.01	64.32	0.96	n/a	n/a	n/a
S00T000504		Uranium by Phosphorescence	ug/mL	99.80	<1.88e-1	2.370	2.350	2.360	0.85	n/a	1.88e-01	n/a
S00T000504	D	Uranium-235 by ICP/MS Acid Add	ug/mL	98.59	<1.20e-5	<4.85e-01	<4.85e-1	n/a	n/a	n/a	4.85e-01	n/a
S00T000504	D	Uranium-238 by ICP/MS Acid Add	ug/mL	102.0	<1.20e-5	2.881	2.920	2.901	1.38	n/a	4.85e-01	n/a
S00T000504	D	Tc 99 by ICP/MS Acid Addition	ug/mL	104.4	<2.00e-6	12.94	12.90	12.92	0.00	n/a	8.08e-02	n/a
S00T000507		Mercury by CVAA (PE) with FIAS	ug/mL	107.1	<8.0e-5	<3.2e-3	<3.2e-3	n/a	n/a	n/a	3.20e-03	n/a
S00T000507		TIC by Acid/Coulometry	ug/mL	100.0	1.10E+0	3.63e+03	3.52e+03	3.58e+03	3.08	n/a	5.000	n/a
S00T000507		TOC by Persulfate/Coulometry	ug/mL	92.36	4.00E-1	5.33e+03	5.20e+03	5.26e+03	2.47	n/a	40.00	n/a
S00T000507		Strontium-89/90 High Level	uCi/mL	99.36	<1.79E-2	2.980	2.980	2.980	0.00	n/a	3.64e-02	3.80E+00
S00T000507		Pu-239/240 by TRU-SPEC Resin	uCi/mL	100.0	<3.23E-4	<3.39e-04	<3.36E-4	n/a	n/a	n/a	3.39e-04	9.73E+00
S00T000507		Pu-238 by TRU-SPEC Resin IonEx	uCi/mL	n/a	<3.23E-4	<3.39e-04	<3.36E-4	n/a	n/a	n/a	3.39e-04	1.00E+02
S00T000507	D	Aluminum-ICP-Acid Dil.	ug/mL	100.4	<5.00e-2	1.08e+04	1.05e+04	1.06e+04	2.82	n/a	10.10	n/a
S00T000507	D	Chromium-ICP-Acid Dil.	ug/mL	98.20	<1.00e-2	3.77e+02	369.0	373.0	2.14	n/a	2.010	n/a
S00T000507	D	Iron-ICP-Acid Dil.	ug/mL	101.0	<5.00e-2	< 10.10	<1.01e1	n/a	n/a	n/a	10.10	n/a
S00T000507	D	Manganese-ICP-Acid Dil.	ug/mL	97.80	<1.00e-2	< 2.010	<2.01e0	n/a	n/a	n/a	2.010	n/a
S00T000507	D	Nickel-ICP-Acid Dil.	ug/mL	99.60	<2.00e-2	54.80	54.00	54.40	1.47	n/a	4.020	n/a
S00T000507		Fluoride-IC-Dionex 4000/4500	ug/mL	106.9	<1.20e-2	3.66e+02	<4.97e1	n/a	n/a	n/a	49.69	n/a
S00T000507		Chloride-IC-Dionex 4000/4500	ug/mL	103.6	<1.70e-2	6.41e+03	6.38e+03	6.39e+03	0.47	n/a	70.40	n/a
S00T000507		Nitrite-IC - Dionex 4000/4500	ug/mL	95.58	<1.08e-1	7.92e+04	7.93e+04	7.92e+04	0.13	n/a	447.2	n/a
S00T000507		Nitrate by IC-Dionex 4000/4500	ug/mL	99.58	<1.39e-1	1.19e+05	1.20e+05	1.20e+05	0.84	n/a	575.6	n/a
S00T000507		Phosphate-IC-Dionex 4000/4500	ug/mL	110.8	<1.38e-1	3.69e+03	4.00e+03	3.85e+03	8.06	n/a	496.9	n/a
S00T000507		Sulfate by IC-Dionex 4000/4500	ug/mL	106.0	<1.38e-1	2.73e+03	2.67e+03	2.70e+03	2.22	n/a	571.5	n/a
S00T000507		Oxalate-IC-Dionex 4000/4500	ug/mL	100.0	<1.05e-1	<4.35e+02	526.0	n/a	n/a	n/a	434.8	n/a
S00T000507		Cobalt-60 by GEA	uCi/mL	102.8	<1.90e-3	1.16e-02	1.18e-02	1.17e-02	1.71	n/a	n/a	17.7
S00T000507		Cesium-137 by GEA	uCi/mL	104.1	<4.17e-3	2.52e+02	250.0	251.0	0.80	n/a	n/a	0.0900
S00T000507		Europium-154 by GEA	uCi/mL	n/a	<5.28e-3	<9.29e-03	<9.48e-3	n/a	n/a	n/a	9.29e-03	n/a
S00T000507		Europium-155 by GEA	uCi/mL	n/a	<4.19e-3	<1.01e-01	<1.01e-1	n/a	n/a	n/a	1.01e-01	n/a
S00T000507		Am-241 by TRU-SPEC Resin IonEx	uCi/mL	97.20	<3.50E-4	2.64e-03	2.88e-03	2.76e-03	8.70	n/a	4.85e-04	3.25E+00
S00T000507		Cm-243/244 by TRU SPEC Resin	uCi/mL	n/a	<3.50E-4	<4.85e-04	<5.31E-4	n/a	n/a	n/a	4.85e-04	1.41E+01

Tank 241-SY-102 - Data Summary Report for Project
SY-102 GRAB6

CORE NUMBER: n/a
SEGMENT #: 2SY-00-4

SEGMENT PORTION: Centrifuged Solids (Grab Sample)

Sample#	R A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S00T000614		DSC Exotherm on Perkin Elmer	Joules/g	95.68	n/a	45.85	47.42	46.64	3.37	n/a	n/a	n/a
S00T000614		DSC Exotherm Dry Calculated	Joules/g Dry	n/a	n/a	1.12e+02	115.7	113.8	3.37	n/a	n/a	n/a
S00T000614		Mercury by CVAA (PE) with FIAS	ug/g	99.60	<6.0e-5	7.49e-01	6.66e-01	7.08e-01	11.7	95.10	2.97e-02	n/a
S00T000614		pH on Solid Samples	pH	n/a	n/a	12.42	12.45	12.43	0.24	n/a	1.00e-02	n/a
S00T000614		% Water by IGA on Perkin Elmer	%	103.7	n/a	59.14	58.91	59.02	0.39	n/a	n/a	n/a
S00T000614		TIC by Acid/Coulometry	ug/g	100.3	1.90E+0	3.27e+03	3.08e+03	3.18e+03	5.98	103.0	5.000	n/a
S00T000614		TOC by Persulfate/Coulometry	ug/g	91.03	4.00E-1	2.64e+04	3.01e+04	2.82e+04	13.1	111.0	40.00	n/a
S00T000614		F Uranium by Phosphorescence	ug/g	101.4	<1.02e3	<1.02e3	<1.02e3	n/a	n/a	96.40	1.02e+03	n/a
S00T000619		F Strontium-89/90 High Level	uci/g	93.23	2.60E-2	78.40	84.00	81.20	6.90	n/a	3.56e-02	1.07E+00
S00T000619		F Pu-239/240 by TRU-SPEC Resin	uci/g	100.0	<1.62E-2	1.35e-01	1.39e-01	1.37e-01	2.92	n/a	2.09e-02	2.74E+00
S00T000619		F Pu-238 by TRU-SPEC Resin IonEx	uci/g	n/a	<1.62E-2	2.66e-02	2.76e-02	2.71e-02	3.69	n/a	2.09e-02	5.62E+00
S00T000619		F Cobalt-60 by GEA	uci/g	97.12	<5.41e-2	<5.66e-02	<5.88e-2	n/a	n/a	n/a	5.66e-02	n/a
S00T000619		F Cesium-137 by GEA	uci/g	96.97	<6.03e-2	1.35e+02	131.0	132.9	3.01	n/a	n/a	0.500
S00T000619		F Europium-154 by GEA	uci/g	n/a	<1.71e-1	7.01e-01	6.53e-01	6.77e-01	7.09	n/a	n/a	14.9
S00T000619		F Europium-155 by GEA	uci/g	n/a	<8.47e-2	3.09e-01	<1.83e-1	n/a	n/a	n/a	n/a	38.9
S00T000619		F Am-241 by TRU-SPEC Resin IonEx	uci/g	100.0	<1.33E-3	1.32e-01	1.19e-01	1.26e-01	10.4	n/a	8.43e-03	2.02E+00
S00T000619		F Cm-243/244 by TRU-SPEC Resin	uci/g	n/a	<1.33E-3	<8.43e-03	<7.62E-3	n/a	n/a	n/a	8.43e-03	4.68E+00
S00T000620		A Ammonia-by ISE-Std Additions	ug/g	89.73	<4.74E+3	3.90e+02	343.0	366.5	12.8	80.08	132.0	n/a
S00T000620		A Uranium-235 by ICP/MS Acid159	ug/g	102.8	<4.81e-3	3.034	2.900	2.967	4.38	94.28	9.12e-01	n/a
S00T000620		A Uranium-238 by ICP/MS Acid159	ug/g	101.0	<4.81e-3	4.72e+02	427.0	449.6	10.0	98.78	9.12e-01	n/a
S00T000620		A Tc99 by ICP/MS Acid159	ug/g	102.0	1.12e-03	13.51	13.60	13.55	0.74	116.5	1.52e-01	n/a
S00T000620		A Aluminum -ICP-Acid Digest	ug/g	90.40	6.55e-02	3.10e+04	3.23e+04	3.16e+04	4.11	-1.25e+02	379.0	n/a
S00T000620		A Chromium -ICP-Acid Digest	ug/g	88.60	<1.00e-2	2.46e+04	2.54e+04	2.50e+04	3.20	-1.85e+02	75.80	n/a
S00T000620		A Iron -ICP-Acid Digest	ug/g	88.80	<5.00e-2	1.53e+03	1.47e+03	1.50e+03	4.00	84.96	37.90	n/a
S00T000620		A Manganese -ICP-Acid Digest	ug/g	85.20	<1.00e-2	4.02e+02	386.0	394.0	4.06	89.07	7.580	n/a
S00T000620		A Nickel -ICP-Acid Digest	ug/g	85.40	<2.00e-2	3.10e+02	305.0	307.5	1.63	93.60	15.20	n/a
S00T000624		W OH- by Pot. Titration	ug/g	85.13	<9.68E+2	2.21e+03	2.06e+03	2.14e+03	7.03	89.84	968.0	n/a
S00T000624		W Ammonia-by ISE-Std Additions	ug/g	99.32	<8067	2.13e+04	2.54e+04	2.34e+04	17.6	n/a	8.07e+03	n/a
S00T000624		W Fluoride-IC-Dionex 4000/4500	ug/g	105.2	<1.20e-2	< 48.79	<4.96e1	n/a	n/a	109.2	48.79	n/a
S00T000624		W Chloride-IC-Dionex 4000/4500	ug/g	98.59	<1.70e-2	3.82e+03	3.66e+03	3.74e+03	4.28	93.41	69.12	n/a
S00T000624		W Nitrate-IC - Dionex 4000/4500	ug/g	89.21	3.36e-01	4.44e+04	4.37e+04	4.40e+04	1.59	89.21	439.1	n/a
S00T000624		W Nitrate by IC-Dionex 4000/4500	ug/g	110.4	1.40e-01	7.09e+04	6.99e+04	7.04e+04	1.42	115.0	565.2	n/a
S00T000624		W Phosphate-IC-Dionex 4000/4500	ug/g	103.5	<1.20e-1	2.49e+03	2.56e+03	2.52e+03	2.77	105.6	487.9	n/a
S00T000624		W Sulfate by IC-Dionex 4000/4500	ug/g	101.6	<1.38e-1	1.54e+03	1.50e+03	1.52e+03	2.63	100.9	561.1	n/a
S00T000624		W Oxalate-IC-Dionex 4000/4500	ug/g	104.4	<1.05e-1	8.40e+04	7.59e+04	7.89e+04	12.8	97.71	426.9	n/a

Decanted Supernate (Liquid Grab Sludge): Decanted Supernate (Liquid Grab Sludge)

Sample#	R A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S00T000611		DSC Exotherm Dry Calculated	Joules/g Dry	n/a	n/a	73.50	76.73	75.12	4.30	n/a	n/a	n/a
S00T000611		DSC Exotherm by TA	Joules/g	99.26	n/a	28.59	29.95	29.32	4.30	n/a	n/a	n/a
S00T000611		Ammonia by ISE-Std Additions	ug/mL	91.17	<5.00E+1	3.96e+02	442.0	419.0	11.0	n/a	100.0	n/a
S00T000611		OH- by Pot. Titration	ug/mL	97.47	n/a	2.46e+04	2.66e+04	2.36e+04	8.47	n/a	2.50e+03	n/a
S00T000611		pH Direct	pH	n/a	n/a	13.50	>13.50	n/a	n/a	n/a	1.00e-02	n/a

Sample#	R A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S00T000611		Specific Gravity	Sp.G.	98.60	n/a	1.282	1.292	1.287	0.78	n/a	1.00e-03	n/a
S00T000611		% Water by TA	%	98.50	n/a	61.12	60.81	60.97	0.51	n/a	n/a	n/a
S00T000611		Uranium by Phosphorescence	ug/mL	102.8	<1.88e-3	3.430	3.750	3.590	8.91	n/a	1.88e-03	n/a
S00T000611	D	Uranium-235 by ICP/MS Acid Add	ug/mL	100.7	<1.20e-5	<4.85e-01	<4.85e-1	n/a	n/a	n/a	4.85e-01	n/a
S00T000611	D	Uranium-238 by ICP/MS Acid Add	ug/mL	102.9	<1.20e-5	4.464	4.430	4.447	0.67	n/a	4.85e-01	n/a
S00T000611	D	Tc 99 by ICP/MS Acid Addition	ug/mL	102.0	<2.00e-6	13.72	13.40	13.56	2.21	112.5	8.08e-02	n/a
S00T000612		Mercury by CVAA (PE) with FIAS	ug/mL	98.80	<6.0e-5	<2.4e-3	<2.4e-3	n/a	n/a	n/a	2.40e-03	n/a
S00T000612		TIC by Acid/Coulometry	ug/mL	98.84	5.40E+0	3.62e+03	3.60e+03	3.61e+03	0.55	n/a	5.000	n/a
S00T000612		TOC by Persulfate/Coulometry	ug/mL	91.69	7.40E+03	5.34e+03	5.33e+03	5.34e+03	0.19	n/a	40.00	n/a
S00T000612		Strontium-89/90 High Level	uci/mL	94.03	<9.22E-3	2.570	2.390	2.480	7.26	n/a	1.90e-02	4.01E+00
S00T000612		Pu-239/240 by TRU-SPEC Resin	uci/mL	98.41	<3.39E-5	1.63e-04	1.62e-04	1.62e-04	0.62	n/a	3.73e-05	3.49E+00
S00T000612		Pu-238 by TRU-SPEC Resin IonEx	uci/mL	n/a	<3.39E-5	4.23e-05	3.88e-05	4.05e-05	8.63	n/a	3.73e-05	6.53E+00
S00T000612	D	Aluminum-ICP-Acid Dil.	ug/mL	99.60	<5.00e-2	1.55e+04	1.44e+04	1.50e+04	7.36	n/a	20.10	n/a
S00T000612	D	Chromium-ICP-Acid Dil.	ug/mL	99.00	<5.00e-2	3.94e+02	378.0	386.0	4.15	n/a	4.010	n/a
S00T000612	D	Iron-ICP-Acid Dil.	ug/mL	100.4	<5.00e-2	< 20.10	<2.01e1	n/a	n/a	n/a	20.10	n/a
S00T000612	D	Manganese-ICP-Acid Dil.	ug/mL	95.00	<1.00e-2	< 4.010	<4.01e0	n/a	n/a	n/a	4.010	n/a
S00T000612	D	Nickel-ICP-Acid Dil.	ug/mL	97.60	<2.00e-2	61.30	60.20	60.75	1.81	n/a	8.020	n/a
S00T000612		Fluoride-IC-Dionex 4000/4500	ug/mL	100.6	<1.20e-2	<1.22e2	<1.22e2	n/a	n/a	n/a	122.4	n/a
S00T000612		Chloride-IC-Dionex 4000/4500	ug/mL	104.4	<1.70e-2	6.15e+03	6.35e+03	6.25e+03	3.20	n/a	173.4	n/a
S00T000612		Nitrite-IC - Dionex 4000/4500	ug/mL	97.81	<1.08e-1	7.49e+04	7.53e+04	7.51e+04	0.53	n/a	1.10e+03	n/a
S00T000612		Nitrate by IC-Dionex 4000/4500	ug/mL	108.5	<1.39e-1	1.20e+05	1.19e+05	1.20e+05	0.84	n/a	1.42e+03	n/a
S00T000612		Phosphate by IC-Dionex 4000/4500	ug/mL	104.0	<1.20e-1	4.63e+03	4.09e+03	4.36e+03	12.4	n/a	1.22e+03	n/a
S00T000612		Sulfate by IC-Dionex 4000/4500	ug/mL	102.2	<1.38e-1	2.78e+03	2.94e+03	2.86e+03	5.59	n/a	571.5	n/a
S00T000612		Oxalate-IC-Dionex 4000/4500	ug/mL	102.9	<1.05e-1	<1.07e+03	<1.07e3	n/a	n/a	n/a	1.07e+03	n/a
S00T000612		Cobalt-60 by GEA	uci/mL	103.5	<1.86e-3	1.33e-02	1.03e-02	1.18e-02	25.4	n/a	n/a	17.1
S00T000612		Cesium-137 by GEA	uci/mL	103.9	<3.04e-3	2.45e+02	235.0	240.0	4.17	n/a	n/a	0.0900
S00T000612		Europium-154 by GEA	uci/mL	n/a	<5.73e-3	<9.01e-3	<9.19e-3	n/a	n/a	n/a	9.01e-03	n/a
S00T000612		Europium-155 by GEA	uci/mL	n/a	<3.84e-3	<9.99e-02	<9.76e-2	n/a	n/a	n/a	9.99e-02	n/a
S00T000612		Am-241 by TRU-SPEC Resin IonEx	uci/mL	100.0	<2.55E-5	2.10e-03	2.20e-03	2.15e-03	4.65	n/a	1.37e-04	2.27E+00
S00T000612		Cm-243/244 by TRU SPEC Resin	uci/mL	n/a	<2.55E-5	<1.37e-04	<1.41E-4	n/a	n/a	n/a	1.37e-04	5.51E+00

Interstitial Liquid: Interstitial Liquid

Sample#	R A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S00T000511		DSC Exotherm Dry Calculated	Joules/g Dry	n/a	n/a	56.31	56.58	56.45	0.48	n/a	n/a	n/a
S00T000511		DSC Exotherm by TA	Joules/g	99.26	n/a	20.84	20.74	20.69	0.48	n/a	n/a	n/a
S00T000511		Ammonia by ISE-Std Additions	ug/mL	91.17	<5.00E+1	5.81e+02	623.0	602.0	6.98	111.5	100.0	n/a
S00T000511		OH- by Pot. Titration	ug/mL	97.47	n/a	2.44e+04	2.40e+04	2.42e+04	1.65	n/a	2.50e+03	n/a
S00T000511		pH Direct	pH	n/a	n/a	13.44	13.46	13.45	0.15	n/a	1.00e-02	n/a
S00T000511		Specific Gravity	Sp. G.	98.60	n/a	1.279	1.284	1.281	0.39	n/a	1.00e-03	n/a
S00T000511		% Water by TA	%	98.50	n/a	63.03	63.66	63.34	0.99	n/a	n/a	n/a
S00T000511		Uranium by Phosphorescence	ug/mL	102.8	<1.88e-3	3.620	3.860	3.740	6.42	98.60	1.88e-03	n/a
S00T000511	D	Uranium-235 by ICP/MS Acid Add	ug/mL	100.7	<1.20e-5	<4.85e-01	<4.85e-1	n/a	n/a	94.44	4.85e-01	n/a
S00T000511	D	Uranium-238 by ICP/MS Acid Add	ug/mL	102.9	<1.20e-5	4.226	4.100	4.163	3.12	95.50	4.85e-01	n/a
S00T000511	D	Tc 99 by ICP/MS Acid Addition	ug/mL	102.0	<2.00e-6	11.78	11.40	11.59	3.45	114.0	8.08e-02	n/a
S00T000513		Mercury by CVAA (PE) with FIAS	ug/mL	96.80	<6.0e-5	<2.4e-3	<2.4e-3	n/a	n/a	100.4	2.40e-03	n/a
S00T000513		TIC by Acid/Coulometry	ug/mL	98.84	5.40E+0	3.56e+03	3.61e+03	3.58e+03	1.39	101.0	5.000	n/a
S00T000513		TOC by Persulfate/Coulometry	ug/mL	91.69	7.40E+03	5.06e+03	5.15e+03	5.10e+03	1.76	97.70	40.00	n/a
S00T000513		Strontium-89/90 High Level	uci/mL	94.03	<9.22E-3	2.740	2.740	2.740	0.00	n/a	1.97e-02	3.96E+00
S00T000513		Pu-239/240 by TRU-SPEC Resin	uci/mL	98.41	<3.39E-5	1.34e-04	1.29e-04	1.31e-04	3.80	n/a	3.79e-05	3.14E+00
S00T000513		Pu-238 by TRU-SPEC Resin IonEx	uci/mL	n/a	<3.39E-5	4.04e-05	<3.67E-5	n/a	n/a	n/a	3.79e-05	5.45E+00

Sample#	R A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S00T000513	D	Aluminum-ICP-Acid Dil.	ug/mL	99.60	<5.00e-2	1.40e+04	1.40e+04	1.40e+04	0.00	99.30	201.0	n/a
S00T000513	D	Chromium-ICP-Acid Dil.	ug/mL	99.00	<1.00e-2	3.98e+02	404.0	401.0	1.50	96.80	4.010	n/a
S00T000513	D	Iron-ICP-Acid Dil.	ug/mL	100.4	<5.00e-2	< 20.10	<2.01e1	n/a	n/a	101.0	20.10	n/a
S00T000513	D	Manganese-ICP-Acid Dil.	ug/mL	95.00	<1.00e-2	< 4.010	<4.01e0	n/a	n/a	91.00	4.010	n/a
S00T000513	D	Nickel-ICP-Acid Dil.	ug/mL	97.60	<2.00e-2	59.80	60.40	60.10	1.00	96.00	8.020	n/a
S00T000513		Fluoride-IC-Dionex 4000/4500	ug/mL	104.5	<1.20e-2	<1.22e2	<1.22e2	n/a	n/a	108.6	122.4	n/a
S00T000513		Chloride-IC-Dionex 4000/4500	ug/mL	96.94	<1.70e-2	9.14e+03	8.98e+03	9.06e+03	1.77	120.0	173.4	n/a
S00T000513		Nitrite-IC - Dionex 4000/4500	ug/mL	92.69	<1.08e-1	1.10e+05	1.09e+05	1.10e+05	0.91	144.1	1.10e+03	n/a
S00T000513		Nitrate by IC-Dionex 4000/4500	ug/mL	101.8	<1.39e-1	1.81e+05	1.81e+05	1.81e+05	0.00	175.6	1.42e+03	n/a
S00T000513		Phosphate-IC-Dionex 4000/4500	ug/mL	99.84	<1.20e-1	7.21e+03	6.85e+03	7.03e+03	5.12	113.0	1.22e+03	n/a
S00T000513		Sulfate by IC-Dionex 4000/4500	ug/mL	101.3	<1.38e-1	3.46e+03	4.00e+03	3.73e+03	14.5	105.7	1.41e+03	n/a
S00T000513		Oxalate-IC-Dionex 4000/450	ug/mL	102.3	<1.05e-1	<1.07e+03	<1.07e3	n/a	n/a	103.8	1.07e+03	n/a
S00T000513		Cobalt-60 by GEA	uCi/mL	103.5	<1.86e-3	1.12e-02	1.05e-02	1.09e-02	6.45	n/a	n/a	19.3
S00T000513		Cesium-137 by GEA	uCi/mL	103.9	<3.04e-3	2.46e+02	270.0	258.0	9.30	n/a	n/a	0.0900
S00T000513		Europium-154 by GEA	uCi/mL	n/a	<5.73e-3	<8.04e-03	<8.86e-3	n/a	n/a	n/a	8.04e-03	n/a
S00T000513		Europium-155 by GEA	uCi/mL	n/a	<3.84e-3	<9.98e-02	<1.05e-1	n/a	n/a	n/a	9.98e-02	n/a
S00T000513		Am-241 by TRU-SPEC Resin IonEx	uCi/mL	100.0	<2.55E-5	1.76e-03	1.91e-03	1.84e-03	8.17	n/a	1.22e-04	2.01E+00
S00T000513		Cm-243/244 by TRU SPEC Resin	uCi/mL	n/a	<2.55E-5	<1.22e-04	<1.24E-4	n/a	n/a	n/a	1.22e-04	5.33E+00

Sludge (from Liquid Grab Sample): Sludge (from Liquid Grab Sample)

Sample#	R A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S00T000500		Bulk Density of Sample	g/mL	n/a	n/a	1.510	n/a	n/a	n/a	n/a	5.00e-01	n/a
S00T000500		Volume % Solids	%	n/a	n/a	54.90	n/a	n/a	n/a	n/a	n/a	n/a
S00T000500		Appearance of Sample- Hot Cell		n/a	n/a	Sludge	n/a	n/a	n/a	n/a	n/a	n/a
S00T000500		Volume % Settled Solids	%	n/a	n/a	na	n/a	n/a	n/a	n/a	1.00e-01	n/a
S00T000500		Color of Sample		n/a	n/a	Gray	n/a	n/a	n/a	n/a	n/a	n/a
S00T000500		Organic Vol Present / hotcell	mL	n/a	n/a	0.00e+00	n/a	n/a	n/a	n/a	n/a	n/a

CORE NUMBER: n/a
SEGMENT #: 2SY-00-5

Tank 241-SY-102 - Data Summary Report for Project
SY-102 GRAB6

SEGMENT PORTION: Centrifuged Solids (Grab Sample)

Sample#	R A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S00T000630		DSC Exotherm on Perkin Elmer	Joules/g	95.68	n/a	32.28	39.14	35.71	19.2	n/a	n/a	n/a
S00T000630		DSC Exotherm Dry Calculated	Joules/g Dry	n/a	n/a	77.08	93.46	85.27	19.2	n/a	n/a	n/a
S00T000630		Mercury by CVAA (PE) with FIAS	ug/g	99.60	<6.0e-5	7.35e-01	6.13e-01	6.74e-01	18.1	n/a	2.48e-02	n/a
S00T000630		pH on Solid Samples	pH	n/a	n/a	12.65	12.60	12.62	0.40	n/a	1.00e-02	n/a
S00T000630		% Water by TGA on Perkin Elmer	%	103.7	n/a	57.64	58.60	58.12	1.65	n/a	n/a	n/a
S00T000630		TIC by Acid/Coulometry	ug/g	100.3	1.90E+0	3.82e+03	3.56e+03	3.69e+03	7.05	n/a	5.000	n/a
S00T000630		TOC by Persulfate/Coulometry	ug/g	91.03	4.00E-1	3.85e+04	4.07e+04	3.96e+04	5.56	n/a	40.00	n/a
S00T000630		F Uranium by Phosphorescence	ug/g	101.4	<1.02e3	3.58e+02	373.0	365.5	4.10	n/a	1.88e-01	n/a
S00T000632		F Strontium-89/90 High Level	uCi/g	93.23	2.60E-2	89.60	85.40	87.50	4.80	n/a	3.53e-02	1.00E+00
S00T000632		F Pu-239/240 by TRU-SPEC Resin	uCi/g	100.0	<1.62E-2	7.13e-02	7.33e-02	7.23e-02	2.77	n/a	7.74e-03	2.20E+00
S00T000632		F Pu-238 by TRU-SPEC Resin IonEx	uCi/g	n/a	<1.62E-2	1.34e-02	1.43e-02	1.39e-02	6.50	n/a	7.74e-03	4.44E+00
S00T000632		F Cobalt-60 by GEA	uCi/g	97.12	<5.41e-2	<5.55e-02	<6.43e-2	n/a	n/a	n/a	5.55e-02	n/a
S00T000632		F Cesium-137 by GEA	uCi/g	96.97	<6.03e-2	1.35e+02	131.0	132.9	3.01	n/a	n/a	0.500
S00T000632		F Europium-154 by GEA	uCi/g	n/a	<1.71e-1	7.58e-01	7.96e-01	7.77e-01	4.89	n/a	n/a	13.3
S00T000632		F Europium-155 by GEA	uCi/g	n/a	<8.47e-2	4.02e-01	4.17e-01	4.09e-01	3.66	n/a	n/a	31.3
S00T000632		F Am-241 by TRU-SPEC Resin IonEx	uCi/g	100.0	<1.33E-3	1.78e-01	1.75e-01	1.76e-01	1.70	n/a	1.07e-02	1.85E+00
S00T000632		F Cm-243/244 by TRU-SPEC Resin	uCi/g	n/a	<1.33E-3	<1.07e-02	<1.08E-2	n/a	n/a	n/a	1.07e-02	3.92E+00
S00T000633		A Ammonia by ISE-Std Additions	ug/g	94.05	<9.47E+3	1.09e+04	1.42e+04	1.26e+04	26.3	78.11	9.47e+03	n/a
S00T000633		A Uranium-235 by ICP/MS Acid159	ug/g	102.8	<4.81e-3	2.993	3.190	3.091	6.47	n/a	9.12e-01	n/a
S00T000633		A Uranium-238 by ICP/MS Acid159	ug/g	101.0	<4.81e-3	4.63e+02	488.0	475.4	5.26	n/a	9.12e-01	n/a
S00T000633		A Tc99 by ICP/MS Acid159	ug/g	102.0	1.12e-03	13.17	13.10	13.13	0.76	n/a	1.52e-01	n/a
S00T000633		A Aluminum -ICP-Acid Digest	ug/g	90.40	6.55e-02	2.62e+04	2.69e+04	2.66e+04	2.64	n/a	37.90	n/a
S00T000633		A Chromium -ICP-Acid Digest	ug/g	88.60	<1.00e-2	2.25e+04	2.33e+04	2.29e+04	3.49	n/a	7.580	n/a
S00T000633		A Iron -ICP-Acid Digest	ug/g	88.80	<5.00e-2	1.45e+03	1.51e+03	1.48e+03	4.05	n/a	37.90	n/a
S00T000633		A Manganese -ICP-Acid Digest	ug/g	85.20	<1.00e-2	3.82e+02	397.0	389.5	3.85	n/a	7.580	n/a
S00T000633		A Nickel -ICP-Acid Digest	ug/g	85.40	<2.00e-2	2.91e+02	306.0	298.5	5.03	n/a	15.20	n/a
S00T000634		W Ammonia by ISE-Std Additions	ug/g	85.13	<9.68E+2	1.81e+03	1.94e+03	1.88e+03	6.93	n/a	994.0	n/a
S00T000634		W OH- by Pot. Titration	ug/g	99.32	<8067	2.08e+04	2.07e+04	2.08e+04	0.48	n/a	8.28e+03	n/a
S00T000634		W Fluoride-IC-Dionex 4000/4500	ug/g	105.2	<1.20e-2	< 50.09	<5.05e1	n/a	n/a	n/a	50.09	n/a
S00T000634		W Chloride-IC-Dionex 4000/4500	ug/g	98.59	<1.70e-2	3.54e+03	3.42e+03	3.48e+03	3.45	n/a	70.96	n/a
S00T000634		W Nitrate-IC - Dionex 4000/4500	ug/g	89.21	3.36e-01	4.10e+04	3.98e+04	4.04e+04	2.97	n/a	450.8	n/a
S00T000634		W Nitrate by IC-Dionex 4000/4500	ug/g	110.4	1.40e-01	6.45e+04	6.34e+04	6.39e+04	1.72	n/a	580.2	n/a
S00T000634		W Phosphate-IC-Dionex 4000/4500	ug/g	103.5	<1.20e-1	2.35e+03	2.08e+03	2.22e+03	12.2	n/a	500.9	n/a
S00T000634		W Sulfate by IC-Dionex 4000/4500	ug/g	101.6	<1.38e-1	1.28e+03	1.25e+03	1.26e+03	2.37	n/a	576.0	n/a
S00T000634		W Oxalate-IC-Dionex 4000/4500	ug/g	104.4	<1.05e-1	5.94e+04	6.72e+04	6.33e+04	12.3	n/a	438.3	n/a

Decanted Supernate (Liquid Grab Sludge): Decanted Supernate (Liquid Grab Sludge)

Sample#	R A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S00T000627		DSC Exotherm Dry Calculated	Joules/g Dry	n/a	n/a	82.10	69.34	75.72	16.9	n/a	n/a	n/a
S00T000627		DSC Exotherm by TA	Joules/g	97.64	n/a	30.35	25.63	27.99	16.9	n/a	n/a	n/a
S00T000627		Ammonia by ISE-Std Additions	ug/mL	91.17	<5.00E+1	7.58e+02	805.0	781.5	6.01	n/a	100.0	n/a
S00T000627		OH- by Pot. Titration	ug/mL	97.47	n/a	2.61e+04	2.54e+04	2.58e+04	2.72	n/a	2.50e+03	n/a
S00T000627		pH Direct	pH	n/a	n/a	> 13.50	>13.50	n/a	n/a	n/a	1.00e-02	n/a

Sample#	R A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD % Spk Rec %	Det Limit	Count Err%
S00T000627		Specific Gravity	Sp.G.	98.60	n/a	1.282	1.302	1.292	1.55	1.00e-03	n/a
S00T000627		% Water by TA	%	100.9	n/a	62.50	63.57	63.03	1.70	n/a	n/a
S00T000627		Uranium by Phosphorescence	ug/mL	102.8	<1.88e-3	4.010	4.110	4.060	2.46	1.88e-03	n/a
S00T000627	D	Uranium-235 by ICP/MS Acid Add	ug/mL	100.7	<1.20e-5	<4.85e-01	<4.85e-01	n/a	n/a	4.85e-01	n/a
S00T000627	D	Uranium-238 by ICP/MS Acid Add	ug/mL	102.9	<1.20e-5	4.965	4.900	4.923	1.02	4.85e-01	n/a
S00T000627	D	Tc 99 by ICP/MS Acid Addition	ug/mL	102.0	<2.00e-6	12.04	12.60	12.32	4.88	8.08e-02	n/a
S00T000628		Mercury by CVAA (PE) with FIAS	ug/mL	96.80	<6.0e-5	<2.4e-3	<2.4e-3	n/a	n/a	2.40e-03	n/a
S00T000628		TIC by Acid/Coulometry	ug/mL	98.84	5.40E+0	3.57e+03	3.73e+03	3.65e+03	4.38	5.000	n/a
S00T000628		TOC by Persulfate/Coulometry	ug/mL	91.69	7.40E+0	4.93e+03	5.02e+03	4.98e+03	1.81	40.00	n/a
S00T000628		Strontium-89/90 High Level	uCi/mL	94.03	<9.22E-3	2.190	2.290	2.240	4.69	1.91e-02	4.36E+00
S00T000628		Pu-239/240 by TRU-SPEC Resin	ug/mL	98.41	<3.39E-5	1.44e-04	1.45e-04	1.44e-04	0.69	3.64e-05	3.57E+00
S00T000628		Pu-238 by TRU-SPEC Resin IonEx	uCi/mL	n/a	<3.39E-5	<3.67E-5	<3.67E-5	n/a	n/a	3.64e-05	7.12E+00
S00T000628	D	Aluminum-ICP-Acid Dil.	ug/mL	99.60	<5.00e-2	1.35e+04	1.35e+04	1.35e+04	0.00	20.10	n/a
S00T000628	D	Chromium-ICP-Acid Dil.	ug/mL	99.00	<1.00e-2	4.48e+02	447.0	447.5	0.22	4.010	n/a
S00T000628	D	Iron-ICP-Acid Dil.	ug/mL	100.4	<5.00e-2	<20.10	<2.01e1	n/a	n/a	20.10	n/a
S00T000628	D	Manganese-ICP-Acid Dil.	ug/mL	95.00	<1.00e-2	<4.010	<4.01e0	n/a	n/a	4.010	n/a
S00T000628	D	Nickel-ICP-Acid Dil.	ug/mL	97.60	<2.00e-2	54.60	55.80	55.20	2.17	8.020	n/a
S00T000628		Fluoride-IC-dionex 4000/4500	ug/mL	100.6	<1.20e-2	<1.22e2	<1.22e2	n/a	n/a	122.4	n/a
S00T000628		Chloride-IC-dionex 4000/4500	ug/mL	104.4	<1.70e-2	6.31e+03	6.32e+03	6.32e+03	0.16	173.4	n/a
S00T000628		Nitrite-IC - Dionex 4000/4500	ug/mL	97.81	<1.08e-1	7.50e+04	7.46e+04	7.48e+04	0.53	1.10e+03	n/a
S00T000628		Nitrate by IC-Dionex 4000/4500	ug/mL	108.5	<1.39e-1	1.22e+05	1.21e+05	1.21e+05	0.82	1.42e+03	n/a
S00T000628		Phosphate-IC-Dionex 4000/4500	ug/mL	104.0	<1.20e-1	4.64e+03	3.99e+03	4.32e+03	15.1	1.22e+03	n/a
S00T000628		Sulfate by IC-Dionex 4000/4500	ug/mL	103.2	<1.38e-1	3.43e+03	2.85e+03	3.14e+03	18.5	1.41e+03	n/a
S00T000628		Oxalate-IC-Dionex 4000/450	ug/mL	102.9	<1.05e-1	<1.07e+03	<1.07e3	n/a	n/a	1.07e+03	n/a
S00T000628		Cobalt-60 by GEA	uCi/mL	103.5	<1.86e-3	<1.15e-02	<1.21e-2	n/a	n/a	1.15e-02	n/a
S00T000628		Cesium-137 by GEA	uCi/mL	103.9	<3.04e-3	2.33e+02	257.0	245.0	9.80	n/a	0.180
S00T000628		Europium-154 by GEA	uCi/mL	n/a	<3.73e-3	<2.41e-2	<2.41e-2	n/a	n/a	2.47e-02	n/a
S00T000628		Europium-155 by GEA	uCi/mL	n/a	<3.84e-3	<2.30e-01	<2.42e-1	n/a	n/a	2.30e-01	n/a
S00T000628		Am-241 by TRU-SPEC Resin IonEx	uCi/mL	100.0	<2.55E-5	1.39e-03	1.59e-03	1.49e-03	13.4	1.02e-04	1.99E+00
S00T000628		Cm-243/244 by TRU SPEC Resin	uCi/mL	n/a	<2.55E-5	<1.02e-04	<1.14E-4	n/a	n/a	1.02e-04	5.64E+00

Interstitial Liquid: Interstitial Liquid

Sample#	R A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD % Spk Rec %	Det Limit	Count Err%
S00T000636		DSC Exotherm Dry Calculated	Joules/g Dry	n/a	n/a	78.28	66.11	72.19	16.9	n/a	n/a
S00T000636		DSC Exotherm by TA	Joules/g	97.64	n/a	30.10	25.42	27.76	16.9	n/a	n/a
S00T000636		Ammonia by ISE-Std Additions	ug/mL	91.17	<5.00E+1	1.00e+03	1.17e+03	1.08e+03	15.7	100.0	n/a
S00T000636		OH- by Pot. Titration	ug/mL	97.47	n/a	2.47e+04	2.42e+04	2.44e+04	2.04	2.50e+03	n/a
S00T000636		pH Direct	pH	n/a	n/a	13.50	>13.50	n/a	n/a	1.00e-02	n/a
S00T000636		Specific Gravity	Sp.G.	98.60	n/a	1.277	1.287	1.282	0.78	1.00e-03	n/a
S00T000636		% Water by TA	%	100.9	n/a	63.63	59.47	61.55	6.76	n/a	n/a
S00T000636		Uranium by Phosphorescence	ug/mL	102.8	<1.88e-3	3.810	3.270	3.540	15.3	1.88e-03	n/a
S00T000636	D	Uranium-235 by ICP/MS Acid Add	ug/mL	100.7	<1.20e-5	<4.85e-01	<4.85e-1	n/a	n/a	4.85e-01	n/a
S00T000636	D	Uranium-238 by ICP/MS Acid Add	ug/mL	102.9	<1.20e-5	4.577	4.570	4.574	0.22	4.85e-01	n/a
S00T000636	D	Tc 99 by ICP/MS Acid Addition	ug/mL	102.0	<2.00e-6	12.57	12.40	12.48	1.60	8.08e-02	n/a
S00T000637		Mercury by CVAA (PE) with FIAS	ug/mL	96.80	<6.0e-5	<2.4e-3	<2.4e-3	n/a	n/a	2.40e-03	n/a
S00T000637		TIC by Acid/Coulometry	ug/mL	98.84	5.40E+0	3.83e+03	3.67e+03	3.75e+03	4.27	5.000	n/a
S00T000637		TOC by Persulfate/Coulometry	ug/mL	91.69	7.40E+0	5.16e+03	4.95e+03	5.06e+03	4.15	40.00	n/a
S00T000637		Strontium-89/90 High Level	uCi/mL	94.03	<9.22E-3	2.210	2.400	2.305	8.24	1.93e-02	4.36E+00
S00T000637		Pu-239/240 by TRU-SPEC Resin	ug/mL	98.41	<3.39E-5	1.20e-04	1.21e-04	1.21e-04	0.83	3.64e-05	3.94E+00
S00T000637		Pu-238 by TRU-SPEC Resin IonEx	uCi/mL	n/a	<3.39E-5	<3.66E-5	<3.66E-5	n/a	n/a	3.64e-05	7.49E+00

Sample#	R A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S00T000637	D	Aluminum-ICP-Acid Dil.	ug/mL	99.60	<5.00e-2	1.24e+04	1.17e+04	1.20e+04	5.81	n/a	20.10	n/a
S00T000637	D	Chromium-ICP-Acid Dil.	ug/mL	99.00	<1.00e-2	4.53e+02	426.0	439.5	6.14	n/a	4.010	n/a
S00T000637	D	Iron-ICP-Acid Dil.	ug/mL	100.4	<5.00e-2	< 20.10	<2.01e1	n/a	n/a	n/a	20.10	n/a
S00T000637	D	Manganese-ICP-Acid Dil.	ug/mL	95.00	<1.00e-2	< 4.010	<4.01e0	n/a	n/a	n/a	4.010	n/a
S00T000637	D	Nickel-ICP-Acid Dil.	ug/mL	97.60	<2.00e-2	56.80	51.90	54.35	9.02	n/a	8.020	n/a
S00T000637		Fluoride-IC-Dionex 4000/4500	ug/mL	104.5	<1.20e-2	< 61.81	<6.18e1	n/a	n/a	n/a	61.81	n/a
S00T000637		Chloride-IC-Dionex 4000/4500	ug/mL	101.3	<1.70e-2	6.10e+03	6.13e+03	6.12e+03	0.49	n/a	70.40	n/a
S00T000637		Nitrite-IC - Dionex 4000/4500	ug/mL	92.69	<1.08e-1	4.92e+04	5.15e+04	5.03e+04	4.57	n/a	1.10e+03	n/a
S00T000637		Nitrate by IC-Dionex 4000/4500	ug/mL	101.8	<1.39e-1	8.00e+04	7.86e+04	7.93e+04	1.77	n/a	1.42e+03	n/a
S00T000637		Phosphate-IC-Dionex 4000/4500	ug/mL	101.1	<1.20e-1	5.27e+03	4.86e+03	5.07e+03	8.09	n/a	496.9	n/a
S00T000637		Sulfate by IC-Dionex 4000/4500	ug/mL	102.2	<1.38e-1	2.36e+03	2.78e+03	2.57e+03	16.3	n/a	571.5	n/a
S00T000637		Oxalate-IC-Dionex 4000/450	ug/mL	103.4	<1.05e-1	<4.35e+02	<4.35e2	n/a	n/a	n/a	434.8	n/a
S00T000637		Cobalt-60 by GEA	uCi/mL	103.5	<1.86e-3	1.16e-02	1.14e-02	1.15e-02	1.74	n/a	n/a	17.9
S00T000637		Cesium-137 by GEA	uCi/mL	103.9	<3.04e-3	2.41e+02	234.0	237.5	2.95	n/a	n/a	0.0900
S00T000637		Europium-154 by GEA	uCi/mL	n/a	<5.73e-3	<8.45e-03	<8.43e-3	n/a	n/a	n/a	8.45e-03	n/a
S00T000637		Europium-155 by GEA	uCi/mL	n/a	<3.84e-3	<9.87e-02	<9.73e-2	n/a	n/a	n/a	9.87e-02	n/a
S00T000637		Am-241 by TRU-SPEC Resin IonEx	uCi/mL	100.0	<2.55E-5	1.39e-03	1.52e-03	1.46e-03	8.93	n/a	9.90e-05	2.01E+00
S00T000637		Am-243/244 by TRU SPEC Resin	uCi/mL	n/a	<2.55E-5	<9.90e-05	<1.05E-4	n/a	n/a	n/a	9.90e-05	5.82E+00

Sludge (from Liquid Grab Sample): Sludge (from Liquid Grab Sample)

Sample#	R A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S00T000625		Bulk Density of Sample	g/mL	n/a	n/a	1.480	n/a	n/a	n/a	n/a	5.00e-01	n/a
S00T000625		Volume % Solids	%	n/a	n/a	61.00	n/a	n/a	n/a	n/a	n/a	n/a
S00T000625		Appearance of Sample- Hot Cell		n/a	n/a	Sludge	n/a	n/a	n/a	n/a	n/a	n/a
S00T000625		Volume % Settled Solids	%	n/a	n/a	na	n/a	n/a	n/a	n/a	1.00e-01	n/a
S00T000625		Color of Sample		n/a	n/a	Gray	n/a	n/a	n/a	n/a	n/a	n/a
S00T000625		Organic Vol Present / hotcell	mL	n/a	n/a	0.00e+00	n/a	n/a	n/a	n/a	n/a	n/a

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SAMPLE HANDLING

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LABCORE Data Entry Template for Worklist# 32721

Analyst: SC Instrument: NONE Book # N/A

Method: AdminDataEntry Rev/Mod _____

Worklist Comment: SY-102 FOR @HCBKRDN RTS

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND RWS 6/19/00	DL	UNIT
20000085	SY-102 GRAB6	1 SAMPLE	S00T000497	0	@HCBKRDN DOSE-01	LIQUID	N/A	1300 2000		mrad/hour
20000085	SY-102 GRAB6	1 SAMPLE	S00T000497	0	@HCBKRDN SEALNUM	LIQUID	N/A	12647 12648		
20000085	SY-102 GRAB6	1 SAMPLE	S00T000497	0	@HCBKRDN ETCHNUM	LIQUID	N/A	25Y-00-1 25Y-00-2		
20000085	SY-102 GRAB6	1 SAMPLE	S00T000497	0	@HCBKRDN APPEAR01	LIQUID	N/A	clear		
20000085	SY-102 GRAB6	1 SAMPLE	S00T000497	0	@HCBKRDN SAMPAMT1	LIQUID	N/A	125		g
20000085	SY-102 GRAB6	1 SAMPLE	S00T000497	0	@HCBKRDN STLSD01	LIQUID	N/A	10 10		%
20000085	SY-102 GRAB6	1 SAMPLE	S00T000497	0	@HCBKRDN COLOR-01	LIQUID	N/A	yellow		
20000085	SY-102 GRAB6	1 SAMPLE	S00T000497	0	@HCBKRDN ORGVOL01	LIQUID	N/A	0		mL
20000085	SY-102 GRAB6	1 SAMPLE	S00T000497	0	@HCBKRDN PHOTO-01	LIQUID	N/A	complete		
20000085	SY-102 GRAB6	2 SAMPLE	S00T000498	0	@HCBKRDN DOSE-01	LIQUID	N/A	2000 1300		mrad/hour
20000085	SY-102 GRAB6	2 SAMPLE	S00T000498	0	@HCBKRDN SEALNUM	LIQUID	N/A	12648 12647		
20000085	SY-102 GRAB6	2 SAMPLE	S00T000498	0	@HCBKRDN ETCHNUM	LIQUID	N/A	25Y-00-2 25Y-00-1		
20000085	SY-102 GRAB6	2 SAMPLE	S00T000498	0	@HCBKRDN APPEAR01	LIQUID	N/A	clear		
20000085	SY-102 GRAB6	2 SAMPLE	S00T000498	0	@HCBKRDN SAMPAMT1	LIQUID	N/A	125		g
20000085	SY-102 GRAB6	2 SAMPLE	S00T000498	0	@HCBKRDN STLSD01	LIQUID	N/A	10 <2		%
20000085	SY-102 GRAB6	2 SAMPLE	S00T000498	0	@HCBKRDN COLOR-01	LIQUID	N/A	yellow		
20000085	SY-102 GRAB6	2 SAMPLE	S00T000498	0	@HCBKRDN ORGVOL01	LIQUID	N/A	0		mL
20000085	SY-102 GRAB6	2 SAMPLE	S00T000498	0	@HCBKRDN PHOTO-01	LIQUID	N/A	complete		

Data Entry Comments:

FAX 3-1-00 113

Units 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# 32721

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
20000085	SY-102 GRAB6	3	SAMPLE	S00T000499	0		@HCBKDN DOSE-01	LIQUID	N/A	1900		mrad/hour
20000085	SY-102 GRAB6	3	SAMPLE	S00T000499	0		@HCBKDN SEALNUM	LIQUID	N/A	12649		
20000085	SY-102 GRAB6	3	SAMPLE	S00T000499	0		@HCBKDN ETCHNUM	LIQUID	N/A	2540-3		
20000085	SY-102 GRAB6	3	SAMPLE	S00T000499	0		@HCBKDN APPEAR01	LIQUID	N/A	clear		
20000085	SY-102 GRAB6	3	SAMPLE	S00T000499	0		@HCBKDN SAMPMT1	LIQUID	N/A	125		g
20000085	SY-102 GRAB6	3	SAMPLE	S00T000499	0		@HCBKDN STLSD01	LIQUID	N/A	<2		%
20000085	SY-102 GRAB6	3	SAMPLE	S00T000499	0		@HCBKDN COLOR-01	LIQUID	N/A	yellow		
20000085	SY-102 GRAB6	3	SAMPLE	S00T000499	0		@HCBKDN ORGVOLD1	LIQUID	N/A	0		ml
20000085	SY-102 GRAB6	3	SAMPLE	S00T000499	0		@HCBKDN PHOTO-01	LIQUID	N/A	complete		

Final page for worklist # 32721

3/1/00
 Analyst Signature Date

3/1/00
 Analyst Signature Date
 validated 3-1-00 DK Jackson

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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LABCORE Data Entry Template for Worklist# 33132

Analyst: dcj Instrument: BA000 Book # N/A

Method: AdminDataEntry Rev/Mod _____

Worklist Comment: SY-102 Grab @HCBRKDOWN

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
20000085	SY-102 GRAB6	1 SAMPLE	S00T000500	0	@HCBRKDN DOSE-01	LIQUID	N/A	na		mrads/hour
20000085	SY-102 GRAB6	1 SAMPLE	S00T000500	0	@HCBRKDN SEALNUM	LIQUID	N/A	12650		
20000085	SY-102 GRAB6	1 SAMPLE	S00T000500	0	@HCBRKDN ETCHNUM	LIQUID	N/A	25Y-00-9		
20000085	SY-102 GRAB6	1 SAMPLE	S00T000500	0	@HCBRKDN APPEAR01	LIQUID	N/A	Sludge		
20000085	SY-102 GRAB6	1 SAMPLE	S00T000500	0	@HCBRKDN SAMPAMT1	LIQUID	N/A	125		g
20000085	SY-102 GRAB6	1 SAMPLE	S00T000500	0	@HCBRKDN STLSD01	LIQUID	N/A	na		%
20000085	SY-102 GRAB6	1 SAMPLE	S00T000500	0	@HCBRKDN COLOR-01	LIQUID	N/A	Gray		
20000085	SY-102 GRAB6	1 SAMPLE	S00T000500	0	@HCBRKDN ORGVOL01	LIQUID	N/A	Ø		ml
20000085	SY-102 GRAB6	1 SAMPLE	S00T000500	0	@HCBRKDN PHOTO-01	LIQUID	N/A	complete		
20000085	SY-102 GRAB6	2 SAMPLE	S00T000625	0	@HCBRKDN DOSE-01	LIQUID	N/A	na		mrads/hour
20000085	SY-102 GRAB6	2 SAMPLE	S00T000625	0	@HCBRKDN SEALNUM	LIQUID	N/A	12651		
20000085	SY-102 GRAB6	2 SAMPLE	S00T000625	0	@HCBRKDN ETCHNUM	LIQUID	N/A	25Y-00-5		
20000085	SY-102 GRAB6	2 SAMPLE	S00T000625	0	@HCBRKDN APPEAR01	LIQUID	N/A	Sludge		
20000085	SY-102 GRAB6	2 SAMPLE	S00T000625	0	@HCBRKDN SAMPAMT1	LIQUID	N/A	125		g
20000085	SY-102 GRAB6	2 SAMPLE	S00T000625	0	@HCBRKDN STLSD01	LIQUID	N/A	na		%
20000085	SY-102 GRAB6	2 SAMPLE	S00T000625	0	@HCBRKDN COLOR-01	LIQUID	N/A	Gray		
20000085	SY-102 GRAB6	2 SAMPLE	S00T000625	0	@HCBRKDN ORGVOL01	LIQUID	N/A	Ø		ml
20000085	SY-102 GRAB6	2 SAMPLE	S00T000625	0	@HCBRKDN PHOTO-01	LIQUID	N/A	complete		

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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LABCORE Data Entry Template for Worklist# 33132

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
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Final page for worklist # 33132

4-5-00
Analyst Signature Date

4-5-00
Analyst Signature Date

Complete RW Scholten
4/6/00

Data Entry Comments:

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

BULK DENSITY WORKSHEET

Procedure number: LA-519-132 (E-2)

Date: _____
P.C.: _____
Phone: _____
Group#: _____

LabCore# _____
Jar #: _____

Tank: 58-102
Core: _____
Seg.: _____
Auger: _____
Sample ID: _____

57.1

(Per Step 7.2)

$$\text{Volume \% solids} = \frac{\text{Total Solids Volume} \times 100}{\text{Total Sample Volume}}$$

Core 1 Total Sample Volume = 49 mL
Total Solids (Sieved) = 29.5 mL
Core 1 % Solids = 59.18%

Core 2 Total Sample Volume = 47 mL
Total Solids (Sieved) = 29.5 mL
Core 2 % Solids = 62.8%

Average 61% for labcore entry

Analyst: Cah / gay
Core# 1 / 2
Final Vol.: 29.5 mL
Final Wt.: 56.87 g
Initial Wt.: 13.66 g
Net Wt.: 43.21 g

Bulk Density 1.49 / 1.47 g/mL

Avg. 1.48 g/mL for labcore entry

Appearance/Narrative:

BULK DENSITY WORKSHEET

Procedure number: LA-519-132 (E-2)

Date:

P.C.:

Phone:

Group#:

LabCore#

Jar #:

Tank:

Core:

Seg.:

Auger:

Sample ID:

57.2

(Per Step 7.2)

Volume % Solids =

$$\frac{\text{Total Solids Volume} \times 100}{\text{Total Sample Volume}}$$

$$\left(\frac{\text{Total Sample Volume} = 41 \text{ ml}}{\text{Total Solids (Settled)} = 18.5 \text{ ml}} \right) \text{ Core 1} = 45\%$$

$$\left(\frac{\text{Total Sample Volume} = 40 \text{ ml}}{\text{Total Solids (Settled)} = 26 \text{ ml}} \right) \text{ Core 2} = 65\%$$

Average for V% SLD -01 is 54.94%

Analyst: Cwh / gay
Cone# 1 / 2
Final Vol.: 18.5 / 26.0 mL
Final Wt.: 42.13 / 52.21 g
Initial Wt.: 13.63 / 13.62 g
Net Wt.: 28.5 / 38.59 g

Bulk Density 1.54 / 1.48 g/mL
Cone 1 → Cone 2

Final Aug. 1.51 g/mL

LABCORE
Entry

Appearance/Narrative:

HNF-1699 REV. 0

WMH 222S/11A/200W

012

HNF-1699 REV. 0

SAMPLE PREPARATION

HNF-1699 REV. 0

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HNF-1699 REV. 0

worklistrpt Version 2.1 05/15/95
03/30/00 15:56

Page: 1

LABCORE Data Entry Template for Worklist# 33101

Analyst: GLL Instrument: FUS01 Book # NAMethod: LA-549-141 Rev/Mod G-2

Worklist Comment: SY-102 GRAB 6 FOR FUSION01 RTS

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>
20000085	SY-102 GRAB6	2 SAMPLE	S00T000619	0 F	FUSION01	SOLID	<u>N/A</u>	<u>2.0248</u>		<u>g/L</u>
			<u>0.5862</u>	<u>→</u>	<u>.250</u>					
20000085	SY-102 GRAB6	3 SAMPLE	S00T000619	0 F	DOSE-02	SOLID	<u>N/A</u>	<u>25.2</u>		<u>mrad/hour</u>
20000085	SY-102 GRAB6	4 DUP	S00T000619	0 F	FUSION01	SOLID	<u>2.0248</u>	<u>2.0372</u>	<u>N/A</u>	<u>g/L</u>
			<u>0.5093</u>	<u>→</u>	<u>.250</u>					
20000085	SY-102 GRAB6	5 DUP	S00T000619	0 F	DOSE-02	SOLID	<u>25.2</u>	<u>18.9</u>	<u>N/A</u>	<u>mrad/hour</u>
20000085	SY-102 GRAB6	6 SAMPLE	S00T000632	0 F	FUSION01	SOLID	<u>N/A</u>	<u>2.0312</u>		<u>g/L</u>
			<u>0.5078</u>	<u>→</u>	<u>.250</u>					
20000085	SY-102 GRAB6	7 SAMPLE	S00T000632	0 F	DOSE-02	SOLID	<u>N/A</u>	<u>34.5</u>		<u>mrad/hour</u>
20000085	SY-102 GRAB6	8 DUP	S00T000632	0 F	FUSION01	SOLID	<u>2.0312</u>	<u>2.0224</u>	<u>N/A</u>	<u>g/L</u>
			<u>0.5056</u>	<u>→</u>	<u>.250</u>					
20000085	SY-102 GRAB6	9 DUP	S00T000632	0 F	DOSE-02	SOLID	<u>34.5</u>	<u>28.5</u>	<u>N/A</u>	<u>mrad/hour</u>

Final page for worklist # 33101

Analyst Signature Ang L Platt Date 3-4-00Analyst Signature Ang L Platt Date 4-3-00Verified by RE WrightS00T000618 → 619
631 → 632

Data Entry Comments:

HPT: Tom Kinzel
added 20 subs of Active

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

worklistpr Version 2.1 05/15/95
03/30/00 15:55

HNF-1699 REV. 0

Page: 1

LABCORE Data Entry Template for Worklist# 33100

Analyst: Payz Instrument: H2001 Book # N/AMethod: LA-504-101 Rev/Mod G-3

Worklist Comment: SY-102 GRAB 6 FOR H2ODIG01 RTS

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			H2ODIG01	SOLID	<u>1</u>	<u>.100</u>	<u>N/A</u>	<u>g/L</u>
20000085	SY-102 GRAB6	2 SAMPLE	SD0T000624	0 W	H2ODIG01	SOLID	<u>N/A</u>	<u>5.165</u>		<u>g/L</u>
		<u>.5165 g</u>	<u>→</u>	<u>.100g</u>						
20000085	SY-102 GRAB6	3 SAMPLE	SD0T000624	0	DOSE-02	SOLID	<u>N/A</u>	<u>7</u>		<u>mrad/hour</u>
20000085	SY-102 GRAB6	4 DUP	SD0T000624	0 W	H2ODIG01	SOLID	<u>5.165</u>	<u>5.084</u>	<u>N/A</u>	<u>g/L</u>
		<u>.5084g</u>	<u>→</u>	<u>.100g</u>						
20000085	SY-102 GRAB6	5 DUP	SD0T000624	0	DOSE-02	SOLID	<u>7</u>	<u>7</u>	<u>N/A</u>	<u>mrad/hour</u>
20000085	SY-102 GRAB6	6 SAMPLE	SD0T000634	0 W	H2ODIG01	SOLID	<u>N/A</u>	<u>5.031</u>		<u>g/L</u>
		<u>.5031g</u>	<u>→</u>	<u>.100g</u>						
20000085	SY-102 GRAB6	7 SAMPLE	SD0T000634	0	DOSE-02	SOLID	<u>N/A</u>	<u>6</u>		<u>mrad/hour</u>
20000085	SY-102 GRAB6	8 DUP	SD0T000634	0 W	H2ODIG01	SOLID	<u>5.031</u>	<u>4.995</u>	<u>N/A</u>	<u>g/L</u>
		<u>.4995g</u>	<u>→</u>	<u>.100g</u>						
20000085	SY-102 GRAB6	9 DUP	SD0T000634	0	DOSE-02	SOLID	<u>6</u>	<u>6</u>	<u>N/A</u>	<u>mrad/hour</u>

Final page for worklist # 33100

Analyst Signature Payz Date 4/3/00

Analyst Signature _____ Date _____

SD0T000618 → 624
SD0T000631 634

Data Entry Comments:

DATA ENTRY 4-3-00

Validated by:

Paul M. Long04/03/2000

Units 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# 33099

Analyst: LY2 Instrument: ACD01

Book # ONE-10 2.5mls each into
WNC-2 50mls final vol.
DL = 20x

Method: LA-505-163 Rev/Mod B-3

Worklist Comment: SY-102 GRAB 6 FOR ACIDIG01 RTS

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
20000085	SY-102 GRAB6	3 SAMPLE	S00T000620	0 A	ACIDIG01	SOLID	N/A	<u>5.274</u>		g/L
		<u>.26377</u> → <u>.050</u>								
20000085	SY-102 GRAB6	4 SAMPLE	S00T000620	0	DOSE-02	SOLID	N/A	<u>10</u>		mrad/hour
20000085	SY-102 GRAB6	5 DUP	S00T000620	0 A	ACIDIG01	SOLID	<u>5.274</u>	<u>5.124</u>	N/A	g/L
		<u>.25627</u> → <u>.050</u>								
20000085	SY-102 GRAB6	6 DUP	S00T000620	0	DOSE-02	SOLID	<u>10</u>	<u>10</u>	N/A	mrad/hour
20000085	SY-102 GRAB6	7 SPK	S00T000620	0 A	ACIDIG01	SOLID	<u>1</u>	<u>5.378</u>	N/A	g/L
		<u>.26997</u> → <u>.050</u>								
20000085	SY-102 GRAB6	8 SPK	S00T000620	0	DOSE-02	SOLID	<u>10</u>	<u>10</u>	N/A	mrad/hour
20000085	SY-102 GRAB6	9 SAMPLE	S00T000633	0 A	ACIDIG01	SOLID	N/A	<u>5.278</u>		g/L
		<u>.24397</u> → <u>.050</u>								
20000085	SY-102 GRAB6	10 SAMPLE	S00T000633	0	DOSE-02	SOLID	N/A	<u>10</u>		mrad/hour
20000085	SY-102 GRAB6	11 DUP	S00T000633	0 A	ACIDIG01	SOLID	<u>5.278</u>	<u>4.87</u>	N/A	g/L
		<u>.24357</u> → <u>.050</u>								
20000085	SY-102 GRAB6	12 DUP	S00T000633	0	DOSE-02	SOLID	<u>10</u>	<u>10</u>	N/A	mrad/hour

Final page for worklist # 33099

[Signature] 4/12/00
Analyst Signature Date

Analyst Signature Date

S00T000618 → 620
631 → 633

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-1699 REV. 0

INORGANIC ANALYSIS

HNF-1699 REV. 0

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LABCORE Completed Worklist Report for Worklist# 32833

Analyst: krm

Instrument: DSC03

Book#: 12N14B

Method: LA-514-114 Rev/Mod D-4

Worklist Comment: SY102 FOR DSC-03, RLC

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD		0		DSC-03	LIQUID	28.45	30.16	106.011 % Recovery	
2	SAMPLE	S00T000502	0		DSC-03	LIQUID	N/A	0		Joules/g
3	DUP	S00T000502	0		DSC-03	LIQUID	0	0	0.000 RPD	
4	SAMPLE	S00T000503	0		DSC-03	LIQUID	N/A	0		Joules/g
5	DUP	S00T000503	0		DSC-03	LIQUID	0	0	0.000 RPD	
6	SAMPLE	S00T000504	0		DSC-03	LIQUID	N/A	0		Joules/g
7	DUP	S00T000504	0		DSC-03	LIQUID	0	0	0.000 RPD	

Final page for worklist# 32833

Analyst Signature _____ Date _____

Mary Shantz 3/8/00
Analyst Signature Date

Brian Shantz 03-08-00
Reviewer Signature Date

worklistrpt Version 2.1 05/15/95
03/07/00 15:26

Page: 1

LABCORE Data Entry Template for Worklist# 32833

Analyst: KRM Instrument: DSC01 3 Book # 12014-13Method: LA-514-114 Rev/Mod D-4

3/8/00

Worklist Comment: SY102 FOR DSC-03, RLC

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-03	LIQUID	28.45	30.16	N/A	Joules/g
20000085	SY-102 GRAB6	2 SAMPLE	S00T000502	0	DSC-03	LIQUID	N/A	0		Joules/g
20000085	SY-102 GRAB6	3 DUP	S00T000502	0	DSC-03	LIQUID		0	N/A	Joules/g
20000085	SY-102 GRAB6	4 SAMPLE	S00T000503	0	DSC-03	LIQUID	N/A	0		Joules/g
20000085	SY-102 GRAB6	5 DUP	S00T000503	0	DSC-03	LIQUID		0	N/A	Joules/g
20000085	SY-102 GRAB6	6 SAMPLE	S00T000504	0	DSC-03	LIQUID	N/A	0		Joules/g
20000085	SY-102 GRAB6	7 DUP	S00T000504	0	DSC-03	LIQUID		0	N/A	Joules/g

Final page for worklist # 32833

Analyst Signature

Date

3-7-00

Analyst Signature

Date

3/8/00

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.

Tue Mar 7 21:38:36 2000

Curve 1: DSC
 File info: SAM030705 Tue Mar 7 21:52:54 2000
 Sample height: 15.180 mm
 SCOT3000002
 sample 5007000502 7/5/00

NR MONTHLY
 REPORTING
 Tue Mar 7 21:53:22 2000

NE 100/min
 Temp: 22.5 °C
 Flow: 0.2 mL/min

257 2040

THE
FEDERAL
BUREAU OF INVESTIGATION
UNITED STATES DEPARTMENT OF JUSTICE
WASHINGTON, D.C.

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2000

Sample 5007000502 Dup

06/07/20

212

SECRET

Temperature (°C) 30763060

Tue Mar 7 22:44:22 2000

Curve 1: DSC
File info: SAM030707 Tue Mar 7 23:34:43 2000
Sample Weight: 11.420 mg
S00T000503

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

KR MONTEITH
PERKIN-ELMER
7 Series Thermal Analysis System
Wed Mar 8 00:51:34 2000

Curve 1: DSC
File info: SAM030708 Wed Mar 8 01:40:36 2000
Sample Weight: 11.800 mg
S00T000503 DUP

Curve 1: DSC
 File info: SAM030709 Wed Mar 8 02:31:33 2000
 Sample Weight: 12.780 mg
 S00T000504

KR MONTEITH
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Wed Mar 8 03:12:03 2000

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

Curve 1: DSC
 File info: SAM030710 Wed Mar 8 04:01:09 2000
 Sample Weight: 13.330 mg
 S00T000504 DUP

N2 10C/min
 TEMP1: 35.0 °C
 TEMP2: 500.0 °C
 TIME1: 0.0 min
 RATE1: 10.0 °C/min
 KR MONTEITH
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Wed Mar 8 04:01:52 2000

LABCORE Completed Worklist Report for Worklist# 32988

Analyst: mf Instrument: DSC0 Book#: _____

Method: LA-514-114 Rev/Mod D-4

Worklist Comment: SY-102 FOR DRY DSC-04 LIQUID MF

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	SAMPLE	S00T000502	0		DSC-04	LIQUID	<u>N/A</u>	0		Joules/g Dry
2	DUP	S00T000502	0		DSC-04	LIQUID	0	0	0.000	RPD
3	SAMPLE	S00T000503	0		DSC-04	LIQUID	<u>N/A</u>	0		Joules/g Dry
4	DUP	S00T000503	0		DSC-04	LIQUID	0	0	0.000	RPD
5	SAMPLE	S00T000504	0		DSC-04	LIQUID	<u>N/A</u>	0		Joules/g Dry
6	DUP	S00T000504	0		DSC-04	LIQUID	0	0	0.000	RPD

Final page for worklist# 32988

Analyst Signature _____ Date _____

Mary Frank 3/15/00
Analyst Signature Date

Brian Paul 03-15-00
Reviewer Signature Date

LABCORE Completed Worklist Report for Worklist# 33097

Analyst: slh

Instrument: DSC03

Book#: 12N14B

Method: LA-514-114 Rev/Mod D-4

Worklist Comment: SY-102 GRAB 6 FOR DSC-03 RTS

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD		0		DSC-03	SOLID	28.45	27.22	95.677 %	Recovery
2	SAMPLE	S00T000614	0		DSC-03	SOLID	N/A	45.85		Joules/g
3	DUP	S00T000614	0		DSC-03	SOLID	45.85	47.42	3.367	RPD
4	SAMPLE	S00T000630	0		DSC-03	SOLID	N/A	32.28		Joules/g
5	DUP	S00T000630	0		DSC-03	SOLID	32.28	39.14	19.210	RPD

Final page for worklist# 33097

Analyst Signature

Date

Analyst Signature

Date

Reviewer Signature

Date

worklistrpt Version 2.1 05/15/95
03/30/00 15:54

HNF-1699 REV. 0

Page: 1

LABCORE Data Entry Template for Worklist# 33097

Analyst: SLH Instrument: DSC0 Book # 12N14-BMethod: LA-514-114 Rev/Mod D-4

Worklist Comment: SY-102 GRAB 6 FOR DSC-03 RTS

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				DSC-03	SOLID	<u>28.45</u>	<u>27.22</u>	<u>N/A</u>	Joules/g
20000085	SY-102 GRAB6	2	SAMPLE	S00T000614	0		DSC-03	SOLID	<u>N/A</u>	<u>45.85</u>		Joules/g
20000085	SY-102 GRAB6	3	DUP	S00T000614	0		DSC-03	SOLID		<u>47.42</u>	<u>N/A</u>	Joules/g
20000085	SY-102 GRAB6	4	SAMPLE	S00T000630	0		DSC-03	SOLID	<u>N/A</u>	<u>32.28</u>		Joules/g
20000085	SY-102 GRAB6	5	DUP	S00T000630	0		DSC-03	SOLID		<u>39.14</u>	<u>N/A</u>	Joules/g

Final page for worklist # 33097

Analyst Signature Sandra J. Hood Date Boetright
4-9-2000Analyst Signature Maya J. [unclear] Date 4/10/00

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: IND040902 Sun Apr 9 08:34:05 2000
 Sample Weight: 4.510 mg
 STD 12N14-B

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNICIAN'S CHECK OF INSTRUMENT THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 76 TO 80

N2, EXOTHERM DOWN
 TEMPS: 140.0 °C TIMES: 0.0 min RATE: 10.0 °C/min
 SL HOOD BOATRIGT
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Apr 9 08:41:42 2000

Handwritten signature: J. Hood Boatright

Curve 1: DSC
 File Info: SAM040903 Sun Apr 9 14:32:11 2000
 Sample Weight: 21.360 mg
 S00T0000614

N2 10C/min
 TEMPERATURE 38.0 °C
 TIME: 00.00
 RATE: 10.0 C/min
 SL HOOD BOATRRIGHT
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Apr 9 14:43:07 2000

Curve 1: DSC
 File info: SAM040904 Sun Apr 9 15:47:54 2000
 Sample Weight: 17.350 mg
 S007000614 DUP

N2 10C/min
 TEMP: 25.0 °C
 TIME: 00:08

0.0 min RATE: 10.0 C/min

SL HOOD BOATRIGT
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Apr 9 16:33:37 2000

Curve 1: DSC
 File info: SAM040901 Sun Apr 9 10:13:06 2000
 Sample Weight: 16.340 mg
 S00T000530

N2 10C/min
 TEMPERATURE 80.0 °C
 TIME 500.0 s
 SL HOOD BOATRRIGHT
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Apr 9 10:49:02 2000

Curve 1: DSC
 File info: SAM040902 Sun Apr 9 11:45:29 2000
 Sample Weight: 17.190 mg
 S00T000630 DUP

N2 10C/min
 THERM: 20.0 C
 TIME: 0.0 min RATE: 10.0 C/min
 SL H000 BOATRIGT
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Apr 9 13:36:02 2000

LABCORE Completed Worklist Report for Worklist# 33204

Analyst: rdm

Instrument: DSC5

Book#: 12N14B

Method: LA-514-115 Rev/Mod B-D

Worklist Comment: SY-102 GRAB6 FOR DSC-TA MF

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	LCS-INST		0		DSC-TA	LIQUID	28.45	27.78	97.645 % Recovery	
2	SAMPLE	S00T000627	0		DSC-TA	LIQUID	N/A	30.35		Joules/g
3	DUP	S00T000627	0		DSC-TA	LIQUID	30.35	25.63	16.863 RPD	
4	SAMPLE	S00T000636	0		DSC-TA	LIQUID	N/A	30.10		Joules/g
5	DUP	S00T000636	0		DSC-TA	LIQUID	30.10	25.42	16.859 RPD	

Final page for worklist# 33204

Analyst Signature

Date

Reviewer Signature

Date

Analyst Signature

Date

4/12/00

LABCORE Data Entry Template for Worklist# 33204

Analyst: RDM Instrument: DSC 5 Book # 12N14B

Method: LA-514-115 Rev/Mod B-0

Worklist Comment: SY-102 GRAB6 FOR DSC-TA MF

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 LCS-INST			DSC-TA	LIQUID		27.78	N/A	Joules/g
20000085	SY-102 GRAB6	2 SAMPLE	S00T000627	0	DSC-TA	LIQUID	N/A	30.35 26.91 w/L 4/11/00		Joules/g
20000085	SY-102 GRAB6	3 DUP	S00T000627	0	DSC-TA	LIQUID	30.35	25.63	N/A	Joules/g
20000085	SY-102 GRAB6	4 SAMPLE	S00T000636	0	DSC-TA	LIQUID	N/A	30.10		Joules/g
20000085	SY-102 GRAB6	5 DUP	S00T000636	0	DSC-TA	LIQUID	30.10	25.42	N/A	Joules/g

Final page for worklist # 33204

Analyst Signature _____ Date _____

Mary Frank 4/12/00
Analyst Signature Date

Data Entry Comments:

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

Sample: 12N14B
Size: 12.6100 mg

File: C:\TA\Data\DSC\Ind0407.001
Operator: RD MEYERS
Run Date: 7-Apr-00 08:04

DSC

Comment: EXOTHERMS UP, SAMPLE APPEARANCE

COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 83 TO 87

HNF-1699 REV. 0

Universal V2.5H TA Instrument
Handed Over for RD Meyers
4/10/00

File: C:\TA\Data\DSC\Sam0407.001
Operator: RD MEYERS
Run Date: 7-Apr-00 09:50

DSC

Sample: S00T000627
Size: 10.9700 mg

Comment: EXOTHERMS UP, SAMPLE APPEARANCE

File: C:\TA\Data\DSC\Sam0407.002
Operator: RD MEYERS
Run Date: 7-Apr-00 09:50

DSC

Sample: S00T000627DUP
Size: 11.5400 mg

Comment: EXOTHERMS UP, DUPLICATE APPEARANCE

HNF-1699 REV. 0

Universal V2.5H TA Instrument

Sample: S00T000636
Size: 12.2400 mg

DSC

File: C:\TA\Data\DSC\Sam0407.003
Operator: RD MEYERS
Run Date: 7-Apr-00 12:51

Comment: EXOTHERMS UP, SAMPLE APPEARANCE

Universal V2.5H TA Instrument

HNF-1699 REV. 0

Sample: S00T000636DUP
Size: 12.8200 mg

DSC

File: C:\TA\Data\DSC\Sam0407.004
Operator: RD MEYERS
Run Date: 7-Apr-00 12:51

Comment: EXOTHERMS UP, DUPLICATE APPEARANCE

LABCORE Completed Worklist Report for Worklist# 33205

Analyst: rdm

Instrument: DSC5

Book#: 12A/4B

Method: LA-514-115 Rev/Mod B-0

Worklist Comment: SY-102 GRAB6 FOR DSC-TA MF

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	LCS-INST		0		DSC-TA	LIQUID	28.45	28.24	99.262 % Recovery	
2	SAMPLE	S00T000511	0		DSC-TA	LIQUID	N/A	20.64		Joules/g
3	DUP	S00T000511	0		DSC-TA	LIQUID	20.64	20.74	0.483 RPD	
4	SAMPLE	S00T000611	0		DSC-TA	LIQUID	N/A	28.69		Joules/g
5	DUP	S00T000611	0		DSC-TA	LIQUID	28.69	29.95	4.297 RPD	

Final page for worklist# 33205

Analyst Signature

Date

Analyst Signature

Date

Reviewer Signature

Date

LABCORE Data Entry Template for Worklist# 33205

Analyst: RDM Instrument: DSC 5 Book # 12N14B

Method: LA-514-115 Rev/Mod B-0

Worklist Comment: SY-102 GRAB6 FOR DSC-TA MF

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 LCS-INST			DSC-TA	LIQUID		<u>28.24</u>	<u>N/A</u>	Joules/g
20000085	SY-102 GRAB6	2 SAMPLE	S00T000511	0	DSC-TA	LIQUID	<u>N/A</u>	<u>20.64</u>		Joules/g
20000085	SY-102 GRAB6	3 DUP	S00T000511	0	DSC-TA	LIQUID	<u>20.64</u>	<u>20.74</u>	<u>N/A</u>	Joules/g
20000085	SY-102 GRAB6	4 SAMPLE	S00T000611	0	DSC-TA	LIQUID	<u>N/A</u>	<u>28.69</u>		Joules/g
20000085	SY-102 GRAB6	5 DUP	S00T000611	0	DSC-TA	LIQUID	<u>28.69</u>	<u>29.95</u>	<u>N/A</u>	Joules/g

Final page for worklist # 33205

Analyst Signature _____ Date _____

Mary Tracy 4/12/00
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-1699 REV. 0

STD

File: C:\TA\Data\DSC\Ind0406.002
Operator: RD MEYERS
Run Date: 6-Apr-00 08:33

DSC

Size: 12.6500 mg

Comment: EXOTHERMS UP, DUPLICATE APPEARANCE

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST ONE WHOSE THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 90-1099

Signature for RD Meyers
Universal V2.5H TA Instruments

Sample: S00T000511
Size: 12.6100 mg

File: C:\TA\Data\DSC\Sam0406.001
Operator: RD MEYERS
Run Date: 6-Apr-00 09:59

DSC

Comment: EXOTHERMS UP, SAMPLE APPEARANCE

HNF-1699 REV. 0

File: C:\TA\Data\DSC\Sam0406.002
Operator: RD MEYERS
Run Date: 6-Apr-00 09:59

DSC

500T000511DWR

Size: 13.1300 mg

Comment: EXOTHERMS UP, DUPLICATE APPEARANCE

Sample: S00T000611
Size: 13.6300 mg

File: C:\TA\Data\DSC\Sam0406.003
Operator: RD MEYERS
Run Date: 6-Apr-00 13:02

DSC

Comment: EXOTHERMS UP, SAMPLE APPEARANCE

See T000611 DHP

File: C:\TA\Data\DSC\Sam0406.004
Operator: RD MEYERS
Run Date: 6-Apr-00 13:02

DSC

Size: 11.8000 mg

Comment: EXOTHERMS UP, DUPLICATE APPEARANCE

Universal V2.5H TA Instrument

HNF-1699 REV. 0

LABCORE Completed Worklist Report for Worklist# 33232

Analyst: mf Instrument: NONE Book#: _____

Method: LA-514-114/115 Rev/Mod A-0

Worklist Comment: SY102 GRAB 6

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 SAMPLE	S00T000511	0	DSC-04	LIQUID	N/A	56.31		Joules/g Dry
2 DUP	S00T000511	0	DSC-04	LIQUID	56.31	56.58	0.478 RPD	
3 SAMPLE	S00T000611	0	DSC-04	LIQUID	N/A	73.50		Joules/g Dry
4 DUP	S00T000611	0	DSC-04	LIQUID	73.50	76.73	4.300 RPD	
5 SAMPLE	S00T000627	0	DSC-04	LIQUID	N/A	82.10		Joules/g Dry
6 DUP	S00T000627	0	DSC-04	LIQUID	82.10	69.34	16.852 RPD	
7 SAMPLE	S00T000636	0	DSC-04	LIQUID	N/A	78.28		Joules/g Dry
8 DUP	S00T000636	0	DSC-04	LIQUID	78.28	66.11	16.857 RPD	
9 SAMPLE	S00T000614	0	DSC-04	SOLID	N/A	111.90		Joules/g Dry
10 DUP	S00T000614	0	DSC-04	SOLID	111.9	115.73	3.365 RPD	
11 SAMPLE	S00T000630	0	DSC-04	SOLID	N/A	77.08		Joules/g Dry
12 DUP	S00T000630	0	DSC-04	SOLID	77.08	93.46	19.210 RPD	

Final page for worklist# 33232

Analyst Signature _____ Date _____

Mary Frawley 4/13/00
Analyst Signature Date

AMC 4/18/00
Reviewer Signature Date

LABCORE Completed Worklist Report for Worklist# 32834

Analyst: krm

Instrument: TGA03

Book#: 126N8A

Method: LA-514-114 Rev/Mod D-4

Worklist Comment: SY-102 FOR TGA-03, RLC

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD		0		TGA-03	LIQUID	5.95e1	58.82	98.857	% Recovery
2	SAMPLE	S00T000502	0		TGA-03	LIQUID	N/A	65.08		%
3	DUP	S00T000502	0		TGA-03	LIQUID	65.08	65.08	0.000	RPD
4	SAMPLE	S00T000503	0		TGA-03	LIQUID	N/A	75.45		%
5	DUP	S00T000503	0		TGA-03	LIQUID	75.45	75.33	0.159	RPD
6	SAMPLE	S00T000504	0		TGA-03	LIQUID	N/A	64.63		%
7	DUP	S00T000504	0		TGA-03	LIQUID	64.63	64.01	0.964	RPD

Final page for worklist# 32834

Analyst Signature _____ Date _____

Wm. J. Iron 3/8/00
Analyst Signature Date

Brian D. Smith 03-08-00
Reviewer Signature Date

worklistrpt Version 2.1 05/15/95
03/07/00 15:27

HNF-1699 REV. 0

Page: 1

LABCORE Data Entry Template for Worklist# 32834Analyst: KKR Instrument: TGA0 Book # 126 N/AMethod: LA-514-114 Rev/Mod D-4

Worklist Comment: SY-102 FOR TGA-03, RLC

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-03	LIQUID	<u>59.5</u>	<u>58.82</u>	<u>N/A</u>	%
20000085	SY-102 GRAB6	2 SAMPLE	S00T000502	0	TGA-03	LIQUID	<u>N/A</u>	<u>65.08</u>		%
20000085	SY-102 GRAB6	3 DUP	S00T000502	0	TGA-03	LIQUID		<u>65.08</u>	<u>N/A</u>	%
20000085	SY-102 GRAB6	4 SAMPLE	S00T000503	0	TGA-03	LIQUID	<u>N/A</u>	<u>75.45</u>		%
20000085	SY-102 GRAB6	5 DUP	S00T000503	0	TGA-03	LIQUID		<u>75.33</u>	<u>N/A</u>	%
20000085	SY-102 GRAB6	6 SAMPLE	S00T000504	0	TGA-03	LIQUID	<u>N/A</u>	<u>64.63</u>		%
20000085	SY-102 GRAB6	7 DUP	S00T000504	0	TGA-03	LIQUID		<u>64.01</u>	<u>N/A</u>	%

Final page for worklist # 32834

Analyst Signature

Date

3-7-00

Analyst Signature

Date

3/8/00

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.

700

98

10C/MIN 12

Curve #: 156
 File Info: 04/03/00 Tue Mar 7 22:23:36 2000
 Station Range: 10.272 - 103
 0000000002

100.0X1H 102
 0000000002
 0.0 Mile Range
 10.272 - 103
 0000000002
 KR MONTEITH
 0000000002
 0000000002
 Tue Mar 7 22:23:28 2000

Curve 1: TGA
 File info: SAM030706 Tue Mar 7 23:30:32 2000
 Sample Weight: 10.035 mg
 S00T000502 DUP

Curve 1: TGA
 File info: SAM030707 Wed Mar 8 01:47:02 2000
 Sample Weight: 9.571 mg
 S00T000503

Curve 1: TGA

File info: SAM030708 Wed Mar 8 02:53:14 2000

Sample Weight: 10.416 mg

S00T000503 DUP

KR MONTEITH
PERKIN-ELMER
7 Series Thermal Analysis System
Wed Mar 8 03:14:58 2000

Curve 1: TGA
 File info: SAM030709 Wed Mar 8 04:04:05 2000
 Sample Weight: 11.567 mg
 S00T000504

103

10C/MIN N2
 TEMP1: 35.0 °C
 TEMP2: 500.0 °C
 TIME1: 0.0 min
 RATE1: 10.0 °C/min
 KR MONTEITH
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Wed Mar 8 04:04:20 2000

Curve 1: TGA
 File info: SAM030710 Wed Mar 8 05:09:59 2000
 Sample Weight: 10.519 mg
 S00T000504 DUP

LABCORE Completed Worklist Report for Worklist# 33202

Analyst: rdm

Instrument: TGA7

Book#: 13308

Method: LA-514-115 Rev/Mod B-D

Worklist Comment: SY-102 GRAB6 FOR TGA-TA MF

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	LCS-INST		0		TGA-TA	LIQUID	59.8	58.9	98.495 % Recovery	
2	SAMPLE	S00T000511	0		TGA-TA	LIQUID	N/A	63.03	%	
3	DUP	S00T000511	0		TGA-TA	LIQUID	63.03	63.66	0.995 RPD	
4	SAMPLE	S00T000611	0		TGA-TA	LIQUID	N/A	61.12	%	
5	DUP	S00T000611	0		TGA-TA	LIQUID	61.12	60.81	0.508 RPD	

Final page for worklist# 33202

Analyst Signature

Date

Analyst Signature

Date

Reviewer Signature

Date

worklistrpt Version 2.1 05/15/95
04/11/00 14:53

Page: 1

LABCORE Data Entry Template for Worklist# 33202

Analyst: RDM Instrument: TGA 7 Book # 13N8

Method: LA-514-115 Rev/Mod B-D

Worklist Comment: SY-102 GRAB6 FOR TGA-TA MF

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 LCS-INST			TGA-TA	LIQUID		<u>58.90</u>	<u>N/A</u>	%
20000085	SY-102 GRAB6	2 SAMPLE	S00T000511	0	TGA-TA	LIQUID	<u>N/A</u>	<u>63.03</u>		%
20000085	SY-102 GRAB6	3 DUP	S00T000511	0	TGA-TA	LIQUID	<u>63.03</u>	<u>63.66</u>	<u>N/A</u>	%
20000085	SY-102 GRAB6	4 SAMPLE	S00T000611	0	TGA-TA	LIQUID	<u>N/A</u>	<u>61.12</u>		%
20000085	SY-102 GRAB6	5 DUP	S00T000611	0	TGA-TA	LIQUID	<u>61.12</u>	<u>60.81</u>	<u>N/A</u>	%

Final page for worklist # 33202

Analyst Signature _____ Date _____

Mary Jane 4/12/00
Analyst Signature _____ Date _____

Data Entry Comments:

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

Sample: TERLIQ
Size: 12.8650 mg
Comment: 133N8

File: C:\TA\Data\TGA\Ter0406.001
Operator: RD MEYERS
Run Date: 6-Apr-00 08:44

TGA

SIGNATURE BELOW REPRESENTS ANALYST'S VERIFICATION THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 107 TO 111

Sample: S00T000511
Size: 12.4710 mg

Comment: SAM

TGA

File: C:\TA\Data\TGA\Sam0406.001
Operator: RD MEYERS
Run Date: 6-Apr-00 10:07

HNF-1699 REV. 0

010

Universal V2.5H TA Instruments

Sample: S00T000511DUP
Size: 13.1790 mg

Comment: SAM

File: C:\TA\Data\TGA\Sam0406.002
Operator: RD MEYERS
Run Date: 6-Apr-00 11:22

TGA

HNF-1699 REV. 0

011

Universal V2.5H TA Instruments

Sample: S00T000611
Size: 8.9350 mg

Comment: SAM

TGA

File: C:\TA\Data\TGA\Sam0406.003
Operator: RD MEYERS
Run Date: 6-Apr-00 12:59

HNF-1699 REV. 0

012

Universal V2.5H TA Instruments

TGA

Sample: S00T000611DUP
Size: 11.6040 mg

Comment: SAM

File: C:\TA\Data\TGA\Sam0406.004
Operator: RD MEYERS
Run Date: 6-Apr-00 14:14

HNF-1699 REV. 0

013

Universal V2.5H TA Instruments

LABCORE Completed Worklist Report for Worklist# 33203

Analyst: rdm

Instrument: TGA7

Book#: 133N8

Method: LA-514-115 Rev/Mod B-0

Worklist Comment: SY-102 GRAB6 FOR TGA-TA MF

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	LCS-INST		0		TGA-TA	LIQUID	59.8	60.31	100.853	% Recovery
2	SAMPLE	S00T000627	0		TGA-TA	LIQUID	N/A	62.50		%
3	DUP	S00T000627	0		TGA-TA	LIQUID	62.50	63.57	1.697	RPD
4	SAMPLE	S00T000636	0		TGA-TA	LIQUID	N/A	63.63		%
5	DUP	S00T000636	0		TGA-TA	LIQUID	63.63	59.47	6.759	RPD

Final page for worklist# 33203

Analyst Signature

Date

Analyst Signature

Date

Reviewer Signature

Date

LABCORE Data Entry Template for Worklist# 33203

Analyst: RDM Instrument: TGA 7 Book # 133N8

Method: LA-514-115 Rev/Mod B-0

Worklist Comment: SY-102 GRAB6 FOR TGA-TA MF

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	LCS-INST				TGA-TA	LIQUID		<u>60.31</u>	<u>N/A</u>	%
20000085	SY-102 GRAB6	2	SAMPLE	S00T000627	0		TGA-TA	LIQUID	<u>N/A</u>	<u>62.50</u>		%
20000085	SY-102 GRAB6	3	DUP	S00T000627	0		TGA-TA	LIQUID	<u>62.50</u>	<u>63.57</u>	<u>N/A</u>	%
20000085	SY-102 GRAB6	4	SAMPLE	S00T000636	0		TGA-TA	LIQUID	<u>N/A</u>	<u>63.63</u>		%
20000085	SY-102 GRAB6	5	DUP	S00T000636	0		TGA-TA	LIQUID	<u>63.63</u>	<u>59.47</u>	<u>N/A</u>	%

Final page for worklist # 33203

Analyst Signature _____ Date _____

Mary Jane 4/12/00
Analyst Signature Date

Data Entry Comments:

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

Sample: TERLIQ 133N8
Size: 12.0970 mg
Run 4/1/16
Comment: SAIN 57D
TGA
for Dr. Meyers lab

114

Sample: S00T000627
Size: 11.9100 mg

Comment: SAM

TGA

File: C:\TA\Data\TGA\Sam0407.001
Operator: RD MEYERS
Run Date: 7-Apr-00 09:34

Sample: S00T000627DUP
Size: 11.4330 mg

Comment: SAM

TGA

File: C:\TA\Data\TGA\Sam0407.002
Operator: RD MEYERS
Run Date: 7-Apr-00 10:53

File: C:\TA\Data\TGA\Sam0407.003
Operator: RD MEYERS
Run Date: 7-Apr-00 12:48

TGA

Sample: S00T0000636
Size: 11.5180 mg

Comment: SAM

HNF-1699 REV. 0

File: C:\TA\Data\TGA\Sam0407.004
Operator: RD MEYERS
Run Date: 7-Apr-00 14:03

TGA

Sample: S00T000636DUP
Size: 9.4020 mg

Comment: SAM

LABCORE Completed Worklist Report for Worklist# 33114

Analyst: slh

Instrument: TGA03

Book#: 133N8

Method: LA-514-114 Rev/Mod D-4

Worklist Comment: SY-102 GRAB 6 FOR TGA-03 RTS

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD		0		TGA-03	SOLID	59.8	62.03	103.729	% Recovery
2	SAMPLE	S00T000614	0		TGA-03	SOLID	N/A	59.14		%
3	DUP	S00T000614	0		TGA-03	SOLID	59.14	58.91	0.390	RPD
4	SAMPLE	S00T000630	0		TGA-03	SOLID	N/A	57.64		%
5	DUP	S00T000630	0		TGA-03	SOLID	57.64	58.60	1.652	RPD

Final page for worklist# 33114

Analyst Signature _____ Date _____

Mary Jane 4/10/00
Analyst Signature DateBrian Dault 04-10-00
Reviewer Signature Date

worklistrpt Version 2.1 05/15/95
03/30/00 16:03

Page: 1

LABCORE Data Entry Template for Worklist# 33114

Analyst: SH Instrument: TGA0 Book # 133N8Method: LA-514-114 Rev/Mod D-4

Worklist Comment: SY-102 GRAB 6 FOR TGA-03 RTS

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-03	SOLID	<u>59.8</u>	<u>62.03</u>	N/A	%
20000085	SY-102 GRAB6	2 SAMPLE	S00T000614	0	TGA-03	SOLID	N/A	<u>59.14</u>		%
20000085	SY-102 GRAB6	3 DUP	S00T000614	0	TGA-03	SOLID		<u>58.91</u>	N/A	%
20000085	SY-102 GRAB6	4 SAMPLE	S00T000630	0	TGA-03	SOLID	N/A	<u>57.64</u>		%
20000085	SY-102 GRAB6	5 DUP	S00T000630	0	TGA-03	SOLID		<u>58.60</u>	N/A	%

Final page for worklist # 33114

Landra Uthod Boatright
Analyst Signature Date
4-9-2000

Maya Isaac 4/10/10
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-1699 REV. 0

Curve 1: TGA
 File Info: TER040902 Sun Apr 9 08:48:47 2000
 Sample Weight: 11.546 mg
 133N8

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION AND U.S. ON PAGES 121 TO 125.

SL HOOD BOATRIGT
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Sun Apr 9 09:03 2000

Jeffrey Boatright

Temperature (°C)

10.0 C/min

10C/MIN N2

TEMP: 37.8 °C
 TIME: 300.0 s

HNF-1699 REV. 0

Curve 1: TGA
 File Info: SAM040903 Sun Apr 9 14:33:53 2000
 Sample Weight: 13.712 mg
 S00T0000514

HNF-1699 REV. 0

Curve 1: TGA
File Info: SAM040904 Sun Apr 9 15:54:27 2000
Sample Weight: 9.532 mg
S00T0000614 DUP

10C/MIN N2
TEMP: 38.8 C
TIME: 00:08
SL HOOD BOATRIGT
PEAKIN-ELMER
7 Series Thermal Analysis System
Sun Apr 9 16:25:48 2000

HNF-1699 REV. 0

Curve 1: TGA
File Info: SAM040901 Sun Apr 9 10:17:23 2000
Sample Weight: 15.868 mg
500T000630

HNF-1699 REV. 0

Curve 1: TGA
File Info: SAM040902 Sun Apr 9 11:49:16 2000
Sample Weight: 12.695 mg
S00T000630 DUP

SL HOOD BOATRIGIT
PERKIN-ELMER
7 Series Thermal Analysis System
Sun Apr 9 13:32:50 2000

10C/MIN N2
TEMP: 55.0 °C
TIME: 000.0 s
RATES: 10.0 C/min

HNF-1699 REV. 0

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LABCORE Completed Worklist Report for Worklist# 32880

Analyst: rdm

Instrument: BA001

Book#: 134N16E

Method: LA-510-112 Rev/Mod E-2

Worklist Comment: SY-102 FOR SPG-01 RERUN MF

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD		0		SPG-01	LIQUID	1.37728	1.357	98.528 % Recovery	
2	SAMPLE	S00T000502	0		SPG-01	LIQUID	N/A	1.309	1.00e-003	Sp.G.
3	DUP	S00T000502	0		SPG-01	LIQUID	1.309	1.292	1.307	RPD
4	SAMPLE	S00T000503	0		SPG-01	LIQUID	N/A	1.210	1.00e-003	Sp.G.
5	DUP	S00T000503	0		SPG-01	LIQUID	1.210	1.214	0.330	RPD
6	SAMPLE	S00T000504	0		SPG-01	LIQUID	N/A	1.197	1.00e-003	Sp.G.
7	DUP	S00T000504	0		SPG-01	LIQUID	1.197	1.194	0.251	RPD

Final page for worklist# 32880

Analyst Signature

Date

Mary Fran 3/10/00
Analyst Signature Date

Brian Smith 03-10-00
Reviewer Signature Date

worklistrpt Version 2.1 05/15/95
03/08/00 13:42

Page: 1

LABCORE Data Entry Template for Worklist# 32880

Analyst: RPM Instrument: BA001 Book # 134N16E

Method: LA-510-112 Rev/Mod E-2

Worklist Comment: SY-102 FOR SPG-01 RERUN MF

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			SPG-01	LIQUID	<u>1.3728</u>	<u>1.357</u>	<u>N/A</u>	Sp.G.
20000085	SY-102 GRAB6	2 SAMPLE	S00T000502	0	SPG-01	LIQUID	<u>N/A</u>	<u>1.309</u>		Sp.G.
20000085	SY-102 GRAB6	3 DUP	S00T000502	0	SPG-01	LIQUID		<u>1.292</u>	<u>N/A</u>	Sp.G.
20000085	SY-102 GRAB6	4 SAMPLE	S00T000503	0	SPG-01	LIQUID	<u>N/A</u>	<u>1.210</u>		Sp.G.
20000085	SY-102 GRAB6	5 DUP	S00T000503	0	SPG-01	LIQUID		<u>1.214</u>	<u>N/A</u>	Sp.G.
20000085	SY-102 GRAB6	6 SAMPLE	S00T000504	0	SPG-01	LIQUID	<u>N/A</u>	<u>1.197</u>		Sp.G.
20000085	SY-102 GRAB6	7 DUP	S00T000504	0	SPG-01	LIQUID		<u>1.194</u>	<u>N/A</u>	Sp.G.

Final page for worklist # 32880

RPM 3/9/00
Analyst Signature Date

many Jean 3/10/00
Analyst Signature Date

Data Entry Comments:

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

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (E-2)

Type		STD	REPLICATE
STD	Gross Weight (W2)	1.4413	1.4616
Work List	Tare Weight (W1)	1.3064	1.3252
32880	Weight of Solution (W2-W1)	0.1349	0.1364
Test Code	Volume of Solution μ L	100.0000	100.0000
SPG-01	Specific Gravity	1.3490	1.3640
Matrix	Specific Gravity (Average)	1.3565	
LIQUID			
Sample #			
STD			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
RDM	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
Date			
03/09/2000			
Time			
01:20 PM			
	v RESULT v		
	Specific Gravity Average =	1.357	

Data Entry by:	Date:	03/10/2000
Approved by:	BVD	Date: 03-10-00

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (E-2)

Type		SAMPLE	REPLICATE
SAMPLE	Gross Weight (W2)	1.4984	
Work List	Tare Weight (W1)	1.3675	
32880	Weight of Solution (W2-W1)	0.1309	0
Test Code	Volume of Solution μ L	100.0000	
SPG-01	Specific Gravity	1.3090	NA
Matrix			
LIQUID			
Sample #			
S00T000502			
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			
03/09/2000			
Time			
01:20 PM			

v RESULT v	
Specific Gravity =	1.309

Data Entry by:	Date: 03/10/2000
Approved by:	BVD Date: 03-10-00

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (E-2)

Type		DUP	REPLICATE
DUP	Gross Weight (W2)	1.4570	
Work List	Tare Weight (W1)	1.3278	
32880	Weight of Solution (W2-W1)	0.1292	0
Test Code	Volume of Solution μ L	100.0000	
SPG-01	Specific Gravity	1.2920	NA
Matrix			
LIQUID			
Sample #			
S00T000502			
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			
03/09/2000			
Time			
01:20 PM			
	v RESULT v		
	Specific Gravity =	1.292	

Data Entry by:	Date: 03/10/2000
Approved by:	BVD Date: 03-10-00

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (E-2)

Type		SAMPLE	REPLICATE
SAMPLE	Gross Weight (W2)	1.4633	
Work List	Tare Weight (W1)	1.3423	
32880	Weight of Solution (W2-W1)	0.121	0
Test Code	Volume of Solution μ L	100.0000	
SPG-01	Specific Gravity	1.2100	NA
Matrix			
LIQUID			
Sample #			
S00T000503			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L}/\text{mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
RDM			
Date			
03/09/2000			
Time	v RESULT v		
01:20 PM	Specific Gravity =	1.210	

Data Entry by:	Date: 03/10/2000
Approved by:	BVD Date: 03-10-00

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (E-2)

Type		DUP	REPLICATE
DUP	Gross Weight (W2)	1.4493	
Work List	Tare Weight (W1)	1.3279	
32880	Weight of Solution (W2-W1)	0.1214	0
Test Code	Volume of Solution μ L	100.0000	
SPG-01	Specific Gravity	1.2140	NA
Matrix			
LIQUID			
Sample #			
S00T000503			
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			
03/09/2000			
Time			
01:20 PM			

v RESULT v	
Specific Gravity =	1.214

Data Entry by:	Date: 03/10/2000
Approved by:	BVD Date: 03-10-00

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (E-2)

Type		SAMPLE	REPLICATE
SAMPLE	Gross Weight (W2)	1.4094	
Work List	Tare Weight (W1)	1.2897	
32880	Weight of Solution (W2-W1)	0.1197	0
Test Code	Volume of Solution μ L	100.0000	
SPG-01	Specific Gravity	1.1970	NA
Matrix			
LIQUID			
Sample #			
S00T000504			
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			
03/09/2000			
Time			
01:20 PM			
	v RESULT v		
	Specific Gravity =	1.197	

Data Entry by:	Date: 03/10/2000
Approved by:	BVD Date: 03-10-00

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (E-2)

Type		DUP	REPLICATE
DUP	Gross Weight (W2)	1.4651	
Work List	Tare Weight (W1)	1.3457	
32880	Weight of Solution (W2-W1)	0.1194	0
Test Code	Volume of Solution μ L	100.0000	
SPG-01	Specific Gravity	1.1940	NA
Matrix			
LIQUID			
Sample #			
S00T000504			
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			
03/09/2000			
Time			
01:20 PM			

v RESULT v	
Specific Gravity =	1.194

Data Entry by:	Date: 03/10/2000
Approved by:	BVP Date: 03-10-00

LABCORE Completed Worklist Report for Worklist# 33098

Analyst: jis

Instrument: BA001

Book#: 134N16E

Method: LA-510-112 Rev/Mod E-2

Worklist Comment: SY-102 GRAB 6 FOR SPG-01 RTS

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD		0	SPG-01	LIQUID	1.37728	1.358	98.600 % Recovery	
2 SAMPLE	S00T000511	0	SPG-01	LIQUID	N/A	1.279	1.00e-003	Sp.G.
3 DUP	S00T000511	0	SPG-01	LIQUID	1.279	1.284	0.390 RPD	
4 SAMPLE	S00T000611	0	SPG-01	LIQUID	N/A	1.282	1.00e-003	Sp.G.
5 DUP	S00T000611	0	SPG-01	LIQUID	1.282	1.292	0.777 RPD	
6 SAMPLE	S00T000627	0	SPG-01	LIQUID	N/A	1.282	1.00e-003	Sp.G.
7 DUP	S00T000627	0	SPG-01	LIQUID	1.282	1.302	1.548 RPD	
8 SAMPLE	S00T000636	0	SPG-01	LIQUID	N/A	1.277	1.00e-003	Sp.G.
9 DUP	S00T000636	0	SPG-01	LIQUID	1.277	1.287	0.780 RPD	

Final page for worklist# 33098

Analyst Signature

Date

Analyst Signature

Date

Reviewer Signature

Date

04/05/00 08:01

Page: 1

ws2

LABCORE Data Entry Template for Worklist# 33098

Analyst: _____ Instrument: BA001 _____ Book# 134N16-E

Method: LA-510-112 Rev/Mod E-2

Worklist Comment: SY-102 GRAB 6 FOR SPG-01 RTS

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	STD				SPG-01	LIQUID		
2	SAMPLE	S00T000511	0		SPG-01	LIQUID	20000085	SY-102 GRAB6
		Analytes Requested: SPG-01						
3	DUP	S00T000511	0		SPG-01	LIQUID		
4	SAMPLE	S00T000611	0		SPG-01	LIQUID	20000085	SY-102 GRAB6
		Analytes Requested: SPG-01						
5	DUP	S00T000611	0		SPG-01	LIQUID		
6	SAMPLE	S00T000627	0		SPG-01	LIQUID	20000085	SY-102 GRAB6
		Analytes Requested: SPG-01						
7	DUP	S00T000627	0		SPG-01	LIQUID		
8	SAMPLE	S00T000636	0		SPG-01	LIQUID	20000085	SY-102 GRAB6
		Analytes Requested: SPG-01						
9	DUP	S00T000636	0		SPG-01	LIQUID		

Final page for worklist # 33098

Jeff Solback 4/3/00
Signature Date

Mary Jones 4/5/00
Signature Date

Data Entry Comments:

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

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (E-2)

Type		STD	REPLICATE
STD	Gross Weight (W2)	1.4185	1.4430
Work List	Tare Weight (W1)	1.2834	1.3066
33098	Weight of Solution (W2-W1)	0.1351	0.1364
Test Code	Volume of Solution μ L	100.0000	100.0000
SPG-01	Specific Gravity	1.3510	1.3640
Matrix	Specific Gravity (Average)	1.3575	
LIQUID			
Sample #			
STD			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
JIS	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
Date			
04/03/2000	v RESULT v		
Time	Specific Gravity Average =	1.358	
11:18 AM			

Data Entry by:	Date:	04/05/2000
Approved by:	BVD	Date: 04-05-00

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (E-2)

Type		SAMPLE	REPLICATE
SAMPLE	Gross Weight (W2)	1.4571	
Work List	Tare Weight (W1)	1.3292	
33098	Weight of Solution (W2-W1)	0.1279	0
Test Code	Volume of Solution μ L	100.0000	
SPG-01	Specific Gravity	1.2790	NA
Matrix			
LIQUID			
Sample #			
S00T000511			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
JIS			
Date			
04/03/2000			
Time	v RESULT v		
11:18 AM	Specific Gravity =	1.279	

Data Entry by:	Date: 04/05/2000
Approved by: <i>BVD</i>	Date: <i>04-05-00</i>

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (E-2)

Type		DUP	REPLICATE
DUP	Gross Weight (W2)	1.4068	
Work List	Tare Weight (W1)	1.2784	
33098	Weight of Solution (W2-W1)	0.1284	0
Test Code	Volume of Solution μ L	100.0000	
SPG-01	Specific Gravity	1.2840	NA
Matrix			
LIQUID			
Sample #			
S00T000511			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
JIS			
Date			
04/03/2000			
Time			
11:18 AM			

v RESULT v	
Specific Gravity =	1.284

Data Entry by:	Date: 04/05/2000
Approved by:	BVO Date: 04-05-00

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (E-2)

Type		SAMPLE	REPLICATE
SAMPLE	Gross Weight (W2)	1.4483	
Work List	Tare Weight (W1)	1.3201	
33098	Weight of Solution (W2-W1)	0.1282	0
Test Code	Volume of Solution μ L	100.0000	
SPG-01	Specific Gravity	1.2820	NA
Matrix			
LIQUID			
Sample #			
S00T000611			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
JIS			
Date			
04/03/2000	v RESULT v		
Time	Specific Gravity =	1.282	
11:18 AM			

Data Entry by:	Date: 04/05/2000
Approved by:	BVD Date: 04-05-00

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (E-2)

Type		DUP	REPLICATE
DUP	Gross Weight (W2)	1.4644	
Work	Tare Weight (W1)	1.3352	
33098	Weight of Solution (W2-W1)	0.1292	0
Test Stage	Volume of Solution μ L	100.0000	
SPG-01	Specific Gravity	1.2920	NA
Material			
LIQUID			
Sample			
S00T000611			
Instrument	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analysis	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
JIS			
Date			
04/03/2000			
Time			
11:18 AM			
	v RESULT v		
	Specific Gravity =	1.292	

Data Entry by:	Date: 04/05/2000
Approved by: BVD	Date: 04-05-00

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (E-2)

Type		SAMPLE	REPLICATE
SAMPLE	Gross Weight (W2)	1.4133	
Work List	Tare Weight (W1)	1.2851	
33098	Weight of Solution (W2-W1)	0.1282	0
Test Code	Volume of Solution μ L	100.0000	
SPG-01	Specific Gravity	1.2820	NA
Matrix			
LIQUID			
Sample #			
S00T000627			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
JIS			
Date			
04/03/2000			
Time	v RESULT v		
11:18 AM	Specific Gravity =	1.282	

Data Entry by:	Date: 04/05/2000
Approved by:	BVD Date: 04-05-00

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (E-2)

Type		DUP	REPLICATE
DUP	Gross Weight (W2)	1.4453	
Work List	Tare Weight (W1)	1.3151	
33098	Weight of Solution (W2-W1)	0.1302	0
Test Code	Volume of Solution μ L	100.0000	
SPG-01	Specific Gravity	1.3020	NA
Matrix			
LIQUID			
Sample #			
S00T000627			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
JIS	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
Date			
04/03/2000			
Time			
11:18 AM			

v RESULT v	
Specific Gravity =	1.302

Data Entry by:	Date: 04/05/2000
Approved by:	BVD Date: 04-05-00

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (E-2)

Type		SAMPLE	REPLICATE
SAMPLE	Gross Weight (W2)	1.4142	
Work List	Tare Weight (W1)	1.2865	
33098	Weight of Solution (W2-W1)	0.1277	0
Test Code	Volume of Solution μ L	100.0000	
SPG-01	Specific Gravity	1.2770	NA
Matrix			
LIQUID			
Sample #			
S00T000636			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
JIS			
Date			
04/03/2000			
Time			
11:18 AM			
	v RESULT v		
	Specific Gravity =	1.277	

Data Entry by:	Date: 04/05/2000
Approved by: BVD	Date: 04-05-00

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SPECIFIC GRAVITY : LA-510-112 (E-2)

Type		DUP	REPLICATE
DUP	Gross Weight (W2)	1.4496	
Work List	Tare Weight (W1)	1.3209	
33098	Weight of Solution (W2-W1)	0.1287	0
Test Code	Volume of Solution μ L	100.0000	
SPG-01	Specific Gravity	1.2870	NA
Matrix			
LIQUID			
Sample #			
S00T000636			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
JIS	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
Date			
04/03/2000			
Time			
11:18 AM			

v RESULT v	
Specific Gravity =	1.287

Data Entry by:	Date: 04/05/2000
Approved by: BVD	Date: 04-05-00

HNF-1699 REV. 0

worklistrpt Version 2.1 05/15/95
03/07/00 15:27

Page: 1

LABCORE Data Entry Template for Worklist# 32835

Analyst: RDM Instrument: PH01 Book # 18N191Method: LA-212-106 Rev/Mod C-6

Worklist Comment: SY-102 FOR PH-01, RLC

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STOPH			PH-01	LIQUID	<u>8.00</u>	<u>8.05</u>	<u>N/A</u>	pH
20000085	SY-102 GRAB6	2 SAMPLE	S00T000502	0	PH-01	LIQUID	<u>N/A</u>	<u>13.63</u>		pH
20000085	SY-102 GRAB6	3 DUP	S00T000502	0	PH-01	LIQUID		<u>13.65</u>	<u>N/A</u>	pH
20000085	SY-102 GRAB6	4 SAMPLE	S00T000503	0	PH-01	LIQUID	<u>N/A</u>	<u>13.44</u>		pH
20000085	SY-102 GRAB6	5 DUP	S00T000503	0	PH-01	LIQUID		<u>13.41</u>	<u>N/A</u>	pH
20000085	SY-102 GRAB6	6 SAMPLE	S00T000504	0	PH-01	LIQUID	<u>N/A</u>	<u>13.59</u>		pH
20000085	SY-102 GRAB6	7 DUP	S00T000504	0	PH-01	LIQUID		<u>13.62</u>	<u>N/A</u>	pH

Final page for worklist # 32835

RDM 3/8/00
Analyst Signature Date

Mary Thom 3/8/00
Analyst Signature Date

Data Entry Comments:

Validated 3/8/00 James Probs

Units 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-1699 REV. 0

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04/03/00 10:36

LABCORE Data Entry Template for Worklist# 33110Analyst: RMM

Instrument: PH01

Book # 10N14JMethod: LA-212-106 Rev/Mod Cole

Worklist Comment: SY-102 GRAB 6 FOR PH-01 RTS

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STDPH			PH-01	LIQUID		<u>8.00</u>	<u>N/A</u>	pH
20000085	SY-102 GRAB6	2 SAMPLE	S00T000511	0	PH-01	LIQUID	<u>N/A</u>	<u>13.44</u>		pH
20000085	SY-102 GRAB6	3 DUP	S00T000511	0	PH-01	LIQUID		<u>13.46</u>	<u>N/A</u>	pH
20000085	SY-102 GRAB6	4 SAMPLE	S00T000636	0	PH-01	LIQUID	<u>N/A</u>	<u>13.50</u>		pH
20000085	SY-102 GRAB6	5 DUP	S00T000636	0	PH-01	LIQUID		<u>13.52</u>	<u>N/A</u>	pH
20000085	SY-102 GRAB6	6 SAMPLE	S00T000611	0	PH-01	LIQUID	<u>N/A</u>	<u>13.50</u>		pH
20000085	SY-102 GRAB6	7 DUP	S00T000611	0	PH-01	LIQUID		<u>13.52</u>	<u>N/A</u>	pH
20000085	SY-102 GRAB6	8 SAMPLE	S00T000627	0	PH-01	LIQUID	<u>N/A</u>	<u>13.56</u>		pH
20000085	SY-102 GRAB6	9 DUP	S00T000627	0	PH-01	LIQUID		<u>13.59</u>	<u>N/A</u>	pH

Final page for worklist # 33110

RMM 4/3/00
Analyst Signature Date

James Francis 4/4/00
Analyst Signature Date

Data Entry Comments:

Validated 4/4/00 James Francis

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

worklistrpt Version 2.1 05/15/95
03/30/00 16:02

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LABCORE Data Entry Template for Worklist# 33111Analyst: JIS Instrument: PH01 Book # 18N19-JMethod: LA-212-105 Rev/Mod C-4

Worklist Comment: SY-102 GRAB 6 FOR PH-02 RTS

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STDPH			PH-02	SOLID		7.98	N/A	pH
20000085	SY-102 GRAB6	2 SAMPLE	S00T000614	0	PH-02	SOLID	N/A	12.42		pH
20000085	SY-102 GRAB6	3 DUP	S00T000614	0	PH-02	SOLID		12.45	N/A	pH
20000085	SY-102 GRAB6	4 SAMPLE	S00T000630	0	PH-02	SOLID	N/A	12.65		pH
20000085	SY-102 GRAB6	5 DUP	S00T000630	0	PH-02	SOLID		12.60	N/A	pH

Final page for worklist # 33111

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 Completed Worklist Report for Worklist# 32836

Analyst: krm

Instrument: PH01

Book#: 35N15A

Method: LA-211-102 Rev/Mod D-3

Worklist Comment: SY-102 FOR OH-01, RLC

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD		0		OH-01	LIQUID	1.621e4	1.63e4	100.555	% Recovery
2	BLNK		0		OH-01	LIQUID	1	<2500		ug/mL
3	SAMPLE	S00T000502	0		OH-01	LIQUID	N/A	1.88e4	2500.000	ug/mL
4	DUP	S00T000502	0		OH-01	LIQUID	1.88e4	1.88e4	0.000	RPD
5	SAMPLE	S00T000503	0		OH-01	LIQUID	N/A	1.15e4	2500.000	ug/mL
6	DUP	S00T000503	0		OH-01	LIQUID	1.15e4	1.14e4	0.873	RPD
7	SAMPLE	S00T000504	0		OH-01	LIQUID	N/A	1.87e4	2500.000	ug/mL
8	DUP	S00T000504	0		OH-01	LIQUID	1.87e4	1.88e4	0.533	RPD

Final page for worklist# 32836

Analyst Signature

Date

Analyst Signature

Date

Reviewer Signature

Date

HNF-1699 REV. 0

03/07/00 15:28

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WS2

LABCORE Data Entry Template for Worklist# 32836Analyst: KRM Instrument: PII01 Book# 35N15AMethod: LA-211-102 Rev/Mod D-3

Worklist Comment: SY-102 FOR OH-01, RLC

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	STD				OH-01	LIQUID		
2	BLNK				OH-01	LIQUID		
3	SAMPLE	S00T000502 0			OH-01	LIQUID	20000085	SY-102 GRAB6
		Analytes Requested: OH-01						
4	DUP	S00T000502 0			OH-01	LIQUID		
5	SAMPLE	S00T000503 0			OH-01	LIQUID	20000085	SY-102 GRAB6
		Analytes Requested: OH-01						
6	DUP	S00T000503 0			OH-01	LIQUID		
7	SAMPLE	S00T000504 0			OH-01	LIQUID	20000085	SY-102 GRAB6
		Analytes Requested: OH-01						
8	DUP	S00T000504 0			OH-01	LIQUID		

Final page for worklist # 32836

3-7-00
Signature Date

3/8/00
Signature Date

Data Entry Comments:

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

HNF-1699 REV. 0

500T .05ml

BLK

500T 502 π .05ml

date 00-03-08 time 22:05
 GET pH 12 # 172
 Id.#1 1787
 Id.#2 .1985
 pH(init) 11.68
 V/ml pH
 EP1 .242 - 9.85
 EP2 .317 6.86
 stop volt. reached
 =====

date 00-03-08 time 22:00
 GET pH 12 # 171
 Id.#1 1787
 Id.#2 .1985
 pH(init) 5.20
 V/ml pH
 EP1 .006 - 4.26
 stop volt. reached
 =====

date 00-03-08 time 22:22
 GET pH 12 # 173
 Id.#1 1787
 Id.#2 .1985
 pH(init) 11.78
 V/ml pH
 EP1 .279 - 10.46
 EP2 .532 8.63
 stop volt. reached
 =====

date 00-03-08 time 22:05
 GET pH 12 # 172
 .10ml/div Δ pH=1/div
 start V .000 ml

date 00-03-08 time 22:00
 GET pH 12 # 171
 .10ml/div Δ pH=1/div
 start V .000 ml

date 00-03-08 time 22:23
 GET pH 12 # 173
 .10ml/div Δ pH=1/div
 start V .000 ml

500T 502 Dup
.05ml

date 00-03-08 time 22:00
 GET pH 12 # 174
 Id.#1 1787
 Id.#2 .1985
 pH(init) 11.78
 V/ml pH
 EP1 .278 - 10.49
 EP2 .551 8.33
 EP3 .680 6.44
 stop volt. reached
 =====

date 00-03-08 time 22:31
 GET pH 12 # 174
 .10ml/div Δ pH=1/div
 start V .000 ml

HNF-1699 REV. 0

400T 503 .05 ml

date 00-03-00 time 22:59
 GET pH 12 # 176
 Id.#1 1787
 Id.#2 .1985
 pH(init) 11.54

	V/ml	pH
EP1	.170	10.33
EP2	.351	8.29
EP3	.457	5.92

 stop volt.reached
 =====

400T 503 Dup .05 ml

date 00-03-00 time 23:08
 GET pH 12 # 177
 Id.#1 1787
 Id.#2 .1985
 pH(init) 11.59

	V/ml	pH
EP1	.169	10.31
EP2	.337	8.53

 stop volt.reached
 =====

500T 504 .05 ml

date 00-03-00 time 23:21
 GET pH 12 # 178
 Id.#1 1787
 Id.#2 .1985
 pH(init) 11.72

	V/ml	pH
EP1	.277	10.49
EP2	.544	8.40

 stop volt.reached
 =====

date 00-03-00 time 23:02
 GET pH 12 # 176
 .10ml/div dPH=1/div
 start V .000 ml

date 00-03-00 time 23:11
 GET pH 12 # 177
 .10ml/div dPH=1/div
 start V .000 ml

date 00-03-00 time 23:22
 GET pH 12 # 178
 .10ml/div dPH=1/div
 start V .000 ml

400T 504 Dup .05 ml
 date 00-03-00 time 23:29
 GET pH 12 # 179
 Id.#1 1787
 Id.#2 .1985
 pH(init) 11.79

	V/ml	pH
EP1	.278	10.49
EP2	.539	8.53

 stop volt.reached
 =====

date 00-03-00 time 23:36
 GET pH 12 # 179
 .10ml/div dPH=1/div
 start V .000 ml

OH (AUTO) : LA-211-102 (D-3)

OH (AUTO) : LA-211-102 (D-3)		STD
Type	Sample Size (mL) SS	0.050
STD	Concentration of Titrant (Molarity)	0.1985
Work List	Titrant volume at end-point in mL	0.242
32836	*** Enter Dilution Factor (DF) or 1 ***	1
Test Code		
OH-01	Concentration of Sample (MOLARITY)	9.61E-01
Matrix	Concentration of Sample in PPM	1.63E+04
LIQUID		
Sample #		
STD		
Instrument Code		
PH01	Detection Limit (PPM)	
Analyst		
KRM	OH Molarity = ((mL HNO3)*(M HNO3))/Sample Size in mL)*Dilution Factor	
Date	OH in µg/mL = (OH MOLARITY)*(17.0g/mole)*(1000000µg/g)/(1000mL/L)	
03/07/2000		
Time		
02:27 AM		
		STD
	Concentration of Sample (MOLARITY)	9.61E-01
	Concentration of Sample in PPM	1.63E+04

OH (AUTO) : LA-211-102 (D-3)

		BLNK
Type	Sample Size (mL) SS	0.050
BLNK	Concentration of Titrant (Molarity)	0.1985
Work List	Titrant volume at end-point in mL	0.006
32836	*** Enter Dilution Factor (DF) or 1 ***	1
Test Code		
OH-01	Concentration of Sample (MOLARITY)	2.38E-02
Matrix	Concentration of Sample in PPM	4.05E+02
LIQUID		
Sample #		
BLNK	Detection Limit =(125µg/SS)*DF	
Instrument Code		
PH01	Detection Limit (PPM)	2.500E+03
Analyst		
KRM	OH Molarity =((mL HNO3)*(M HNO3))/Sample Size in mL)*Dilution Factor	
Date		
03/07/2000	OH in µg/mL = (OH MOLARITY)*(17.0g/mole)*(1000000µg/g)/(1000mL/L)	
Time		
02:27 AM		
		BLNK
Concentration of Sample (MOLARITY)		2.38E-02
Concentration of Sample in PPM		<2500
The Result is < Detection Limit		

OH (AUTO) : LA-211-102 (D-3)

OH (AUTO) : LA-211-102 (D-3)		SAMPLE
Type	Sample Size (mL) SS	0.050
SAMPLE	Concentration of Titrant (Molarity)	0.1985
Work List	Titrant volume at end-point in mL	0.279
32836	*** Enter Dilution Factor (DF) or 1 ***	1
Test Code		
OH-01	Concentration of Sample (MOLARITY)	1.11E+00
Matrix	Concentration of Sample in PPM	1.88E+04
LIQUID		
Sample #		
S00T000502	Detection Limit =(125µg/SS)*DF	
Instrument Code		
PH01	Detection Limit (PPM)	2.500E+03
Analyst		
KRM	OH Molarity =((mL HNO3)*(M HNO3))/Sample Size in mL)*Dilution Factor	
Date		
03/07/2000	OH in µg/mL = (OH MOLARITY)*(17.0g/mole)*(1000000µg/g)/(1000mL/L)	
Time		
02:27 AM		
		SAMPLE
	Concentration of Sample (MOLARITY)	1.11E+00
	Concentration of Sample in PPM	1.88E+04

OH (AUTO) : LA-211-102 (D-3)

		DUP
Type	Sample Size (mL) SS	0.050
DUP	Concentration of Titrant (Molarity)	0.1985
Work List	Titrant volume at end-point in mL	0.278
32836	*** Enter Dilution Factor (DF) or 1 ***	1
Test Code		
OH-01	Concentration of Sample (MOLARITY)	1.10E+00
Matrix	Concentration of Sample in PPM	1.88E+04
LIQUID		
Sample #		
S00T000502	Detection Limit =(125µg/SS)*DF	
Instrument Code		
PH01	Detection Limit (PPM)	2.500E+03
Analyst		
KRM	OH Molarity =((mL HNO3)*(M HNO3))/Sample Size in mL)*Dilution Factor	
Date		
03/07/2000	OH in µg/mL = (OH MOLARITY)*(17.0g/mole)*(1000000µg/g)/(1000mL/L)	
Time		
02:27 AM		
		DUP
	Concentration of Sample (MOLARITY)	1.10E+00
	Concentration of Sample in PPM	1.88E+04

OH (AUTO) : LA-211-102 (D-3)

OH (AUTO) : LA-211-102 (D-3)		SAMPLE
Type	Sample Size (mL) SS	0.050
SAMPLE	Concentration of Titrant (Molarity)	0.1985
Work List	Titrant volume at end-point in mL	0.170
32836	*** Enter Dilution Factor (DF) or 1 ***	1
Test Code		
OH-01	Concentration of Sample (MOLARITY)	6.75E-01
Matrix	Concentration of Sample in PPM	1.15E+04
LIQUID		
Sample #		
S00T000503	Detection Limit =(125µg/SS)*DF	
Instrument Code		
PH01	Detection Limit (PPM)	2.500E+03
Analyst		
KRM	OH Molarity =((mL HNO3)*(M HNO3))/Sample Size in mL)*Dilution Factor	
Date	OH in µg/mL = (OH MOLARITY)*(17.0g/mole)*(1000000µg/g)/(1000mL/L)	
03/07/2000		
Time		
02:27 AM		
		SAMPLE
	Concentration of Sample (MOLARITY)	6.75E-01
	Concentration of Sample in PPM	1.15E+04

OH (AUTO) : LA-211-102 (D-3)

		DUP
Type	Sample Size (mL) SS	0.050
DUP	Concentration of Titrant (Molarity)	0.1985
Work List	Titrant volume at end-point in mL	0.169
32836	*** Enter Dilution Factor (DF) or 1 ***	1
Test Code		
OH-01	Concentration of Sample (MOLARITY)	6.71E-01
Matrix	Concentration of Sample in PPM	1.14E+04
LIQUID		
Sample #		
S00T000503	Detection Limit =(125µg/SS)*DF	
Instrument Code		
PH01	Detection Limit (PPM)	2.500E+03
Analyst		
KRM	OH Molarity =((mL HNO3)*(M HNO3))/Sample Size in mL)*Dilution Factor	
Date		
03/07/2000	OH in µg/mL = (OH MOLARITY)*(17.0g/mole)*(1000000µg/g)/(1000mL/L)	
Time		
02:27 AM		
		DUP
	Concentration of Sample (MOLARITY)	6.71E-01
	Concentration of Sample in PPM	1.14E+04

OH (AUTO) : LA-211-102 (D-3)

OH (AUTO) : LA-211-102 (D-3)		SAMPLE
Type	Sample Size (mL) SS	0.050
SAMPLE	Concentration of Titrant (Molarity)	0.1985
Work List	Titrant volume at end-point in mL	0.277
32836	*** Enter Dilution Factor (DF) or 1 ***	1
Test Code		
OH-01	Concentration of Sample (MOLARITY)	1.10E+00
Matrix	Concentration of Sample in PPM	1.87E+04
LIQUID		
Sample #		
S00T000504	Detection Limit =(125µg/SS)*DF	
Instrument Code		
PH01	Detection Limit (PPM)	2.500E+03
Analyst		
KRM	OH Molarity =((mL HNO3)*(M HNO3))/Sample Size in mL)*Dilution Factor	
Date		
03/07/2000	OH in µg/mL = (OH MOLARITY)*(17.0g/mole)*(1000000µg/g)/(1000mL/L)	
Time		
02:27 AM		
		SAMPLE
	Concentration of Sample (MOLARITY)	1.10E+00
	Concentration of Sample in PPM	1.87E+04

OH (AUTO) : LA-211-102 (D-3)

		DUP
Type	Sample Size (mL) SS	0.050
DUP	Concentration of Titrant (Molarity)	0.1985
Work List	Titrant volume at end-point in mL	0.278
32836	*** Enter Dilution Factor (DF) or 1 ***	1
Test Code		
OH-01	Concentration of Sample (MOLARITY)	1.10E+00
Matrix	Concentration of Sample in PPM	1.88E+04
LIQUID		
Sample #		
S00T000504	Detection Limit =(125µg/SS)*DF	
Instrument Code		
PH01	Detection Limit (PPM)	2.500E+03
Analyst		
KRM	OH Molarity =((mL HNO3)*(M HNO3))/Sample Size in mL)*Dilution Factor	
Date		
03/07/2000	OH in µg/mL = (OH MOLARITY)*(17.0g/mole)*(1000000µg/g)/(1000mL/L)	
Time		
02:27 AM		
		DUP
	Concentration of Sample (MOLARITY)	1.10E+00
	Concentration of Sample in PPM	1.88E+04

LABCORE Completed Worklist Report for Worklist# 33107

Analyst: rdm

Instrument: PH01

Book#: 35N15A

Method: LA-211-102 Rev/Mod D-3

Worklist Comment: SY-102 GRAB 6 FOR OH-01 RTS

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD		0		OH-01	LIQUID	1.621e4	1.58e4	97.471 % Recovery	
2	SAMPLE	S00T000511	0		OH-01	LIQUID	N/A	2.44e4	2500.000	ug/mL
3	DUP	S00T000511	0		OH-01	LIQUID	2.44e4	2.40e4	1.653	RPD
4	SAMPLE	S00T000636	0		OH-01	LIQUID	N/A	2.47e4	2500.000	ug/mL
5	DUP	S00T000636	0		OH-01	LIQUID	2.47e4	2.42e4	2.045	RPD
6	SAMPLE	S00T000611	0		OH-01	LIQUID	N/A	2.46e4	2500.000	ug/mL
7	DUP	S00T000611	0		OH-01	LIQUID	2.46e4	2.26e4	8.475	RPD
8	SAMPLE	S00T000627	0		OH-01	LIQUID	N/A	2.61e4	2500.000	ug/mL
9	DUP	S00T000627	0		OH-01	LIQUID	2.61e4	2.54e4	2.718	RPD

Final page for worklist# 33107

Analyst Signature _____ Date _____

Mary Frank 4/4/00
Analyst Signature _____ Date _____

James Probs 4/4/00
Reviewer Signature _____ Date _____

HNF-1699 REV. 0

worklistrpt Version 2.1 05/15/95
03/30/00 15:57

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LABCORE Data Entry Template for Worklist# 33107

Analyst: RDM Instrument: PH01 Book # 35N15AMethod: LA-211-102 Rev/Mod D-3

Worklist Comment: SY-102 GRAB 6 FOR OH-01 RTS

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			OH-01	LIQUID			N/A	ug/mL
20000085	SY-102 GRAB6	2 SAMPLE	S00T000511	0	OH-01	LIQUID	N/A			ug/mL
20000085	SY-102 GRAB6	3 DUP	S00T000511	0	OH-01	LIQUID			N/A	ug/mL
20000085	SY-102 GRAB6	4 SAMPLE	S00T000636	0	OH-01	LIQUID	N/A			ug/mL
20000085	SY-102 GRAB6	5 DUP	S00T000636	0	OH-01	LIQUID			N/A	ug/mL
20000085	SY-102 GRAB6	6 SAMPLE	S00T000611	0	OH-01	LIQUID	N/A			ug/mL
20000085	SY-102 GRAB6	7 DUP	S00T000611	0	OH-01	LIQUID			N/A	ug/mL
20000085	SY-102 GRAB6	8 SAMPLE	S00T000627	0	OH-01	LIQUID	N/A			ug/mL
20000085	SY-102 GRAB6	9 DUP	S00T000627	0	OH-01	LIQUID			N/A	ug/mL

Final page for worklist # 33107

Analyst Signature RDM Date 4/3/00Analyst Signature Y. Wang Date 4/4/00

Data Entry Comments:

from 4/3/00
.1985 M Nitric Acid

Units 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-1699 REV. 0

date 00-04-04 time 09:01
 GET pH 12 # 195
 Id.#1 1787
 Id.#2 .1985 **31k**
 pH(init) 5.39
 V/ml pH
 EP1 **.011** 4.75
 manual stop
 =====

date 00-04-04 time 09:01
 GET pH 12 # 195
 .10ml/div Δ pH=1/div
 start V .000 ml

date 00-04-04 time 10:45
 GET pH 12 # 197
 .10ml/div Δ pH=1/div
 start V .000 ml

date 00-04-04 time 13:38
 GET pH 12 # 201
 Id.#1 1787 **61**
 Id.#2 .1985
 pH(init) 12.30

V/ml pH
 EP1 **.386** 10.79
 EP2 .463 9.90
 EP3 .544 9.25
 EP4 .582 8.50
 EP5 .612 7.83

stop volt.reached
 =====

date 00-04-04 time 13:45
 GET pH 12 # 202
 Id.#1 1787 **62**
 Id.#2 .1985 **04P**
 pH(init) 12.37

V/ml pH
 EP1 **.377** 10.80
 EP2 .560 8.63

stop volt.reached
 =====

date 00-04-04 time 09:06
 GET pH 12 # 196
 Id.#1 1787 **510**
 Id.#2 .1985
 pH(init) 12.60

V/ml pH
 EP1 **.234** 10.76
 stop volt.reached
 =====

date 00-04-04 time 10:53
 GET pH 12 # 198
 Id.#1 1787
 Id.#2 .1985 **511**
 pH(init) 12.40 **04P**

V/ml pH
 EP1 **.356** 10.81
 EP2 .537 8.57

stop volt.reached
 =====

date 00-04-04 time 09:07
 GET pH 12 # 196
 .10ml/div Δ pH=1/div
 start V .000 ml

date 00-04-04 time 11:00
 GET pH 12 # 198
 .10ml/div Δ pH=1/div
 start V .000 ml

date 00-04-04 time 10:42
 GET pH 12 # 197
 Id.#1 1787 **511**
 Id.#2 .1985
 pH(init) 12.32

V/ml pH
 EP1 **.361** 10.88
 EP2 .539 8.61

stop volt.reached
 =====

date 00-04-04 time 13:52
 GET pH 12 # 204
 Id.#1 1787
 Id.#2 .1985
 pH(init) 12.34
 V/ml pH
 EP1 .366 10.77
 EP2 .531 8.61
 stop volt.reached
 =====

date 00-04-04 time 14:16
 GET pH 12 # 205
 Id.#1 1787
 Id.#2 .1985
 pH(init) 12.46
 V/ml pH
 EP1 .359 10.75
 EP2 .510 8.89
 stop volt.reached
 =====

date 00-04-04 time 11:07
 GET pH 12 # 199
 Id.#1 1787
 Id.#2 .1985
 pH(init) 12.37
 V/ml pH
 EP1 .364 10.85
 EP2 .572 8.56
 stop volt.reached
 =====

date 00-04-04 time 14:01
 GET pH 12 # 204
 .10ml/div Δ pH=1/div
 start V .000 ml

date 00-04-04 time 14:16
 GET pH 12 # 205
 .10ml/div Δ pH=1/div
 start V .000 ml

date 00-04-04 time 11:08
 GET pH 12 # 199
 .10ml/div Δ pH=1/div
 start V .000 ml

date 00-04-04 time 11:13
 GET pH 12 # 200
 Id.#1 1787
 Id.#2 .1985
 pH(init) 12.37
 V/ml pH
 EP1 .335 10.87
 EP2 .525 8.73
 manual stop
 =====

date 00-04-04 time 11:13
 GET pH 12 # 200
 .10ml/div Δ pH=1/div
 start V .000 ml

011

OH (AUTO) : LA-211-102 (D-3)

		BLNK
Type	Sample Size (mL) SS	0.050
BLNK	Concentration of Titrant (Molarity)	0.1985
Work List	Titrant volume at end-point in mL	0.011
33107	*** Enter Dilution Factor (DF) or 1 ***	1
Test Code		
OH-01	Concentration of Sample (MOLARITY)	4.37E-02
Matrix	Concentration of Sample in PPM	7.42E+02
LIQUID		
Sample #		
BLNK	Detection Limit =(125µg/SS)*DF	
Instrument Code		
PH01	Detection Limit (PPM)	2.500E+03
Analyst		
RDM	OH Molarity =((mL HNO3)*(M HNO3))/Sample Size in mL)*Dilution Factor	
Date	OH in µg/mL = (OH MOLARITY)*(17.0g/mole)*(1000000µg/g)/(1000mL/L)	
04/03/2000		
Time		
02:16 PM		
		BLNK
Concentration of Sample (MOLARITY)		4.37E-02
Concentration of Sample in PPM		<2500
The Result is < Detection Limit		

OH (AUTO) : LA-211-102 (D-3)

OH (AUTO) : LA-211-102 (D-3)		STD
Type	Sample Size (mL) SS	0.050
STD	Concentration of Titrant (Molarity)	0.1985
Work List	Titrant volume at end-point in mL	0.234
33107	*** Enter Dilution Factor (DF) or 1 ***	1
Test Code		
OH-01	Concentration of Sample (MOLARITY)	9.29E-01
Matrix	Concentration of Sample in PPM	1.58E+04
LIQUID		
Sample #		
STD		
Instrument Code		
PH01	Detection Limit (PPM)	
Analyst		
RDM	OH Molarity = ((mL HNO3)*(M HNO3))/Sample Size in mL)*Dilution Factor	
Date	OH in µg/mL = (OH MOLARITY)*(17.0g/mole)*(1000000µg/g)/(1000mL/L)	
04/03/2000		
Time		
02:16 PM		
		STD
	Concentration of Sample (MOLARITY)	9.29E-01
	Concentration of Sample in PPM	1.58E+04

OH (AUTO) : LA-211-102 (D-3)

		SAMPLE
Type	Sample Size (mL) SS	0.050
SAMPLE	Concentration of Titrant (Molarity)	0.1985
Work List	Titrant volume at end-point in mL	0.361
33107	*** Enter Dilution Factor (DF) or 1 ***	1
Test Code		
OH-01	Concentration of Sample (MOLARITY)	1.43E+00
Matrix	Concentration of Sample in PPM	2.44E+04
LIQUID		
Sample #		
S00T000511	Detection Limit $= (125\mu\text{g}/\text{SS}) * \text{DF}$	
Instrument Code		
PH01	Detection Limit (PPM)	2.500E+03
Analyst		
RDM	OH Molarity $= ((\text{mL HNO}_3) * (\text{M HNO}_3)) / \text{Sample Size in mL} * \text{Dilution Factor}$	
Date	OH in $\mu\text{g}/\text{mL} = (\text{OH MOLARITY}) * (17.0\text{g}/\text{mole}) * (1000000\mu\text{g}/\text{g}) / (1000\text{mL}/\text{L})$	
04/03/2000		
Time		
02:16 PM		
		SAMPLE
	Concentration of Sample (MOLARITY)	1.43E+00
	Concentration of Sample in PPM	2.44E+04

OH (AUTO) : LA-211-102 (D-3)

OH (AUTO) : LA-211-102 (D-3)		DUP
Type	Sample Size (mL) SS	0.050
DUP	Concentration of Titrant (Molarity)	0.1985
Work List	Titrant volume at end-point in mL	0.356
33107	*** Enter Dilution Factor (DF) or 1 ***	1
Test Code		
OH-01	Concentration of Sample (MOLARITY)	1.41E+00
Matrix	Concentration of Sample in PPM	2.40E+04
LIQUID		
Sample #		
S00T000511	Detection Limit =(125µg/SS)*DF	
Instrument Code		
PH01	Detection Limit (PPM)	2.500E+03
Analyst		
RDM	OH Molarity =((mL HNO3)*(M HNO3))/Sample Size in mL)*Dilution Factor	
Date		
04/03/2000	OH in µg/mL = (OH MOLARITY)*(17.0g/mole)*(1000000µg/g)/(1000mL/L)	
Time		
02:16 PM		
		DUP
	Concentration of Sample (MOLARITY)	1.41E+00
	Concentration of Sample in PPM	2.40E+04

OH (AUTO) : LA-211-102 (D-3)

OH (AUTO) : LA-211-102 (D-3)		SAMPLE
Type	Sample Size (mL) SS	0.050
SAMPLE	Concentration of Titrant (Molarity)	0.1985
Work List	Titrant volume at end-point in mL	0.366
33107	*** Enter Dilution Factor (DF) or 1 ***	1
Test Code		
OH-01	Concentration of Sample (MOLARITY)	1.45E+00
Matrix	Concentration of Sample in PPM	2.47E+04
LIQUID		
Sample #		
S00T000636	Detection Limit =(125µg/SS)*DF	
Instrument Code		
PH01	Detection Limit (PPM)	2.500E+03
Analyst		
RDM	OH Molarity =((mL HNO3)*(M HNO3))/Sample Size in mL)*Dilution Factor	
Date		
04/03/2000	OH in µg/mL = (OH MOLARITY)*(17.0g/mole)*(1000000µg/g)/(1000mL/L)	
Time		
02:16 PM		
		SAMPLE
	Concentration of Sample (MOLARITY)	1.45E+00
	Concentration of Sample in PPM	2.47E+04

OH (AUTO) : LA-211-102 (D-3)

		DUP
Type	Sample Size (mL) SS	0.050
DUP	Concentration of Titrant (Molarity)	0.1985
Work List	Titrant volume at end-point in mL	0.359
33107	*** Enter Dilution Factor (DF) or 1 ***	1
Test Code		
OH-01	Concentration of Sample (MOLARITY)	1.43E+00
Matrix	Concentration of Sample in PPM	2.42E+04
LIQUID		
Sample #		
S00T000636	Detection Limit =(125µg/SS)*DF	
Instrument Code		
PH01	Detection Limit (PPM)	2.500E+03
Analyst		
RDM	OH Molarity =((mL HNO3)*(M HNO3))/Sample Size in mL)*Dilution Factor	
Date		
04/03/2000	OH in µg/mL = (OH MOLARITY)*(17.0g/mole)*(1000000µg/g)/(1000mL/L)	
Time		
02:16 PM		
		DUP
Concentration of Sample (MOLARITY)		1.43E+00
Concentration of Sample in PPM		2.42E+04

OH (AUTO) : LA-211-102 (D-3)

		SAMPLE
Type	Sample Size (mL) SS	0.050
SAMPLE	Concentration of Titrant (Molarity)	0.1985
Work List	Titrant volume at end-point in mL	0.364
33107	*** Enter Dilution Factor (DF) or 1 ***	1
Test Code		
OH-01	Concentration of Sample (MOLARITY)	1.45E+00
Matrix	Concentration of Sample in PPM	2.46E+04
LIQUID		
Sample #		
S00T000611	Detection Limit =(125µg/SS)*DF	
Instrument Code		
PH01	Detection Limit (PPM)	2.500E+03
Analyst		
RDM	OH Molarity =((mL HNO3)*(M HNO3))/Sample Size in mL)*Dilution Factor	
Date		
04/03/2000	OH in µg/mL = (OH MOLARITY)*(17.0g/mole)*(1000000µg/g)/(1000mL/L)	
Time		
02:16 PM		
		SAMPLE
Concentration of Sample (MOLARITY)		1.45E+00
Concentration of Sample in PPM		2.46E+04

OH (AUTO) : LA-211-102 (D-3)

		DUP
Type	Sample Size (mL) SS	0.050
DUP	Concentration of Titrant (Molarity)	0.1985
Work List	Titrant volume at end-point in mL	0.335
33107	*** Enter Dilution Factor (DF) or 1 ***	1
Test Code		
OH-01	Concentration of Sample (MOLARITY)	1.33E+00
Matrix	Concentration of Sample in PPM	2.26E+04
LIQUID		
Sample #		
S00T000611	Detection Limit $\approx (125\mu\text{g}/\text{SS}) \cdot \text{DF}$	
Instrument Code		
PH01	Detection Limit (PPM)	2.500E+03
Analyst		
RDM	OH Molarity $\approx ((\text{mL HNO}_3) \cdot (\text{M HNO}_3)) / (\text{Sample Size in mL}) \cdot \text{Dilution Factor}$	
Date	OH in $\mu\text{g}/\text{mL} = (\text{OH MOLARITY}) \cdot (17.0\text{g}/\text{mole}) \cdot (1000000\mu\text{g}/\text{g}) / (1000\text{mL}/\text{L})$	
04/03/2000		
Time		
02:16 PM		
		DUP
Concentration of Sample (MOLARITY)		1.33E+00
Concentration of Sample in PPM		2.26E+04

OH (AUTO) : LA-211-102 (D-3)

OH (AUTO) : LA-211-102 (D-3)		SAMPLE
Type	Sample Size (mL) SS	0.050
SAMPLE	Concentration of Titrant (Molarity)	0.1985
Work List	Titrant volume at end-point in mL	0.386
33107	*** Enter Dilution Factor (DF) or 1 ***	1
Test Code		
OH-01	Concentration of Sample (MOLARITY)	1.53E+00
Matrix	Concentration of Sample in PPM	2.61E+04
LIQUID		
Sample #		
S00T000627	Detection Limit =(125µg/SS)*DF	
Instrument Code		
PH01	Detection Limit (PPM)	2.500E+03
Analyst		
RDM	OH Molarity =((mL HNO3)*(M HNO3))/Sample Size in mL)*Dilution Factor	
Date		
04/03/2000	OH in µg/mL = (OH MOLARITY)*(17.0g/mole)*(1000000µg/g)/(1000mL/L)	
Time		
02:16 PM		
		SAMPLE
	Concentration of Sample (MOLARITY)	1.53E+00
	Concentration of Sample in PPM	2.61E+04

OH (AUTO) : LA-211-102 (D-3)

		DUP
Type	Sample Size (mL) SS	0.050
DUP	Concentration of Titrant (Molarity)	0.1985
Work List	Titrant volume at end-point in mL	0.377
33107	*** Enter Dilution Factor (DF) or 1 ***	1
Test Code		
OH-01	Concentration of Sample (MOLARITY)	1.50E+00
Matrix	Concentration of Sample in PPM	2.54E+04
LIQUID		
Sample #		
S00T000627	Detection Limit =(125µg/SS)*DF	
Instrument Code		
PH01	Detection Limit (PPM)	2.500E+03
Analyst		
RDM	OH Molarity =((mL HNO3)*(M HNO3))/Sample Size in mL)*Dilution Factor	
Date		
04/03/2000	OH in µg/mL = (OH MOLARITY)*(17.0g/mole)*(1000000µg/g)/(1000mL/L)	
Time		
02:16 PM		
		DUP
	Concentration of Sample (MOLARITY)	1.50E+00
	Concentration of Sample in PPM	2.54E+04

LABCORE Completed Worklist Report for Worklist# 33108

Analyst: rdm

Instrument: PH01

Book#: 35N15A

Method: LA-211-102 Rev/Mod D-3

Worklist Comment: SY-102 GRAB 6 FOR OH-01 RTS

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD		0		OH-01	SOLID	1.621e4	1.61e4	99.321 % Recovery	
2	BLNK-PREP		0		OH-01	SOLID	1	<8067		ug/g
3	SAMPLE	S00T000624	0	W	OH-01	SOLID	N/A	2.13e4	8067.000	ug/g
4	DUP	S00T000624	0	W	OH-01	SOLID	2.13e4	2.54e4	17.559	RPD
5	SAMPLE	S00T000634	0	W	OH-01	SOLID	N/A	2.08e4	8282.000	ug/g
6	DUP	S00T000634	0	W	OH-01	SOLID	2.08e4	2.07e4	0.482	RPD

Final page for worklist# 33108

Analyst Signature

Date

Analyst Signature

Date

Reviewer Signature

Date

LABCORE Completed Worklist Report for Worklist# 33108

Analyst: rdm

Instrument: PH01

Book#: 35N15A

Method: LA-211-102 Rev/Mod _____

Worklist Comment: SY-102 GRAB 6 FOR OH-01 RTS

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD		0		OH-01	SOLID	1.621e4	1.61e4	99.321 % Recovery	
2	BLNK-PREP		0		OH-01	SOLID	1	<8067		ug/g
3	SAMPLE	S00T000624	0	W	OH-01	SOLID	N/A	2.13e4	8067.000	ug/g
4	DUP	S00T000624	0	W	OH-01	SOLID	2.13e4	2.54e4	17.559	RPD
5	SAMPLE	S00T000634	0	W	OH-01	SOLID	N/A	2.08e4	8282.000	ug/g
6	DUP	S00T000634	0	W	OH-01	SOLID	2.08e4	2.07e4	0.482	RPD

Final page for worklist# 33108

Analyst Signature

Date

Analyst Signature

Date

Reviewer Signature

Date

7/10/00

184.1

HNF-1699 REV. 0

worklistrpt Version 2.1 05/15/95
03/30/00 15:58

Page: 1

LABCORE Data Entry Template for Worklist# 33108

Analyst: Ram

Instrument: PH01

Book # 35N15AMethod: LA-211-102 Rev/Mod D-3

Worklist Comment: SY-102 GRAB 6 FOR OH-01 RTS

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			OH-01	SOLID			N/A	ug/g
		2 BLNK-PREP			OH-01	SOLID			N/A	ug/g
20000085	SY-102 GRAB6	3 SAMPLE	S00T000624	0 W	OH-01	SOLID	N/A			ug/g
20000085	SY-102 GRAB6	4 DUP	S00T000624	0 W	OH-01	SOLID			N/A	ug/g
20000085	SY-102 GRAB6	5 SAMPLE	S00T000634	0 W	OH-01	SOLID	N/A			ug/g
20000085	SY-102 GRAB6	6 DUP	S00T000634	0 W	OH-01	SOLID			N/A	ug/g

Final page for worklist # 33108

Analyst Signature Ram Date 4/7/00Analyst Signature Y. Mary Jones Date 4/10/00

Data Entry Comments:

.1982M Nitric Acid

Units 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-1699 REV. 0

date 00-04-08 time 13:34
 GET pH 12 # 206
 Id.#1 1787
 Id.#2 1985
 pH(init) 4.37
 V.ml pH
 EP1 .009 3.83
 stop volt.reached
 =====

date 00-04-08 time 13:58
 GET pH 12 # 209
 Id.#1 1787
 Id.#2 1985
 pH(init) 1.41
 V.ml pH
 EP1 .098 10.07
 EP2 .151 7.65
 manual stop
 =====

date 00-04-08 time 14:09
 GET pH 12 # 211
 Id.#1 1787
 Id.#2 1985
 pH(init) 1.45
 V.ml pH
 EP1 .093 9.88
 stop volt.reached
 =====

date 00-04-08 time 13:35
 GET pH 12 # 206
 .10ml/div Δ pH=1/div
 start V .000 ml

date 00-04-08 time 13:58
 GET pH 12 # 209
 .10ml/div Δ pH=1/div
 start V .000 ml

date 00-04-08 time 14:17
 GET pH 12 # 211
 .10ml/div Δ pH=1/div
 start V .000 ml

date 00-04-08 time 13:41
 GET pH 12 # 207
 Id.#1 1787
 Id.#2 1985
 pH(init) 1.94
 V.ml pH
 EP1 .139 10.09
 stop volt.reached
 =====

date 00-04-08 time 14:02
 GET pH 12 # 210
 Id.#1 1787
 Id.#2 1985
 pH(init) 1.53
 V.ml pH
 EP1 .115 10.00
 stop volt.reached
 =====

date 00-04-08 time 14:20
 GET pH 12 # 212
 Id.#1 1787
 Id.#2 1985
 pH(init) 1.44
 V.ml pH
 EP1 .092 9.83
 stop volt.reached
 =====

date 00-04-08 time 13:45
 GET pH 12 # 207
 .10ml/div Δ pH=1/div
 start V .000 ml

date 00-04-08 time 14:04
 GET pH 12 # 210
 .10ml/div Δ pH=1/div
 start V .000 ml

date 00-04-08 time 14:28
 GET pH 12 # 212
 .10ml/div Δ pH=1/div
 start V .000 ml

date 00-04-08 time 13:54
 GET pH 12 # 208
 Id.#1 1787
 Id.#2 1985
 pH(init) 6.21
 V.ml pH
 EP1 .008 5.16
 stop volt.reached
 =====

date 00-04-08 time 13:54
 GET pH 12 # 208
 .10ml/div Δ pH=1/div
 start V .000 ml

OH (AUTO) : LA-211-102 (D-3)

OH (AUTO) : LA-211-102 (D-3)		STD
Type	Sample Size (mL) SS	0.050
STD	Concentration of Titrant (Molarity)	0.1982
Work List	Titrant volume at end-point in mL	0.239
33108	*** Enter Dilution Factor (DF) or 1 ***	1
Test Code		
OH-01	Concentration of Sample Prep (MOLARITY)	9.47E-01
Matrix	Concentration of Sample in PPM	1.61E+04
Solid		
Sample #		
STD		
Instrument Code		
PH01	Detection Limit (PPM)	
Analyst		
RDM	OH Molarity = ((mL HNO3)*(M HNO3))/Sample Size in mL)*Dilution Factor	
Date	OH in µg/mL = (OH MOLARITY)*(17.0g/mole)*(1000000µg/g)/(1000mL/L)	
04/07/2000		
Time		
02:28 PM		
		STD
	Concentration of Sample in PPM	1.61E+04

OH (AUTO) : LA-211-102 (D-3)

		BLNK-PREP
Type	Sample Size (mL) SS	3.000
BLNK-PREP	Concentration of Titrant (Molarity)	0.1982
Work List	Titrant volume at end-point in mL	0.008
33108	*** Enter Dilution Factor (DF) or 1 ***	1
Test Code	***Enter Digest Factor (DDF) in g/L***	5.165
OH-01	Concentration of Sample Prep (MOLARITY)	5.29E-04
Matrix	Concentration of Sample in PPM	1.74E+03
Solid		
Sample #		
BLNK-PREP	Detection Limit=((125µg /SS)*DF)*1000/DDF	
Instrument Code		
PH01	Detection Limit (PPM)	8.067E+03
Analyst		
RDM	OH Molarity =((mL HNO3)*(M HNO3))/Sample Size in mL)*Dilution Factor	
Date		
04/07/2000	OH in µg/g =(OH MOLARITY)*(17g/mole) *(1000000 µg/g)/DDF	
Time		
02:28 PM		
		BLNK-PREP
Concentration of Sample in PPM		<8067
The Result is < Detection Limit		

OH (AUTO) : LA-211-102 (D-3)

OH (AUTO) : LA-211-102 (D-3)		SAMPLE
Type	Sample Size (mL) SS	3.000
SAMPLE	Concentration of Titrant (Molarity)	0.1982
Work List	Titrant volume at end-point in mL	0.098
33108	*** Enter Dilution Factor (DF) or 1 ***	1
Test Code	***Enter Digest Factor (DDF) in g/L***	5.165
OH-01	Concentration of Sample Prep (MOLARITY)	6.47E-03
Matrix	Concentration of Sample in PPM	2.13E+04
Solid		
Sample #		
S00T000624	Detection Limit=((125µg /SS)*DF)*1000/DDF	
Instrument Code		
PH01	Detection Limit (PPM)	8.067E+03
Analyst		
RDM	OH Molarity =((mL HNO3)*(M HNO3))/Sample Size in mL)*Dilution Factor	
Date		
04/07/2000	OH in µg/g =(OH MOLARITY)*(17g/mole) *(1000000 µg/g)/DDF	
Time		
02:28 PM		
		SAMPLE
	Concentration of Sample in PPM	2.13E+04

OH (AUTO) : LA-211-102 (D-3)

		DUP
Type	Sample Size (mL) SS	3.000
DUP	Concentration of Titrant (Molarity)	0.1982
Work List	Titration volume at end-point in mL	0.115
33108	*** Enter Dilution Factor (DF) or 1 ***	1
Test Code	***Enter Digest Factor (DDF) in g/L***	5.084
OH-01	Concentration of Sample Prep (MOLARITY)	7.60E-03
Matrix	Concentration of Sample in PPM	2.54E+04
Solid		
Sample #		
S00T000624	Detection Limit=((125µg /SS)*DF)*1000/DDF	
Instrument Code		
PH01	Detection Limit (PPM)	8.196E+03
Analyst		
RDM	OH Molarity =((mL HNO3)*(M HNO3))/Sample Size in mL)*Dilution Factor	
Date		
04/07/2000	OH in µg/g =(OH MOLARITY)*(17g/mole) *(1000000 µg/g)/DDF	
Time		
02:28 PM		
		DUP
Concentration of Sample in PPM		2.54E+04

OH (AUTO) : LA-211-102 (D-3)

OH (AUTO) : LA-211-102 (D-3)		SAMPLE
Type	Sample Size (mL) SS	3.000
SAMPLE	Concentration of Titrant (Molarity)	0.1982
Work List	Titrant volume at end-point in mL	0.093
33108	*** Enter Dilution Factor (DF) or 1 ***	1
Test Code	***Enter Digest Factor (DDF) in g/L***	5.031
OH-01	Concentration of Sample Prep (MOLARITY)	6.14E-03
Matrix	Concentration of Sample in PPM	2.08E+04
Solid		
Sample #		
S00T000634	Detection Limit=((125µg /SS)*DF)*1000/DDF	
Instrument Code		
PH01	Detection Limit (PPM)	8.282E+03
Analyst		
RDM	OH Molarity =((mL HNO3)*(M HNO3))/Sample Size in mL)*Dilution Factor	
Date		
04/07/2000	OH in µg/g =(OH MOLARITY)*(17g/mole) *(1000000 µg/g)/DDF	
Time		
02:28 PM		
		SAMPLE
	Concentration of Sample in PPM	2.08E+04

OH (AUTO) : LA-211-102 (D-3)

		DUP
Type	Sample Size (mL) SS	3.000
DUP	Concentration of Titrant (Molarity)	0.1982
Work List	Titrant volume at end-point in mL	0.092
33108	*** Enter Dilution Factor (DF) or 1 ***	1
Test Code	***Enter Digest Factor (DDF) in g/L***	4.995
OH-01	Concentration of Sample Prep (MOLARITY)	6.08E-03
Matrix	Concentration of Sample in PPM	2.07E+04
Solid		
Sample #		
S00T000634	Detection Limit=((125µg /SS)*DF)*1000/DDF	
Instrument Code		
PH01	Detection Limit (PPM)	8.342E+03
Analyst		
RDM	OH Molarity =((mL HNO3)*(M HNO3))/Sample Size in mL)*Dilution Factor	
Date		
04/07/2000	OH in µg/g =(OH MOLARITY)*(17g/mole) *(1000000 µg/g)/DDF	
Time		
02:28 PM		
		DUP
Concentration of Sample in PPM		2.07E+04

LABCORE Completed Worklist Report for Worklist# 32893

Analyst: rwk

Instrument: NH301

Book#: 7/N/9-B

Method: LA-631-001 Rev/Mod D-2

Worklist Comment: SY-102 FOR NH3-01 RTS

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 BLNK		0	NH3-01	LIQUID	1	<2.50E+2		ug/mL
2 STD		0	NH3-01	LIQUID	4.87E+02	5.00E+2	102.669 % Recovery	
3 SAMPLE	S00T000502	0	NH3-01	LIQUID	N/A	1.14E+03	250.000	ug/mL
4 DUP	S00T000502	0	NH3-01	LIQUID	1.14E+3	1.29E+3	12.346 RPD	
5 SPK	S00T000502	0	NH3-01	LIQUID	1.22E+02	1.21E+02	99.180 % Recovery	
6 SAMPLE	S00T000503	0	NH3-01	LIQUID	N/A	4.83E+02	250.000	ug/mL
7 DUP	S00T000503	0	NH3-01	LIQUID	4.83E+2	4.86E+2	0.619 RPD	
8 SAMPLE	S00T000504	0	NH3-01	LIQUID	N/A	1.06E+03	250.000	ug/mL
9 DUP	S00T000504	0	NH3-01	LIQUID	1.06E+3	1.01E+3	4.831 RPD	
10 STD		0	NH3-01	LIQUID	4.87E+02	5.45E+2	111.910 % Recovery	

Final page for worklist# 32893

Analyst Signature

Date

Analyst Signature

Date

Reviewer Signature

Date

03/09/00 09:31
ws2

Page: 1

LABCORE Data Entry Template for Worklist# 32893Analyst: W/K Instrument: NH301 Book# 71719-BMethod: LA-631-001 Rev/Mod D-2

Worklist Comment: SY-102 FOR NH3-01 RTS

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 BLNK			NH3-01	LIQUID		
2 STD			NH3-01	LIQUID		
3 SAMPLE	S00T000502 0		NH3-01	LIQUID	20000085	SY-102 GRAB6
	Analytes Requested: NH3-01					
4 DUP	S00T000502 0		NH3-01	LIQUID		
5 SPK	S00T000502 0		NH3-01	LIQUID		
6 SAMPLE	S00T000503 0		NH3-01	LIQUID	20000085	SY-102 GRAB6
	Analytes Requested: NH3-01					
7 DUP	S00T000503 0		NH3-01	LIQUID		
8 SAMPLE	S00T000504 0		NH3-01	LIQUID	20000085	SY 102 GRAB6
	Analytes Requested: NH3-01					
9 DUP	S00T000504 0		NH3-01	LIQUID		
10 STD			NH3-01	LIQUID		

Final page for worklist # 32893W/K 3/11/00
Signature DateMary Franz 3/13/00
Signature Date

Data Entry Comments:

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

DOUBLE KNOWN ADDITION SELECTED
AT 19:58. 03-10-00

SAMPLE VOL= 25.000 AT 20:00. 03-10-00
ENTERED

EMF= 0 mV AT 20:03. 03-10-00

EMF=-0.3 mV AT 20:04. 03-10-00

EMF=-0.5 mV AT 20:04. 03-10-00

EMF=-0.6 mV AT 20:04. 03-10-00
ENTERED

STD CONC= 1020 AT 20:04. 03-10-00
ENTERED

STD VOL= .25000 AT 20:04. 03-10-00
ENTERED

EMF=-18.2 mV AT 20:06. 03-10-00

EMF=-18.4 mV AT 20:06. 03-10-00

EMF=-18.5 mV AT 20:07. 03-10-00

EMF=-18.7 mV AT 20:07. 03-10-00

EMF=-18.7 mV AT 20:07. 03-10-00
ENTERED

STD VOL= 2.5000 AT 20:07. 03-10-00
ENTERED

EMF=-62.7 mV AT 20:10. 03-10-00

EMF=-63.2 mV AT 20:10. 03-10-00

EMF=-63.5 mV AT 20:10. 03-10-00

EMF=-63.6 mV AT 20:10. 03-10-00
ENTERED

1:NH3 SLOPE=-60.9 mV/DEC
AT 20:10. 03-10-00

1:NH3 CONC= 10.2

stop

DOUBLE KNOWN ADDITION SELECTED
AT 08:32, 03-10-00

SAMPLE VOL= 25.000 AT 08:32, 03-10-00
ENTERED

EMF= 76.9 mV AT 08:32, 03-10-00

EMF= 76.8 mV AT 08:33, 03-10-00

EMF= 76.7 mV AT 08:33, 03-10-00

EMF= 76.6 mV AT 08:34, 03-10-00

EMF= 76.6 mV AT 08:34, 03-10-00
ENTERED

STD CONC= 1020 AT 08:35, 03-10-00
ENTERED

STD VOL= .25000 AT 08:39, 03-10-00
ENTERED

EMF=-24.2 mV AT 08:39, 03-10-00

EMF=-24.3 mV AT 08:39, 03-10-00

EMF=-24.5 mV AT 08:40, 03-10-00

EMF=-24.7 mV AT 08:40, 03-10-00

EMF=-24.9 mV AT 08:41, 03-10-00

EMF=-24.9 mV AT 08:41, 03-10-00
ENTERED

STD VOL= 2.5000 AT 08:43, 03-10-00
ENTERED

EMF=-83.0 mV AT 08:44, 03-10-00

EMF=-83.2 mV AT 08:44, 03-10-00

EMF=-83.2 mV AT 08:44, 03-10-00

EMF=-83.3 mV AT 08:45, 03-10-00

EMF=-83.5 mV AT 08:45, 03-10-00
ENTERED

1:NH3 SLOPE=-59.0 mV/DEC
AT 08:45, 03-10-00

1:NH3 CONC= .196

BIK
WL 32803

HNF-1699 REV. 0

DOUBLE KNOWN ADDITION SELECTED
AT 22:24, 03-10-00

SAMPLE VOL= 25.000 AT 22:29, 03-10-00
ENTERED

EMF= 13.6 mV AT 22:31, 03-10-00

EMF= 13.5 mV AT 22:31, 03-10-00
ENTERED

STD CONCN= 1020 AT 22:31, 03-10-00
ENTERED

STD VOL= .25000 AT 22:32, 03-10-00
ENTERED

EMF=-15.7 mV AT 22:32, 03-10-00

EMF=-15.9 mV AT 22:33, 03-10-00
ENTERED

STD VOL= 2.5000 AT 22:33, 03-10-00
ENTERED

EMF=-66.4 mV AT 22:35, 03-10-00

EMF=-66.6 mV AT 22:35, 03-10-00

EMF=-66.6 mV AT 22:35, 03-10-00
ENTERED

1:NH3 SLOPE=-59.5 mV/DEC
AT 22:35, 03-10-00

1:NH3 CONCN= 4.74

502

HNF-1699 REV. 0

DOUBLE KNOWN ADDITION SELECTED
AT 22:38. 03-10-00

SAMPLE VOL= 25.000 AT 22:42. 03-10-00
ENTERED

EMF= 15.8 mV AT 22:44. 03-10-00

EMF= 15.7 mV AT 22:44. 03-10-00
ENTERED

STD CONC= 1020 AT 22:44. 03-10-00
ENTERED

STD VOL= .25000 AT 22:44. 03-10-00
ENTERED

EMF=-17.4 mV AT 22:45. 03-10-00

EMF=-11.6 mV AT 22:47. 03-10-00

EMF=-11.4 mV AT 22:47. 03-10-00

EMF=-11.2 mV AT 22:48. 03-10-00

EMF=-11.2 mV AT 22:48. 03-10-00
ENTERED

STD VOL= 2.5000 AT 22:48. 03-10-00
ENTERED

EMF=-60.2 mV AT 22:49. 03-10-00

EMF=-60.3 mV AT 22:49. 03-10-00
ENTERED

1:NH3 SLOPE=-58.6 mV/DEC
AT 22:50. 03-10-00

1:NH3 CONC= 5.36

502
DUP

HNF-1699 REV. 0

DOUBLE KNOWN ADDITION SELECTED
AT 22:53. 03-10-00

SAMPLE VOL= 25.000 AT 22:57. 03-10-00
ENTERED

EMF=-1.6 mV AT 22:59. 03-10-00

EMF=-2.0 mV AT 23:00. 03-10-00

EMF=-2.0 mV AT 23:00. 03-10-00
ENTERED

STD CONC= 1020 AT 23:00. 03-10-00
ENTERED

STD VOL= .25000 AT 23:00. 03-10-00
ENTERED

EMF=-20.7 mV AT 23:02. 03-10-00

EMF=-20.9 mV AT 23:02. 03-10-00

EMF=-20.9 mV AT 23:02. 03-10-00
ENTERED

STD VOL= 2.5000 AT 23:03. 03-10-00
ENTERED

EMF=-66.2 mV AT 23:06. 03-10-00

EMF=-66.5 mV AT 23:06. 03-10-00

EMF=-66.5 mV AT 23:06. 03-10-00
ENTERED

1:NH3 SLOPE=-61.0 mV/DEC
AT 23:06. 03-10-00

1:NH3 CONC= 9.60

502
SPK

HNF-1699 REV. 0

DOUBLE KNOWN ADDITION SELECTED
AT 23:08. 03-10-00

SAMPLE VOL= 25.000 AT 23:13. 03-10-00
ENTERED

EMF= 36.1 mV AT 23:15. 03-10-00

EMF= 36.1 mV AT 23:15. 03-10-00
ENTERED

STD CONCN= 1020 AT 23:15. 03-10-00
ENTERED

STD VOL= .25000 AT 23:15. 03-10-00
ENTERED

EMF=-8.9 mV AT 23:16. 03-10-00

EMF=-8.9 mV AT 23:17. 03-10-00
ENTERED

STD VOL= 2.5000 AT 23:17. 03-10-00
ENTERED

EMF=-63.6 mV AT 23:19. 03-10-00

EMF=-63.9 mV AT 23:19. 03-10-00

EMF=-63.9 mV AT 23:19. 03-10-00
ENTERED

1:NH3 SLOPE=-59.4 mV/DEC
AT 23:19. 03-10-00

1:NH3 CONCN= 2.13

503

HNF-1699 REV. 0

DOUBLE KNOWN ADDITION SELECTED
AT 23:19. 03-10-00

SAMPLE VOL= 25.000 AT 23:24. 03-10-00
ENTERED

EMF= 39.0 mV AT 23:25. 03-10-00

EMF= 39.0 mV AT 23:26. 03-10-00
ENTERED

STD CONC= 1020 AT 23:26. 03-10-00
ENTERED

STD VOL= .25000 AT 23:26. 03-10-00
ENTERED

EMF=-7.7 mV AT 23:27. 03-10-00

EMF=-7.4 mV AT 23:27. 03-10-00
ENTERED

STD VOL= 2.5000 AT 23:28. 03-10-00
ENTERED

EMF=-63.9 mV AT 23:30. 03-10-00

EMF=-64.2 mV AT 23:30. 03-10-00

EMF=-64.2 mV AT 23:30. 03-10-00
ENTERED

1:NH3 SLOPE=-61.4 mV/DEC
AT 23:30. 03-10-00

1:NH3 CONC= 2.14

503
04P

HNF-1699 REV. 0

DOUBLE KNOWN ADDITION SELECTED
AT 23:31. 03-10-00

SAMPLE VOL= 25.000 AT 23:35. 03-10-00
ENTERED

EMF= 20.1 mV AT 23:37. 03-10-00

EMF= 20.0 mV AT 23:37. 03-10-00
ENTERED

STD CONC= 1020 AT 23:38. 03-10-00
ENTERED

STD VOL= .25000 AT 23:38. 03-10-00
ENTERED

EMF=-11.1 mV AT 23:39. 03-10-00

EMF=-11.1 mV AT 23:40. 03-10-00
ENTERED

STD VOL= 2.5000 AT 23:40. 03-10-00
ENTERED

EMF=-63.0 mV AT 23:42. 03-10-00

EMF=-63.2 mV AT 23:42. 03-10-00

EMF=-63.2 mV AT 23:42. 03-10-00
ENTERED

1:NH3 SLOPE=-60.6 mV/DEC
AT 23:42. 03-10-00

1:NH3 CONC= 4.45

504

HNF-1699 REV. 0

DOUBLE KNOWN ADDITION SELECTED
AT 00:15. 03-11-00

SAMPLE VOL= 25.000 AT 00:19. 03-11-00
ENTERED

EMF= 18.9 mV AT 00:21. 03-11-00

EMF= 18.8 mV AT 00:21. 03-11-00
ENTERED

STD CONC= 1020 AT 00:21. 03-11-00
ENTERED

STD VOL= .25000 AT 00:21. 03-11-00
ENTERED

EMF=-13.2 mV AT 00:23. 03-11-00

EMF=-13.4 mV AT 00:23. 03-11-00

EMF=-13.4 mV AT 00:23. 03-11-00
ENTERED

STD VOL= 2.5000 AT 00:24. 03-11-00
ENTERED

EMF=-65.9 mV AT 00:26. 03-11-00

EMF=-66.1 mV AT 00:26. 03-11-00
ENTERED

1:NH3 SLOPE=-60.9 mV/DEC
AT 00:26. 03-11-00

1:NH3 CONC= 4.22

504
DUP

HNF-1699 REV. 0

DOUBLE KNOWN ADDITION SELECTED
AT 01:09. 03-11-00

SAMPLE VOL= 25.000 AT 01:14. 03-11-00
ENTERED

EMF=-42.4 mV AT 01:16. 03-11-00

EMF=-42.4 mV AT 01:17. 03-11-00
ENTERED

STD CONC= 1020 AT 01:17. 03-11-00
ENTERED

STD VOL= .25000 AT 01:17. 03-11-00
ENTERED

EMF=-58.7 mV AT 01:18. 03-11-00

EMF=-58.9 mV AT 01:19. 03-11-00

EMF=-59.2 mV AT 01:19. 03-11-00

EMF=-59.2 mV AT 01:19. 03-11-00
ENTERED

STD VOL= 2.5000 AT 01:19. 03-11-00
ENTERED

EMF=-102.4 mV AT 01:21. 03-11-00

EMF=-102.6 mV AT 01:22. 03-11-00

EMF=-102.7 mV AT 01:22. 03-11-00
ENTERED

1:NH3 SLOPE=-60.3 mV/DEC
AT 01:22. 03-11-00

1:NH3 CONC= 11.1

End file

WORKBOOK PAGE: STD2

AMMONIA (NH3) : LA-631-001 (D-2)

LIQUIDS/SOLIDS

		STD
Type	Instrument Data (µg/mL) ID	10.200
STD	Blank Result from the Instrument (µg/mL) BR	0.196
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL) VSAM	0.500
32893	Final Vol of Dilution (mL) or Vol of Sample Direct (mL) FVOL	25.0
Test Code	LCS Standard Book Number LCS	71N19B
NH3-01	LCS Standard Concentration (µg/mL) STD VAL	4.87E+02
Matrix		
Batch Number		
20000954		
Rerun		
0		
Sample Prep		
N/A	NH3 Concentration (µg/mL) NH3 CONC	5.00E+02
Sample #		
STD	Detection Limit (µg/mL) 5.00E+01	
Instrument Code		
NH301	Detection Limit = 1.000µg * (FVOL/VSAM)	
Prepared By		
MF	NH3 Concentration (µg/mL) = (ID-BR)*(FVOL /VSAM)	
Chemist		
MJL	QC ACTUAL = STD VAL	
Analyst	QC FOUND = (ID-BR) * (FVOL/VSAM)	
RWK		
Date Complete		
03/13/2000		
Analysis Date	QC ACTUAL (µg)	4.87E+02
03/11/2000	QC FOUND (µg)	5.00E+02
Analysis Time		
02:39 AM		
Sample Point		
SY-102		

Analyst:

RWK Date: 03/13/2000

Signature of Chemist:

MJL Date:

SAMPLE.WB1 REV 1.0

631001ML

WORKBOOK PAGE: BLANK1

AMMONIA (NH3) : LA-631-001 (D-2)**LIQUIDS/SOLIDS**

		BLNK
Type	Instrument Data (µg/mL) ID	0.000
BLNK	Blank Result from the Instrument (µg/mL) BR	0.196
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL) VSAM	0.100
32893	Final Vol of Dilution (mL) or Vol of Sample Direct (mL) FVOL	25.0
Test Code		
NH3-01		
Matrix		
LIQUID	Dilution Factor DF	1.000
Batch Number		
20000954		
Rerun		
0		
Sample Prep		
N/A	NH3 Concentration (µg/mL) NH3 CONC	< 2.50E+02
Sample #		
BLNK	Detection Limit (µg/mL) 2.50E+02	
Instrument Code		
NH301	Detection Limit = 1.000µg * (FVOL/VSAM)	
Prepared By		
MF	NH3 Concentration (µg/mL) = (BR) * (FVOL / VSAM) * DDF	
Chemist		
MJL		
Analyst		
RWK		
Date Complete		
03/13/2000		
Analysis Date		
03/11/2000		
Analysis Time		
02:39 AM		
Sample Point	NH3 Concentration (µg/mL)	< 2.50E+02
SY-102		

Analyst:

RWK Date: 03/13/2000

Signature of Chemist:

MJL Date:

SAMPLE.WB1 REV 1.0

631001ML

WORKBOOK PAGE: SAM3

AMMONIA (NH3) : LA-631-001 (D-2)**LIQUIDS/SOLIDS**

		SAMPLE
Type	Instrument Data (µg/mL) ID	4.740
SAMPLE	Blank Result from the Instrument (µg/mL) BR	0.196
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL) VSAM	0.100
32893	Final Vol of Dilution (mL) or Vol of Sample Direct (mL) FVOL	25.0
Test Code		
NH3-01		
Matrix		
LIQUID	Dilution Factor DF	1.000
Batch Number		
20000954		
Rerun		
0		
Sample Prep		
N/A	NH3 Concentration (µg/mL) NH3 CONC	1.14E+03
Sample #		
S00T000502	Detection Limit (µg/mL) 2.50E+02	
Instrument Code		
NH301	Detection Limit = 1.000µg * (FVOL/VSAM) * DF	
Prepared By		
MF	NH3 Concentration (µg/mL) = (ID-BR) * (FVOL / VSAM)*DF	
Chemist		
MJL		
Analyst		
RWK		
Date Complete		
03/13/2000		
Analysis Date		
03/11/2000		
Analysis Time		
02:39 AM		
Sample Point	NH3 Concentration (µg/mL)	1.14E+03
SY-102		

Analyst:		RWK Date: 03/13/2000
Signature of Chemist:		MJL Date:

SAMPLE.WB1 REV 1.0

631001ML

WORKBOOK PAGE: DUP4

AMMONIA (NH3) : LA-631-001 (D-2)**LIQUIDS/SOLIDS**

		DUP
Type	Instrument Data (µg/mL) ID	5.360
DUP	Blank Result from the Instrument (µg/mL) BR	0.196
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL) VSAM	0.100
32893	Final Vol of Dilution (mL) or Vol of Sample Direct (mL) FVOL	25.0
Test Code		
NH3-01		
Matrix		
LIQUID	Dilution Factor DF	1.000
Batch Number		
20000954		
Rerun		
0		
Sample Prep		
N/A	NH3 Concentration (µg/mL) NH3 CONC	1.29E+03
Sample #		
S00T000502	Detection Limit (µg/mL) 2.50E+02	
Instrument Code		
NH301	Detection Limit = 1.000µg * (FVOL/VSAM) * DF	
Prepared By		
MF	NH3 Concentration (µg/mL) = (ID-BR) * (FVOL / VSAM)*DF	
Chemist		
MJL		
Analyst		
RWK		
Date Complete		
03/13/2000		
Analysis Date		
03/11/2000		
Analysis Time		
02:39 AM		
Sample Point	NH3 Concentration (µg/mL)	1.29E+03
SY-102		

Analyst:

RWK Date: 03/13/2000

Signature of Chemist:

MJL Date:

SAMPLE.WB1 REV 1.0

651001ML

WORKBOOK PAGE: SPIKE5

AMMONIA (NH3) : LA-631-001 (D-2)**LIQUIDS/SOLIDS**

		SPK
Type	Instrument Data (µg/mL)	ID 9.600
SPK	Blank Result from the Instrument (µg/mL)	BR 0.196
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL)	VSAM 0.100
32893	Final Vol of Dilution (mL) or Vol of Sample Direct (mL)	FVOL 25.0
Test Code	Spike Book Number	SPK 71N19B
NH3-01	Spike Value (µg/mL)	SPK VAL 4.87E+02
Matrix	Vol of Spike Standard Used (mL)	VOL SPK 0.250
LIQUID		
Batch Number		
20000954		
Rerun	Sample Instrument Data (µg/mL)	SAM ID 4.74
0	Sample Volume of Sample (mL)	SAM VSAM 0.100
Sample Prep	Sample Final Volume (mL)	SAM FVOL 25.0
N/A		
Sample #		
S00T000502		
Instrument Code		
NH301		
Prepared By		
MF		
Chemist		
MJL	QC ACTUAL = SPK VAL * VOL SPK	
Analyst	QC FOUND = (((ID-BR) * FVOL) - (SAM ID - BR) * SAM FVOL * (VSAM / SAM VSAM))	
RWK		
Date Complete		
03/13/2000		
Analysis Date	QC ACTUAL (µg)	1.22E+02
03/11/2000	QC FOUND (µg)	1.21E+02
Analysis Time		
02:39 AM		
Sample Point		
SY-102		

Analyst:

RWK Date: 03/13/2000

Signature of Chemist:

MJL Date:

SAMPLE.WB1 REV 1.0

631001ML

WORKBOOK PAGE: SAM6

AMMONIA (NH3) : LA-631-001 (D-2)**LIQUIDS/SOLIDS**

		SAMPLE
Type	Instrument Data (µg/mL) ID	2.130
SAMPLE	Blank Result from the Instrument (µg/mL) BR	0.196
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL) VSAM	0.100
32893	Final Vol of Dilution (mL) or Vol of Sample Direct (mL) FVOL	25.0
Test Code		
NH3-01		
Matrix		
LIQUID	Dilution Factor DF	1.000
Batch Number		
20000954		
Rerun		
0		
Sample Prep		
N/A	NH3 Concentration (µg/mL) NH3 CONC	4.83E+02
Sample #		
S00T000503	Detection Limit (µg/mL) 2.50E+02	
Instrument Code		
NH301	Detection Limit = 1.000µg * (FVOL/VSAM) * DF	
Prepared By		
MF	NH3 Concentration (µg/mL) = (ID-BR) * (FVOL / VSAM)*DF	
Chemist		
MJL		
Analyst		
RWK		
Date Complete		
03/13/2000		
Analysis Date		
03/11/2000		
Analysis Time		
02:39 AM		
Sample Point	NH3 Concentration (µg/mL)	4.83E+02
SY-102		

Analyst:	RWK Date: 03/13/2000
Signature of Chemist:	MJL Date:

631001ML

SAMPLE.WB1 REV 1.0

WORKBOOK PAGE: DUP7

AMMONIA (NH3) : LA-631-001 (D-2)**LIQUIDS/SOLIDS**

		DUP
Type	Instrument Data (µg/mL) ID	2.140
DUP	Blank Result from the Instrument (µg/mL) BR	0.196
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL) VSAM	0.100
32893	Final Vol of Dilution (mL) or Vol of Sample Direct (mL) FVOL	25.0
Test Code		
NH3-01		
Matrix		
LIQUID	Dilution Factor DF	1.000
Batch Number		
20000954		
Rerun		
0		
Sample Prep		
N/A	NH3 Concentration (µg/mL) NH3 CONC	4.86E+02
Sample #		
S00T000503	Detection Limit (µg/mL) 2.50E+02	
Instrument Code		
NH301	Detection Limit = 1.000µg * (FVOL/VSAM) * DF	
Prepared By		
MF	NH3 Concentration (µg/mL) = (ID-BR) * (FVOL / VSAM)*DF	
Chemist		
MJL		
Analyst		
RWK		
Date Complete		
03/13/2000		
Analysis Date		
03/11/2000		
Analysis Time		
02:39 AM		
Sample Point	NH3 Concentration (µg/mL)	4.86E+02
SY-102		

Analyst:

RWK Date: 03/13/2000

Signature of Chemist:

MJL Date:

SAMPLE.WB1 REV 1.0

631001ML

WORKBOOK PAGE: SAM8

AMMONIA (NH3) : LA-631-001 (D-2)**LIQUIDS/SOLIDS**

		SAMPLE
Type	Instrument Data (µg/mL) ID	4.450
SAMPLE	Blank Result from the Instrument (µg/mL) BR	0.196
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL) VSAM	0.100
32893	Final Vol of Dilution (mL) or Vol of Sample Direct (mL) FVOL	25.0
Test Code		
NH3-01		
Matrix		
LIQUID	Dilution Factor DF	1.000
Batch Number		
20000954		
Rerun		
0		
Sample Prep		
N/A	NH3 Concentration (µg/mL) NH3 CONC	1.06E+03
Sample #		
S00T000504	Detection Limit (µg/mL) 2.50E+02	
Instrument Code		
NH301	Detection Limit = 1.000µg * (FVOL/VSAM) * DF	
Prepared By		
MF	NH3 Concentration (µg/mL) = (ID-BR) * (FVOL / VSAM)*DF	
Chemist		
MJL		
Analyst		
RWK		
Date Complete		
03/13/2000		
Analysis Date		
03/11/2000		
Analysis Time		
02:39 AM		
Sample Point	NH3 Concentration (µg/mL)	1.06E+03
SY-102		

Analyst:

RWK Date: 03/13/2000

Signature of Chemist:

MJL Date:

SAMPLE.WB1 REV 1.0

631001ML

WORKBOOK PAGE: DUP9

AMMONIA (NH3) : LA-631-001 (D-2)**LIQUIDS/SOLIDS**

		DUP
Type	Instrument Data (µg/mL)	ID 4.220
DUP	Blank Result from the Instrument (µg/mL)	BR 0.196
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL)	VSAM 0.100
32893	Final Vol of Dilution (mL) or Vol of Sample Direct (mL)	FVOL 25.0
Test Code		
NH3-01		
Matrix		
LIQUID	Dilution Factor	DF 1.000
Batch Number		
20000954		
Rerun		
0		
Sample Prep		
N/A	NH3 Concentration (µg/mL)	NH3 CONC 1.01E+03
Sample #		
S00T000504	Detection Limit (µg/mL)	2.50E+02
Instrument Code		
NH301	Detection Limit = $1.000\mu\text{g} * (\text{FVOL}/\text{VSAM}) * \text{DF}$	
Prepared By		
MF	NH3 Concentration (µg/mL) = $(\text{ID}-\text{BR}) * (\text{FVOL} / \text{VSAM}) * \text{DF}$	
Chemist		
MJL		
Analyst		
RWK		
Date Complete		
03/13/2000		
Analysis Date		
03/11/2000		
Analysis Time		
02:39 AM		
Sample Point	NH3 Concentration (µg/mL)	1.01E+03
SY-102		

Analyst:

RWK Date: 03/13/2000

Signature of Chemist:

MJL Date:

SAMPLE.WB1 REV 1.0

631001ML

WORKBOOK PAGE: ST_END10

AMMONIA (NH3) : LA-631-001 (D-2)**LIQUIDS/SOLIDS**

		STD
Type	Instrument Data (µg/mL)	ID 11.100
STD	Blank Result from the Instrument (µg/mL)	BR 0.196
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL)	VSAM 0.500
32893	Final Vol of Dilution (mL) or Vol of Sample Direct (mL)	FVOL 25.0
Test Code	LCS Standard Book Number	LCS 71N19B
NH3-01	LCS Standard Concentration (µg/mL)	STD VAL 4.87E+02
Matrix		0.500
Batch Number		
20000954		
Rerun		
0		
Sample Prep		
N/A	NH3 Concentration (µg/mL)	NH3 CONC 5.45E+02
Sample #		
STD	Detection Limit (µg/mL)	5.00E+01
Instrument Code		
NH301	Detection Limit = 1.000µg * (FVOL/VSAM)	
Prepared By		
MF	NH3 Concentration (µg/mL) = (ID-BR)*(FVOL /VSAM)	
Chemist		
MJL	QC ACTUAL = STD VAL	
Analyst	QC FOUND = (ID-BR) * (FVOL/VSAM)	
RWK		
Date Complete		
03/13/2000		
Analysis Date	QC ACTUAL (µg)	4.87E+02
03/11/2000	QC FOUND (µg)	5.45E+02
Analysis Time		
02:39 AM		
Sample Point		
SY-102		

Analyst:

RWK Date: 03/13/2000

Signature of Chemist:

MJL Date:

SAMPLE.WB1 REV 1.0

631001ML

LABCORE Completed Worklist Report for Worklist# 33105

Analyst: rwk

Instrument: NH301

Book#: 7/10/9-BMethod: LA-631-001 Rev/Mod D-2

Worklist Comment: SY-102 GRAB 6 FOR NH3-01 RTS

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 BLNK		0	NH3-01	LIQUID	1	<5.00E+1		ug/mL
2 STD		0	NH3-01	LIQUID	4.87E+02	4.44E+2	91.170 % Recovery	
3 SAMPLE	S00T000511	0	NH3-01	LIQUID	N/A	5.81E+02	100.000	ug/mL
4 DUP	S00T000511	0	NH3-01	LIQUID	5.81E+2	6.23E+2	6.977 RPD	
5 SPK	S00T000511	0	NH3-01	LIQUID	1.22E+02	1.36E+02	111.475 % Recovery	
6 SAMPLE	S00T000636	0	NH3-01	LIQUID	N/A	1.00E+03	100.000	ug/mL
7 DUP	S00T000636	0	NH3-01	LIQUID	1.00E+3	1.17E+3	15.668 RPD	
8 SAMPLE	S00T000611	0	NH3-01	LIQUID	N/A	3.96E+02	100.000	ug/mL
9 DUP	S00T000611	0	NH3-01	LIQUID	3.96E+2	4.42E+2	10.979 RPD	
10 SAMPLE	S00T000627	0	NH3-01	LIQUID	N/A	7.58E+02	100.000	ug/mL
11 DUP	S00T000627	0	NH3-01	LIQUID	7.58E+2	8.05E+2	6.014 RPD	
12 STD		0	NH3-01	LIQUID	4.87E+02	4.85E+2	99.589 % Recovery	

Final page for worklist# 33105

Analyst Signature

Date

Analyst Signature

Date

Reviewer Signature

Date

03/30/00 15:57
ws2

HNF-1699 REV. 0

Page: 1

LABCORE Data Entry Template for Worklist# 33105Analyst: KK Instrument: NH301 Book# 71719-BMethod: LA-631-001 Rev/Mod D-2

Worklist Comment: SY-102 GRAB 6 FOR NH3-01 RTS

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 BLNK			NH3-01	LIQUID		
2 STD			NH3-01	LIQUID		
3 SAMPLE	S00T000511 0		NH3-01	LIQUID	20000085	SY-102 GRAB6
	Analytes Requested: NH3-01					
4 DUP	S00T000511 0		NH3-01	LIQUID		
5 SPK	S00T000511 0		NH3-01	LIQUID		
6 SAMPLE	S00T000636 0		NH3-01	LIQUID	20000085	SY-102 GRAB6
	Analytes Requested: NH3-01					
7 DUP	S00T000636 0		NH3-01	LIQUID		
8 SAMPLE	S00T000611 0		NH3-01	LIQUID	20000085	SY-102 GRAB6
	Analytes Requested: NH3-01					
9 DUP	S00T000611 0		NH3-01	LIQUID		
10 SAMPLE	S00T000627 0		NH3-01	LIQUID	20000085	SY-102 GRAB6
	Analytes Requested: NH3-01					
11 DUP	S00T000627 0		NH3-01	LIQUID		
12 STD			NH3-01	LIQUID		

Final page for worklist # 33105Mot King 4/8/00
Signature DateMary Jean 4/10/00
Signature Date

Data Entry Comments:

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

DOUBLE KNOWN ADDITION SELECTED
AT 07:42. 04-07-00

SAMPLE VOL= 25.000 AT 07:53. 04-07-00
ENTERED

EMF=-6.9 mV AT 07:56. 04-07-00

EMF=-7.3 mV AT 07:56. 04-07-00

EMF=-7.6 mV AT 07:56. 04-07-00

EMF=-7.7 mV AT 07:57. 04-07-00
ENTERED

STD CONCN= 999 AT 07:57. 04-07-00
ENTERED

STD VOL= .25000 AT 07:57. 04-07-00
ENTERED

EMF=-25.5 mV AT 07:59. 04-07-00

EMF=-25.8 mV AT 07:59. 04-07-00

EMF=-26.1 mV AT 08:00. 04-07-00

EMF=-26.1 mV AT 08:00. 04-07-00
ENTERED

STD VOL= 2.5000 AT 08:00. 04-07-00
ENTERED

EMF=-69.3 mV AT 08:02. 04-07-00

EMF=-69.6 mV AT 08:03. 04-07-00

EMF=-69.7 mV AT 08:03. 04-07-00
ENTERED

1:NH3 SLOPE=-57.8 mV/DEC
AT 08:03. 04-07-00

1:NH3 CONCN= 9.06

std

HNF-1699 REV. 0

DOUBLE KNOWN ADDITION SELECTED
AT 03:19. 04-07-00

SAMPLE VOL= 25.000 AT 07:29. 04-07-00
ENTERED

EMF= 79.5 mV AT 07:30. 04-07-00

EMF= 73.1 mV AT 07:34. 04-07-00

EMF= 72.8 mV AT 07:34. 04-07-00

EMF= 72.5 mV AT 07:35. 04-07-00

EMF= 72.4 mV AT 07:35. 04-07-00
ENTERED

STD CONC= 999 AT 07:35. 04-07-00
ENTERED

STD VOL= .25000 AT 07:35. 04-07-00
ENTERED

EMF=-31.5 mV AT 07:38. 04-07-00

EMF=-31.8 mV AT 07:38. 04-07-00

EMF=-31.9 mV AT 07:38. 04-07-00
ENTERED

STD VOL= 2.5000 AT 07:39. 04-07-00
ENTERED

EMF=-90.3 mV AT 07:41. 04-07-00

EMF=-90.5 mV AT 07:41. 04-07-00

EMF=-90.6 mV AT 07:42. 04-07-00
ENTERED

1:NH3 SLOPE=-59.1 mV/DEC
AT 07:42. 04-07-00

1:NH3 CONC= .173

BLK

HNF-1699 REV. 0

DOUBLE KNOWN ADDITION SELECTED
AT 08:22. 04-07-00

SAMPLE VOL= 25.000 AT 08:31. 04-07-00
ENTERED

EMF= 19.2 mV AT 08:33. 04-07-00

EMF= 18.9 mV AT 08:33. 04-07-00

EMF= 18.8 mV AT 08:34. 04-07-00
ENTERED

STD CONCN= 999 AT 08:34. 04-07-00
ENTERED

STD VOL= .25000 AT 08:34. 04-07-00
ENTERED

EMF=-6.1 mV AT 08:37. 04-07-00

EMF=-6.3 mV AT 08:37. 04-07-00

EMF=-6.4 mV AT 08:37. 04-07-00
ENTERED

STD VOL= 2.5000 AT 08:38. 04-07-00
ENTERED

EMF=-54.5 mV AT 08:40. 04-07-00

EMF=-55.0 mV AT 08:41. 04-07-00

EMF=-55.2 mV AT 08:41. 04-07-00

EMF=-55.3 mV AT 08:41. 04-07-00
ENTERED

1:NH3 SLOPE=-59.6 mV/DEC
AT 08:41. 04-07-00

1:NH3 CONCN= 5.98

511
1250

HNF-1699 REV. 0

DOUBLE KNOWN ADDITION SELECTED
AT 08:42. 04-07-00

SAMPLE VOL= 25.000 AT 08:49. 04-07-00
ENTERED

EMF= 21.5 mV AT 08:52. 04-07-00

EMF= 21.3 mV AT 08:52. 04-07-00

EMF= 21.3 mV AT 08:52. 04-07-00
ENTERED

STD CONC= 999 AT 08:53. 04-07-00
ENTERED

STD VOL= .25000 AT 08:53. 04-07-00
ENTERED

EMF=-3.0 mV AT 08:55. 04-07-00

EMF=-3.3 mV AT 08:56. 04-07-00

EMF=-3.3 mV AT 08:56. 04-07-00
ENTERED

STD VOL= 2.5000 AT 08:56. 04-07-00
ENTERED

EMF=-52.1 mV AT 08:59. 04-07-00

EMF=-52.4 mV AT 08:59. 04-07-00

EMF=-52.7 mV AT 08:59. 04-07-00

EMF=-52.6 mV AT 08:59. 04-07-00
ENTERED

1:NH3 SLOPE=-60.9 mV/DEC
AT 09:00. 04-07-00

1:NH3 CONC= 6.40

511 040
.250

HNF-1699 REV. 0

DOUBLE KNOWN ADDITION SELECTED
AT 09:00. 04-07-00

SAMPLE VOL= 25.000 AT 09:08. 04-07-00
ENTERED

EMF= 9.8 mV AT 09:10. 04-07-00

EMF= 9.7 mV AT 09:10. 04-07-00

EMF= 9.7 mV AT 09:10. 04-07-00
ENTERED

STD CONC= 999 AT 09:11. 04-07-00
ENTERED

STD VOL= .25000 AT 09:11. 04-07-00
ENTERED

EMF=-6.5 mV AT 09:13. 04-07-00

EMF=-6.7 mV AT 09:13. 04-07-00

EMF=-6.8 mV AT 09:13. 04-07-00
ENTERED

STD VOL= 2.5000 AT 09:14. 04-07-00
ENTERED

EMF=-50.0 mV AT 09:16. 04-07-00

EMF=-50.3 mV AT 09:16. 04-07-00

EMF=-50.5 mV AT 09:17. 04-07-00

EMF=-50.6 mV AT 09:17. 04-07-00
ENTERED

1:NH3 SLOPE=-61.5 mV/DEC
AT 09:17. 04-07-00

1:NH3 CONC= 11.4

511 SPR

.250

.250 SPR

HNF-1699 REV. 0

DOUBLE KNOWN ADDITION SELECTED
AT 09:19, 04-07-00

SAMPLE VOL= 25.000 AT 09:26. 04-07-00
ENTERED

EMF= 15.4 mV AT 09:28. 04-07-00

EMF= 15.2 mV AT 09:28. 04-07-00
ENTERED

STD CONCN= 999 AT 09:29. 04-07-00
ENTERED

STD VOL= .25000 AT 09:29. 04-07-00
ENTERED

EMF=-2.1 mV AT 09:30. 04-07-00

EMF=-2.4 mV AT 09:31. 04-07-00

EMF=-2.4 mV AT 09:31. 04-07-00
ENTERED

STD VOL= 2.5000 AT 09:31. 04-07-00
ENTERED

EMF=-45.9 mV AT 09:34. 04-07-00

EMF=-46.2 mV AT 09:35. 04-07-00

EMF=-46.5 mV AT 09:35. 04-07-00

EMF=-46.5 mV AT 09:35. 04-07-00
ENTERED

1:NH3 SLOPE=-60.1 mV/DEC
AT 09:35. 04-07-00

1:NH3 CONCN= 10.2

636

HNF-1699 REV. 0

DOUBLE KNOWN ADDITION SELECTED
AT 09:38. 04-07-00

SAMPLE VOL= 25.000 AT 09:45. 04-07-00
ENTERED

EMF= 14.5 mV AT 09:47. 04-07-00

EMF= 14.2 mV AT 09:47. 04-07-00

EMF= 14.1 mV AT 09:47. 04-07-00
ENTERED

STD CONCN= 999 AT 09:48. 04-07-00
ENTERED

STD VOL= .25000 AT 09:48. 04-07-00
ENTERED

EMF=-1.6 mV AT 09:50. 04-07-00

EMF=-1.9 mV AT 09:50. 04-07-00

EMF=-2.0 mV AT 09:51. 04-07-00
ENTERED

STD VOL= 2.5000 AT 09:51. 04-07-00
ENTERED

EMF=-45.2 mV AT 09:54. 04-07-00

EMF=-45.5 mV AT 09:54. 04-07-00

EMF=-45.6 mV AT 09:54. 04-07-00
ENTERED

1:NH3 SLOPE=-61.9 mV/DEC
AT 09:54. 04-07-00

1:NH3 CONCN= 11.9

636 Dup
.250

HNF-1699 REV. 0

DOUBLE KNOWN ADDITION SELECTED
AT 11:04. 04-07-00

SAMPLE VOL= 25.000 AT 11:11. 04-07-00
ENTERED

EMF= 14.9 mV AT 11:15. 04-07-00

EMF= 14.6 mV AT 11:15. 04-07-00

EMF= 14.4 mV AT 11:15. 04-07-00
ENTERED

STD CONC= 999 AT 11:16. 04-07-00
ENTERED

STD VOL= .25000 AT 11:16. 04-07-00
ENTERED

EMF=-16.9 mV AT 11:18. 04-07-00

EMF=-17.2 mV AT 11:19. 04-07-00

EMF=-17.4 mV AT 11:19. 04-07-00
ENTERED

STD VOL= 2.5000 AT 11:19. 04-07-00
ENTERED

EMF=-68.7 mV AT 11:22. 04-07-00

EMF=-69.2 mV AT 11:22. 04-07-00

EMF=-69.4 mV AT 11:23. 04-07-00
ENTERED

1:NH3 SLOPE=-60.0 mV/DEC
AT 11:23. 04-07-00

1:NH3 CONC= 4.13

611
.250

DOUBLE KNOWN ADDITION SELECTED
AT 11:23. 04-07-00

SAMPLE VOL= 25.000 AT 11:32. 04-07-00
ENTERED

EMF= 18.6 mV AT 11:35. 04-07-00

EMF= 18.5 mV AT 11:36. 04-07-00
ENTERED

STD CONC= 999 AT 11:36. 04-07-00
ENTERED

STD VOL= .25000 AT 11:36. 04-07-00
ENTERED

EMF=-11.1 mV AT 11:38. 04-07-00

EMF=-11.4 mV AT 11:39. 04-07-00

EMF=-11.5 mV AT 11:39. 04-07-00
ENTERED

STD VOL= 2.5000 AT 11:39. 04-07-00
ENTERED

EMF=-62.7 mV AT 11:42. 04-07-00

EMF=-63.0 mV AT 11:43. 04-07-00

EMF=-63.0 mV AT 11:43. 04-07-00
ENTERED

1:NH3 SLOPE=-60.3 mV/DEC
AT 11:43. 04-07-00

1:NH3 CONC= 4.59

611 04P

.250

DOUBLE KNOWN ADDITION SELECTED
AT 12:15. 04-07-00

SAMPLE VOL= 25.000 AT 12:25. 04-07-00
ENTERED

EMF= 9.1 mV AT 12:28. 04-07-00

EMF= 8.9 mV AT 12:28. 04-07-00

EMF= 8.9 mV AT 12:29. 04-07-00
ENTERED

STD CONCN= 999 AT 12:29. 04-07-00
ENTERED

STD VOL= .25000 AT 12:29. 04-07-00
ENTERED

EMF=-12.2 mV AT 12:32. 04-07-00

EMF=-12.4 mV AT 12:32. 04-07-00
ENTERED

STD VOL= 2.5000 AT 12:32. 04-07-00
ENTERED

EMF=-58.9 mV AT 12:36. 04-07-00

EMF=-59.2 mV AT 12:36. 04-07-00
ENTERED

1:NH3 SLOPE=-60.0 mV/DEC
AT 12:36. 04-07-00

1:NH3 CONCN= 7.75

627
.250

HNF-1699 REV. 0

DOUBLE KNOWN ADDITION SELECTED
AT 12:37. 04-07-00

SAMPLE VOL= 25.000 AT 12:44. 04-07-00
ENTERED

EMF= 12.9 mV AT 12:46. 04-07-00

EMF= 12.7 mV AT 12:47. 04-07-00

EMF= 12.6 mV AT 12:47. 04-07-00
ENTERED

STD CONCN= 999 AT 12:47. 04-07-00
ENTERED

STD VOL= .25000 AT 12:47. 04-07-00
ENTERED

EMF=-7.4 mV AT 12:49. 04-07-00

EMF=-7.8 mV AT 12:50. 04-07-00

EMF=-7.8 mV AT 12:50. 04-07-00
ENTERED

STD VOL= 2.5000 AT 12:50. 04-07-00
ENTERED

EMF=-53.4 mV AT 12:53. 04-07-00

EMF=-53.8 mV AT 12:54. 04-07-00

EMF=-53.9 mV AT 12:54. 04-07-00
ENTERED

1:NH3 SLOPE=-59.8 mV/DEC
AT 12:54. 04-07-00

1:NH3 CONCN= 8.22

627 D4D
1250

HNF-1699 REV. 0

DOUBLE KNOWN ADDITION SELECTED
AT 12:55. 04-07-00

SAMPLE VOL= 25.000 AT 13:03. 04-07-00
ENTERED

EMF= 11.6 mV AT 13:06. 04-07-00

EMF= 11.5 mV AT 13:06. 04-07-00
ENTERED

STD CONC= 999 AT 13:06. 04-07-00
ENTERED

STD VOL= .25000 AT 13:06. 04-07-00
ENTERED

EMF=-6.4 mV AT 13:09. 04-07-00

EMF=-6.6 mV AT 13:09. 04-07-00

EMF=-6.6 mV AT 13:09. 04-07-00
ENTERED

STD VOL= 2.5000 AT 13:10. 04-07-00
ENTERED

EMF=-50.9 mV AT 13:13. 04-07-00

EMF=-51.2 mV AT 13:13. 04-07-00

EMF=-51.3 mV AT 13:13. 04-07-00
ENTERED

1:NH3 SLOPE=-60.5 mV/DEC
AT 13:13. 04-07-00

1:NH3 CONC= 9.87

End Std
.5

WORKBOOK PAGE: BLANK1

AMMONIA (NH3) : LA-631-001 (D-2)**LIQUIDS/SOLIDS**

		BLNK
Type	Instrument Data (µg/mL) ID	0.000
BLNK	Blank Result from the Instrument (µg/mL) BR	0.173
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL) VSAM	0.500
33105	Final Vol of Dilution (mL) or Vol of Sample Direct (mL) FVOL	25.0
Test Code		
NH3-01		
Matrix		
LIQUID	Dilution Factor DF	1.000
Batch Number		
20001185		
Rerun		
0		
Sample Prep		
N/A	NH3 Concentration (µg/mL) NH3 CONC	< 5.00E+01
Sample #		
BLNK	Detection Limit (µg/mL) 5.00E+01	
Instrument Code		
NH301	Detection Limit = 1.000µg * (FVOL/VSAM)	
Prepared By		
MF	NH3 Concentration (µg/mL) = (BR) * (FVOL / VSAM) * DDF	
Chemist		
MJL		
Analyst		
RWK		
Date Complete		
04/10/2000		
Analysis Date		
04/08/2000		
Analysis Time		
01:13 PM		
Sample Point	NH3 Concentration (µg/mL)	< 5.00E+01
SY-102 GRAB 6		

Analyst:

RWK Date: 04/10/2000

Signature of Chemist:

MJL Date:

SAMPLE.WB1 REV 1.0

631001ML

WORKBOOK PAGE: STD2

AMMONIA (NH3) : LA-631-001 (D-2)**LIQUIDS/SOLIDS**

		STD
Type	Instrument Data (µg/mL) ID	9.060
STD	Blank Result from the Instrument (µg/mL) BR	0.173
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL) VSAM	0.500
33105	Final Vol of Dilution (mL) or Vol of Sample Direct (mL) FVOL	25.0
Test Code	LCS Standard Book Number LCS	71N19B
NH3-01	LCS Standard Concentration (µg/mL) STD VAL	4.87E+02
Matrix		
Batch Number		
20001185		
Rerun		
0		
Sample Prep		
N/A	NH3 Concentration (µg/mL) NH3 CONC	4.44E+02
Sample #		
STD	Detection Limit (µg/mL) 5.00E+01	
Instrument Code		
NH301	Detection Limit = 1.000µg * (FVOL/VSAM)	
Prepared By		
MF	NH3 Concentration (µg/mL) = (ID-BR)*(FVOL /VSAM)	
Chemist		
MJL	QC ACTUAL = STD VAL	
Analyst	QC FOUND = (ID-BR) * (FVOL/VSAM)	
RWK		
Date Complete		
04/10/2000		
Analysis Date	QC ACTUAL (µg)	4.87E+02
04/08/2000	QC FOUND (µg)	4.44E+02
Analysis Time		
01:13 PM		
Sample Point		
SY-102 GRAB 6		

Analyst:

RWK Date: 04/10/2000

Signature of Chemist:

MJL Date:

SAMPLE.WB1 REV 1.0

631001ML

WORKBOOK PAGE: SAM3

AMMONIA (NH3) : LA-631-001 (D-2)

LIQUIDS/SOLIDS

		SAMPLE
Type	Instrument Data (µg/mL)	ID 5.980
SAMPLE	Blank Result from the Instrument (µg/mL)	BR 0.173
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL)	VSAM 0.250
33105	Final Vol of Dilution (mL) or Vol of Sample Direct (mL)	FVOL 25.0
Test Code		
NH3-01		
Matrix		
LIQUID	Dilution Factor	DF 1.000
Batch Number		
20001185		
Rerun		
0		
Sample Prep		
N/A	NH3 Concentration (µg/mL)	NH3 CONC 5.81E+02
Sample #		
S00T000511	Detection Limit (µg/mL)	1.00E+02
Instrument Code		
NH301	Detection Limit = 1.000µg * (FVOL/VSAM) * DF	
Prepared By		
MF	NH3 Concentration (µg/mL) = (ID-BR) * (FVOL / VSAM)*DF	
Chemist		
MJL		
Analyst		
RWK		
Date Complete		
04/10/2000		
Analysis Date		
04/08/2000		
Analysis Time		
01:13 PM		
Sample Point	NH3 Concentration (µg/mL)	5.81E+02
SY-102 GRAB 6		

Analyst:

RWK Date: 04/10/2000

Signature of Chemist:

MJL Date:

SAMPLE.WB1 REV 1.0

631001ML

WORKBOOK PAGE: DUP4

AMMONIA (NH3) : LA-631-001 (D-2)

LIQUIDS/SOLIDS

		DUP
Type	Instrument Data (µg/mL)	ID 6.400
DUP	Blank Result from the Instrument (µg/mL)	BR 0.173
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL)	VSAM 0.250
33105	Final Vol of Dilution (mL) or Vol of Sample Direct (mL)	FVOL 25.0
Test Code		
NH3-01		
Matrix		
LIQUID	Dilution Factor	DF 1.000
Batch Number		
20001185		
Rerun		
0		
Sample Prep		
N/A	NH3 Concentration (µg/mL)	NH3 CONC 6.23E+02
Sample #		
S00T000511	Detection Limit (µg/mL)	1.00E+02
Instrument Code		
NH301	Detection Limit = $1.000\mu\text{g} * (\text{FVOL}/\text{VSAM}) * \text{DF}$	
Prepared By		
MF	NH3 Concentration (µg/mL) = $(\text{ID}-\text{BR}) * (\text{FVOL} / \text{VSAM}) * \text{DF}$	
Chemist		
MJL		
Analyst		
RWK		
Date Complete		
04/10/2000		
Analysis Date		
04/08/2000		
Analysis Time		
01:13 PM		
Sample Point	NH3 Concentration (µg/mL)	6.23E+02
SY-102 GRAB 6		

Analyst:

RWK Date: 04/10/2000

Signature of Chemist:

MJL Date:

SAMPLE.WB1 REV 1.0

631001ML

WORKBOOK PAGE: SPIKE5

AMMONIA (NH3) : LA-631-001 (D-2)

LIQUIDS/SOLIDS

		SPK
Type	Instrument Data (µg/mL) ID	11.400
SPK	Blank Result from the Instrument (µg/mL) BR	0.173
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL) VSAM	0.250
33105	Final Vol of Dilution (mL) or Vol of Sample Direct (mL) FVOL	25.0
Test Code	Spike Book Number SPK	71N19B
NH3-01	Spike Value (µg/mL) SPK VAL	4.87E+02
Matrix	Vol of Spike Standard Used (mL) VOL SPK	0.250
LIQUID		
Batch Number		
20001185		
Rerun	Sample Instrument Data (µg/mL) SAM ID	5.98
0	Sample Volume of Sample (mL) SAM VSAM	0.250
Sample Prep	Sample Final Volume (mL) SAM FVOL	25.0
N/A		
Sample #		
S00T000511		
Instrument Code		
NH301		
Prepared By		
MF		
Chemist		
MJL	QC ACTUAL = SPK VAL * VOL SPK	
Analyst	QC FOUND = (((ID-BR) * FVOL) - (SAM ID - BR) * SAM FVOL * (VSAM / SAM VSAM))	
RWK		
Date Complete		
04/10/2000		
Analysis Date	QC ACTUAL (µg)	1.22E+02
04/08/2000	QC FOUND (µg)	1.36E+02
Analysis Time		
01:13 PM		
Sample Point		
SY-102 GRAB 6		

Analyst:

RWK Date: 04/10/2000

Signature of Chemist:

MJL Date:

SAMPLE.WB1 REV 1.0

631001ML

WORKBOOK PAGE: SAM6

AMMONIA (NH3) : LA-631-001 (D-2)**LIQUIDS/SOLIDS**

		SAMPLE
Type	Instrument Data (µg/mL) ID	10.200
SAMPLE	Blank Result from the Instrument (µg/mL) BR	0.173
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL) VSAM	0.250
33105	Final Vol of Dilution (mL) or Vol of Sample Direct (mL) FVOL	25.0
Test Code		
NH3-01		
Matrix		
LIQUID	Dilution Factor DF	1.000
Batch Number		
20001185		
Rerun		
0		
Sample Prep		
N/A	NH3 Concentration (µg/mL) NH3 CONC	1.00E+03
Sample #		
S00T000636	Detection Limit (µg/mL) 1.00E+02	
Instrument Code		
NH301	Detection Limit = 1.000µg * (FVOL/VSAM) * DF	
Prepared By		
MF	NH3 Concentration (µg/mL) = (ID-BR) * (FVOL / VSAM)*DF	
Chemist		
MJL		
Analyst		
RWK		
Date Complete		
04/10/2000		
Analysis Date		
04/08/2000		
Analysis Time		
01:13 PM		
Sample Point	NH3 Concentration (µg/mL)	1.00E+03
SY-102 GRAB 6		

Analyst:

RWK Date: 04/10/2000

Signature of Chemist:

MJL Date:

SAMPLE.WB1 REV 1.0

631001ML

WORKBOOK PAGE: DUP7

AMMONIA (NH3) : LA-631-001 (D-2)**LIQUIDS/SOLIDS**

		DUP
Type	Instrument Data (µg/mL) ID	11.900
DUP	Blank Result from the Instrument (µg/mL) BR	0.173
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL) VSAM	0.250
33105	Final Vol of Dilution (mL) or Vol of Sample Direct (mL) FVOL	25.0
Test Code		
NH3-01		
Matrix		
LIQUID	Dilution Factor DF	1.000
Batch Number		
20001185		
Rerun		
0		
Sample Prep		
N/A	NH3 Concentration (µg/mL) NH3 CONC	1.17E+03
Sample #		
S00T000636	Detection Limit (µg/mL) 1.00E+02	
Instrument Code		
NH301	Detection Limit = 1.000µg * (FVOL/VSAM) * DF	
Prepared By		
MF	NH3 Concentration (µg/mL) = (ID-BR) * (FVOL / VSAM)*DF	
Chemist		
MJL		
Analyst		
RWK		
Date Complete		
04/10/2000		
Analysis Date		
04/08/2000		
Analysis Time		
01:13 PM		
Sample Point	NH3 Concentration (µg/mL)	1.17E+03
SY-102 GRAB 6		

Analyst:

RWK Date: 04/10/2000

Signature of Chemist:

MJL Date:

SAMPLE.WB1 REV 1.0

631001ML

WORKBOOK PAGE: SAM8

AMMONIA (NH3) : LA-631-001 (D-2)**LIQUIDS/SOLIDS**

		SAMPLE
Type	Instrument Data (µg/mL)	ID 4.130
SAMPLE	Blank Result from the Instrument (µg/mL)	BR 0.173
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL)	VSAM 0.250
33105	Final Vol of Dilution (mL) or Vol of Sample Direct (mL)	FVOL 25.0
Test Code		
NH3-01		
Matrix		
LIQUID	Dilution Factor	DF 1.000
Batch Number		
20001185		
Rerun		
0		
Sample Prep		
N/A	NH3 Concentration (µg/mL)	NH3 CONC 3.96E+02
Sample #		
S00T000611	Detection Limit (µg/mL)	1.00E+02
Instrument Code		
NH301	Detection Limit = 1.000µg * (FVOL/VSAM) * DF	
Prepared By		
MF	NH3 Concentration (µg/mL) = (ID-BR) * (FVOL / VSAM)*DF	
Chemist		
MJL		
Analyst		
RWK		
Date Complete		
04/10/2000		
Analysis Date		
04/08/2000		
Analysis Time		
01:13 PM		
Sample Point	NH3 Concentration (µg/mL)	3.96E+02
SY-102 GRAB 6		

Analyst:		RWK Date: 04/10/2000
Signature of Chemist:		MJL Date:

SAMPLE.WB1 REV 1.0

631001ML

WORKBOOK PAGE: DUP9

AMMONIA (NH3) : LA-631-001 (D-2)**LIQUIDS/SOLIDS**

			DUP
Type	Instrument Data (µg/mL)	ID	4.590
DUP	Blank Result from the Instrument (µg/mL)	BR	0.173
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL)	VSAM	0.250
33105	Final Vol of Dilution (mL) or Vol of Sample Direct (mL)	FVOL	25.0
Test Code			
NH3-01			
Matrix			
LIQUID	Dilution Factor	DF	1.000
Batch Number			
20001185			
Rerun			
0			
Sample Prep			
N/A	NH3 Concentration (µg/mL)	NH3 CONC	4.42E+02
Sample #			
S00T000611	Detection Limit (µg/mL)	1.00E+02	
Instrument Code			
NH301	Detection Limit = 1.000µg * (FVOL/VSAM) * DF		
Prepared By			
MF	NH3 Concentration (µg/mL) = (ID-BR) * (FVOL / VSAM)*DF		
Chemist			
MJL			
Analyst			
RWK			
Date Complete			
04/10/2000			
Analysis Date			
04/08/2000			
Analysis Time			
01:13 PM			
Sample Point	NH3 Concentration (µg/mL)		4.42E+02
SY-102 GRAB 6			

Analyst:

RWK Date: 04/10/2000

Signature of Chemist:

MJL Date:

SAMPLE.WB1 REV 1.0

631001ML

WORKBOOK PAGE: SAM10

AMMONIA (NH3) : LA-631-001 (D-2)

LIQUIDS/SOLIDS

		SAMPLE
Type	Instrument Data (µg/mL)	ID 7.750
SAMPLE	Blank Result from the Instrument (µg/mL)	BR 0.173
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL)	VSAM 0.250
33105	Final Vol of Dilution (mL) or Vol of Sample Direct (mL)	FVOL 25.0
Test Code		
NH3-01		
Matrix		
LIQUID	Dilution Factor	DF 1.000
Batch Number		
20001185		
Rerun		
0		
Sample Prep		
N/A	NH3 Concentration (µg/mL)	NH3 CONC 7.58E+02
Sample #		
S00T000627	Detection Limit (µg/mL)	1.00E+02
Instrument Code		
NH301	Detection Limit = 1.000µg * (FVOL/VSAM) * DF	
Prepared By		
MF	NH3 Concentration (µg/mL) = (ID-BR) * (FVOL / VSAM)*DF	
Chemist		
MJL		
Analyst		
RWK		
Date Complete		
04/10/2000		
Analysis Date		
04/08/2000		
Analysis Time		
01:13 PM		
Sample Point	NH3 Concentration (µg/mL)	7.58E+02
SY-102 GRAB 6		

Analyst:

RWK Date: 04/10/2000

Signature of Chemist:

MJL Date:

SAMPLE.WB1 REV 1.0

631001ML

WORKBOOK PAGE: DUP11

AMMONIA (NH3) : LA-631-001 (D-2)**LIQUIDS/SOLIDS**

		DUP
Type	Instrument Data (µg/mL) ID	8.220
DUP	Blank Result from the Instrument (µg/mL) BR	0.173
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL) VSAM	0.250
33105	Final Vol of Dilution (mL) or Vol of Sample Direct (mL) FVOL	25.0
Test Code		
NH3-01		
Matrix		
LIQUID	Dilution Factor DF	1.000
Batch Number		
20001185		
Rerun		
0		
Sample Prep		
N/A	NH3 Concentration (µg/mL) NH3 CONC	8.05E+02
Sample #		
S00T000627	Detection Limit (µg/mL) 1.00E+02	
Instrument Code		
NH301	Detection Limit = 1.000µg * (FVOL/VSAM) * DF	
Prepared By		
MF	NH3 Concentration (µg/mL) = (ID-BR) * (FVOL / VSAM)*DF	
Chemist		
MJL		
Analyst		
RWK		
Date Complete		
04/10/2000		
Analysis Date		
04/08/2000		
Analysis Time		
01:13 PM		
Sample Point	NH3 Concentration (µg/mL)	8.05E+02
SY-102 GRAB 6		

Analyst:

RWK Date: 04/10/2000

Signature of Chemist:

MJL Date:

SAMPLE.WB1 REV 1.0

631001ML

WORKBOOK PAGE: ST_END12

AMMONIA (NH3) : LA-631-001 (D-2)**LIQUIDS/SOLIDS**

		STD
Type	Instrument Data (µg/mL) ID	9.870
STD	Blank Result from the Instrument (µg/mL) BR	0.173
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL) VSAM	0.500
33105	Final Vol of Dilution (mL) or Vol of Sample Direct (mL) FVOL	25.0
Test Code	LCS Standard Book Number LCS	71N19B
NH3-01	LCS Standard Concentration (µg/mL) STD VAL	4.87E+02
Matrix		
Batch Number		
20001185		
Rerun		
0		
Sample Prep		
N/A	NH3 Concentration (µg/mL) NH3 CONC	4.85E+02
Sample #		
	Detection Limit (µg/mL) 5.00E+01	
Instrument Code		
NH301	Detection Limit = 1.000µg * (FVOL/VSAM)	
Prepared By		
MF	NH3 Concentration (µg/mL) = (ID-BR)*(FVOL /VSAM)	
Chemist		
MJL	QC ACTUAL = STD VAL	
Analyst	QC FOUND = (ID-BR) * (FVOL/VSAM)	
RWK		
Date Complete		
04/10/2000		
Analysis Date	QC ACTUAL (µg)	4.87E+02
04/08/2000	QC FOUND (µg)	4.85E+02
Analysis Time		
01:13 PM		
Sample Point		
SY-102 GRAB 6		

Analyst:

RWK Date: 04/10/2000

Signature of Chemist:

MJL Date:

SAMPLE.WB1 REV 1.0

631001ML

LABCORE Completed Worklist Report for Worklist# 33106

Analyst: rwk

Instrument: NH301

Book#: 7/15/9-B

Method: LA-631-001 Rev/Mod D-2

Worklist Comment: SY-102 GRAB 6 FOR NH3-01 RTS

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	BLNK-PREP		0		NH3-01	SOLID	1	<4.74E+3		ug/g
2	STD		0		NH3-01	SOLID	4.87E+02	4.37E+2	89.733 %	Recovery
3	SAMPLE	S00T000620	0	A	NH3-01	SOLID	N/A	3.90E+02	132.000	ug/g
4	DUP	S00T000620	0	A	NH3-01	SOLID	3.90E+2	3.43E+2	12.824	RPD
5	SPK	S00T000620	0	A	NH3-01	SOLID	1.22E+02	9.77E+01	80.082 %	Recovery
6	STD		0		NH3-01	SOLID	4.87E+02	4.49E+2	92.197 %	Recovery

Final page for worklist# 33106

Analyst Signature

Date

Analyst Signature

Date

Reviewer Signature

Date

HNF-1699 REV. 0

04/16/00 06:19

Page: 1

ws2

LABCORE Data Entry Template for Worklist# 33106Analyst: RA Instrument: NH301 Book# 71719-BMethod: LA-631-001 Rev/Mod D-2

Worklist Comment: SY-102 GRAB 6 FOR NH3-01 RTS

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 BLNK-PREP			NH3-01	SOLID		
2 STD			NH3-01	SOLID		
3 SAMPLE	S00T000620 0 A	NH3 01	SOLID		20000085	SY-102 GRAB6
	Analytes Requested: NH3-01					
4 DUP	S00T000620 0 A	NH3-01	SOLID			
5 SPK	S00T000620 0 A	NH3-01	SOLID			

*6 STD @ 4/17/00

Final page for worklist # 33106

Not Kim 4/15/00
Signature Date

Garry Inam 4/19/00
Signature Date

Data Entry Comments:

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

DOUBLE KNOWN ADDITION SELECTED
AT 19:26. 04-14-00

SAMPLE VOL= 25.000 AT 19:26. 04-14-00
ENTERED

EMF= 89.2 mV AT 19:38. 04-14-00

EMF= 90.2 mV AT 19:39. 04-14-00

EMF= 90.6 mV AT 19:39. 04-14-00

EMF= 91.1 mV AT 19:40. 04-14-00

EMF= 91.9 mV AT 19:41. 04-14-00

EMF= 92.3 mV AT 19:41. 04-14-00
ENTERED

STD CONC= 1000 AT 19:42. 04-14-00
ENTERED

STD VOL= .25000 AT 19:42. 04-14-00
ENTERED

EMF=-43.9 mV AT 19:46. 04-14-00

EMF=-44.2 mV AT 19:47. 04-14-00

EMF=-44.5 mV AT 19:47. 04-14-00

EMF=-44.5 mV AT 19:47. 04-14-00
ENTERED

STD VOL= 2.5000 AT 19:48. 04-14-00
ENTERED

EMF=-103.6 mV AT 19:51. 04-14-00

EMF=-104.0 mV AT 19:51. 04-14-00

EMF=-104.3 mV AT 19:52. 04-14-00

EMF=-104.3 mV AT 19:52. 04-14-00
ENTERED

1:NH3 SLOPE=-59.9 mV/DEC
AT 19:52. 04-14-00

1:NH3 CONC= .0518

BLK

HNF-1699 REV. 0

DOUBLE KNOWN ADDITION SELECTED
AT 19:52, 04-14-00

SAMPLE VOL= 25.000 AT 20:08, 04-14-00
ENTERED

EMF=-25.5 mV AT 20:13, 04-14-00

EMF=-25.8 mV AT 20:13, 04-14-00

EMF=-26.0 mV AT 20:13, 04-14-00

EMF=-26.1 mV AT 20:13, 04-14-00
ENTERED

STD CONC= 1000 AT 20:14, 04-14-00
ENTERED

STD VOL= .25000 AT 20:14, 04-14-00
ENTERED

EMF=-44.8 mV AT 20:17, 04-14-00

EMF=-44.9 mV AT 20:17, 04-14-00

EMF=-45.0 mV AT 20:17, 04-14-00
ENTERED

STD VOL= 2.5000 AT 20:18, 04-14-00
ENTERED

EMF=-88.7 mV AT 20:21, 04-14-00

EMF=-89.0 mV AT 20:21, 04-14-00

EMF=-89.1 mV AT 20:21, 04-14-00
ENTERED

1:NH3 SLOPE=-58.0 mV/DEC
AT 20:21, 04-14-00

1:NH3 CONC= 8.79

Std

HNF-1699 REV. 0

DOUBLE KNOWN ADDITION SELECTED
AT 20:54. 04-14-00

SAMPLE VOL= 25.000 AT 21:09. 04-14-00
ENTERED

EMF= 64.6 mV AT 21:10. 04-14-00

EMF= 63.9 mV AT 21:11. 04-14-00

EMF= 63.7 mV AT 21:11. 04-14-00
ENTERED

STD CONC= 1000 AT 21:12. 04-14-00
ENTERED

STD VOL= .25000 AT 21:12. 04-14-00
ENTERED

EMF=-12.5 mV AT 21:15. 04-14-00

EMF=-12.8 mV AT 21:16. 04-14-00

EMF=-13.1 mV AT 21:16. 04-14-00

EMF=-13.2 mV AT 21:16. 04-14-00
ENTERED

STD VOL= 2.5000 AT 21:17. 04-14-00
ENTERED

EMF=-71.7 mV AT 21:19. 04-14-00

EMF=-72.1 mV AT 21:19. 04-14-00

EMF=-72.4 mV AT 21:20. 04-14-00

EMF=-72.5 mV AT 21:20. 04-14-00
ENTERED

1:NH3 SLOPE=-60.6 mV/DEC
AT 21:20. 04-14-00

1:NH3 CONC= .562

Prep Blk

HNF-1699 REV. 0

DOUBLE KNOWN ADDITION SELECTED
AT 21:21. 04-14-00

SAMPLE VOL= 25.000 AT 22:47. 04-14-00
ENTERED

EMF= 97.8 mV AT 22:48. 04-14-00

EMF= 97.8 mV AT 22:48. 04-14-00
ENTERED

STD CONC= 1000 AT 22:48. 04-14-00
ENTERED

STD VOL= .25000 AT 22:48. 04-14-00
ENTERED

EMF=-17.0 mV AT 22:54. 04-14-00

EMF=-17.2 mV AT 22:54. 04-14-00

EMF=-17.3 mV AT 22:54. 04-14-00
ENTERED

STD VOL= 2.5000 AT 22:55. 04-14-00
ENTERED

EMF=-77.0 mV AT 22:57. 04-14-00

EMF=-77.6 mV AT 22:58. 04-14-00

EMF=-78.0 mV AT 22:58. 04-14-00

EMF=-78.3 mV AT 22:59. 04-14-00

EMF=-78.4 mV AT 22:59. 04-14-00
ENTERED

1:NH3 SLOPE=-61.4 mV/DEC
~~AT 22:59. 04-14-00~~

1:NH3 CONC= .134

620

HNF-1699 REV. 0

DOUBLE KNOWN ADDITION SELECTED
AT 23:38, 04-14-00

SAMPLE VOL= 25.000 AT 00:12, 04-15-00
ENTERED

EMF= 75.8 mV AT 00:15, 04-15-00

EMF= 77.6 mV AT 00:17, 04-15-00

EMF= 78.3 mV AT 00:18, 04-15-00

EMF= 78.6 mV AT 00:18, 04-15-00

EMF= 78.9 mV AT 00:18, 04-15-00
ENTERED

STD CONC= 1000 AT 00:19, 04-15-00
ENTERED

STD VOL= .25000 AT 00:19, 04-15-00
ENTERED

EMF=-37.0 mV AT 00:26, 04-15-00

EMF=-37.3 mV AT 00:26, 04-15-00

EMF=-37.6 mV AT 00:26, 04-15-00

EMF=-37.9 mV AT 00:26, 04-15-00

EMF=-38.0 mV AT 00:27, 04-15-00
ENTERED

STD VOL= 2.5000 AT 00:27, 04-15-00
ENTERED

EMF=-98.0 mV AT 00:30, 04-15-00

EMF=-98.3 mV AT 00:31, 04-15-00

EMF=-98.6 mV AT 00:31, 04-15-00

EMF=-98.8 mV AT 00:31, 04-15-00
ENTERED

1:NH3 SLOPE=-61.1 mV/DEC
AT 00:31, 04-15-00

1:NH3 CONC= .122

12.0
0.4P

HNF-1699 REV. 0

DOUBLE KNOWN ADDITION SELECTED
AT 00:32, 04-15-00

SAMPLE VOL= 25.000 AT 00:49, 04-15-00
ENTERED

EMF= 7.9 mV AT 00:55, 04-15-00

EMF= 2.9 mV AT 00:59, 04-15-00

EMF= 2.5 mV AT 00:59, 04-15-00

EMF= 2.3 mV AT 01:00, 04-15-00
ENTERED

STD CONC= 1000 AT 01:00, 04-15-00
ENTERED

STD VOL= .25000 AT 01:00, 04-15-00
ENTERED

EMF=-30.6 mV AT 01:04, 04-15-00

EMF=-31.3 mV AT 01:05, 04-15-00

EMF=-31.5 mV AT 01:05, 04-15-00
ENTERED

STD VOL= 2.5000 AT 01:05, 04-15-00
ENTERED

EMF=-85.4 mV AT 01:08, 04-15-00

EMF=-85.8 mV AT 01:09, 04-15-00

EMF=-86.1 mV AT 01:09, 04-15-00

EMF=-86.2 mV AT 01:09, 04-15-00
ENTERED

1:NH3 SLOPE=-63.0 mV/DEC
AT 01:09, 04-15-00

1:NH3 CONC= 4.04

620 SPK

HNF-1699 REV. 0

DOUBLE KNOWN ADDITION SELECTED
AT 05:38. 04-15-00

SAMPLE VOL= 25.000 AT 05:46. 04-15-00
ENTERED

EMF=-19.1 mV AT 05:48. 04-15-00

EMF=-19.2 mV AT 05:48. 04-15-00
ENTERED

STD CONC= 1000 AT 05:49. 04-15-00
ENTERED

STD VOL= .25000 AT 05:49. 04-15-00
ENTERED

EMF=-37.5 mV AT 05:50. 04-15-00

EMF=-37.6 mV AT 05:51. 04-15-00
ENTERED

STD VOL= 2.5000 AT 05:51. 04-15-00
ENTERED

EMF=-80.8 mV AT 05:53. 04-15-00

EMF=-81.0 mV AT 05:53. 04-15-00

EMF=-81.1 mV AT 05:53. 04-15-00
ENTERED

1:NH3 SLOPE=-57.6 mV/DEC
AT 05:53. 04-15-00

1:NH3 CONC= 9.03

End std

WORKBOOK PAGE: BLANK1

AMMONIA (NH3) : LA-631-001 (D-2)**LIQUIDS/SOLIDS****BLNK-PREP**

Type	Instrument Data (µg/mL)	ID	0.562
BLNK-PREP	Blank Result from the Instrument (µg/mL)	BR	0.052
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL)	VSAM	1.000
33106	Final Vol of Dilution (mL) or Vol of Sample Direct (mL)	FVOL	25.0
Test Code			
NH3-01			
Matrix			
SOLID	Digest Dilution (g/L)	DD	5.274
Batch Number			
20001186			
Rerun			
0			
Sample Prep			
H2ODIG01	NH3 Concentration (µg/g)	NH3 CONC	< 4.74E+03
Sample #			
BLNK-PREP	Detection Limit (µg/g)		4.74E+03
Instrument Code			
NH301	Detection Limit = $1.000\mu\text{g} * 1000 * (\text{FVOL} / \text{VSAM}) / \text{DD}$		
Prepared By			
MF	NH3 Concentration (µg/g) = $(\text{ID} - \text{BR}) * 1000 * (\text{FVOL} / \text{VSAM}) / \text{DD}$		
Chemist			
MJL			
Analyst			
RWK			
Date Complete			
04/19/2000			
Analysis Date			
04/15/2000			
Analysis Time			
01:29 PM			
Sample Point	NH3 Concentration (µg/mL)		< 4.74E+03
SY-102 GRAB6			

Analyst:

RWK Date: 04/19/2000

Signature of Chemist:

MJL Date:

SAMPLE.WB1 REV 1.0

631001ML

WORKBOOK PAGE: STD2

AMMONIA (NH3) : LA-631-001 (D-2)

LIQUIDS/SOLIDS

Type	Instrument Data (µg/mL)	ID	STD
STD	Blank Result from the Instrument (µg/mL)	BR	0.052
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL)	VSAM	0.500
33106	Final Vol of Dilution (mL) or Vol of Sample Direct (mL)	FVOL	25.0
Test Code	LCS Standard Book Number	LCS	71N19B
NH3-01	LCS Standard Concentration (µg/mL)	STD VAL	4.87E+02
Matrix			
Batch Number			
20001186			
Rerun			
0			
Sample Prep			
N/A	NH3 Concentration (µg/mL)	NH3 CONC	4.37E+02
Sample #			
STD	Detection Limit (µg/mL)		5.00E+01
Instrument Code			
NH301	Detection Limit = 1.000µg * (FVOL/VSAM)		
Prepared By			
MF	NH3 Concentration (µg/mL) = (ID-BR)*(FVOL /VSAM)		
Chemist			
MJL	QC ACTUAL = STD VAL		
Analyst	QC FOUND = (ID-BR) * (FVOL/VSAM)		
RWK			
Date Complete			
04/19/2000			
Analysis Date	QC ACTUAL (µg)		4.87E+02
04/15/2000	QC FOUND (µg)		4.37E+02
Analysis Time			
01:29 PM			
Sample Point			
SY-102 GRAB6			

Analyst:

Signature of Chemist:

RWK Date: 04/19/2000

MJL Date:

SAMPLE.WB1 REV 1.0

631001ML

WORKBOOK PAGE: SAM3

AMMONIA (NH3) : LA-631-001 (D-2)

LIQUIDS/SOLIDS

		SAMPLE
Type	Instrument Data (µg/mL)	ID 0.134
SAMPLE	Blank Result from the Instrument (µg/mL)	BR 0.052
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL)	VSAM 1.000
33106	Final Vol of Dilution (mL) or Vol of Sample Direct (mL)	FVOL 25.0
Test Code		
NH3-01		
Matrix		
SOLID	Dilution Factor	DF 5.274
Batch Number		
20001186		
Rerun		
0		
Sample Prep		
ACIDIG01	NH3 Concentration (µg/g)	NH3 CONC 3.90E+02
Sample #		
S00T000620	Detection Limit (µg/g)	1.32E+02
Instrument Code		
NH301	Detection Limit = 1.000µg * (FVOL/VSAM) * DF	
Prepared By		
MF	NH3 Concentration (µg/g) = ((ID-BR) * 1000 * (FVOL / VSAM) / Acid DF)	
Chemist		
MJL		
Analyst		
RWK		
Date Complete		
04/19/2000		
Analysis Date		
04/15/2000		
Analysis Time		
01:29 PM		
Sample Point	NH3 Concentration (µg/g)	3.90E+02
SY-102 GRAB6		

Analyst:

Signature of Chemist:

SAMPLE.WB1 REV 1.0

RWK Date: 04/19/2000

MJL Date:

631001ML

WORKBOOK PAGE: DUP4

AMMONIA (NH3) : LA-631-001 (D-2)**LIQUIDS/SOLIDS**

		DUP
Type	Instrument Data (µg/mL)	ID 0.122
DUP	Blank Result from the Instrument (µg/mL)	BR 0.052
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL)	VSAM 1.000
33106	Final Vol of Dilution (mL) or Vol of Sample Direct (mL)	FVOL 25.0
Test Code		
NH3-01		
Matrix		
SOLID	Dilution Factor	DF 5.124
Batch Number		
20001186		
Rerun		
0		
Sample Prep		
ACIDIG01	NH3 Concentration (µg/g)	NH3 CONC 3.43E+02
Sample #		
S00T000620	Detection Limit (µg/g)	1.28E+02
Instrument Code		
NH301	Detection Limit = 1.000µg * (FVOL/VSAM) * DF	
Prepared By		
MF	NH3 Concentration (µg/g) = ((ID-BR) * 1000 * (FVOL / VSAM) / Acid DF)	
Chemist		
MJL		
Analyst		
RWK		
Date Complete		
04/19/2000		
Analysis Date		
04/15/2000		
Analysis Time		
01:29 PM		
Sample Point	NH3 Concentration (µg/g)	3.43E+02
SY-102 GRAB6		

Analyst:

RWK Date: 04/19/2000

Signature of Chemist:

MJL Date:

SAMPLE.WB1 REV 1.0

631001ML

WORKBOOK PAGE: SPIKE5

AMMONIA (NH3) : LA-631-001 (D-2)**LIQUIDS/SOLIDS**

		SPK
Type	Instrument Data (µg/mL) ID	4.040
SPK	Blank Result from the Instrument (µg/mL) BR	0.052
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL) VSAM	1.000
33106	Final Vol of Dilution (mL) or Vol of Sample Direct (mL) FVOL	25.0
Test Code	Spike Book Number SPK	71N19B
NH3-01	Spike Value (µg/mL) SPK VAL	4.87E+02
Matrix	Vol of Spike Standard Used (mL) VOL SPK	0.250
SOLID		
Batch Number		
20001186		
Rerun	Sample Instrument Data (µg/mL) SAM ID	0.134
0	Sample Volume of Sample (mL) SAM VSAM	1.000
Sample Prep	Sample Final Volume (mL) SAM FVOL	25.0
ACIDIG01		
Sample #		
S00T000620		
Instrument Code		
NH301		
Prepared By		
MF		
Chemist		
MJL	QC ACTUAL = SPK VAL * VOL SPK	
Analyst	QC FOUND = (((ID-BR) * FVOL) - (SAM ID - BR) * SAM FVOL * (VSAM / SAM VSAM))	
RWK		
Date Complete		
04/19/2000		
Analysis Date	QC ACTUAL (µg)	1.22E+02
04/15/2000	QC FOUND (µg)	9.77E+01
Analysis Time		
01:29 PM		
Sample Point		
SY-102 GRAB6		

Analyst:

RWK Date: 04/19/2000

Signature of Chemist:

MJL Date:

SAMPLE.WB1 REV 1.0

631001ML

WORKBOOK PAGE: ST_END6

AMMONIA (NH3) : LA-631-001 (D-2)**LIQUIDS/SOLIDS**

		STD
Type	Instrument Data (µg/mL)	ID 9.030
STD	Blank Result from the Instrument (µg/mL)	BR 0.052
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL)	VSAM 0.500
33106	Final Vol of Dilution (mL) or Vol of Sample Direct (mL)	FVOL 25.0
Test Code	LCS Standard Book Number	LCS 71N19B
NH3-01	LCS Standard Concentration (µg/mL)	STD VAL 4.87E+02
Matrix		
Batch Number		
20001186		
Rerun		
0		
Sample Prep		
N/A	NH3 Concentration (µg/mL)	NH3 CONC 4.49E+02
Sample #		
STD	Detection Limit (µg/mL)	5.00E+01
Instrument Code		
NH301	Detection Limit = 1.000µg * (FVOL/VSAM)	
Prepared By		
MF	NH3 Concentration (µg/mL) = (ID-BR)*(FVOL /VSAM)	
Chemist		
MJL	QC ACTUAL = STD VAL	
Analyst	QC FOUND = (ID-BR) * (FVOL/VSAM)	
RWK		
Date Complete		
04/19/2000		
Analysis Date	QC ACTUAL (µg)	4.87E+02
04/15/2000	QC FOUND (µg)	4.49E+02
Analysis Time		
01:29 PM		
Sample Point		
SY-102 GRAB6		

Analyst:

RWK Date: 04/19/2000

Signature of Chemist:

MJL Date:

SAMPLE.WB1 REV 1.0

631001ML

LABCORE Completed Worklist Report for Worklist# 33234

Analyst: rwk

Instrument: NH301

Book#: 7/19-B

Method: LA-631-001 Rev/Mod D-2

Worklist Comment: SY-102 GRAB 6 FOR NH3-01 skb

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 BLNK-PREP	0		NH3-01	SOLID	1	<9.47E+3		ug/g
2 STD	0		NH3-01	SOLID	4.87E+02	4.58E+2	94.045 % Recovery	
3 SAMPLE	S00T000633	0 A	NH3-01	SOLID	N/A	1.09E+04	264.000	ug/g
4 DUP	S00T000633	0 A	NH3-01	SOLID	1.09E+4	1.42E+4	26.295 RPD	
5 SPK	S00T000633	0 A	NH3-01	SOLID	1.22E+02	9.53E+01	78.115 % Recovery	
6 STD	0		NH3-01	SOLID	4.87E+02	5.47E+2	112.320 % Recovery	

Final page for worklist# 33234

Analyst Signature

Date

Analyst Signature

Date

Reviewer Signature

Date

HNF-1699 REV. 0

04/16/00 06:33

Page: 1

ws2

LABCORE Data Entry Template for Worklist# 33234Analyst: RR Instrument: NH301 Book# 71719-8Method: LA-631-001 Rev/Mod 0-2

Worklist Comment: SY-102 GRAB 6 FOR NH3-01 skb

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 BLNK-PREP			NH3-01	SOLID		
2 STD			NH3-01	SOLID		
3 SAMPLE	S00T000633	0 A	NH3-01	SOLID	20000085	SY-102 GRAB6
Analytes Requested: NH3-01						
4 DUP	S00T000633	0 A	NH3-01	SOLID		
5 SPK	S00T000633	0 A	NH3-01	SOLID		

*Std @ 4/17/00

Final page for worklist # 33234RR 4/16/00
Signature DateYmmy Tran 4/17/00
Signature Date

Data Entry Comments:

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

HNF-1699 REV. 0

DOUBLE KNOWN ADDITION SELECTED
AT 19:01, 04-15-00

SAMPLE VOL= 25.000 AT 19:01, 04-15-00
ENTERED

EMF= 96.6 mV AT 19:07, 04-15-00

EMF= 98.3 mV AT 19:09, 04-15-00

EMF= 98.7 mV AT 19:09, 04-15-00

EMF= 98.8 mV AT 19:09, 04-15-00
ENTERED

STD CONCN= 1000 AT 19:10, 04-15-00
ENTERED

STD VOL= .25000 AT 19:10, 04-15-00
ENTERED

EMF=-92.5 mV AT 19:14, 04-15-00

EMF=-92.8 mV AT 19:14, 04-15-00
ENTERED

STD VOL= 2.5000 AT 19:14, 04-15-00
ENTERED

EMF=-92.5 mV AT 19:17, 04-15-00

EMF=-92.8 mV AT 19:17, 04-15-00

EMF=-93.1 mV AT 19:18, 04-15-00

EMF=-93.1 mV AT 19:18, 04-15-00
ENTERED

1:NH3 SLOPE=-60.4 mV/DEC
AT 19:18, 04-15-00

1:NH3 CONCN= .0662

BLK

HNF-1699 REV. 0

DOUBLE KNOWN ADDITION SELECTED
AT 19:18, 04-15-00

SAMPLE VOL= 25.000 AT 19:37, 04-15-00
ENTERED

EMF=-9.1 mV AT 19:39, 04-15-00

EMF=-9.3 mV AT 19:39, 04-15-00
ENTERED

STD CONC= 1000 AT 19:40, 04-15-00
ENTERED

STD VOL= .25000 AT 19:40, 04-15-00
ENTERED

EMF=-27.9 mV AT 19:42, 04-15-00

EMF=-28.1 mV AT 19:42, 04-15-00
ENTERED

STD VOL= 2.5000 AT 19:42, 04-15-00
ENTERED

EMF=-72.5 mV AT 19:45, 04-15-00

EMF=-72.9 mV AT 19:45, 04-15-00

EMF=-73.0 mV AT 19:45, 04-15-00
ENTERED

1:NH3 SLOPE=-59.7 mV/DEC
AT 19:45, 04-15-00

1:NH3 CONC= 9.22

std

DOUBLE KNOWN ADDITION SELECTED
AT 19:46. 04-15-00

SAMPLE VOL= 25.000 AT 19:52. 04-15-00
ENTERED

EMF= 59.1 mV AT 19:53. 04-15-00

EMF= 59.0 mV AT 19:53. 04-15-00
ENTERED

STD CONC= 1000 AT 19:54. 04-15-00
ENTERED

STD VOL= .25000 AT 19:54. 04-15-00
ENTERED

EMF=-6.7 mV AT 19:57. 04-15-00

EMF=-7.1 mV AT 19:57. 04-15-00

EMF=-7.5 mV AT 19:58. 04-15-00

EMF=-7.9 mV AT 19:58. 04-15-00

EMF=-7.9 mV AT 19:58. 04-15-00
ENTERED

STD VOL= 2.5000 AT 19:59. 04-15-00
ENTERED

EMF=-67.9 mV AT 20:01. 04-15-00

EMF=-68.2 mV AT 20:02. 04-15-00

EMF=-68.3 mV AT 20:02. 04-15-00
ENTERED

1:NH3 SLOPE=-62.5 mV/DEC
AT 20:02. 04-15-00

1:NH3 CONC= .921

PREP BLK

HNF-1699 REV. 0

DOUBLE KNOWN ADDITION SELECTED
AT 20:03. 04-15-00

SAMPLE VOL= 25.000 AT 20:08. 04-15-00
ENTERED

EMF= 55.4 mV AT 20:10. 04-15-00

EMF= 55.4 mV AT 20:10. 04-15-00
ENTERED

STD CONC= 1000 AT 20:10. 04-15-00
ENTERED

STD VOL= .25000 AT 20:10. 04-15-00
ENTERED

EMF=-4.1 mV AT 20:14. 04-15-00

EMF=-4.4 mV AT 20:15. 04-15-00

EMF=-4.8 mV AT 20:15. 04-15-00

EMF=-4.9 mV AT 20:15. 04-15-00
ENTERED

STD VOL= 2.5000 AT 20:15. 04-15-00
ENTERED

EMF=-64.6 mV AT 20:18. 04-15-00

EMF=-64.9 mV AT 20:18. 04-15-00
ENTERED

1:NH3 SLOPE=-62.8 mV/DEC
AT 20:18. 04-15-00

1:NH3 CONC= 1.22

633

,5

HNF-1699 REV. 0

DOUBLE KNOWN ADDITION SELECTED
AT 20:53, 04-15-00

SAMPLE VOL= 25.000 AT 20:59, 04-15-00
ENTERED

EMF= 51.4 mV AT 21:01, 04-15-00

EMF= 51.3 mV AT 21:01, 04-15-00
ENTERED

STD CONC= 1000 AT 21:01, 04-15-00
ENTERED

STD VOL= .25000 AT 21:01, 04-15-00
ENTERED

EMF=-2.7 mV AT 21:03, 04-15-00

EMF=-3.2 mV AT 21:04, 04-15-00

EMF=-3.3 mV AT 21:04, 04-15-00
ENTERED

STD VOL= 2.5000 AT 21:04, 04-15-00
ENTERED

EMF=-61.0 mV AT 21:06, 04-15-00

EMF=-61.2 mV AT 21:07, 04-15-00
ENTERED

1:NH3 SLOPE=-61.1 mV/DEC
AT 21:07, 04-15-00

1:NH3 CONC= 1.45

633 DUP
15

HNF-1699 REV. 0

DOUBLE KNOWN ADDITION SELECTED
AT 21:32, 04-15-00

SAMPLE VOL= 25.000 AT 21:39, 04-15-00
ENTERED

EMF= 18.9 mV AT 21:42, 04-15-00

EMF= 17.7 mV AT 21:43, 04-15-00

EMF= 17.7 mV AT 21:43, 04-15-00
ENTERED

STD CONC= 1000 AT 21:43, 04-15-00
ENTERED

STD VOL= .25000 AT 21:43, 04-15-00
ENTERED

EMF=-10.4 mV AT 21:46, 04-15-00

EMF=-10.8 mV AT 21:46, 04-15-00

EMF=-10.8 mV AT 21:46, 04-15-00
ENTERED

STD VOL= 2.5000 AT 21:47, 04-15-00
ENTERED

EMF=-61.5 mV AT 21:48, 04-15-00

EMF=-61.8 mV AT 21:49, 04-15-00
ENTERED

1:NH3 SLOPE=-60.5 mV/DEC
AT 21:49, 04-15-00

1:NH3 CONC= 5.03

633 SPK
.5
.25 SPK

HNF-1699 REV. 0

DOUBLE KNOWN ADDITION SELECTED

AT 21:50, 04-15-00

SAMPLE VOL= 25.000 AT 21:58, 04-15-00
ENTERED

EMF= 0.2 mV AT 22:00, 04-15-00

EMF= 0 mV AT 22:01, 04-15-00
ENTEREDSTD CONC= 1000 AT 22:01, 04-15-00
ENTEREDSTD VOL= .25000 AT 22:01, 04-15-00
ENTERED

EMF=-16.8 mV AT 22:03, 04-15-00

EMF=-17.1 mV AT 22:04, 04-15-00
ENTEREDSTD VOL= 2.5000 AT 22:04, 04-15-00
ENTERED

EMF=-61.2 mV AT 22:06, 04-15-00

EMF=-61.6 mV AT 22:06, 04-15-00

EMF=-61.6 mV AT 22:06, 04-15-00
ENTERED1:NH3 SLOPE=-61.8 mV/DEC
AT 22:06, 04-15-00

1:NH3 CONC= 11.0

End Std, 5

WORKBOOK PAGE: BLANK1

AMMONIA (NH3) : LA-631-001 (D-2)

LIQUIDS/SOLIDS

BLNK-PREP

Type	Instrument Data (µg/mL)	ID	0.921
BLNK-PREP	Blank Result from the Instrument (µg/mL)	BR	0.066
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL)	VSAM	0.500
33234	Final Vol of Dilution (mL) or Vol of Sample Direct (mL)	FVOL	25.0
Test Code			
NH3-01			
Matrix			
SOLID	Digest Dilution (g/L)	DD	5.278
Batch Number			
20001336			
Rerun			
0			
Sample Prep			
Acid H2O DIG01	NH3 Concentration (µg/g)	NH3 CONC	< 9.47E+03
Sample #			
BLNK-PREP	Detection Limit (µg/g)		9.47E+03
Instrument Code			
NH301	Detection Limit = 1.000µg * 1000 * (FVOL/VSAM) / DD		
Prepared By			
MF	NH3 Concentration (µg/g) = (ID-BR) * 1000 * (FVOL / VSAM) / DD		
Chemist			
MJL			
Analyst			
RWK			
Date Complete			
04/17/2000			
Analysis Date			
04/16/2000			
Analysis Time			
01:28 PM			
Sample Point	NH3 Concentration (µg/mL)		< 9.47E+03
SY-102 GRAB6			

Analyst:

RWK Date: 04/17/2000

Signature of Chemist:

MJL Date:

SAMPLE.WB1 REV 1.0

631001ML

WORKBOOK PAGE: STD2

AMMONIA (NH3) : LA-631-001 (D-2)**LIQUIDS/SOLIDS**

		STD
Type	Instrument Data (µg/mL) ID	9.220
STD	Blank Result from the Instrument (µg/mL) BR	0.066
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL) VSAM	0.500
33234	Final Vol of Dilution (mL) or Vol of Sample Direct (mL) FVOL	25.0
Test Code	LCS Standard Book Number LCS	71N19B
NH3-01	LCS Standard Concentration (µg/mL) STD VAL	4.87E+02
Matrix		
Batch Number		
20001336		
Rerun		
0		
Sample Prep		
N/A	NH3 Concentration (µg/mL) NH3 CONC	4.58E+02
Sample #		
STD	Detection Limit (µg/mL) 5.00E+01	
Instrument Code		
NH301	Detection Limit = 1.000µg * (FVOL/VSAM)	
Prepared By		
MF	NH3 Concentration (µg/mL) = (ID-BR)*(FVOL /VSAM)	
Chemist		
MJL	QC ACTUAL = STD VAL	
Analyst	QC FOUND = (ID-BR) * (FVOL/VSAM)	
RWK		
Date Complete		
04/17/2000		
Analysis Date	QC ACTUAL (µg)	4.87E+02
04/16/2000	QC FOUND (µg)	4.58E+02
Analysis Time		
01:28 PM		
Sample Point		
SY-102 GRAB6		

Analyst:

RWK Date: 04/17/2000

Signature of Chemist:

MJL Date:

SAMPLE.WB1 REV 1.0

631001ML

WORKBOOK PAGE: SAM3

AMMONIA (NH3) : LA-631-001 (D-2)

LIQUIDS/SOLIDS

		SAMPLE
Type	Instrument Data (µg/mL)	ID 1.220
SAMPLE	Blank Result from the Instrument (µg/mL)	BR 0.066
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL)	VSAM 0.500
33234	Final Vol of Dilution (mL) or Vol of Sample Direct (mL)	FVOL 25.0
Test Code		
NH3-01		
Matrix		
SOLID	Dilution Factor	DF 5.278
Batch Number		
20001336		
Rerun		
0		
Sample Prep		
ACIDIG01	NH3 Concentration (µg/g)	NH3 CONC 1.09E+04
Sample #		
S00T000633	Detection Limit (µg/g)	2.64E+02 <i>m/L 4/18/00</i> 9.47E+3
Instrument Code		
NH301	Detection Limit = 1.000µg * (FVOL/VSAM) * DF	
Prepared By		
MF	NH3 Concentration (µg/g) = ((ID-BR) * 1000 * (FVOL / VSAM) / Acid DF)	
Chemist		
MJL		
Analyst		
RWK		
Date Complete		
04/17/2000		
Analysis Date		
04/16/2000		
Analysis Time		
01:28 PM		
Sample Point	NH3 Concentration (µg/g)	1.09E+04
SY-102 GRAB6		

Analyst:

RWK Date: 04/17/2000

Signature of Chemist:

MJL Date:

SAMPLE.WB1 REV 1.0

631001ML

WORKBOOK PAGE: DUP4

AMMONIA (NH3) : LA-631-001 (D-2)**LIQUIDS/SOLIDS**

		DUP
Type	Instrument Data (µg/mL) ID	1.450
DUP	Blank Result from the Instrument (µg/mL) BR	0.066
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL) VSAM	0.500
33234	Final Vol of Dilution (mL) or Vol of Sample Direct (mL) FVOL	25.0
Test Code		
NH3-01		
Matrix		
SOLID	Dilution Factor DF	4.870
Batch Number		
20001336		
Rerun		
0		
Sample Prep		
ACIDIG01	NH3 Concentration (µg/g) NH3 CONC	1.42E+04
Sample #		
S00T000633	Detection Limit (µg/g) 2.44E+02 <i>w/L 4/18/00</i> <i>1.03E+4</i>	
Instrument Code		
NH301	Detection Limit = 1.000µg * (FVOL/VSAM) * DF	
Prepared By		
MF	NH3 Concentration (µg/g) = ((ID-BR) * 1000 * (FVOL / VSAM) / Acid DF)	
Chemist		
MJL		
Analyst		
RWK		
Date Complete		
04/17/2000		
Analysis Date		
04/16/2000		
Analysis Time		
01:28 PM		
Sample Point	NH3 Concentration (µg/g)	1.42E+04
SY-102 GRAB6		

Analyst:

RWK Date: 04/17/2000

Signature of Chemist:

MJL Date:

SAMPLE.WB1 REV 1.0

631001ML

WORKBOOK PAGE: SPIKE5

AMMONIA (NH3) : LA-631-001 (D-2)**LIQUIDS/SOLIDS**

		SPK
Type	Instrument Data (µg/mL)	ID
SPK	Blank Result from the Instrument (µg/mL)	BR
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL)	VSAM
33234	Final Vol of Dilution (mL) or Vol of Sample Direct (mL)	FVOL
Test Code	Spike Book Number	SPK
NH3-01	Spike Value (µg/mL)	SPK VAL
Matrix	Vol of Spike Standard Used (mL)	VOL SPK
SOLID		
Batch Number		
20001336		
Rerun	Sample Instrument Data (µg/mL)	SAM ID
0	Sample Volume of Sample (mL)	SAM VSAM
Sample Prep	Sample Final Volume (mL)	SAM FVOL
ACIDIG01		
Sample #		
S00T000633		
Instrument Code		
NH301		
Prepared By		
MF		
Chemist		
MJL	QC ACTUAL = SPK VAL * VOL SPK	
Analyst	QC FOUND = (((ID-BR) * FVOL) - (SAM ID - BR) * SAM FVOL * (VSAM / SAM VSAM))	
RWK		
Date Complete		
04/17/2000		
Analysis Date	QC ACTUAL (µg)	1.22E+02
04/16/2000	QC FOUND (µg)	9.53E+01
Analysis Time		
01:28 AM		
Sample Point		
AY-102 GRAB6		

Analyst:

RWK Date: 04/17/2000

Signature of Chemist:

MJL Date:

SAMPLE.WB1 REV 1.0

631001ML

WORKBOOK PAGE: ST_END6

AMMONIA (NH3) : LA-631-001 (D-2)**LIQUIDS/SOLIDS**

		STD
Type	Instrument Data (µg/mL) ID	11.000
STD	Blank Result from the Instrument (µg/mL) BR	0.066
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL) VSAM	0.500
33234	Final Vol of Dilution (mL) or Vol of Sample Direct (mL) FVOL	25.0
Test Code	LCS Standard Book Number LCS	71N19B
NH3-01	LCS Standard Concentration (µg/mL) STD VAL	4.87E+02
Matrix		
Batch Number		
20001336		
Rerun		
0		
Sample Prep		
N/A	NH3 Concentration (µg/mL) NH3 CONC	5.47E+02
Sample #		
STD	Detection Limit (µg/mL)	5.00E+01
Instrument Code		
NH301	Detection Limit = 1.000µg * (FVOL/VSAM)	
Prepared By		
MF	NH3 Concentration (µg/mL) = (ID-BR)*(FVOL /VSAM)	
Chemist		
MJL	QC ACTUAL = STD VAL	
Analyst	QC FOUND = (ID-BR) * (FVOL/VSAM)	
RWK		
Date Complete		
04/17/2000		
Analysis Date	QC ACTUAL (µg)	4.87E+02
04/16/2000	QC FOUND (µg)	5.47E+02
Analysis Time		
01:28 AM		
Sample Point		
AY-102 GRAB6		

Analyst:

RWK Date: 04/17/2000

Signature of Chemist:

MJL Date:

SAMPLE.WB1 REV 1.0

631001ML

270

LABCORE Completed Worklist Report for Worklist# 33931

Analyst: pjm Instrument: NH301

Book#: 7/1/19-DMethod: LA-631-001 Rev/Mod D2

Worklist Comment: SY-102 GRAB6 FOR NH3-01 RTS

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 BLNK-PREP	0		NH3-01	SOLID	1	<9.68E+2		ug/g
2 STD	0		NH3-01	SOLID	4.91E+02	4.18E+2	85.132 %	Recovery
3 SAMPLE	S00T000624	0 W	NH3-01	SOLID	N/A	2.21E+03	968.000	ug/g
4 DUP	S00T000624	0 W	NH3-01	SOLID	2.21E+3	2.06E+3	7.026	RPD
5 SPK	S00T000624	0 W	NH3-01	SOLID	2.46E+02	2.21E+02	89.837 %	Recovery
6 SAMPLE	S00T000634	0 W	NH3-01	SOLID	N/A	1.81E+03	994.000	ug/g
7 DUP	S00T000634	0 W	NH3-01	SOLID	1.81E+3	1.94E+3	6.933	RPD
8 STD	0		NH3-01	SOLID	4.91E+02	5.01E+2	102.037 %	Recovery

Final page for worklist# 33931

Analyst Signature _____ Date _____

Analyst Signature Mary Frank Date 6/22/00

Reviewer Signature _____

Date 6/22/00

HNF-1699 REV. 0

worklistrpt Version 2.1 05/15/95
06/21/00 07:50

Page: 1

LABCORE Data Entry Template for Worklist# 33931

Analyst: BM Instrument: NH301 Book # 71219DMethod: LA-631-001 Rev/Mod D2

Worklist Comment: SY-102 GRAB6 FOR NH3-01 RTS

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			NH3-01	SOLID			N/A	ug/g
		2 STD			NH3-01	SOLID			N/A	ug/g
20000085	SY-102 GRAB6	3 SAMPLE	S00T000624	0 W	NH3-01	SOLID	N/A			ug/g
20000085	SY-102 GRAB6	4 DUP	S00T000624	0 W	NH3-01	SOLID			N/A	ug/g
20000085	SY-102 GRAB6	5 SPK	S00T000624	0 W	NH3-01	SOLID			N/A	ug/g
20000085	SY-102 GRAB6	6 SAMPLE	S00T000634	0 W	NH3-01	SOLID	N/A			ug/g
20000085	SY-102 GRAB6	7 DUP	S00T000634	0 W	NH3-01	SOLID			N/A	ug/g
		8 STD			NH3-01	SOLID			N/A	ug/g

Final page for worklist # 33931

Analyst Signature BM Date 6/21/00Analyst Signature mary frauz Date 6/22/00

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-1699 REV. 0

DOUBLE KNOWN ADDITION SELECTED

AT 08:33. 06-21-00

SAMPLE VOL= 25.000 AT 08:39. 06-21-00
ENTERED

EMF= 100.4 mV AT 08:42. 06-21-00

EMF= 101.0 mV AT 08:43. 06-21-00

EMF= 101.1 mV AT 08:43. 06-21-00
ENTEREDSTD CONC= 1000 AT 08:43. 06-21-00
ENTEREDSTD VOL= .25000 AT 08:43. 06-21-00
ENTERED

EMF=-8.4 mV AT 08:47. 06-21-00

EMF=-8.8 mV AT 08:47. 06-21-00

EMF=-9.0 mV AT 08:48. 06-21-00
ENTEREDSTD VOL= 2.5000 AT 08:49. 06-21-00
ENTERED

EMF=-27.6 mV AT 08:50. 06-21-00

EMF=-27.9 mV AT 08:51. 06-21-00

EMF=-31.9 mV AT 08:51. 06-21-00

EMF=-70.8 mV AT 08:53. 06-21-00

EMF=-70.9 mV AT 08:54. 06-21-00
ENTERED1:NH3 SLOPE=-62.3 mV/DEC
AT 08:54. 06-21-00

1:NH3 CONC= .172

*Instrument Blank 25 ml
R McCann*

HNF-1699 REV. 0

DOUBLE KNOWN ADDITION SELECTED
AT 09:05. 06-21-00

SAMPLE VOL= 25.000 AT 09:05. 06-21-00
ENTERED

EMF=-2.1 mV AT 09:08. 06-21-00

EMF=-2.4 mV AT 09:09. 06-21-00

EMF=-2.5 mV AT 09:09. 06-21-00
ENTERED

STD CONC= 1000 AT 09:09. 06-21-00
ENTERED

STD VOL= .25000 AT 09:09. 06-21-00
ENTERED

EMF=-21.2 mV AT 09:12. 06-21-00

EMF=-21.4 mV AT 09:12. 06-21-00

EMF=-21.5 mV AT 09:12. 06-21-00
ENTERED

STD VOL= 2.5000 AT 09:13. 06-21-00
ENTERED

EMF=-64.9 mV AT 09:16. 06-21-00

EMF=-65.2 mV AT 09:16. 06-21-00

EMF=-65.2 mV AT 09:16. 06-21-00
ENTERED

1:NH3 SLOPE=-57.1 mV/DEC
AT 09:16. 06-21-00

1:NH3 CONC= 8.53

std. 71219 D
.500 ML
R McLean
06/21/00

HNF-1699 REV. 0

DOUBLE KNOWN ADDITION SELECTED
AT 09:36. 06-21-00

SAMPLE VOL= 25.000 AT 09:36. 06-21-00
ENTERED

EMF= 111.1 mV AT 09:36. 06-21-00

EMF= 106.7 mV AT 09:39. 06-21-00

EMF= 106.5 mV AT 09:40. 06-21-00
ENTERED

STD CONC= 1000 AT 09:40. 06-21-00
ENTERED

STD VOL= .25000 AT 09:40. 06-21-00
ENTERED

EMF= 6.1 mV AT 09:43. 06-21-00

EMF= 5.9 mV AT 09:44. 06-21-00
ENTERED

STD VOL= 2.5000 AT 09:44. 06-21-00
ENTERED

EMF=-53.9 mV AT 09:47. 06-21-00

EMF=-54.2 mV AT 09:48. 06-21-00

EMF=-54.2 mV AT 09:48. 06-21-00
ENTERED

1:NH3 SLOPE=-60.6 mV/DEC
AT 09:48. 06-21-00

1:NH3 CONC= .221 *prep-blank*
5.0 ml

HNF-1699 REV. 0

DOUBLE KNOWN ADDITION SELECTED
AT 13:48. 06-21-00

SAMPLE VOL= 25.000 AT 13:49. 06-21-00
ENTERED

EMF= 46.9 mV AT 13:51. 06-21-00

EMF= 46.7 mV AT 13:51. 06-21-00

EMF= 46.7 mV AT 13:51. 06-21-00
ENTERED

STD CONC= 1000 AT 13:52. 06-21-00
ENTERED

STD VOL= .25000 AT 13:52. 06-21-00
ENTERED

EMF= 4.3 mV AT 13:54. 06-21-00

EMF= 4.0 mV AT 13:55. 06-21-00
ENTERED

STD VOL= 2.5000 AT 13:55. 06-21-00
ENTERED

EMF=-49.3 mV AT 13:57. 06-21-00

EMF=-51.6 mV AT 13:58. 06-21-00

EMF=-51.7 mV AT 13:58. 06-21-00
ENTERED

1:NH3 SLOPE=-60.9 mV/DEC
AT 13:58. 06-21-00

1:NH3 CONC= 2.45

500700064²⁴ mg
Sample 06/21/00
5.0 mL

HNF-1699 REV. 0

DOUBLE KNOWN ADDITION SELECTED
AT 14:38. 06-21-00

SAMPLE VOL= 25.000 AT 14:38. 06-21-00
ENTERED

EMF= 50.9 mV AT 14:41. 06-21-00

EMF= 50.8 mV AT 14:41. 06-21-00
ENTERED

STD CONC= 1000 AT 14:41. 06-21-00
ENTERED

STD VOL= .25000 AT 14:41. 06-21-00
ENTERED

EMF= 6.3 mV AT 14:44. 06-21-00

EMF= 6.1 mV AT 14:44. 06-21-00

EMF= 6.0 mV AT 14:44. 06-21-00
ENTERED

STD VOL= 2.5000 AT 14:45. 06-21-00
ENTERED

EMF=-50.1 mV AT 14:47. 06-21-00

EMF=-50.4 mV AT 14:48. 06-21-00

EMF=-50.6 mV AT 14:48. 06-21-00
ENTERED

1:NH3 SLOPE=-61.5 mV/DEC
AT 14:48. 06-21-00

1:NH3 CONC= 2.27

*500T000624
Dup
5.0mL*

HNF-1699 REV. 0

DOUBLE KNOWN ADDITION SELECTED
AT 13:32. 06-21-00

SAMPLE VOL= 25.000 AT 13:33. 06-21-00
ENTERED

EMF= 3.7 mV AT 13:35. 06-21-00

EMF= 3.4 mV AT 13:35. 06-21-00

EMF= 3.3 mV AT 13:36. 06-21-00
ENTERED

STD CONC= 1000 AT 13:36. 06-21-00
ENTERED

STD VOL= .25000 AT 13:36. 06-21-00
ENTERED

EMF=-12.3 mV AT 13:38. 06-21-00

EMF=-12.6 mV AT 13:38. 06-21-00

EMF=-12.8 mV AT 13:39. 06-21-00

EMF=-12.8 mV AT 13:39. 06-21-00
ENTERED

STD VOL= 2.5000 AT 13:39. 06-21-00
ENTERED

EMF=-54.5 mV AT 13:41. 06-21-00

EMF=-54.9 mV AT 13:41. 06-21-00

EMF=-55.2 mV AT 13:42. 06-21-00

EMF=-55.3 mV AT 13:42. 06-21-00
ENTERED

1:NH3 SLOPE=-59.5 mV/DEC
AT 13:42. 06-21-00

1:NH3 CONC= 11.3

5007000624

SPIKE

5.0ml + .500ml 71N19D

HNF-1699 REV. 0

DOUBLE KNOWN ADDITION SELECTED

AT 14:05. 06-21-00

SAMPLE VOL= 25.000 AT 14:06. 06-21-00

ENTERED

EMF= 53.4 mV AT 14:09. 06-21-00

EMF= 53.2 mV AT 14:09. 06-21-00

ENTERED

STD CONC= 1000 AT 14:10. 06-21-00

ENTERED

STD VOL= .25000 AT 14:10. 06-21-00

ENTERED

EMF= 6.7 mV AT 14:12. 06-21-00

EMF= 6.4 mV AT 14:12. 06-21-00

EMF= 6.1 mV AT 14:13. 06-21-00

EMF= 5.9 mV AT 14:13. 06-21-00

ENTERED

STD VOL= 2.5000 AT 14:14. 06-21-00

ENTERED

EMF=-50.2 mV AT 14:17. 06-21-00

EMF=-50.6 mV AT 14:17. 06-21-00

EMF=-50.8 mV AT 14:17. 06-21-00

ENTERED

1:NH3 SLOPE=-61.0 mV/DEC

AT 14:17. 06-21-00

1:NH3 CONC= 1.99

*5007000 634**SAMPLE**5.0 mL*

HNF-1699 REV. 0

DOUBLE KNOWN ADDITION SELECTED

AT 14:22. 06-21-00

SAMPLE VOL= 25.000 AT 14:22. 06-21-00

ENTERED

EMF= 52.6 mV AT 14:24. 06-21-00

EMF= 52.5 mV AT 14:24. 06-21-00

ENTERED

STD CONCN= 1000 AT 14:25. 06-21-00

ENTERED

STD VOL= .25000 AT 14:25. 06-21-00

ENTERED

EMF= 6.3 mV AT 14:27. 06-21-00

EMF= 6.1 mV AT 14:28. 06-21-00

EMF= 6.0 mV AT 14:28. 06-21-00

ENTERED

STD VOL= 2.5000 AT 14:28. 06-21-00

ENTERED

EMF=-50.1 mV AT 14:30. 06-21-00

EMF=-50.5 mV AT 14:31. 06-21-00

EMF=-50.8 mV AT 14:31. 06-21-00

EMF=-51.0 mV AT 14:31. 06-21-00

ENTERED

1:NH3 SLOPE=-61.6 mV/DEC

AT 14:32. 06-21-00

1:NH3 CONCN= 2.11

500T000 634
Dup.
5.0mL

HNF-1699 REV. 0

DOUBLE KNOWN ADDITION SELECTED
AT 14:54. 06-21-00

SAMPLE VOL= 25.000 AT 14:55. 06-21-00
ENTERED

EMF= 10.5 mV AT 14:57. 06-21-00

EMF= 10.2 mV AT 14:57. 06-21-00

EMF= 10.1 mV AT 14:58. 06-21-00
ENTERED

STD CONC= 1000 AT 14:58. 06-21-00
ENTERED

STD VOL= .25000 AT 14:58. 06-21-00
ENTERED

EMF=-6.8 mV AT 15:00. 06-21-00

EMF=-7.1 mV AT 15:00. 06-21-00

EMF=-7.2 mV AT 15:00. 06-21-00
ENTERED

STD VOL= 2.5000 AT 15:01. 06-21-00
ENTERED

EMF=-50.0 mV AT 15:03. 06-21-00

EMF=-50.3 mV AT 15:04. 06-21-00

EMF=-50.5 mV AT 15:04. 06-21-00
ENTERED

1:NH3 SLOPE=-59.0 mV/DEC
AT 15:04. 06-21-00

1:NH3 CONC= 10.2 *STD*
.500ML 7/21/9D

WORKBOOK PAGE: BLANK1

AMMONIA (NH3) : LA-631-001 (D-2)**LIQUIDS/SOLIDS****BLNK-PREP**

Type	Instrument Data (µg/mL)	ID	0.221
BLNK-PREP	Blank Result from the Instrument (µg/mL)	BR	0.172
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL)	VSAM	5.000
33931	Final Vol of Dilution (mL) or Vol of Sample Direct (mL)	FVOL	25.0
Test Code			
NH3-01			
Matrix			
SOLID	Digest Dilution (g/L)	DD	5.165
Batch Number			
20002054			
Rerun			
0			
Sample Prep			
H2ODIG01	NH3 Concentration (µg/g)	NH3 CONC	< 9.68E+02
Sample #			
BLNK-PREP	Detection Limit (µg/g)		9.68E+02
Instrument Code			
NH301	Detection Limit = $1.000\mu\text{g} * 1000 * (\text{FVOL} / \text{VSAM}) / \text{DD}$		
Prepared By			
MF	NH3 Concentration (µg/g) = $(\text{ID} - \text{BR}) * 1000 * (\text{FVOL} / \text{VSAM}) / \text{DD}$		
Chemist			
MJL			
Analyst			
PJM			
Date Complete			
06/22/2000			
Analysis Date			
06/21/2000			
Analysis Time			
04:00 PM			
Sample Point	NH3 Concentration (µg/mL)		< 9.68E+02
SY-102 GRAB6			

Analyst:	<i>NA</i>	PJM Date: 06/22/2000
Signature of Chemist:		MJL Date:

SAMPLE.WB1 REV 1.0

631001ML

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Please view the native document
for the original page.

WORKBOOK PAGE: SAM3

AMMONIA (NH3) : LA-631-001 (D-2)**LIQUIDS/SOLIDS**

		SAMPLE
Type	Instrument Data (µg/mL)	ID 2.450
SAMPLE	Blank Result from the Instrument (µg/mL)	BR 0.172
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL)	VSAM 5.000
33931	Final Vol of Dilution (mL) or Vol of Sample Direct (mL)	FVOL 25.0
Test Code		
NH3-01		
Matrix		
SOLID	Digest Dilution (g/L)	DD 5.165
Batch Number		
20002054		
Rerun		
1		
Sample Prep		
H2ODIG01	NH3 Concentration (µg/g)	NH3 CONC 2.21E+03
Sample #		
S00T000624	Detection Limit (µg/g)	9.68E+02
Instrument Code		
NH301	Detection Limit = 1.000µg *1000* (FVOL/VSAM) / DD	
Prepared By		
MF	NH3 Concentration (µg/g) = (ID-BR) * 1000 * (FVOL / VSAM) /DD	
Chemist		
MJL		
Analyst		
PJM		
Date Complete		
06/22/2000		
Analysis Date		
06/21/2000		
Analysis Time		
04:00 PM		
Sample Point	NH3 Concentration (µg/g)	2.21E+03
SY-102 GRAB6		

Analyst:		PJM Date: 06/22/2000
Signature of Chemist:		MJL Date:

SAMPLE.WB1 REV 1.0

631001ML

WORKBOOK PAGE: DUP4

AMMONIA (NH3) : LA-631-001 (D-2)**LIQUIDS/SOLIDS**

		DUP
Type	Instrument Data (µg/mL)	ID 2.270
DUP	Blank Result from the Instrument (µg/mL)	BR 0.172
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL)	VSAM 5.000
33931	Final Vol of Dilution (mL) or Vol of Sample Direct (mL)	FVOL 25.0
Test Code		
NH3-01		
Matrix		
SOLID	Digest Dilution (g/L)	DD 5.084
Batch Number		
20002054		
Rerun		
1		
Sample Prep		
H2ODIG01	NH3 Concentration (µg/g)	NH3 CONC 2.06E+03
Sample #		
S00T000624	Detection Limit (µg/g)	9.83E+02
Instrument Code		
NH301	Detection Limit = $1.000\mu\text{g} * 1000 * (\text{FVOL} / \text{VSAM}) / \text{DD}$	
Prepared By		
MF	NH3 Concentration (µg/g) = $(\text{ID} - \text{BR}) * 1000 * (\text{FVOL} / \text{VSAM}) / \text{DD}$	
Chemist		
MJL		
Analyst		
PJM		
Date Complete		
06/22/2000		
Analysis Date		
06/21/2000		
Analysis Time		
04:00 PM		
Sample Point	NH3 Concentration (µg/g)	2.06E+03
SY-102 GRAB6		

Analyst:

PJM Date: 06/22/2000

Signature of Chemist:

MJL Date:

SAMPLE.WB1 REV 1.0

631001ML

WORKBOOK PAGE: SPIKE5

AMMONIA (NH3) : LA-631-001 (D-2)**LIQUIDS/SOLIDS**

Type	Instrument Data (µg/mL)	ID	11.300
SPK	Blank Result from the Instrument (µg/mL)	BR	0.172
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL)	VSAM	5.000
33931	Final Vol of Dilution (mL) or Vol of Sample Direct (mL)	FVOL	25.0
Test Code	Spike Book Number	SPK	71N19D
NH3-01	Spike Value (µg/mL)	SPK VAL	4.91E+02
Matrix	Vol of Spike Standard Used (mL)	VOL SPK	0.500
SOLID			
Batch Number			
20002054			
Rerun	Sample Instrument Data (µg/mL)	SAM ID	2.45
1	Sample Volume of Sample (mL)	SAM VSAM	5.000
Sample Prep	Sample Final Volume (mL)	SAM FVOL	25.0
H2ODIG01			
Sample #			
S00T000624			
Instrument Code			
NH301			
Prepared By			
MF			
Chemist			
MJL	QC ACTUAL = SPK VAL * VOL SPK		
Analyst	QC FOUND = (((ID-BR) * FVOL) - (SAM ID - BR) * SAM FVOL * (VSAM / SAM VSAM))		
PJM			
Date Complete			
06/22/2000			
Analysis Date	QC ACTUAL (µg)		2.46E+02
06/21/2000	QC FOUND (µg)		2.21E+02
Analysis Time			
04:00 PM			
Sample Point			
SY-102 GRAB6			

Analyst:

PJM Date: 06/22/2000

Signature of Chemist:

MJL Date:

SAMPLE WB1 REV 1.0

631001ML

WORKBOOK PAGE: SAM6

AMMONIA (NH3) : LA-631-001 (D-2)**LIQUIDS/SOLIDS**

		SAMPLE
Type	Instrument Data (µg/mL) ID	1.990
SAMPLE	Blank Result from the Instrument (µg/mL) BR	0.172
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL) VSAM	5.000
33931	Final Vol of Dilution (mL) or Vol of Sample Direct (mL) FVOL	25.0
Test Code		
NH3-01		
Matrix		
SOLID	Digest Dilution (g/L) DD	5.031
Batch Number		
20002054		
Rerun		
1		
Sample Prep		
H2ODIG01	NH3 Concentration (µg/g) NH3 CONC	1.81E+03
Sample #		
S00T000634	Detection Limit (µg/g) 9.94E+02	
Instrument Code		
NH301	Detection Limit = 1.000µg *1000* (FVOL/VSAM) / DD	
Prepared By		
MF	NH3 Concentration (µg/g) = (ID-BR) * 1000 * (FVOL / VSAM) /DD	
Chemist		
MJL		
Analyst		
PJM		
Date Complete		
06/22/2000		
Analysis Date		
06/21/2000		
Analysis Time		
04:00 PM		
Sample Point	NH3 Concentration (µg/g)	1.81E+03
SY-102 GRAB6		

Analyst:

PJM Date: 06/22/2000

Signature of Chemist:

MJL Date:

SAMPLE.WB1 REV 1.0

631001ML

AMMONIA (NH3) : LA-631-001 (D-2)

LIQUIDS/SOLIDS

		DUP
Type	Instrument Data (µg/mL) ID	2.110
DUP	Blank Result from the Instrument (µg/mL) BR	0.172
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL) VSAM	5.000
33931	Final Vol of Dilution (mL) or Vol of Sample Direct (mL) FVOL	25.0
Test Code		
NH3-01		
Matrix		
SOLID	Digest Dilution (g/L) DD	4.995
Batch Number		
20002054		
Rerun		
1		
Sample Prep		
H2ODIG01	NH3 Concentration (µg/g) NH3 CONC	1.94E+03
Sample #		
S00T000634	Detection Limit (µg/g) 1.00E+03	
Instrument Code		
NH301	Detection Limit = 1.000µg *1000* (FVOL/VSAM) / DD	
Prepared By		
MF	NH3 Concentration (µg/g) = (ID-BR) * 1000 * (FVOL / VSAM) /DD	
Chemist		
MJL		
Analyst		
PJM		
Date Complete		
06/22/2000		
Analysis Date		
06/21/2000		
Analysis Time		
04:00 PM		
Sample Point	NH3 Concentration (µg/g)	1.94E+03
SY-102 GRAB6		

Analyst:

PJM Date: 06/22/2000

Signature of Chemist:

MJL Date:

SAMPLE.WB1 REV 1.0

631001ML

WORKBOOK PAGE: ST_END8

AMMONIA (NH3) : LA-631-001 (D-2)**LIQUIDS/SOLIDS**

		STD
Type	Instrument Data (µg/mL) ID	10.200
STD	Blank Result from the Instrument (µg/mL) BR	0.172
Work List	Vol of Sample for Dilution (mL) or Vol of Sample Direct (mL) VSAM	0.500
33931	Final Vol of Dilution (mL) or Vol of Sample Direct (mL) FVOL	25.0
Test Code	LCS Standard Book Number LCS	71N19D
NH3-01	LCS Standard Concentration (µg/mL) STD VAL	4.91E+02
Matrix		
Batch Number		
20002054		
Rerun		
0		
Sample Prep		
N/A	NH3 Concentration (µg/mL) NH3 CONC	5.01E+02
Sample #		
STD	Detection Limit (µg/mL) 5.00E+01	
Instrument Code		
NH301	Detection Limit = 1.000µg * (FVOL/VSAM)	
Prepared By		
MF	NH3 Concentration (µg/mL) = (ID-BR)*(FVOL /VSAM)	
Chemist		
MJL	QC ACTUAL = STD VAL	
Analyst	QC FOUND = (ID-BR) * (FVOL/VSAM)	
PJM		
Date Complete		
06/22/2000		
Analysis Date	QC ACTUAL (µg)	4.91E+02
06/21/2000	QC FOUND (µg)	5.01E+02
Analysis Time		
04:00 PM		
Sample Point		
SY-102 GRAB6		

Analyst:		PJM Date: 06/22/2000
Signature of Chemist:		MJL Date:

SAMPLE.WB1 REV 1.0

631001ML

LABCORE Completed Worklist Report for Worklist# 32876

Analyst: pjm

Instrument: FIAS

Book#: 220111

Method: LA-325-106 Rev/Mod A-3

Worklist Comment: SY-102 GRAB6 FOR HG-02 RTS

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	ICV	0	HG-02	LIQUID	0.100	0.1071	107.100 % Recovery	
2	ICB	0	HG-02	LIQUID	1	<8.0e-5	ug/mL	
3	LLS	0	HG-02	LIQUID	0.100	0.090	90.000 % Recovery	
4	SAMPLE	S00T000505	0	HG-02	LIQUID	N/A	<3.2e-3	3.20e-003 ug/mL
5	DUP	S00T000505	0	HG-02	LIQUID	<3.2e-3	<3.2e-3	RPD
6	SPK	S00T000505	0	HG-02	LIQUID	100	104.9	104.900 % Recovery
7	SAMPLE	S00T000506	0	HG-02	LIQUID	N/A	<3.2e-3	3.20e-003 ug/mL
8	DUP	S00T000506	0	HG-02	LIQUID	<3.2e-3	<3.2e-3	RPD
9	SAMPLE	S00T000507	0	HG-02	LIQUID	N/A	<3.2e-3	3.20e-003 ug/mL
10	DUP	S00T000507	0	HG-02	LIQUID	<3.2e-3	<3.2e-3	RPD
11	CCV	0	HG-02	LIQUID	0.1	0.1137	113.700 % Recovery	
12	CCB	0	HG-02	LIQUID	1	<8.0e-5	ug/mL	

Final page for worklist# 32876

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

James M. Sapp 3/16/00
Reviewer Signature Date

LABCORE Data Entry Template for Worklist# 32876

Analyst: PJM Instrument: FIAS _____ Book # 99N11 F

Method: LA-325-106 Rev/Mod A-3

Worklist Comment: SY-102 GRAB6 FOR HG-02 RTS

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	ICV				HG-02	LIQUID	<u>0.100</u>	<u>1071</u>	<u>N/A</u>	ug/mL
		2	ICB				HG-02	LIQUID	<u>1</u>	<u>18.0e⁻⁵</u>	<u>N/A</u>	ug/mL
		3	LLS				HG-02	LIQUID	<u>0.100</u>	<u>0.90</u>	<u>N/A</u>	ug/mL
20000085	SY-102 GRAB6	4	SAMPLE	S00T000505	0		HG-02	LIQUID	<u>N/A</u>	<u>18.2e⁻³</u>	<u>3.2e⁻³</u>	ug/mL
20000085	SY-102 GRAB6	5	DUP	S00T000505	0		HG-02	LIQUID	<u>18.2e⁻³</u>	<u>18.2e⁻³</u>	<u>N/A</u>	ug/mL
20000085	SY-102 GRAB6	6	SPK	S00T000505	0		HG-02	LIQUID	<u>0.0</u>	<u>104.9</u>	<u>N/A</u>	ug/mL
20000085	SY-102 GRAB6	7	SAMPLE	S00T000506	0		HG-02	LIQUID	<u>N/A</u>	<u>18.2e⁻³</u>	<u>3.2e⁻³</u>	ug/mL
20000085	SY-102 GRAB6	8	DUP	S00T000506	0		HG-02	LIQUID	<u>18.2e⁻³</u>	<u>18.2e⁻³</u>	<u>N/A</u>	ug/mL
20000085	SY-102 GRAB6	9	SAMPLE	S00T000507	0		HG-02	LIQUID	<u>N/A</u>	<u>18.2e⁻³</u>	<u>3.2e⁻³</u>	ug/mL
20000085	SY-102 GRAB6	10	DUP	S00T000507	0		HG-02	LIQUID	<u>18.2e⁻³</u>	<u>18.2e⁻³</u>	<u>N/A</u>	ug/mL
		11	CCV				HG-02	LIQUID	<u>0.100</u>	<u>1131</u>	<u>N/A</u>	ug/mL
		12	CCB				HG-02	LIQUID	<u>1</u>	<u>18.0e⁻⁵</u>	<u>N/A</u>	ug/mL

Final page for worklist # 32876

See attached worklist
Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Data Entry Comments:

DATA ENTRY 3-16-00
John Wavell

Validated 3/16/00 - PJM

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

03/08/00 10:41
ws2

Page: 1

LABCORE Data Entry Template for Worklist# 32876Analyst: RLC Instrument: FIAS Book# 99N11-FMethod: LA-325-106 Rev/Mod A-3

Worklist Comment: SY-102 GRAB6 FOR HG-02 RTS

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	ICV				HG-02	LIQUID		
2	ICB				HG-02	LIQUID		
3	LLS				HG-02	LIQUID		
4	SAMPLE	S00T000505 0			HG-02	LIQUID	20000085	SY-102 GRAB6
		Analytes Requested: HG-02						
5	DUP	S00T000505 0			HG-02	LIQUID		
6	SPK	S00T000505 0			HG-02	LIQUID		
7	SAMPLE	S00T000506 0			HG-02	LIQUID	20000085	SY-102 GRAB6
		Analytes Requested: HG-02						
8	DUP	S00T000506 0			HG-02	LIQUID		
9	SAMPLE	S00T000507 0			HG-02	LIQUID	20000085	SY-102 GRAB6
		Analytes Requested: HG-02						
10	DUP	S00T000507 0			HG-02	LIQUID		
11	CCV				HG-02	LIQUID		
12	CCB				HG-02	LIQUID		

Final page for worklist # 32876
RLC 03/13/00
 Signature Date

Signature Date

Data Entry Comments:

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

Fias Hg Runlog

Analyst: DMDate: 03/13/00Worklist #: 32876Calibration Data: Slope: 0.00492
0.99996 abs. units/concentration
Correlation: 0.99996 RM
03/13/005g-102 Grad

Calibration Std conc. 100 ppb(ug/L)

Sample Name (Std. ID#)	Sample Point	Volume Std (ml)	D or A*	Instrument Reading	Conc. Ppb ug/L	% Rec.	Comments
BLANK		0.000	D	0.001	0		
98N11F		0.05	D	0.001	2.5		
		0.100	D	0.003	5.0		
		0.200	D	0.005	1.0		
		0.500	D	0.014	2.5		
		1.00	D	0.028	5.0		
		1.50	D	0.044	7.5		
		2.00	D	0.058	10.0		
ICV 99N11F		.500	D	2.678			
ICB		1.0	D	-0.015			
LLS 99N11F		.050	D	0.225			
505	5g-102 Grad	.500	D	0.030			
505 DUP		.500	A	0.011			
505 SPK		.500	D	2.622			+500ML 99N11F
506		.500	D	-0.015			
506 DUP		.500	D	0.002			
507		.500	D	-0.023			
507 DUP		.500	D	0.011			
CCV 99N11F		.500	D	2.844			
CCB		1.0	D	-0.020			

*Sample prep. Descriptors: D= Direct A= Acid Digest

Seq. No.	1	AS Loc:	1	Date:	3/13/00					
Sample ID:	Calib Blank									
Elem	SampleConc	StdConc	Blank	Corr	Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg					0.0008	0.0035		0.0008		14:28:46
Auto-zero performed.										
Mean:					0.0008					
SD:										
%RSD:										

Seq. No.	2	AS Loc:	2	Date:	3/13/00					
Sample ID:	0.25 ppb Hg 98N11F									
Elem	SampleConc	StdConc	Blank	Corr	Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg					0.0011	0.0131		0.0020		14:29:47
Standard number 1 applied. [0.25]										
Correlation Coefficient:		1.0000	Slope:		0.0045					
Mean:	0.0011									
SD:										
%RSD:										

Seq. No.	3	AS Loc:	3	Date:	3/13/00					
Sample ID:	0.50 ppb Hg 98N11F									
Elem	SampleConc	StdConc	Blank	Corr	Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg					0.0026	0.0270		0.0035		14:30:46
Standard number 2 applied. [0.50]										
Correlation Coefficient: 1.0000			Slope: 0.0039							
Mean:					0.0026					
SD:										
%RSD:										

Seq. No.	4	AS Loc:	4	Date:	3/13/00					
Sample ID:	1.00 ppb Hg 98N11F									
Elem	SampleConc	StdConc	Blank	Corr	Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg					0.0054	0.0534		0.0063		14:31:47
S-shaped calibration curve detected. Two-coefficient equation used.										
Standard number 3 applied. [1.00]										
Correlation Coefficient: 0.9982 Slope: 0.0044										
Mean:					0.0054					
SD:										
%RSD:										

Seq. No.	5	AS Loc:	5	Date:	3/13/00					
Sample ID:	2.50 ppb Hg 98N11F									
Elem	SampleConc	StdConc	Blank	Corr	Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg					0.0136	0.1278		0.0144		14:32:46
S-shaped calibration curve detected. Two-coefficient equation used.										
Standard number 4 applied. [2.50]										
Correlation Coefficient: 0.9988										
Slope: 0.0049										
Mean:					0.0136					
SD:										
%RSD:										

Seq. No.	6	AS Loc:	6	Date:	3/13/00					
Sample ID:	5.00 ppb Hg 98N11F									
Elem	SampleConc	StdConc	Blank	Corr	Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg					0.0282	0.2561		0.0291		14:33.46
Standard number 5 applied. [5.00]										
Correlation Coefficient: 0.9998 Slope: 0.0049										
An extra autosampler wash has been performed.										
Mean:					0.0282					
SD:										
%RSD:										

Seq. No.	7	AS Loc:	7	Date:	3/13/00					
Sample ID:	7.50 ppb Hg 98N11F									
Elem	SampleConc	StdConc	Blank	Corr	Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg					0.0436	0.3923		0.0444		14.35:20
Standard number 6 applied. [7.5]										
Correlation Coefficient: 1.0000 Slope: 0.0049										
An extra autosampler wash has been performed.										
Mean:					0.0436					
SD:										
%RSD:										

Seq. No.	8	AS Loc:	8	Date:	3/13/00					
Sample ID:	10.0 ppb Hg 98N11F									
Elem	SampleConc	StdConc	Blank	Corr	Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg					0.0582	0.5223		0.0590		14:36:46
Standard number 7 applied. [10.0]										
Correlation Coefficient:		1.0000	Slope:		0.0049					
Mean:					0.0582					
SD:										
%RSD:										

Seq. No.	9	AS Loc:	9	Date:	3/13/00				
Sample ID:	ICV 99N11-F 0.500ML								
Elem	SampleConc	StdConc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time	
Hg	2.678µg/L	2.678µg/L	0.0146	0.1339		0.0154		14:39:22	
Mean:	2.678µg/L	2.678µg/L	0.0146						
SD:	0.000µg/L	0.000µg/L							
%RSD:									

2.678

x100 = 107.12%

Seq. No.	10	AS Loc:	10	Date:	3/13/00				
Sample ID:	ICB								
Elem	SampleConc	StdConc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time	
Hg	-0.015µg/L	-0.015µg/L	-0.0001	0.0036		0.0008		14:40:22	
Mean:	-0.015µg/L	-0.015µg/L	-0.0001						
SD:	0.000µg/L	0.000µg/L							
%RSD:				28.00%					

Seq. No.	11	AS Loc:	11	Date:	3/13/00				
Sample ID:	LLS 99N11-F 0.050ML								
Elem	SampleConc	StdConc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time	
Hg	0.225µg/L	0.225µg/L	0.0011	0.0143		0.0020		14:41:22	
Mean:	0.225µg/L	0.225µg/L	0.0011						
SD:	0.000µg/L	0.000µg/L							

$\frac{.225}{.25} \times 100 = 90.0\%$

%RSD:

Seq. No.	12	AS Loc:	12	Date:	3/13/00			
Sample ID:	S00T000505 SMPL 0.500ML							
Elem	SampleConc	StdConc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg	0.030µg/L	0.030µg/L	0.0001	0.0059		0.0010		14:42:22
Mean:	0.030µg/L	0.030µg/L	0.0001					
SD:	0.000µg/L	0.000µg/L						
%RSD:								

Seq. No.	13	AS Loc:	13	Date:	3/13/00			
Sample ID:	S00T000505 DUP 0.500ML							
Elem	SampleConc	StdConc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg	0.011µg/L	0.011µg/L	0.0001	0.0056		0.0009		14:43:22
Mean:	0.011µg/L	0.011µg/L	0.0001					
SD:	0.000µg/L	0.000µg/L						
%RSD:								

Seq. No.	14	AS Loc:	14	Date:	3/13/00			
Sample ID:	S00T000505 SPK 0.500ML							
Elem	SampleConc	StdConc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg	2.622µg/L	2.622µg/L	0.0143	0.1301		0.0151		14:44:22
Mean:	2.622µg/L	2.622µg/L	0.0143					
SD:	0.000µg/L	0.000µg/L						
%RSD:								

Seq. No.	15	AS Loc:	15	Date:	3/13/00			
Sample ID:	S00T000506 SMPL 0.500ML							
Elem	SampleConc	StdConc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg	-0.015µg/L	-0.015µg/L	-0.0001	0.0009		0.0008		14:45:22
Mean:	-0.015µg/L	-0.015µg/L	-0.0001					
SD:	0.000µg/L	0.000µg/L						
%RSD:								

Seq. No.	16	AS Loc:	16	Date:	3/13/00			
Sample ID:	S00T000506 DUP 0.500ML							
Elem	SampleConc	StdConc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg	0.002µg/L	0.002µg/L	0.0000	0.0035		0.0008		14:46:22
Mean:	0.002µg/L	0.002µg/L	0.0000					
SD:	0.000µg/L	0.000µg/L						
%RSD:								

Seq. No.	17	AS Loc:	17	Date:	3/13/00			
Sample ID:	S00T000507 SMPL 0.500ML							
Elem	SampleConc	StdConc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg	-0.023µg/L	-0.023µg/L	-0.0001	0.0024		0.0007		14:47:22
Mean:	-0.023µg/L	-0.023µg/L	-0.0001					
SD:	0.000µg/L	0.000µg/L						
%RSD:								

Seq. No.	18	AS Loc:	18	Date:	3/13/00			
Sample ID:	S00T000507 DUP 0.500ML							
Elem	SampleConc	StdConc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg	-0.011µg/L	-0.011µg/L	-0.0001	0.0042		0.0008		14:48:22

Mean: -0.011µg/L -0.011µg/L -0.0001
 SD: 0.000µg/L 0.000µg/L
 %RSD:

Seq. No. 19 AS Loc: 19 Date: 3/13/00
 Sample ID: CCV 99N11-F 0.500ML

Elem	Sample Conc	Std Conc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg	2.844µg/L	2.844µg/L	0.0156	0.1389		0.0164		14:49:26
Mean:	2.844µg/L	2.844µg/L	0.0156					
SD:	0.000µg/L	0.000µg/L						
%RSD:								

Handwritten: 2.844 / 2.5 = 113.76%

Seq. No. 20 AS Loc: 20 Date: 3/13/00
 Sample ID: CCB

Elem	Sample Conc	Std Conc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg	-0.020µg/L	-0.020µg/L	-0.0001	0.0037		0.0007		14:50:26
Mean:	-0.020µg/L	-0.020µg/L	-0.0001					
SD:	0.000µg/L	0.000µg/L						
%RSD:								

Handwritten: 28.005 µg/mL

LABCORE Completed Worklist Report for Worklist# 33091

Analyst: pjm

Instrument: FIAS

Book#: 10/N11A

Method: LA-325-106 Rev/Mod A-3

Worklist Comment: SY-102 GRAB 6 FOR HG-02 RTS

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	ICV	0	HG-02	LIQUID	0.1	0.0968	95.800 % Recovery	
2	ICB	0	HG-02	LIQUID	1	<6.0e-5	ug/mL	
3	LLS	0	HG-02	LIQUID	0.100	0.068	68.000 % Recovery	
4	SAMPLE	S00T000513	0	HG-02	LIQUID	N/A	<2.4e-3	2.40e-003 ug/mL
5	DUP	S00T000513	0	HG-02	LIQUID	<2.4e-3	<2.4e-3	RPD
6	SPK	S00T000513	0	HG-02	LIQUID	100	100.4	100.400 % Recovery
7	SAMPLE	S00T000637	0	HG-02	LIQUID	N/A	<2.4e-3	2.40e-003 ug/mL
8	DUP	S00T000637	0	HG-02	LIQUID	<2.4e-3	<2.4e-3	RPD
9	SAMPLE	S00T000612	0	HG-02	LIQUID	N/A	<2.4e-3	2.40e-003 ug/mL
10	DUP	S00T000612	0	HG-02	LIQUID	<2.4e-3	<2.4e-3	RPD
11	SAMPLE	S00T000628	0	HG-02	LIQUID	N/A	<2.4e-3	2.40e-003 ug/mL
12	DUP	S00T000628	0	HG-02	LIQUID	<2.4e-3	<2.4e-3	RPD
13	CCV	0	HG-02	LIQUID	0.1	0.0998	99.800 % Recovery	
14	CCB	0	HG-02	LIQUID	1	<6.0e-5	ug/mL	

Final page for worklist# 33091

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Reviewer Signature Jane M. Lye Date 4/18/00

LABCORE Data Entry Template for Worklist# 33091

Analyst: PSM Instrument: FIAS _____ Book # 101N11A

Method: LA-325-106 Rev/Mod A-3

Worklist Comment: SY-102 GRAB 6 FOR HG-02 RTS

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 ICV			HG-02	LIQUID	<u>.100</u>	<u>.0968</u>	<u>N/A</u>	ug/mL
		2 ICB			HG-02	LIQUID	<u>1</u>	<u><6.0e⁻⁵</u>	<u>N/A</u>	ug/mL
		3 LLS			HG-02	LIQUID	<u>.100</u>	<u>.068</u>	<u>N/A</u>	ug/mL
20000085	SY-102 GRAB6	4 SAMPLE	S00T000513	0	HG-02	LIQUID	<u>N/A</u>	<u><2.4e⁻³</u>	<u>2.4e⁻³</u>	ug/mL
20000085	SY-102 GRAB6	5 DUP	S00T000513	0	HG-02	LIQUID	<u><2.4e⁻³</u>	<u><2.4e⁻³</u>	<u>N/A</u>	ug/mL
20000085	SY-102 GRAB6	6 SPK	S00T000513	0	HG-02	LIQUID	<u>100</u>	<u>100.4</u>	<u>N/A</u>	ug/mL
20000085	SY-102 GRAB6	7 SAMPLE	S00T000637	0	HG-02	LIQUID	<u>N/A</u>	<u><2.4e⁻³</u>	<u>2.4e⁻³</u>	ug/mL
20000085	SY-102 GRAB6	8 DUP	S00T000637	0	HG-02	LIQUID	<u><2.4e⁻³</u>	<u><2.4e⁻³</u>	<u>N/A</u>	ug/mL
20000085	SY-102 GRAB6	9 SAMPLE	S00T000612	0	HG-02	LIQUID	<u>N/A</u>	<u><2.4e⁻³</u>	<u>2.4e⁻³</u>	ug/mL
20000085	SY-102 GRAB6	10 DUP	S00T000612	0	HG-02	LIQUID	<u><2.4e⁻³</u>	<u><2.4e⁻³</u>	<u>N/A</u>	ug/mL
20000085	SY-102 GRAB6	11 SAMPLE	S00T000628	0	HG-02	LIQUID	<u>N/A</u>	<u><2.4e⁻³</u>	<u>2.4e⁻³</u>	ug/mL
20000085	SY-102 GRAB6	12 DUP	S00T000628	0	HG-02	LIQUID	<u><2.4e⁻³</u>	<u><2.4e⁻³</u>	<u>N/A</u>	ug/mL
		13 CCV			HG-02	LIQUID	<u>.100</u>	<u>.0998</u>	<u>N/A</u>	ug/mL
		14 CCB			HG-02	LIQUID	<u>1</u>	<u><6.0e⁻⁵</u>	<u>N/A</u>	ug/mL

Final page for worklist # 33091

See original
Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Data Entry Comments:

DATA ENTRY 4-17-00
John Warrall

validated 4/17/00 JMW

Units 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-1699 REV. 0

03/30/00 15:51

Page: 1

ws2

LABCORE Data Entry Template for Worklist# 33091Analyst: RM Instrument: FIAS Book# 101211AMethod: LA-325-106 Rev/Mod A3

Worklist Comment: SY-102 GRAB 6 FOR HG-02 RTS

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	ICV				HG-02	LIQUID		
2	ICB				HG-02	LIQUID		
3	LLS				HG-02	LIQUID		
4	SAMPLE	S00T000513 0			HG-02	LIQUID	20000085	SY-102 GRAB6
		Analytes Requested: HG-02						
5	DUP	S00T000513 0			HG-02	LIQUID		
6	SPK	S00T000513 0			HG-02	LIQUID		
7	SAMPLE	S00T000637 0			HG-02	LIQUID	20000085	SY-102 GRAB6
		Analytes Requested: HG-02						
8	DUP	S00T000637 0			HG-02	LIQUID		
9	SAMPLE	S00T000612 0			HG-02	LIQUID	20000085	SY-102 GRAB6
		Analytes Requested: HG-02						
10	DUP	S00T000612 0			HG-02	LIQUID		
11	SAMPLE	S00T000628 0			HG-02	LIQUID	20000085	SY-102 GRAB6
		Analytes Requested: HG-02						
12	DUP	S00T000628 0			HG-02	LIQUID		
13	CCV				HG-02	LIQUID		
14	CCB				HG-02	LIQUID		

Final page for worklist # 33091RM McLean 04/11/00

Data Entry Comments:

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

HNF-1699 REV. 0

Fias Hg Runlog

Analyst: RLMDate: 04/11/00Worklist #: 33091Calibration Data: Slope: _____ abs. units/concentration
Correlation: _____59-102 GRAB 6
Hg. Liq.

Calibration Std conc. 100 ppb(ug/L)

Project:

Sample Name (Std. ID#)	Sample Point	Volume Std (ml)	D or A*	Instrument Reading	Conc. Ppb ug/L	% Rec.	Comments
Blank		0.000			0		
	<u>100N11A</u>	0.05			0.25		
		0.100			0.50		
		0.200			1.0		
		0.500			2.5		
		1.00			5.0		
		1.50			7.5		
	<u>↓</u>	2.00			10.0		
ICV	<u>101N11A</u>	<u>.500</u>		<u>2.421</u>		<u>96.8</u>	
ICB		<u>NA</u>		<u>-.035</u>			
LLS**	<u>101N11A</u>	<u>.050</u>		<u>-.170</u>			
LCS***	<u>NA</u>	<u>NA</u>		<u>NA</u>			
<u>513</u>	<u>59-102</u>	<u>.500</u>	<u>D</u>	<u>-.011</u>			
<u>513 DUP</u>	<u>GRAB 6</u>	<u>.500</u>		<u>-.048</u>			
<u>513 SPH</u>		<u>.500</u>		<u>2.511</u>			
<u>637</u>		<u>.500</u>		<u>-.017</u>			
<u>637 DUP</u>		<u>.500</u>		<u>-.051</u>			
<u>612</u>		<u>.500</u>		<u>-.015</u>			
<u>612 DUP</u>		<u>.500</u>		<u>-.038</u>			
<u>628</u>		<u>.500</u>	<u>↓</u>	<u>-.054</u>			
<u>628 DUP</u>	<u>↓</u>	<u>.500</u>	<u>D</u>	<u>-.056</u>			
CCV	<u>101N11A</u>	<u>.500</u>		<u>2.495</u>		<u>99.8</u>	
CCB		<u>NA</u>		<u>-.086</u>			

*Sample prep. Descriptors: D= Direct A= Acid Digest

**LLS is run only for CLP analyses.

***LCS solid standard is run only with solid samples.

HNF-1699 REV. 0

Seq. No.	6	AS Loc:	6	Date:	4/11/00					
Sample ID:	5.00 ppb Hg 100N11A									
Elem	SampleConc	StdConc	Blank	Corr	Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg				0.0375		0.2489		0.0384		14:00:28
S-shaped calibration curve detected. Two-coefficient equation used.										
Standard number 5 applied. [5.00]										
Correlation Coefficient: 0.9995 Slope: 0.0068										
An extra autosampler wash has been performed.										
Mean:				0.0375						
SD:										
%RSD:										

Seq. No.	7	AS Loc:	7	Date:	4/11/00					
Sample ID:	7.50 ppb Hg 100N11A									
Elem	SampleConc	StdConc	Blank	Corr	Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg					0.0577	0.3827		0.0586		14:01:56
Standard number 6 applied. [7.5]										
Correlation Coefficient: 0.9999 Slope: 0.0068										
An extra autosampler wash has been performed.										
Mean:					0.0577					
SD:										
%RSD:										

Seq. No.	8	AS Loc:	8	Date:	4/11/00					
Sample ID:	10.0 ppb Hg 100N11A									
Elem	SampleConc	StdConc	Blank	Corr	Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg					0.0779	0.5119		0.0789		14:03:23
Standard number 7 applied. [10.0]										
Correlation Coefficient:		1.0000	Slope:		0.0068					
Mean:					0.0779					
SD:										
%RSD:										

Seq. No.	9	AS Loc:	9	Date:	4/11/00			
Sample ID:	ICV 101N11A .500MI							
Elem	SampleConc	StdConc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg	2.491µg/L	2.491µg/L	0.0181	0.1255		0.0191		14:05:26
Mean:	2.491µg/L	2.491µg/L	0.0181					
SD:	0.000µg/L	0.000µg/L	<div>2.491 ----- 2.5 x100 = 99.6%</div>					
%RSD:								

Seq. No.	10	AS Loc:	10	Date:	4/11/00			
Sample ID:	ICB							
Elem	SampleConc	StdConc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg	-0.012µg/L	-0.012µg/L	-0.0001	0.0034		0.0009		14:06:25
Mean:	-0.012µg/L	-0.012µg/L	-0.0001					
SD:	0.000µg/L	0.000µg/L		2.6.0e-5				
%RSD:								

Seq. No.	11	AS Loc:	11	Date:	4/11/00			
Sample ID:	LLS 101N11A .050MI							
Elem	SampleConc	StdConc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg	0.210µg/L	0.210µg/L	0.0014	0.0131		0.0024		14:07:26

HNF-1699 REV. 0

Mean: 0.210µg/L 0.210µg/L 0.0014
 SD: 0.000µg/L 0.000µg/L
 %RSD:

$$\frac{.210}{.25} \times 100 = 84.0\%$$

Seq. No. 12 AS Loc: 12 Date: 4/11/00
 Sample ID: Lot 208 16N11E .0460g
 Elem SampleConc StndConc Blank Corr Signal Pk Area BG Area Pk Ht BG Ht Time
 Hg 4.488µg/L 4.488µg/L 0.0336 0.2235 0.0346 14:08:26
 An extra autosampler wash has been performed.

Mean: 4.488µg/L 4.488µg/L 0.0336
 SD: 0.000µg/L 0.000µg/L
 %RSD:

$$\frac{4.488 \mu\text{g/L}}{.0460\text{g}/.02\text{L}} = \frac{4.488}{2.3} = \frac{1.951 \mu\text{g/g}}{1.4 \mu\text{g/g}} \times 100 = 139.3\%$$

Seq. No. 13 AS Loc: 13 Date: 4/11/00
 Sample ID: S00T000614 .0403g
 Elem SampleConc StndConc Blank Corr Signal Pk Area BG Area Pk Ht BG Ht Time

Hg 1.510µg/L 1.510µg/L 0.0108 0.0739 0.0117 14:09:48

Mean: 1.510µg/L 1.510µg/L 0.0108

SD: 0.000µg/L 0.000µg/L

%RSD: $dL = \frac{.06}{.0403/.02} = .0297 \mu\text{g/g}$

$$\frac{1.510 \mu\text{g/L}}{.0403\text{g}/.02\text{L}} = 0.749 \mu\text{g/g}$$

Seq. No. 14 AS Loc: 14 Date: 4/11/00
 Sample ID: S00T000614 Dup .0434g
 Elem SampleConc StndConc Blank Corr Signal Pk Area BG Area Pk Ht BG Ht Time

Hg 1.447µg/L 1.447µg/L 0.0103 0.0743 0.0113 14:10:48

Mean: 1.447µg/L 1.447µg/L 0.0103

SD: 0.000µg/L 0.000µg/L

%RSD: $dL = \frac{.06}{.0434/.02} = .0276 \mu\text{g/g}$

$$\frac{1.447 \mu\text{g/L}}{.0434\text{g}/.02\text{L}} = 0.666 \mu\text{g/g}$$

Seq. No. 15 AS Loc: 15 Date: 4/11/00
 Sample ID: S00T000614 Spk .0416g
 Elem SampleConc StndConc Blank Corr Signal Pk Area BG Area Pk Ht BG Ht Time

Hg 3.937µg/L 3.937µg/L 0.0293 0.1950 0.0303 14:11:49

An extra autosampler wash has been performed.

Mean: 3.937µg/L 3.937µg/L 0.0293

SD: 0.000µg/L 0.000µg/L

%RSD: $\frac{3.937 \mu\text{g/L} - 1.510 (\frac{.0416}{.0403})}{2.5} \times 100 = \frac{3.937 - 1.558}{2.5} \times 100 = 95.1\%$

Seq. No. 16 AS Loc: 16 Date: 4/11/00
 Sample ID: S00T000630 .0482g
 Elem SampleConc StndConc Blank Corr Signal Pk Area BG Area Pk Ht BG Ht Time

Hg 1.772µg/L 1.772µg/L 0.0127 0.0877 0.0137 14:13:14

Mean: 1.772µg/L 1.772µg/L 0.0127

SD: 0.000µg/L 0.000µg/L

%RSD: $dL = \frac{.06}{.0482/.02} = .0248 \mu\text{g/g}$

$$\frac{1.772 \mu\text{g/L}}{.0482\text{g}/.02\text{L}} = .735 \mu\text{g/g}$$

Seq. No. 17 AS Loc: 17 Date: 4/11/00
 Sample ID: S00T000630 Dup .0459g
 Elem SampleConc StndConc Blank Corr Signal Pk Area BG Area Pk Ht BG Ht Time

Hg 1.408µg/L 1.408µg/L 0.0100 0.0689 0.0110 14:14:14

Mean: 1.408µg/L 1.408µg/L 0.0100

SD: 0.000µg/L 0.000µg/L

%RSD: $dL = \frac{.06}{.0459/.02} = .0261 \mu\text{g/g}$

$$\frac{1.408 \mu\text{g/L}}{.0459\text{g}/.02\text{L}} = .613 \mu\text{g/g}$$

HNF-1699 REV. 0

Seq. No.	18	AS Loc:	18	Date:	4/11/00			
Sample ID:	CCV 101N11A .500MI							
Elem	SampleConc	StdConc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg	2.467µg/L	2.467µg/L	0.0179	0.1212		0.0189		14:15:14
Mean:	2.467µg/L	2.467µg/L	0.0179					
SD:	0.000µg/L	0.000µg/L						
%RSD:								

$$\frac{2.467}{2.5} \times 100 = 98.6\%$$

Seq. No.	19	AS Loc:	19	Date:	4/11/00			
Sample ID:	CCB							
Elem	SampleConc	StdConc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg	-0.046µg/L	-0.046µg/L	-0.0003	0.0019		0.0006		14:16:18
Mean:	-0.046µg/L	-0.046µg/L	-0.0003					
SD:	0.000µg/L	0.000µg/L						
%RSD:								

$$< 6.0e^{-5}$$

Seq. No.	20	AS Loc:	9	Date:	4/11/00			
Sample ID:	ICV 101N11A .500MI							
Elem	SampleConc	StdConc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg	2.421µg/L	2.421µg/L	0.0176	0.1204		0.0186		14:25:35
Mean:	2.421µg/L	2.421µg/L	0.0176					
SD:	0.000µg/L	0.000µg/L						
%RSD:								

$$\frac{2.421}{2.5} \times 100 = 96.8\%$$

Seq. No.	21	AS Loc:	10	Date:	4/11/00			
Sample ID:	ICB							
Elem	SampleConc	StdConc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg	-0.035µg/L	-0.035µg/L	-0.0002	0.0030		0.0007		14:26:34
Mean:	-0.035µg/L	-0.035µg/L	-0.0002					
SD:	0.000µg/L	0.000µg/L						
%RSD:								

$$< 6.0e^{-5} \mu\text{g/ml}$$

Seq. No.	22	AS Loc:	11	Date:	4/11/00			
Sample ID:	LLS 101N11A .050MI							
Elem	SampleConc	StdConc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg	0.170µg/L	0.170µg/L	0.0012	0.0101		0.0021		14:27:35
Mean:	0.170µg/L	0.170µg/L	0.0012					
SD:	0.000µg/L	0.000µg/L						
%RSD:								

$$\frac{.170}{.25} \times 100 = 68\%$$

Seq. No.	23	AS Loc:	12	Date:	4/11/00			
Sample ID:	S00T000513							
Elem	SampleConc	StdConc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg	-0.011µg/L	-0.011µg/L	-0.0001	0.0025		0.0009		14:28:35
Mean:	-0.011µg/L	-0.011µg/L	-0.0001					
SD:	0.000µg/L	0.000µg/L						
%RSD:								

$$.06 \times 40 = 2.4 \mu\text{g/L} \times \frac{1\text{L}}{100\text{ml}} = 2.4e^{-3} \mu\text{g/ml}$$

Seq. No.	24	AS Loc:	13	Date:	4/11/00			
Sample ID:	S00T000513 D							
Elem	SampleConc	StdConc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg	-0.048µg/L	-0.048µg/L	-0.0003	0.0009		0.0006		14:29:35

HNF-1699 REV. 0

Mean: -0.048µg/L -0.048µg/L -0.0003
 SD: 0.000µg/L 0.000µg/L
 %RSD:

$$< 2.4 \times 10^{-3} \text{ µg/ml}$$

Seq. No.	25	AS Loc:	14	Date:	4/11/00			
Sample ID:	S00T000513 SPK							
Elem	SampleConc	StdConc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg	2.511µg/L	2.511µg/L	0.0183	0.1243		0.0193		14:30:35
Mean:	2.511µg/L	2.511µg/L	0.0183					
SD:	0.000µg/L	0.000µg/L						
%RSD:								

$$\frac{2.511 - 0}{2.5} \times 100 = 100.4\%$$

Seq. No.	26	AS Loc:	15	Date:	4/11/00			
Sample ID:	S00T000637							
Elem	SampleConc	StdConc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg	-0.017µg/L	-0.017µg/L	-0.0001	0.0047		0.0008		14:31:35
Mean:	-0.017µg/L	-0.017µg/L	-0.0001					
SD:	0.000µg/L	0.000µg/L						
%RSD:								

$$< 2.4 \times 10^{-3} \text{ µg/ml}$$

Seq. No.	27	AS Loc:	16	Date:	4/11/00			
Sample ID:	S00T000637 D							
Elem	SampleConc	StdConc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg	-0.051µg/L	-0.051µg/L	-0.0003	0.0021		0.0006		14:32:35
Mean:	-0.051µg/L	-0.051µg/L	-0.0003					
SD:	0.000µg/L	0.000µg/L						
%RSD:								

$$< 2.4 \times 10^{-3} \text{ µg/ml}$$

Seq. No.	28	AS Loc:	17	Date:	4/11/00			
Sample ID:	S00T000612							
Elem	SampleConc	StdConc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg	-0.015µg/L	-0.015µg/L	-0.0001	0.0035		0.0009		14:33:35
Mean:	-0.015µg/L	-0.015µg/L	-0.0001					
SD:	0.000µg/L	0.000µg/L						
%RSD:								

$$< 2.4 \times 10^{-3} \text{ µg/ml}$$

Seq. No.	29	AS Loc:	18	Date:	4/11/00			
Sample ID:	S00T000612 D							
Elem	SampleConc	StdConc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg	-0.038µg/L	-0.038µg/L	-0.0003	0.0026		0.0007		14:34:35
Mean:	-0.038µg/L	-0.038µg/L	-0.0003					
SD:	0.000µg/L	0.000µg/L						
%RSD:								

$$< 2.4 \times 10^{-3} \text{ µg/ml}$$

Seq. No.	30	AS Loc:	19	Date:	4/11/00			
Sample ID:	S00T000628							
Elem	SampleConc	StdConc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg	-0.054µg/L	-0.054µg/L	-0.0004	0.0003		0.0006		14:35:39
Mean:	-0.054µg/L	-0.054µg/L	-0.0004					
SD:	0.000µg/L	0.000µg/L						
%RSD:								

$$< 2.4 \times 10^{-3} \text{ µg/ml}$$

HNF-1699 REV. 0

Seq. No.	31	AS Loc:	20	Date:	4/11/00			
Sample ID:	S00T000028 D							
Elem	SampleConc	StdConc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg	-0.056µg/L	-0.056µg/L	-0.0004	0.0004		0.0006		14:36:38
Mean:	-0.056µg/L	-0.056µg/L	-0.0004					
SD:	0.000µg/L	0.000µg/L						
%RSD:								

$< 2.4 \times 10^{-3} \text{ µg/ml}$

Seq. No.	32	AS Loc:	21	Date:	4/11/00			
Sample ID:	CCV 101N11A 2.5PPB							
Elem	SampleConc	StdConc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg	2.495µg/L	2.495µg/L	0.0182	0.1241		0.0191		14:37:39
Mean:	2.495µg/L	2.495µg/L	0.0182					
SD:	0.000µg/L	0.000µg/L						
%RSD:								

2.495

2.5

x 100 = 99.8%

Seq. No.	33	AS Loc:	22	Date:	4/11/00			
Sample ID:	CCB							
Elem	SampleConc	StdConc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg	-0.086µg/L	-0.086µg/L	-0.0006	-0.0021		0.0004		14:38:38
Mean:	-0.086µg/L	-0.086µg/L	-0.0006					
SD:	0.000µg/L	0.000µg/L						
%RSD:								

LABCORE Completed Worklist Report for Worklist# 33092

Analyst: vlm

Instrument: FIAS

Book#: 101W11A

Method: LA-325-106 Rev/Mod A3

Worklist Comment: SY-102 GRAB 6 FOR HG-02 RTS

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	ICV	0	HG-02	SOLID	0.1	0.0996	99.600 % Recovery	
2	ICB	0	HG-02	SOLID	1	<6.0e-5	ug/mL	
3	LLS	0	HG-02	SOLID	0.100	0.084	84.000 % Recovery	
4	SAMPLE	S00T000614 0	HG-02	SOLID	N/A	0.749	2.97e-002	ug/g
5	DUP	S00T000614 0	HG-02	SOLID	0.749	0.666	11.731 RPD	
6	SPK	S00T000614 0	HG-02	SOLID	100	95.1	95.100 % Recovery	
7	SAMPLE	S00T000630 0	HG-02	SOLID	N/A	0.735	2.48e-002	ug/g
8	DUP	S00T000630 0	HG-02	SOLID	0.735	0.613	18.101 RPD	
9	CCV	0	HG-02	SOLID	0.1	0.0986	98.600 % Recovery	
10	CCB	0	HG-02	SOLID	1	<6.0e-5	ug/mL	

Final page for worklist# 33092

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

James M. Faye 4/18/00
Reviewer Signature Date

LABCORE Data Entry Template for Worklist# 33092

Analyst: VIM Instrument: FIAS _____ Book # 10/111A

Method: LA-325-106 Rev/Mod A-3

Worklist Comment: SY-102 GRAB 6 FOR HG-02 RTS

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 ICV			HG-02	SOLID	<u>.100</u>	<u>.0996</u>	<u>N/A</u>	ug/g
		2 ICB			HG-02	SOLID	<u>1</u>	<u><6.0e⁻⁵</u>	<u>N/A</u>	ug/g
		3 LLS			HG-02	SOLID	<u>.100</u>	<u>.084</u>	<u>N/A</u>	ug/g
20000085	SY-102 GRAB6	4 SAMPLE	S00T000614	0	HG-02	SOLID	<u>N/A</u>	<u>0.749</u>	<u>0.0297</u>	ug/g
20000085	SY-102 GRAB6	5 DUP	S00T000614	0	HG-02	SOLID	<u>0.749</u>	<u>0.666</u>	<u>N/A</u>	ug/g
20000085	SY-102 GRAB6	6 SPK	S00T000614	0	HG-02	SOLID	<u>100</u>	<u>95.1</u>	<u>N/A</u>	ug/g
20000085	SY-102 GRAB6	7 SAMPLE	S00T000630	0	HG-02	SOLID	<u>N/A</u>	<u>0.735</u>	<u>0.0248</u>	ug/g
20000085	SY-102 GRAB6	8 DUP	S00T000630	0	HG-02	SOLID	<u>0.735</u>	<u>0.613</u>	<u>N/A</u>	ug/g
		9 CCV			HG-02	SOLID	<u>.100</u>	<u>.0986</u>	<u>N/A</u>	ug/g
		10 CCB			HG-02	SOLID	<u>1</u>	<u><6.0e⁻⁵</u>	<u>N/A</u>	ug/g

Final page for worklist # 33092

See attached

Analyst Signature Date

Analyst Signature Date

Data Entry Comments:

DATA ENTRY 4-17-00
JH Warrall

Validated 4/18/00 JML

Units 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-1699 REV. 0

03/30/00 15:52

Page: 1

ws2

LABCORE Data Entry Template for Worklist# 33092Analyst: VLM Instrument: FIAS ✓ Book# 01N11A-ICVMethod: LA-325-106 Rev/Mod H-3

Worklist Comment: SY-102 GRAB 6 FOR HG-02 RTS

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	ICV				HG-02	SOLID		
2	ICB				HG-02	SOLID		
3	LLS				HG-02	SOLID		
4	SAMPLE	S00T000614 0			HG-02	SOLID	20000085	SY-102 GRAB6
		Analytes Requested: HG-02						
5	DUP	S00T000614 0			HG-02	SOLID		
6	SPK	S00T000614 0			HG-02	SOLID		
7	SAMPLE	S00T000630 0			HG-02	SOLID	20000085	SY-102 GRAB6
		Analytes Requested: HG-02						
8	DUP	S00T000630 0			HG-02	SOLID		
9	CCV				HG-02	SOLID		
10	CCB				HG-02	SOLID		

Final page for worklist # 33092Valerie L Massie 04-11-00
Signature Date_____
Signature Date

Data Entry Comments:

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

HNF-1699 REV. 0

Fias Hg Runlog

Analyst: VLMDate: 04-11-00Worklist #: 33092Calibration Data: Slope: 0.00681 abs. units/concentration
Correlation: 0.99997SY102 Hg_{total}

Calibration Std conc. 100 ppb(ug/L)				Project:			
Sample Name (Std. ID#)	Sample Point	Volume Std (ml)	D or A*	Instrument Reading	Conc. Ppb ug/L	% Rec.	Comments
Blank		0.000	D	0.001	0		
100N11A		0.05	D	0.002	0.25		
		0.100	D	0.004	0.50		
		0.200	D	0.007	1.0		
		0.500	D	0.019	2.5		
		1.00	D	0.037	5.0		
		1.50	D	0.058	7.5		
		2.00	D	0.078	10.0		
ICV 101N11A std		.500	D	2.491		99.64%	
ICB Blank		1.0	D	0.012			
LLS** 101N11A std		.050	D	0.010		84.00%	
LCS*** 101N11A		.0460 g	D	4.488			
SST000614 SY102		.0403 g	D	1.510			
SST000614 SY102		.0434 g	D	1.447			
SST000614 SY102		.0416 g	D	3.937			
SST000630 SY102		.0482 g	D	1.772			
SST000630 SY102		.0459 g	D	1.408			
CLV 101N11A std		.500	D	2.467		98.68%	
CLB Blank		1.0	D	0.046			

*Sample prep. Descriptors: D= Direct A= Acid Digest

**LLS is run only for CLP analyses.

***LCS solid standard is run only with solid samples.

HNF-1699 REV. 0

Seq. No.	6	AS Loc:	6	Date:	4/11/00					
Sample ID:	5.00 ppb Hg 100N11A									
Elem	SampleConc	StdConc	Blank	Corr	Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg					0.0375	0.2489		0.0384		14:00:28
S-shaped calibration curve detected. Two-coefficient equation used.										
Standard number 5 applied. [5.00]										
Correlation Coefficient: 0.9995 Slope: 0.0068										
An extra autosampler wash has been performed.										
Mean:					0.0375					
SD:										
%RSD:										

Seq. No.	7	AS Loc:	7	Date:	4/11/00					
Sample ID:	7.50 ppb Hg 100N11A									
Elem	SampleConc	StdConc	Blank	Corr	Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg					0.0577	0.3827		0.0586		14:01:56
Standard number 6 applied. [7.5]										
Correlation Coefficient: 0.9999 Slope: 0.0068										
An extra autosampler wash has been performed.										
Mean:					0.0577					
SD:										
%RSD:										

Seq. No.	8	AS Loc:	8	Date:	4/11/00					
Sample ID:	10.0 ppb Hg 100N11A									
Elem	SampleConc	StdConc	Blank	Corr	Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg					0.0779	0.5119		0.0789		14:03:23
Standard number 7 applied. [10.0]										
Correlation Coefficient: 1.0000 Slope: 0.0068										
Mean:	0.0779									
SD:										
%RSD:										

Seq. No.	9	AS Loc:	9	Date:	4/11/00				
Sample ID:	ICV 101N11A .500MI								
Elem	SampleConc	StdConc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time	
Hg	2.491µg/L	2.491µg/L	0.0181	0.1255		0.0191		14:05:26	
Mean:	2.491µg/L	2.491µg/L	0.0181						
SD:	0.000µg/L	0.000µg/L							
%RSD:									

2.491

2.5

×100 = 99.6%

Seq. No.	10	AS Loc:	10	Date:	4/11/00				
Sample ID:	ICB								
Elem	SampleConc	StdConc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time	
Hg	-0.012µg/L	-0.012µg/L	-0.0001	0.0034		0.0009		14:06:25	
Mean:	-0.012µg/L	-0.012µg/L	-0.0001						
SD:	0.000µg/L	0.000µg/L							
%RSD:									

$26.0e^{-5}$

Seq. No.	11	AS Loc:	11	Date:	4/11/00				
Sample ID:	LLS 101N11A .050MI								
Elem	SampleConc	StdConc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time	
Hg	0.210µg/L	0.210µg/L	0.0014	0.0131		0.0024		14:07:26	

HNF-1699 REV. 0

Mean: 0.210µg/L 0.210µg/L 0.0014
 SD: 0.000µg/L 0.000µg/L
 %RSD:

$$\frac{.210}{.25} \times 100 = 84.0\%$$

Seq. No.	12	AS Loc:	12	Date:	4/11/00			
Sample ID:	Lot 208 16N11E .0460g							
Elem	SampleConc	StdConc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg	4.488µg/L	4.488µg/L	0.0336	0.2235		0.0346		14:08:26

An extra autosampler wash has been performed.

Mean: 4.488µg/L 4.488µg/L 0.0336
 SD: 0.000µg/L 0.000µg/L
 %RSD:

$$\frac{4.488 \mu\text{g/L}}{.0460\text{g}/1.02\text{L}} = \frac{4.488}{2.3} = \frac{1.951 \mu\text{g/g}}{1.4 \mu\text{g/g}} \times 100 = 139.3\%$$

Seq. No.	13	AS Loc:	13	Date:	4/11/00			
Sample ID:	S00T000614 .0403g							
Elem	SampleConc	StdConc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg	1.510µg/L	1.510µg/L	0.0108	0.0739		0.0117		14:09:48

Mean: 1.510µg/L 1.510µg/L 0.0108
 SD: 0.000µg/L 0.000µg/L
 %RSD:

$$\frac{1.510 \mu\text{g/L}}{.0403\text{g}/1.02\text{L}} = 0.749 \mu\text{g/g}$$

$$dL = \frac{.06}{.0403/1.02} = .0297 \mu\text{g/g}$$

Seq. No.	14	AS Loc:	14	Date:	4/11/00			
Sample ID:	S00T000614 Dup .0434g							
Elem	SampleConc	StdConc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg	1.447µg/L	1.447µg/L	0.0103	0.0743		0.0113		14:10:48

Mean: 1.447µg/L 1.447µg/L 0.0103
 SD: 0.000µg/L 0.000µg/L
 %RSD:

$$\frac{1.447 \mu\text{g/L}}{.0434\text{g}/1.02\text{L}} = 0.666 \mu\text{g/g}$$

$$dL = \frac{.06}{.0434/1.02} = .0276 \mu\text{g/g}$$

Seq. No.	15	AS Loc:	15	Date:	4/11/00			
Sample ID:	S00T000614 Spk .0416g							
Elem	SampleConc	StdConc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg	3.937µg/L	3.937µg/L	0.0293	0.1950		0.0303		14:11:49

An extra autosampler wash has been performed.

Mean: 3.937µg/L 3.937µg/L 0.0293
 SD: 0.000µg/L 0.000µg/L
 %RSD:

$$\frac{3.937 \mu\text{g/L} - 1.510 \left(\frac{.0416}{.0403} \right)}{2.5} \times 100 = \frac{3.937 - 1.558}{2.5} \times 100 = 95.1\%$$

Seq. No.	16	AS Loc:	16	Date:	4/11/00			
Sample ID:	S00T000630 .0482g							
Elem	SampleConc	StdConc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg	1.772µg/L	1.772µg/L	0.0127	0.0877		0.0137		14:13:14

Mean: 1.772µg/L 1.772µg/L 0.0127
 SD: 0.000µg/L 0.000µg/L
 %RSD:

$$\frac{1.772 \mu\text{g/L}}{.0482\text{g}/1.02\text{L}} = .735 \mu\text{g/g}$$

$$dL = \frac{.06}{.0482/1.02} = .0248 \mu\text{g/g}$$

Seq. No.	17	AS Loc:	17	Date:	4/11/00			
Sample ID:	S00T000630 Dup .0459g							
Elem	SampleConc	StdConc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg	1.408µg/L	1.408µg/L	0.0100	0.0689		0.0110		14:14:14

Mean: 1.408µg/L 1.408µg/L 0.0100
 SD: 0.000µg/L 0.000µg/L
 %RSD:

$$\frac{1.408 \mu\text{g/L}}{.0459\text{g}/1.02\text{L}} = .613 \mu\text{g/g}$$

$$dL = \frac{.06}{.0459/1.02} = .0261 \mu\text{g/g}$$

HNF-1699 REV. 0

Seq. No.	18	AS Loc:	18	Date:	4/11/00			
Sample ID:	CCV 101N11A .500MI							
Elem	SampleConc	StdConc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg	2.467µg/L	2.467µg/L	0.0179	0.1212		0.0189		14:15:14
Mean:	2.467µg/L	2.467µg/L	0.0179					
SD:	0.000µg/L	0.000µg/L						
%RSD:								

$$\frac{2.467}{2.5} \times 100 = 98.6\%$$

Seq. No.	19	AS Loc:	19	Date:	4/11/00			
Sample ID:	CCB							
Elem	SampleConc	StdConc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg	-0.046µg/L	-0.046µg/L	-0.0003	0.0019		0.0006		14:16:18
Mean:	-0.046µg/L	-0.046µg/L	-0.0003					
SD:	0.000µg/L	0.000µg/L						
%RSD:								

$$< 6.0e^{-5}$$

Seq. No.	20	AS Loc:	9	Date:	4/11/00			
Sample ID:	ICV 101N11A .500MI							
Elem	SampleConc	StdConc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg	2.421µg/L	2.421µg/L	0.0176	0.1204		0.0186		14:25:35
Mean:	2.421µg/L	2.421µg/L	0.0176					
SD:	0.000µg/L	0.000µg/L						
%RSD:								

$$\frac{2.421}{2.5} \times 100 = 96.8\%$$

Seq. No.	21	AS Loc:	10	Date:	4/11/00			
Sample ID:	ICB							
Elem	SampleConc	StdConc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg	-0.035µg/L	-0.035µg/L	-0.0002	0.0030		0.0007		14:26:34
Mean:	-0.035µg/L	-0.035µg/L	-0.0002					
SD:	0.000µg/L	0.000µg/L						
%RSD:								

$$< 6.0e^{-5} \mu\text{g/ml}$$

Seq. No.	22	AS Loc:	11	Date:	4/11/00			
Sample ID:	LLS 101N11A .050MI							
Elem	SampleConc	StdConc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg	0.170µg/L	0.170µg/L	0.0012	0.0101		0.0021		14:27:35
Mean:	0.170µg/L	0.170µg/L	0.0012					
SD:	0.000µg/L	0.000µg/L						
%RSD:								

$$\frac{.170}{.25} \times 100 = 68\%$$

Seq. No.	23	AS Loc:	12	Date:	4/11/00			
Sample ID:	S00T000513							
Elem	SampleConc	StdConc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg	-0.011µg/L	-0.011µg/L	-0.0001	0.0025		0.0009		14:28:35
Mean:	-0.011µg/L	-0.011µg/L	-0.0001					
SD:	0.000µg/L	0.000µg/L						
%RSD:								

$$.06 \times 40 = 2.4 \mu\text{g/L} \times \frac{1\text{L}}{100\text{mL}} = 2.4e^{-3} \mu\text{g/mL}$$

Seq. No.	24	AS Loc:	13	Date:	4/11/00			
Sample ID:	S00T000513 D							
Elem	SampleConc	StdConc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg	-0.048µg/L	-0.048µg/L	-0.0003	0.0009		0.0006		14:29:35

HNF-1699 REV. 0

Mean: -0.048µg/L -0.048µg/L -0.0003
 SD: 0.000µg/L 0.000µg/L
 %RSD:

$$< 2.4 \times 10^{-3} \text{ µg/ml}$$

Seq. No.	25	AS Loc:	14	Date:	4/11/00			
Sample ID:	S00T000513 SPK							
Elem	SampleConc	StdConc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg	2.511µg/L	2.511µg/L	0.0183	0.1243		0.0193		14:30:35
Mean:	2.511µg/L	2.511µg/L	0.0183	$\frac{2.511 - 0}{2.5} \times 100 = 100.4\%$				
SD:	0.000µg/L	0.000µg/L						
%RSD:								

$$\frac{2.511 - 0}{2.5} \times 100 = 100.4\%$$

Seq. No.	26	AS Loc:	15	Date:	4/11/00			
Sample ID:	S00T000637							
Elem	SampleConc	StdConc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg	-0.017µg/L	-0.017µg/L	-0.0001	0.0047		0.0008		14:31:35
Mean:	-0.017µg/L	-0.017µg/L	-0.0001	$2.4 \times 10^{-3} \text{ µg/ml}$				
SD:	0.000µg/L	0.000µg/L						
%RSD:								

$$< 2.4 \times 10^{-3} \text{ µg/ml}$$

Seq. No.	27	AS Loc:	16	Date:	4/11/00			
Sample ID:	S00T000637 D							
Elem	SampleConc	StdConc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg	-0.051µg/L	-0.051µg/L	-0.0003	0.0021		0.0006		14:32:35
Mean:	-0.051µg/L	-0.051µg/L	-0.0003					
SD:	0.000µg/L	0.000µg/L						
%RSD:	<i>< 2.4 e⁻³ µg/ml</i>							

$$< 2.4 \times 10^{-3} \text{ µg/ml}$$

Seq. No.	28	AS Loc:	17	Date:	4/11/00			
Sample ID:	S00T000612							
Elem	SampleConc	StdConc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg	-0.015µg/L	-0.015µg/L	-0.0001	0.0035		0.0009		14:33:35
Mean:	-0.015µg/L	-0.015µg/L	-0.0001	<i>2.4e-3 µg/ml</i>				
SD:	0.000µg/L	0.000µg/L						
%RSD:								

$$< 2.4 \times 10^{-3} \text{ µg/ml}$$

Seq. No.	29	AS Loc:	18	Date:	4/11/00			
Sample ID:	S00T000612 D							
Elem	SampleConc	StdConc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg	-0.038µg/L	-0.038µg/L	-0.0003	0.0026		0.0007		14:34:35
Mean:	-0.038µg/L	-0.038µg/L	-0.0003					
SD:	0.000µg/L	0.000µg/L						
%RSD:	2.4e-3 µg/ml							

$$< 2.4 \times 10^{-3} \text{ µg/ml}$$

Seq. No.	30	AS Loc:	19	Date:	4/11/00			
Sample ID:	S00T000628							
Elem	SampleConc	StdConc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg	-0.054µg/L	-0.054µg/L	-0.0004	0.0003		0.0006		14:35:39
Mean:	-0.054µg/L	-0.054µg/L	-0.0004					
SD:	0.000µg/L	0.000µg/L						
%RSD:								

$$< 2.4 \times 10^{-3} \text{ µg/ml}$$

HNF-1699 REV. 0

Seq. No.	31	AS Loc:	20	Date:	4/11/00			
Sample ID:	S00T000628 D							
Elem	SampleConc	StdConc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg	-0.056µg/L	-0.056µg/L	-0.0004	0.0004		0.0006		14:36:38
Mean:	-0.056µg/L	-0.056µg/L	-0.0004					
SD:	0.000µg/L	0.000µg/L						
%RSD:			2.4e ⁻³ µg/ml					

Seq. No.	32	AS Loc:	21	Date:	4/11/00			
Sample ID:	CCV 101N11A 2.5PPB							
Elem	SampleConc	StdConc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg	2.495µg/L	2.495µg/L	0.0182	0.1241		0.0191		14:37:39
Mean:	2.495µg/L	2.495µg/L	0.0182					
SD:	0.000µg/L	0.000µg/L						
%RSD:			$\frac{2.495}{2.5} \times 100 = 99.8\%$					

Seq. No.	33	AS Loc:	22	Date:	4/11/00			
Sample ID:	CCB							
Elem	SampleConc	StdConc	Blank Corr Signal	Pk Area	BG Area	Pk Ht	BG Ht	Time
Hg	-0.086µg/L	-0.086µg/L	-0.0006	-0.0021		0.0004		14:38:38
Mean:	-0.086µg/L	-0.086µg/L	-0.0006					
SD:	0.000µg/L	0.000µg/L						
%RSD:								

LABCORE Completed Worklist Report for Worklist# 32837

Analyst: rwk

Instrument: IC45S1

Book#: 111N20A

Method: LA-533-105 Rev/Mod 5-2

Worklist Comment: SY-102 FOR @IC-01, RLC

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 LCS-INST		0	@IC-QC F	QC	5.9e+1	6.31e+01	106.949 % Recovery	
2 LCS-INST		0	@IC-QC CL	QC	8.0e+1	8.29e+01	103.625 % Recovery	
2 LCS-INST		0	@IC-QC NO2	QC	5.43e+2	5.19e+02	95.580 % Recovery	
2 LCS-INST		0	@IC-QC BR	QC	5.89e+2	6.16e+02	104.584 % Recovery	
2 LCS-INST		0	@IC-QC NO3	QC	5.94e+2	6.98e+02	117.508 % Recovery	
2 LCS-INST		0	@IC-QC PO4	QC	5.45e+2	6.04e+02	110.826 % Recovery	
2 LCS-INST		0	@IC-QC SO4	QC	6.32e+2	6.70e+02	106.013 % Recovery	
2 LCS-INST		0	@IC-QC OXALATE2	QC	5.30e+2	5.30e+02	100.000 % Recovery	
3 CCV		0	@IC-QC F	QC	64.5	6.32e+01	97.984 % Recovery	
3 CCV		0	@IC-QC CL	QC	86.0	8.07e+01	93.837 % Recovery	
3 CCV		0	@IC-QC NO2	QC	561	5.17e+02	92.157 % Recovery	
3 CCV		0	@IC-QC BR	QC	635	6.27e+02	98.740 % Recovery	
3 CCV		0	@IC-QC NO3	QC	695	6.95e+02	100.000 % Recovery	
3 CCV		0	@IC-QC PO4	QC	625	6.25e+02	100.000 % Recovery	
3 CCV		0	@IC-QC SO4	QC	695	6.92e+02	99.568 % Recovery	
3 CCV		0	@IC-QC OXALATE2	QC	526	5.22e+02	99.240 % Recovery	
4 SAMPLE	S00T000505	0	@IC-01 F-02	LIQUID	N/A	3.340e+02	49.690 ug/mL	
4 SAMPLE	S00T000505	0	@IC-01 CL-02	LIQUID	N/A	5.995e+03	70.400 ug/mL	
4 SAMPLE	S00T000505	0	@IC-01 NO2-02	LIQUID	N/A	7.395e+04	447.200 ug/mL	
4 SAMPLE	S00T000505	0	@IC-01 BR-02	LIQUID	N/A	5.176e+02	517.600 ug/mL	
4 SAMPLE	S00T000505	0	@IC-01 PO4-02	LIQUID	N/A	4.257e+03	496.900 ug/mL	
4 SAMPLE	S00T000505	0	@IC-01 SO4-02	LIQUID	N/A	2.724e+03	571.500 ug/mL	
4 SAMPLE	S00T000505	0	@IC-01 OXALATE2	LIQUID	N/A	4.348e+02	434.800 ug/mL	
5 DUP	S00T000505	0	@IC-01 F-02	LIQUID	3.34e+02	3.37e+02	0.894 RPD	
5 DUP	S00T000505	0	@IC-01 CL-02	LIQUID	6.00e+03	6.05e+03	0.830 RPD	
5 DUP	S00T000505	0	@IC-01 NO2-02	LIQUID	7.40e+04	7.41e+04	0.135 RPD	
5 DUP	S00T000505	0	@IC-01 BR-02	LIQUID	<5.18e2	<5.18e2	RPD	
5 DUP	S00T000505	0	@IC-01 NO3-02	LIQUID	1.13e+05	1.13e+05	0.000 RPD	
5 DUP	S00T000505	0	@IC-01 PO4-02	LIQUID	4.26e+03	3.90e+03	8.824 RPD	
5 DUP	S00T000505	0	@IC-01 SO4-02	LIQUID	2.72e+03	2.82e+03	3.610 RPD	
5 DUP	S00T000505	0	@IC-01 OXALATE2	LIQUID	<4.35e2	8.26e+02	RPD	
6 SPK	S00T000505	0	@IC-01 F-02	LIQUID	5.9e+1	5.83e+01	98.814 % Recovery	
6 SPK	S00T000505	0	@IC-01 CL-02	LIQUID	8.0e+1	9.57e+01	119.625 % Recovery	

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

LABCORE Completed Worklist Report for Worklist# 32837

Seq Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
6 SPK	S00T000505	0	@IC-01	NO2-02	LIQUID	5.43e+2	6.60e+02	121.547 % Recovery	
6 SPK	S00T000505	0	@IC-01	BR-02	LIQUID	5.89e+2	5.94e+02	100.849 % Recovery	
6 SPK	S00T000505	0	@IC-01	NO3-02	LIQUID	5.94e+2	7.88e+02	132.660 % Recovery	
6 SPK	S00T000505	0	@IC-01	PO4-02	LIQUID	5.45e+2	6.24e+02	114.495 % Recovery	
6 SPK	S00T000505	0	@IC-01	SO4-02	LIQUID	6.32e+2	6.57e+02	103.956 % Recovery	
6 SPK	S00T000505	0	@IC-01	OXALATE2	LIQUID	5.30e+2	5.34e+02	100.755 % Recovery	
7 SAMPLE	S00T000506	0	@IC-01	F-02	LIQUID	N/A	3.676e+02	25.450 ug/mL	
7 SAMPLE	S00T000506	0	@IC-01	CL-02	LIQUID	N/A	3.888e+03	36.060 ug/mL	
7 SAMPLE	S00T000506	0	@IC-01	NO2-02	LIQUID	N/A	4.785e+04	229.100 ug/mL	
7 SAMPLE	S00T000506	0	@IC-01	BR-02	LIQUID	N/A	< 2.651e+02	265.100 ug/mL	
7 SAMPLE	S00T000506	0	@IC-01	PO4-02	LIQUID	N/A	3.777e+03	254.500 ug/mL	
7 SAMPLE	S00T000506	0	@IC-01	SO4-02	LIQUID	N/A	1.644e+03	292.700 ug/mL	
7 SAMPLE	S00T000506	0	@IC-01	OXALATE2	LIQUID	N/A	8.761e+02	222.700 ug/mL	
8 DUP	S00T000506	0	@IC-01	F-02	LIQUID	3.68e+02	4.14e+02	11.765 RPD	
8 DUP	S00T000506	0	@IC-01	CL-02	LIQUID	3.89e+03	3.89e+03	0.000 RPD	
8 DUP	S00T000506	0	@IC-01	NO2-02	LIQUID	4.78e+04	4.79e+04	0.209 RPD	
8 DUP	S00T000506	0	@IC-01	BR-02	LIQUID	<2.65e2	<2.65e2	RPD	
8 DUP	S00T000506	0	@IC-01	NO3-02	LIQUID	8.08e+04	8.27e+04	2.324 RPD	
8 DUP	S00T000506	0	@IC-01	PO4-02	LIQUID	3.78e+03	4.01e+03	5.905 RPD	
8 DUP	S00T000506	0	@IC-01	SO4-02	LIQUID	1.64e+03	1.61e+03	1.846 RPD	
8 DUP	S00T000506	0	@IC-01	OXALATE2	LIQUID	8.76e+02	8.17e+02	6.970 RPD	
9 SAMPLE	S00T000507	0	@IC-01	F-02	LIQUID	N/A	3.663e+02	49.690 ug/mL	
9 SAMPLE	S00T000507	0	@IC-01	CL-02	LIQUID	N/A	6.407e+03	70.400 ug/mL	
9 SAMPLE	S00T000507	0	@IC-01	NO2-02	LIQUID	N/A	7.915e+04	447.200 ug/mL	
9 SAMPLE	S00T000507	0	@IC-01	BR-02	LIQUID	N/A	< 5.176e+02	517.600 ug/mL	
9 SAMPLE	S00T000507	0	@IC-01	PO4-02	LIQUID	N/A	3.692e+03	496.900 ug/mL	
9 SAMPLE	S00T000507	0	@IC-01	SO4-02	LIQUID	N/A	2.733e+03	571.500 ug/mL	
9 SAMPLE	S00T000507	0	@IC-01	OXALATE2	LIQUID	N/A	< 4.348e+02	434.800 ug/mL	
10 DUP	S00T000507	0	@IC-01	F-02	LIQUID	3.66e+02	<4.97e1	RPD	
10 DUP	S00T000507	0	@IC-01	CL-02	LIQUID	6.41e+03	6.38e+03	0.469 RPD	
10 DUP	S00T000507	0	@IC-01	NO2-02	LIQUID	7.92e+04	7.93e+04	0.126 RPD	
10 DUP	S00T000507	0	@IC-01	BR-02	LIQUID	<5.18e2	<5.18e2	RPD	
10 DUP	S00T000507	0	@IC-01	NO3-02	LIQUID	1.20e+05	1.23e+05	2.469 RPD	
10 DUP	S00T000507	0	@IC-01	PO4-02	LIQUID	3.69e+03	4.00e+03	8.062 RPD	
10 DUP	S00T000507	0	@IC-01	SO4-02	LIQUID	2.73e+03	2.67e+03	2.222 RPD	
10 DUP	S00T000507	0	@IC-01	OXALATE2	LIQUID	<4.35e2	5.26e+02	RPD	

Final page for worklist# 32837

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Reviewer Signature _____ Date _____

ws2

LABCORE Data Entry Template for Worklist# 32837

Analyst: RWK Instrument: IC 4551 Book# 111N21-AMethod: LA-533-105 Rev/Mod F-2110N21-A

Worklist Comment: SY-102 FOR @IC-01, RLC

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC-QC	QC		
2 LCS-INST			@IC-QC	QC		
3 CCV			@IC-QC	QC		
4 SAMPLE	S00T000505 0		@IC-01	LIQUID	20000085	SY-102 GRAB6
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
5 DUP	S00T000505 0		@IC-01	LIQUID		
6 SPK	S00T000505 0		@IC-01	LIQUID		
7 SAMPLE	S00T000506 0		@IC-01	LIQUID	20000085	SY-102 GRAB6
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
8 DUP	S00T000506 0		@IC-01	LIQUID		
9 SAMPLE	S00T000507 0		@IC-01	LIQUID	20000085	SY-102 GRAB6
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
10 DUP	S00T000507 0		@IC-01	LIQUID		

Final page for worklist # 32837

SEE ORIGINAL

Signature

Date

Signature

Date

Data Entry Comments:

uplogged 3-20-00John Wonnell32837MAR.CSVValidated 3/20/00no reported backLCS failure

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

HNF-1699 REV. 0

03/07/00 15:29
ws2

Page: 1

LABCORE Data Entry Template for Worklist# 32837Analyst: NK Instrument: IC 4551 Book# 111721-A
112721-AMethod: LA-533-105 Rev/Mod f2

Worklist Comment: SY-102 FOR @IC-01, RLC

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	CCB				@IC-QC	QC		
2	LCS-INST				@IC-QC	QC		
3	CCV				@IC-QC	QC		
4	STD				@IC-01	LIQUID		
5	SAMPLE	S00T000505 0			@IC-01	LIQUID	20000085	SY-102 GRAB6
		Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
6	DUP	S00T000505 0			@IC-01	LIQUID		
7	SPK	S00T000505 0			@IC-01	LIQUID		
8	SAMPLE	S00T000506 0			@IC-01	LIQUID	20000085	SY-102 GRAB6
		Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
9	DUP	S00T000506 0			@IC-01	LIQUID		
10	SAMPLE	S00T000507 0			@IC-01	LIQUID	20000085	SY-102 GRAB6
		Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
11	DUP	S00T000507 0			@IC-01	LIQUID		

Final page for worklist # 32837

NK 3/18/00
Signature Date

Signature Date

Data Entry Comments:

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

HNF-1699 REV. 0

Sample Name: CCB Date: 03/18/2000 06:09:05
Data File : C:\DX\DATA\00031631.D01
Method : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 1 Detector: CDM-1
Analyst : *Iselinda for R King* Column: AG4A/AS4A anion column

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

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

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

Totals			0.000	0	0		
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SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED PERFORMED CALIBRATION/ANALYSIS ON PAGES 320 TO 329.

HNF-1699 REV. 0

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=====
Sample Name: LCS 111N21A                      Date: 03/18/2000 06:23:39
Data File  : C:\DX\DATA\00031631.D02
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 2           Detector: CDM-1
Analyst    :                               Column: AG4A/AS4A anion column
=====

```

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 101 3300 5Hz 0.00 11.00 50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
2	1.03	fluoride	63.103	1451	5736	2	0.32
3	1.51	chloride	82.888	1375	5137	1	0.89
4	1.79	nitrite	519.279	4298	21057	1	-0.19
5	2.63	bromide	615.514	2955	16460	1	2.20
6	2.97	nitrate	697.912	3662	24119	1	3.37
7	4.32	phosphate	603.903	834	10015	1	1.17
8	5.55	sulfate	670.382	2132	31302	1	1.96
9	7.20	oxalate	529.615	1077	19729	1	3.00
Totals			3782.597	17784	133554		

File: 00031631.D02 Sample: LCS 111N21A

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=====
Sample Name: CCV 110N21A                      Date: 03/18/2000 06:41:11
Data File  : C:\DX\DATA\00031631.D03
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 3            Detector: CDM-1
Analyst    :                               Column: AG4A/AS4A anion column
=====

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

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.91		0.000	15	55	2	
2	1.03	fluoride	63.208	1479	5746	2	0.32
3	1.51	chloride	80.705	1346	5002	1	0.89
4	1.79	nitrite	517.267	4260	20972	1	-0.19
5	2.63	bromide	626.867	2990	16772	1	2.20
6	2.97	nitrate	695.141	3668	24020	1	3.37
7	4.32	phosphate	625.371	841	10385	1	1.17
8	5.55	sulfate	692.173	2259	32338	1	1.96
9	7.20	oxalate	522.237	1107	19453	1	3.00
Totals			3822.970	17965	134743		

File: 00031631.D03 Sample: CCV 110N21A

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=====
Sample Name: S00T000505                      Date: 03/18/2000 07:25:32
Data File  : C:\DX\DATA\00031631.D05
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 5           Detector: CDM-1
Analyst    :                               Column: AG4A/AS4A anion column
=====

```

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 4141 3300 5Hz 0.00 11.00 50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.92		0.000	66	341	2	
2	1.07	fluoride	334.035	236	769	2	4.21
3	1.14		0.000	768	3923	2	
4	1.51	chloride	5994.752	2352	9110	1	0.44
5	1.79	nitrite	73954.219	15257	76449	1	0.19
6	2.92	nitrate	112767.927	15271	103041	1	1.74
7	4.35	phosphate	4257.424	126	1535	1	1.80
8	5.55	sulfate	2723.740	178	3128	1	1.96
Totals			200032.096	34254	198295		

File: 00031631.D05 Sample: S00T000505

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Sample Name: S00T000505 DUP	Date: 03/18/2000 07:41:34
Data File : C:\DX\DATA\00031631.D06	
Method : C:\DX\METHOD\ANIONS.MET	
ACI Address: 1 System: 1 Inject#: 6	Detector: CDM-1
Analyst :	Column: AG4A/AS4A anion column

=====

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	4141	3300	5Hz	0.00	11.00		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.91		0.000	62	330	2	
2	1.07	fluoride	337.292	232	776	2	4.21
3	1.14		0.000	769	3866	2	
4	1.51	chloride	6049.491	2397	9194	1	0.44
5	1.79	nitrite	74134.785	15483	76644	1	0.19
6	2.92	nitrate	113394.926	15312	103678	1	1.74
7	4.35	phosphate	3903.615	119	1391	1	1.80
8	5.55	sulfate	2821.767	191	3238	1	1.96
9	7.25	oxalate	826.347	33	837	1	3.77
Totals			201468.223	34598	199954		

File: 00031631.D06 Sample: S00T000505 DUP

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=====
Sample Name: S00T000505 SPK                      Date: 03/18/2000 07:59:06
Data File  : C:\DX\DATA\00031631.D07
Method     : C:\DX\METHOD\ANIONS.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  3300  5Hz  0.00 11.00          50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.91		0.000	60	275	2	
2	1.03	fluoride	2685.761	1502	5956	2	0.32
3	1.14		0.000	840	4235	2	
4	1.51	chloride	9854.222	3846	15183	1	0.44
5	1.79	nitrite	100551.551	20390	105789	1	0.19
6	2.62	bromide	23970.001	2994	15612	1	1.95
7	2.91	nitrate	144534.439	19917	136501	1	1.28
8	4.32	phosphate	29434.742	1001	11985	1	1.17
9	5.55	sulfate	29202.999	2468	33294	1	1.96
10	7.20	oxalate	21515.814	1115	19548	1	3.00
Totals			361749.529	54132	348377		

File: 00031631.D07 Sample: S00T000505 SPK

Sample Name: S00T000506 Date: 03/18/2000 08:29:38
Data File : C:\DX\DATA\00031631.D09
Method : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 9 Detector: CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	2121	3300	5Hz	0.00	11.00		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.91		0.000	73	382	2	
2	1.07	fluoride	367.587	476	1607	2	4.21
3	1.14		0.000	916	5014	2	
4	1.51	chloride	3888.372	2924	11597	1	0.44
5	1.79	nitrite	47846.800	19264	97818	1	0.19
6	2.90	nitrate	80791.996	21880	151181	1	1.05
7	4.35	phosphate	3777.416	268	2808	1	1.80
8	5.55	sulfate	1644.462	230	3673	1	1.96
9	7.20	oxalate	876.052	84	1630	1	3.00
Totals			139192.685	46115	275710		

File: 00031631.D09 Sample: S00T000506

HNF-1699 REV. 0

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Sample Name: S00T000506 DUP                      Date: 03/18/2000 08:45:06
Data File  : C:\DX\DATA\00031631.D10
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 10              Detector: CDM-1
Analyst    :                      Column: AG4A/AS4A anion column
=====

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-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          2121   3300  5Hz   0.00 11.00          50
-----

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.91		0.000	90	464	2	
2	1.07	fluoride	413.566	475	1803	2	3.56
3	1.14		0.000	912	4886	2	
4	1.51	chloride	3890.038	2975	11602	1	0.44
5	1.79	nitrite	47906.276	19328	97947	1	0.19
6	2.91	nitrate	82660.193	22096	155328	1	1.28
7	4.35	phosphate	4010.015	270	2994	1	1.80
8	5.55	sulfate	1613.282	231	3604	1	1.96
9	7.20	oxalate	816.552	75	1526	1	3.00
Totals			141309.922	46451	280155		

File: 00031631.D10 Sample: S00T000506 DUP

HNF-1699 REV. 0

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=====
Sample Name: S00T000507                      Date: 03/18/2000 09:15:27
Data File  : C:\DX\DATA\00031631.D12
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 12          Detector: CDM-1
Analyst    :                               Column: AG4A/AS4A anion column
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          4141   3300  5Hz   0.00 11.00          50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.91		0.000	71	374	2	
2	1.07	fluoride	366.256	246	839	2	4.21
3	1.15		0.000	837	4194	2	
4	1.51	chloride	6406.502	2502	9748	1	0.44
5	1.79	nitrite	79152.865	16280	82106	1	0.19
6	2.92	nitrate	120441.331	16364	110903	1	1.74
7	4.35	phosphate	3692.127	126	1305	1	1.80
8	5.60	sulfate	2732.595	230	3138	1	2.94
Totals			212791.675	36654	212607		

File: 00031631.D12 Sample: S00T000507

```

=====
Sample Name: S00T000507 DUP                      Date: 03/18/2000 09:38:29
Data File  : C:\DX\DATA\00031631.D13
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 13              Detector: CDM-1
Analyst    :                               Column: AG4A/AS4A anion column
=====

```

```

-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          4141   3300   5Hz   0.00 11.00          50
-----

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.91		0.000	81	425	2	
2	1.15		0.000	822	5007	2	
3	1.51	chloride	6381.185	2537	9709	1	0.89
4	1.80	nitrite	79268.812	16428	82233	1	0.56
5	2.93	nitrate	123327.681	16350	113895	1	1.97
6	4.35	phosphate	4001.108	132	1431	1	1.80
7	5.60	sulfate	2665.597	232	3063	1	2.94
8	7.25	oxalate	525.850	19	567	1	3.77
Totals			216170.234	36601	216329		

File: 00031631.D13 Sample: S00T000507 DUP

LABCORE Completed Worklist Report for Worklist# 33013

Analyst: rwk

Instrument: IC45S1

Book#: 111N21A

Method: LA-533-105 Rev/Mod F-2

Worklist Comment: SY101 GRAB6 RERUN DF=4141 JHW

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 LCS-INST	0	@IC-QC	F	QC	63.5	6.38e+01	100.472 % Recovery	
2 LCS-INST	0	@IC-QC	CL	QC	87.5	8.79e+01	100.457 % Recovery	
2 LCS-INST	0	@IC-QC	NO2	QC	552	5.24e+02	94.928 % Recovery	
2 LCS-INST	0	@IC-QC	BR	QC	625	6.18e+02	98.880 % Recovery	
2 LCS-INST	0	@IC-QC	NO3	QC	710	7.07e+02	99.577 % Recovery	
2 LCS-INST	0	@IC-QC	PO4	QC	630	6.46e+02	102.540 % Recovery	
2 LCS-INST	0	@IC-QC	SO4	QC	680	6.80e+02	100.000 % Recovery	
2 LCS-INST	0	@IC-QC	OXALATE2	QC	529	5.26e+02	99.433 % Recovery	
3 CCV	0	@IC-QC	F	QC	64.5	6.77e+01	104.961 % Recovery	
3 CCV	0	@IC-QC	CL	QC	86.0	8.64e+01	100.465 % Recovery	
3 CCV	0	@IC-QC	NO2	QC	561	5.13e+02	91.444 % Recovery	
3 CCV	0	@IC-QC	BR	QC	635	6.06e+02	95.433 % Recovery	
3 CCV	0	@IC-QC	NO3	QC	695	6.90e+02	99.281 % Recovery	
3 CCV	0	@IC-QC	PO4	QC	625	6.54e+02	104.640 % Recovery	
3 CCV	0	@IC-QC	SO4	QC	695	6.76e+02	97.266 % Recovery	
3 CCV	0	@IC-QC	OXALATE2	QC	526	5.25e+02	99.810 % Recovery	
4 SAMPLE	S00T000505	0	@IC-01	NO3-02	LIQUID	N/A	575.600	ug/mL
5 DUP	S00T000505	0	@IC-01	F-02	LIQUID	?	3.66e+02	RPD
5 DUP	S00T000505	0	@IC-01	CL-02	LIQUID	?	6.33e+03	RPD
5 DUP	S00T000505	0	@IC-01	NO2-02	LIQUID	?	7.88e+04	RPD
5 DUP	S00T000505	0	@IC-01	BR-02	LIQUID	?	<5.18e2	RPD
5 DUP	S00T000505	0	@IC-01	NO3-02	LIQUID	1.19e+05	1.18e+05	0.844 RPD
5 DUP	S00T000505	0	@IC-01	PO4-02	LIQUID	?	3.71e+03	RPD
5 DUP	S00T000505	0	@IC-01	SO4-02	LIQUID	?	2.79e+03	RPD
5 DUP	S00T000505	0	@IC-01	OXALATE2	LIQUID	?	6.26e+02	RPD
6 SPK	S00T000505	0	@IC-01	F-02	LIQUID	63.5	0.00e+00	0.000 % Recovery
6 SPK	S00T000505	0	@IC-01	CL-02	LIQUID	87.5	0.00e+00	0.000 % Recovery
6 SPK	S00T000505	0	@IC-01	NO2-02	LIQUID	552	0.00e+00	0.000 % Recovery
6 SPK	S00T000505	0	@IC-01	BR-02	LIQUID	625	0.00e+00	0.000 % Recovery
6 SPK	S00T000505	0	@IC-01	NO3-02	LIQUID	710	7.72e+02	108.732 % Recovery
6 SPK	S00T000505	0	@IC-01	PO4-02	LIQUID	630	0.00e+00	0.000 % Recovery
6 SPK	S00T000505	0	@IC-01	SO4-02	LIQUID	680	0.00e+00	0.000 % Recovery
6 SPK	S00T000505	0	@IC-01	OXALATE2	LIQUID	529	0.00e+00	0.000 % Recovery

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

LABCORE Completed Worklist Report for Worklist# 33013

Seq Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
7 SAMPLE	S00T000506	0	@IC-01	NO3-02	LIQUID	N/A	8.097e+04	575.600	ug/mL
8 DUP	S00T000506	0	@IC-01	F-02	LIQUID	?	3.56e+02		RPD
8 DUP	S00T000506	0	@IC-01	CL-02	LIQUID	?	3.81e+03		RPD
8 DUP	S00T000506	0	@IC-01	NO2-02	LIQUID	?	4.68e+04		RPD
8 DUP	S00T000506	0	@IC-01	BR-02	LIQUID	?	<5.18e2		RPD
8 DUP	S00T000506	0	@IC-01	NO3-02	LIQUID	8.10e+04	8.19e+04	1.105	RPD
8 DUP	S00T000506	0	@IC-01	PO4-02	LIQUID	?	4.02e+03		RPD
8 DUP	S00T000506	0	@IC-01	SO4-02	LIQUID	?	1.35e+03		RPD
8 DUP	S00T000506	0	@IC-01	OXALATE2	LIQUID	?	6.38e+02		RPD
9 SAMPLE	S00T000507	0	@IC-01	NO3-02	LIQUID	N/A	1.194e+05	575.600	ug/mL
10 DUP	S00T000507	0	@IC-01	F-02	LIQUID	?	<4.97e1		RPD
10 DUP	S00T000507	0	@IC-01	CL-02	LIQUID	?	6.33e+03		RPD
10 DUP	S00T000507	0	@IC-01	NO2-02	LIQUID	?	7.86e+04		RPD
10 DUP	S00T000507	0	@IC-01	BR-02	LIQUID	?	<5.18e2		RPD
10 DUP	S00T000507	0	@IC-01	NO3-02	LIQUID	1.19e+05	1.20e+05	0.837	RPD
10 DUP	S00T000507	0	@IC-01	PO4-02	LIQUID	?	4.60e+03		RPD
10 DUP	S00T000507	0	@IC-01	SO4-02	LIQUID	?	2.82e+03		RPD
10 DUP	S00T000507	0	@IC-01	OXALATE2	LIQUID	?	5.01e+02		RPD

Final page for worklist# 33013

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Reviewer Signature Juan M. Lugo Date 3/24/00

HNF-1699 REV. 0

03/20/00 15:34

Page: 1

ws2

LABCORE Data Entry Template for Worklist# 33013

Analyst: MM Instrument: IC 4551 Book# LCS 111121-A
CCV 110121-C

Method: LA-533-105 Rev/Mod F2

Worklist Comment: SY101 GRAB6 RERUN DF=4141 JHW

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC-QC	QC		
2 LCS-INST			@IC-QC	QC		
3 CCV			@IC-QC	QC		
4 SAMPLE	S00T000505 0		@IC-01	LIQUID	20000085	SY-102 GRAB6
	Analytes Requested: NO3-02					
5 DUP	S00T000505 0		@IC-01	LIQUID		
6 SPK	S00T000505 0		@IC-01	LIQUID		
7 SAMPLE	S00T000506 0		@IC-01	LIQUID	20000085	SY-102 GRAB6
	Analytes Requested: NO3-02					
8 DUP	S00T000506 0		@IC-01	LIQUID		
9 SAMPLE	S00T000507 0		@IC-01	LIQUID	20000085	SY-102 GRAB6
	Analytes Requested: NO3-02					
10 DUP	S00T000507 0		@IC-01	LIQUID		

Final page for worklist # 33013

Signature

Date

Signature

Date

Data Entry Comments:

uploaded 3-23-00

validated 3/24/00 MDL

JR Wenzell
33013 MAR.CSV

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

HNF-1699 REV. 0

```

=====
Sample Name: CCB                               Date: 03/22/2000 21:48:10
Data File  : C:\DX\DATA\00031641.D09
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 9           Detector: CDM-1
Analyst    : Wet Wm                        Column: AG4A/AS4A anion column
=====

```

```

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

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.35		0.000	13	65	1	
2	2.99	nitrate	0.110	17	121	1	4.30
Totals			0.110	30	186

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 333 TO 342.

HNF-1699 REV. 0

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=====
Sample Name: LCS 111N21A                      Date: 03/22/2000 22:04:50
Data File  : C:\DX\DATA\00031641.D10
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 10          Detector: CDM-1
Analyst    : NAK                            Column: AG4A/AS4A anion column
=====

```

```

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

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
2	1.03	fluoride	63.782	1493	5798	2	0.32
3	1.50	chloride	87.911	1374	5449	1	0.00
4	1.78	nitrite	524.492	4497	21275	1	-0.56
5	2.60	bromide	617.962	3011	16527	1	1.17
6	2.94	nitrate	707.247	3801	24452	1	2.44
7	4.32	phosphate	646.347	923	10747	1	1.17
8	5.49	sulfate	680.322	2024	31774	1	0.98
9	7.15	oxalate	525.678	1110	19582	1	2.24
Totals			3853.741	18233	135604		

File: 00031641.D10 Sample: LCS 111N21A

HNF-1699 REV. 0

Sample Name: CCV 110N21C Date: 03/22/2000 22:42:13
 Data File : C:\DX\DATA\00031641.D12
 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 12 Detector: CDM-1
 Analyst : *Nh King* Column: AG4A/AS4A anion column

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

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.03	fluoride	67.684	1518	6155	1	0.32
2	1.50	chloride	86.425	1390	5357	1	0.00
3	1.78	nitrite	512.726	4304	20782	1	-0.56
4	2.60	bromide	606.081	2960	16200	1	1.17
5	2.94	nitrate	689.921	3696	23833	1	2.44
6	4.32	phosphate	654.379	944	10885	1	1.17
7	5.49	sulfate	675.557	2052	31548	1	0.98
8	7.15	oxalate	525.217	1103	19565	1	2.24
Totals			3817.990	17967	134326		

File: 00031641.D12 Sample: CCV 110N21C

```

=====
Sample Name: S00T000505                      Date: 03/22/2000 23:06:58
Data File  : C:\DX\DATA\00031641.D13
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 13          Detector: CDM-1
Analyst    :                               Column: AG4A/AS4A anion column
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          4141   3300   5Hz   0.00 11.00          50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.91		0.000	69	368	2	
2	1.07	fluoride	356.865	236	819	2	3.56
3	1.14		0.000	791	3994	2	
4	1.50	chloride	6173.867	2454	9387	1	0.00
5	1.78	nitrite	77460.380	15840	80260	1	-0.56
6	2.89	nitrate	118961.218	16079	109376	1	0.81
7	4.32	phosphate	3527.019	120	1238	1	1.17
8	5.55	sulfate	2911.555	223	3338	1	1.96
9	7.09	oxalate	847.076	36	855	1	1.48
Totals			210237.979	35848	209635		

File: 00031641.D13 Sample: S00T000505

```

=====
Sample Name: S00T000505 DUP                      Date: 03/22/2000 23:19:05
Data File  : C:\DX\DATA\00031641.D14
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 14              Detector: CDM-1
Analyst    :                               Column: AG4A/AS4A anion column
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          4141   3300  5Hz   0.00 11.00          50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.91		0.000	66	344	2	
2	1.07	fluoride	365.965	240	839	2	3.56
3	1.14		0.000	803	4038	2	
4	1.50	chloride	6327.118	2430	9625	1	0.00
5	1.78	nitrite	78765.152	16005	81683	1	-0.56
6	2.89	nitrate	117688.675	15969	108067	1	0.81
7	4.32	phosphate	3710.061	123	1312	1	1.17
8	5.55	sulfate	2793.863	230	3206	1	1.96
9	7.15	oxalate	625.949	27	657	1	2.24
Totals			210276.783	35893	209771		

File: 00031641.D14 Sample: S00T000505 DUP

```

=====
Sample Name: S00T000505 SPK                      Date: 03/22/2000 23:35:09
Data File  : C:\DX\DATA\00031641.D15
Method     : C:\DX\METHOD\ANIONS.MET
ACTI 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   3300  5Hz   0.00 11.00          50
-----

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.91		0.000	63	258	2	
2	1.03	fluoride	2734.843	1515	6066	2	0.32
3	1.13		0.000	868	4242	2	
4	1.50	chloride	10286.100	3969	15876	1	0.00
5	1.78	nitrite	104530.538	21183	110265	1	-0.56
6	2.59	bromide	24636.041	3077	16058	1	0.91
7	2.88	nitrate	150084.051	21054	142611	1	0.35
8	4.32	phosphate	31030.616	1117	12661	1	1.17
9	5.49	sulfate	30352.695	2383	34630	1	0.98
10	7.15	oxalate	21910.315	1155	19908	1	2.24
Totals			375565.199	56383	362575		

File: 00031641.D15 Sample: S00T000505 SPK

Sample Name: S00T000506 Date: 03/22/2000 23:56:00
Data File : C:\DX\DATA\00031641.D16
Method : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 16 Detector: CDM-1
Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	4141	3300	5Hz	0.00	11.00		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.92		0.000	48	247	2	
2	1.07	fluoride	347.771	234	799	2	3.56
3	1.14		0.000	459	2358	2	
4	1.50	chloride	3837.055	1526	5802	1	0.00
5	1.78	nitrite	47017.862	9828	47696	1	-0.56
6	2.91	nitrate	80974.057	10943	71770	1	1.51
7	4.32	phosphate	3861.126	129	1374	1	1.17
8	5.55	sulfate	1686.930	137	1970	1	1.96
9	7.15	oxalate	705.309	41	728	1	2.24
Totals			138430.110	23345	132744		

File: 00031641.D16 Sample: S00T000506

```

=====
Sample Name: S00T000506 DUP                      Date: 03/23/2000 00:11:41
Data File  : C:\DX\DATA\00031641.D17
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 17              Detector: CDM-1
Analyst    :                               Column: AG4A/AS4A anion column
=====

```

```

-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          4141   3300   5Hz   0.00 11.00          50
-----

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.91		0.000	34	157	2	
2	1.07	fluoride	356.313	232	817	2	3.56
3	1.14		0.000	445	2262	2	
4	1.50	chloride	3809.665	1517	5761	1	0.00
5	1.78	nitrite	46786.531	9804	47453	1	-0.56
6	2.91	nitrate	81917.430	10751	72670	1	1.28
7	4.32	phosphate	4017.315	135	1437	1	1.17
8	5.55	sulfate	1353.185	134	1597	1	1.96
9	7.20	oxalate	637.541	43	667	1	3.00
Totals			138877.980	23095	132822		

File: 00031641.D17 Sample: S00T000506 DUP

Sample Name: S00T000507 Date: 03/23/2000 00:29:14
Data File : C:\DX\DATA\00031641.D18
Method : C:\DX\METHOD\ANIONS.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 3300 5Hz 0.00 11.00 50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.91		0.000	65	338	2	
2	1.14		0.000	824	4898	2	
3	1.50	chloride	6316.418	2521	9608	1	0.00
4	1.78	nitrite	78532.269	16402	81429	1	-0.56
5	2.89	nitrate	119445.202	16446	109875	1	0.81
6	4.32	phosphate	4054.638	134	1453	1	1.17
7	5.55	sulfate	2761.754	232	3171	1	1.96
Totals			211110.280	36624	210771		

File: 00031641.D18 Sample: S00T000507

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=====
Sample Name: S00T000507 DUP                      Date: 03/23/2000 00:41:42
Data File  : C:\DX\DATA\00031641.D19
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 19              Detector: CDM-1
Analyst    :                      Column: AG4A/AS4A anion column
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          4141   3300  5Hz   0.00 11.00          50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.91		0.000	68	339	2	
2	1.14		0.000	806	4718	2	
3	1.50	chloride	6331.694	2535	9632	1	0.00
4	1.78	nitrite	78640.425	16279	81547	1	-0.56
5	2.89	nitrate	120035.626	16531	110484	1	0.81
6	4.32	phosphate	4596.577	148	1673	1	1.17
7	5.55	sulfate	2816.401	234	3232	1	1.96
8	7.20	oxalate	501.103	25	545	1	3.00
Totals			212921.827	36626	212169		

File: 00031641.D19 Sample: S00T000507 DUP

LABCORE Completed Worklist Report for Worklist# 33102

Analyst: rdm

Instrument: IC45S1

Book#: 115N21A

Method: LA-533-105 Rev/Mod F-2

Worklist Comment: SY-102 GRAB 6 FOR @IC-01 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 LCS-INST		0	@IC-QC F	QC	64.0	6.69e+01	104.531 % Recovery	
2 LCS-INST		0	@IC-QC CL	QC	85.0	8.24e+01	96.941 % Recovery	
2 LCS-INST		0	@IC-QC NO2	QC	547	5.07e+02	92.687 % Recovery	
2 LCS-INST		0	@IC-QC BR	QC	620	6.19e+02	99.839 % Recovery	
2 LCS-INST		0	@IC-QC NO3	QC	655	6.67e+02	101.832 % Recovery	
2 LCS-INST		0	@IC-QC PO4	QC	630	6.29e+02	99.841 % Recovery	
2 LCS-INST		0	@IC-QC SO4	QC	680	6.89e+02	101.324 % Recovery	
2 LCS-INST		0	@IC-QC OXALATE2	QC	523	5.35e+02	102.294 % Recovery	
3 CCV		0	@IC-QC F	QC	64.5	6.83e+01	105.891 % Recovery	
3 CCV		0	@IC-QC CL	QC	86.5	8.55e+01	98.844 % Recovery	
3 CCV		0	@IC-QC NO2	QC	531	5.16e+02	97.175 % Recovery	
3 CCV		0	@IC-QC BR	QC	625	6.38e+02	102.080 % Recovery	
3 CCV		0	@IC-QC NO3	QC	695	7.13e+02	102.590 % Recovery	
3 CCV		0	@IC-QC PO4	QC	640	6.59e+02	102.969 % Recovery	
3 CCV		0	@IC-QC SO4	QC	680	6.98e+02	102.647 % Recovery	
3 CCV		0	@IC-QC OXALATE2	QC	515	5.19e+02	100.777 % Recovery	
4 SAMPLE	S00T000513	0	@IC-01 F-02	LIQUID	N/A	< 1.224e+02	122.400	ug/mL
4 SAMPLE	S00T000513	0	@IC-01 CL-02	LIQUID	N/A	9.145e+03	173.400	ug/mL
4 SAMPLE	S00T000513	0	@IC-01 NO2-02	LIQUID	N/A	1.101e+05	1102.000	ug/mL
4 SAMPLE	S00T000513	0	@IC-01 BR-02	LIQUID	N/A	< 1.275e+03	1275.000	ug/mL
4 SAMPLE	S00T000513	0	@IC-01 NO3-02	LIQUID	N/A	1.809e+05	1418.000	ug/mL
4 SAMPLE	S00T000513	0	@IC-01 PO4-02	LIQUID	N/A	7.210e+03	1224.000	ug/mL
4 SAMPLE	S00T000513	0	@IC-01 SO4-02	LIQUID	N/A	3.462e+03	1408.000	ug/mL
4 SAMPLE	S00T000513	0	@IC-01 OXALATE2	LIQUID	N/A	< 1.071e+03	1071.000	ug/mL
5 DUP	S00T000513	0	@IC-01 F-02	LIQUID	<1.22e2	<1.22e2		RPD
5 DUP	S00T000513	0	@IC-01 CL-02	LIQUID	9.14e+03	8.98e+03	1.766	RPD
5 DUP	S00T000513	0	@IC-01 NO2-02	LIQUID	1.10e+05	1.09e+05	0.913	RPD
5 DUP	S00T000513	0	@IC-01 BR-02	LIQUID	<1.28e3	<1.28e3		RPD
5 DUP	S00T000513	0	@IC-01 NO3-02	LIQUID	1.81e+05	1.81e+05	0.000	RPD
5 DUP	S00T000513	0	@IC-01 PO4-02	LIQUID	7.21e+03	6.85e+03	5.121	RPD
5 DUP	S00T000513	0	@IC-01 SO4-02	LIQUID	3.46e+03	4.00e+03	14.477	RPD
5 DUP	S00T000513	0	@IC-01 OXALATE2	LIQUID	<1.07e3	<1.07e3		RPD
6 SPK	S00T000513	0	@IC-01 F-02	LIQUID	64.0	6.95e+01	108.594 % Recovery	

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

HNF-1699 REV. 0

LABCORE Completed Worklist Report for Worklist# 33102

Seq Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
6 SPK	S00T000513	0	@IC-01	CL-02	LIQUID	85.0	1.02e+02	120.000 % Recovery	
6 SPK	S00T000513	0	@IC-01	NO2-02	LIQUID	547	7.88e+02	144.059 % Recovery	
6 SPK	S00T000513	0	@IC-01	BR-02	LIQUID	620	6.28e+02	101.290 % Recovery	
6 SPK	S00T000513	0	@IC-01	NO3-02	LIQUID	655	1.15e+03	175.573 % Recovery	
6 SPK	S00T000513	0	@IC-01	PO4-02	LIQUID	630	7.12e+02	113.016 % Recovery	
6 SPK	S00T000513	0	@IC-01	SO4-02	LIQUID	680	7.19e+02	105.735 % Recovery	
6 SPK	S00T000513	0	@IC-01	OXALATE2	LIQUID	523	5.43e+02	103.824 % Recovery	
7 SAMPLE	S00T000637	0	@IC-01	F-02	LIQUID	N/A	< 6.181e+01	61.810 ug/mL	
7 SAMPLE	S00T000637	0	@IC-01	NO2-02	LIQUID	N/A	4.916e+04	1102.000 ug/mL	
7 SAMPLE	S00T000637	0	@IC-01	BR-02	LIQUID	N/A	6.439e+02	643.900 ug/mL	
7 SAMPLE	S00T000637	0	@IC-01	NO3-02	LIQUID	N/A	8.001e+04	1418.000 ug/mL	
8 DUP	S00T000637	0	@IC-01	F-02	LIQUID	<6.18e1	<6.18e1	RPD	
8 DUP	S00T000637	0	@IC-01	CL-02	LIQUID	2.37e+04	1.23e+04	63.333 RPD	
8 DUP	S00T000637	0	@IC-01	NO2-02	LIQUID	4.92e+04	5.15e+04	4.568 RPD	
8 DUP	S00T000637	0	@IC-01	BR-02	LIQUID	<6.44e2	<6.44e2	RPD	
8 DUP	S00T000637	0	@IC-01	NO3-02	LIQUID	8.00e+04	7.86e+04	1.765 RPD	
8 DUP	S00T000637	0	@IC-01	PO4-02	LIQUID	1.91e+04	8.49e+03	76.912 RPD	
8 DUP	S00T000637	0	@IC-01	SO4-02	LIQUID	1.01e+04	4.62e+03	74.457 RPD	
8 DUP	S00T000637	0	@IC-01	OXALATE2	LIQUID	7.28e+02	5.60e+02	26.087 RPD	

Final page for worklist# 33102

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Janet M. Sege 4/6/00
Reviewer Signature _____ Date _____

HNF-1699 REV. 0

Page: 1

08/23/00 15:28
WS2

LABCORE Data Entry Template for Worklist# 33102

Analyst: PDH Instrument: IC 4551 Book# 115 N21 AMethod: LA-533-105 Rev/Mod F2

Worklist Comment: SY-102 GRAB 6 FOR @IC-01 RTS

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC-QC	QC		
2 LCS-INST			@IC-QC	QC		
3 CCV			@IC-QC	QC		
4 SAMPLE	S00T000513 0		@IC-01	LIQUID	20000085	SY-102 GRAB6
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
5 DUP	S00T000513 0		@IC-01	LIQUID		
6 SPK	S00T000513 0		@IC-01	LIQUID		
7 SAMPLE	S00T000637 0		@IC-01	LIQUID	20000085	SY-102 GRAB6
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
8 DUP	S00T000637 0		@IC-01	LIQUID		

Final page for worklist # 33102

Signature

Date

Signature

Date

Data Entry Comments:

uploaded 4-6-00

Jh Warrall

33102APR.CSV

Cl, PO4, SO4 & Oxalate were rejected
on S00T000637 for poor RPD

Rest validated 4/6/00 gmf

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

Spikes were high for NO₂ & NO₃ because
the levels in the sample were
too high for the level of the spike to

345 be successful gmf

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT

COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES

HNF-1699 REV. 0

HNF-1699 REV. 0

Sample Name: CCB Date: 04/05/2000 08:29:05
 Data File : C:\DX\DATA\00040311.D09
 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 9 Detector: CDM-1
 Analyst : *Julia D. for L. M. Jones* Column: AG4A/AS4A anion column

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

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

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

Totals			0.000	0	0		
--------	--	--	-------	---	---	--	--

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 346 TO 355


```

=====
Sample Name: LCS 115N21-A                      Date: 04/05/2000 08:56:23
Data File  : C:\DX\DATA\00040311.D10
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 10           Detector: CDM-1
Analyst    :                               Column: AG4A/AS4A anion column
=====

```

```

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

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.03	fluoride	66.909	1494	6084	1	0.32
2	1.49	chloride	82.378	1366	5106	1	-0.44
3	1.76	nitrite	506.740	4215	20532	1	-1.68
4	2.57	bromide	618.929	3022	16554	1	0.13
5	2.91	nitrate	666.658	3643	23004	1	1.28
6	4.11	phosphate	629.355	969	10453	1	-3.67
7	5.23	sulfate	689.151	2377	32194	1	-3.92
8	6.77	oxalate	535.326	1201	19943	1	-3.10
Totals			3795.447	18286	133870		

File: 00040311.D10 Sample: LCS 115N21-A

HNF-1699 REV. 0

```

=====
Sample Name: CCV 114N21-A                      Date: 04/05/2000 09:10:18
Data File  : C:\DX\DATA\00040311.D11
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1  System: 1  Inject#: 11          Detector: CDM-1
Analyst    :                               Column: AG4A/AS4A anion column
=====

```

```

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

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.90		0.000	14	51	2	
2	1.03	fluoride	68.344	1520	6216	2	0.32
3	1.49	chloride	85.537	1426	5302	1	-0.44
4	1.76	nitrite	516.015	4328	20920	1	-1.68
5	2.57	bromide	637.857	3133	17075	1	0.13
6	2.91	nitrate	713.080	3897	24660	1	1.28
7	4.11	phosphate	659.391	999	10972	1	-3.83
8	5.23	sulfate	697.861	2493	32608	1	-3.92
9	6.77	oxalate	518.512	1178	19314	1	-3.10
Totals			3896.597	18989	137118		

File: 00040311.D11 Sample: CCV 114N21-A

```

=====
Sample Name: S00T000513                      Date: 04/05/2000 09:54:12
Data File  : C:\DX\DATA\00040311.D12
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 12          Detector: CDM-1
Analyst    :                               Column: AG4A/AS4A anion column
=====

```

```

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

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.91		0.000	39	184	2	
2	1.14		0.000	451	2741	2	
3	1.49	chloride	9145.096	1473	5613	1	-0.44
4	1.77	nitrite	110065.883	9179	45244	1	-1.30
5	2.87	nitrate	180891.035	9630	64631	1	0.12
6	4.11	phosphate	7209.672	99	994	1	-3.67
7	5.28	sulfate	3461.934	140	1655	1	-2.94
8	6.88	oxalate	827.429	25	397	1	-1.57
Totals			311601.050	21035	121458		

File: 00040311.D12 Sample: S00T000513

HNF-1699 REV. 0

```

=====
Sample Name: S00T000513DUP                      Date: 04/05/2000 13:27:03
Data File  : C:\DX\DATA\00040311.D13
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 13              Detector: CDM-1
Analyst    :                               Column: AG4A/AS4A anion column
=====

```

```

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

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.89		0.000	72	364	2	
2	1.12		0.000	412	2426	2	
3	1.48	chloride	8984.818	1509	5514	1	-1.33
4	1.75	nitrite	108631.461	8914	44634	1	-2.42
5	2.87	nitrate	180878.191	9617	64626	1	-0.12
6	4.11	phosphate	6847.337	94	934	1	-3.67
7	5.23	sulfate	4000.034	118	1899	1	-3.92
8	6.83	oxalate	862.034	22	409	1	-2.34
Totals			310203.876	20758	120806		

File: 00040311.D13 Sample: S00T000513DUP

```

=====
Sample Name: S00T000513SPK                      Date: 04/05/2000 13:53:46
Data File  : C:\DX\DATA\00040311.D14
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 14              Detector: CDM-1
Analyst    :                               Column: AG4A/AS4A anion column
=====

```

```

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

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.91		0.000	46	181	2	
2	1.03	fluoride	7019.242	1536	6322	2	0.32
3	1.13		0.000	679	3349	2	
4	1.49	chloride	19462.725	3200	12083	1	-0.44
5	1.77	nitrite	189636.189	15856	79738	1	-1.30
6	2.57	bromide	63436.869	3123	16806	1	0.13
7	2.86	nitrate	297404.573	16523	111200	1	-0.35
8	4.11	phosphate	79170.963	1187	13131	1	-3.83
9	5.23	sulfate	76102.492	2628	35259	1	-3.92
10	6.77	oxalate	54821.756	1208	20222	1	-3.10
Totals			787054.809	45986	298291		

File: 00040311.D14 Sample: S00T000513SPK

HNF-1699 REV. 0

Data Reprocessed On 04/05/2000 14:51:40

```

=====
Sample Name: S00T000637                      Date: 04/05/2000 14:37:12
Data File  : C:\DX\DATA\00040311.D16
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 16          Detector: CDM-1
Analyst    :                               Column: AG4A/AS4A anion column
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          5151   3300  5Hz   0.00 11.00          50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.91		0.000	193	972	2	
2	1.13		0.000	2351	15174	2	
3	1.48	chloride	23702.584	7193	30601	1	-1.33
4	1.77	nitrite	276887.436	45223	255939	1	-0.93
5	2.78	nitrate	392439.798	53536	406075	1	-3.14
6	4.11	phosphate	19111.563	545	6097	1	-3.67
7	5.23	sulfate	10055.238	660	9143	1	-3.92
8	6.83	oxalate	727.595	51	620	1	-2.34
Totals			722924.214	109751	724620		

File: 00040311.D16 Sample: S00T000637

HNF-1699 REV. 0

```

=====
Sample Name: S00T000637                      Date: 04/05/2000 14:52:31
Data File  : C:\DX\DATA\00040311.D17
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 17          Detector: CDM-1
Analyst    :                               Column: AG4A/AS4A anion column
=====

```

```

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

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.90		0.000	10	51	2	
2	1.14		0.000	174	1009	2	
3	1.49	chloride	4117.274	684	2542	1	-0.44
4	1.76	nitrite	49160.254	4061	19696	1	-1.68
5	2.89	nitrate	80012.874	4142	27495	1	0.81
6	5.28	sulfate	1311.007	54	682	1	-2.94
Totals			134601.409	9125	51474		

File: 00040311.D17 Sample: S00T000637

```

=====
Sample Name: S00T000637DUP          Date: 04/05/2000 15:22:57
Data File  : C:\DX\DATA\00040311.D19
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 19 Detector: CDM-1
Analyst    :                      Column: AG4A/AS4A anion column
=====

```

```

-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          5151  3300  5Hz   0.00 11.00          50
-----

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.91		0.000	92	461	2	
2	1.13		0.000	1166	7390	2	
3	1.49	chloride	12337.684	3812	15286	1	-0.89
4	1.76	nitrite	152080.934	24257	130507	1	-1.68
5	2.82	nitrate	235540.957	27614	188596	1	-1.74
6	4.11	phosphate	8492.878	238	2584	1	-3.83
7	5.23	sulfate	4616.468	295	4233	1	-3.92
8	6.83	oxalate	560.092	27	499	1	-2.34
Totals			413629.012	57501	349556		

File: 00040311.D19 Sample: S00T000637DUP

HNF-1699 REV. 0

```

=====
Sample Name: S00T000637DUP          Date: 04/05/2000 15:05:03
Data File  : C:\DX\DATA\00040311.D18
Method     : C:\DX\METHOD\ANIONS.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   3300  5Hz   0.00 11.00          50
-----

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.91		0.000	17	53	1	
2	1.13		0.000	167	941	1	
3	1.49	chloride	4377.317	680	2699	1	-0.89
4	1.75	nitrite	51508.916	4113	20668	1	-2.05
5	2.89	nitrate	78643.287	4160	27009	1	0.58
6	4.15	phosphate	2217.538	20	171	1	-2.89
7	5.28	sulfate	1379.740	54	713	1	-2.94
8	7.31	oxalate	1632.858	14	690	1	4.53
Totals			139759.656	9226	52943		

File: 00040311.D18 Sample: S00T000637DUP

LABCORE Completed Worklist Report for Worklist# 33103

Analyst: adp

Instrument: IC45S1

Book#: 115N21A

Method: LA-533-105 Rev/Mod F-2

Worklist Comment: SY-102 GRAB 6 FOR @IC-01 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 LCS-INST	0	@IC-QC	F	QC	64.0	6.44e+01	100.625 % Recovery	
2 LCS-INST	0	@IC-QC	CL	QC	85.0	8.87e+01	104.353 % Recovery	
2 LCS-INST	0	@IC-QC	NO2	QC	547	5.35e+02	97.806 % Recovery	
2 LCS-INST	0	@IC-QC	BR	QC	620	6.33e+02	102.097 % Recovery	
2 LCS-INST	0	@IC-QC	NO3	QC	655	7.11e+02	108.550 % Recovery	
2 LCS-INST	0	@IC-QC	PO4	QC	630	6.55e+02	103.968 % Recovery	
2 LCS-INST	0	@IC-QC	SO4	QC	680	7.02e+02	103.235 % Recovery	
2 LCS-INST	0	@IC-QC	OXALATE2	QC	523	5.38e+02	102.868 % Recovery	
3 CCV	0	@IC-QC	F	QC	64.5	6.79e+01	105.271 % Recovery	
3 CCV	0	@IC-QC	CL	QC	86.5	8.51e+01	98.382 % Recovery	
3 CCV	0	@IC-QC	NO2	QC	531	5.31e+02	100.000 % Recovery	
3 CCV	0	@IC-QC	BR	QC	625	6.33e+02	101.280 % Recovery	
3 CCV	0	@IC-QC	NO3	QC	695	7.27e+02	104.604 % Recovery	
3 CCV	0	@IC-QC	PO4	QC	640	6.77e+02	105.781 % Recovery	
3 CCV	0	@IC-QC	SO4	QC	680	6.99e+02	102.794 % Recovery	
3 CCV	0	@IC-QC	OXALATE2	QC	515	5.31e+02	103.107 % Recovery	
4 SAMPLE	S00T000612	0	@IC-01 F-02	LIQUID	N/A	< 1.224e+02	122.400	ug/mL
4 SAMPLE	S00T000612	0	@IC-01 CL-02	LIQUID	N/A	6.148e+03	173.400	ug/mL
4 SAMPLE	S00T000612	0	@IC-01 NO2-02	LIQUID	N/A	7.491e+04	1102.000	ug/mL
4 SAMPLE	S00T000612	0	@IC-01 BR-02	LIQUID	N/A	< 1.275e+03	1275.000	ug/mL
4 SAMPLE	S00T000612	0	@IC-01 NO3-02	LIQUID	N/A	1.200e+05	1418.000	ug/mL
4 SAMPLE	S00T000612	0	@IC-01 PO4-02	LIQUID	N/A	4.626e+03	1224.000	ug/mL
4 SAMPLE	S00T000612	0	@IC-01 OXALATE2	LIQUID	N/A	< 1.071e+03	1071.000	ug/mL
5 DUP	S00T000612	0	@IC-01 F-02	LIQUID	<1.22e2	<1.22e2		RPD
5 DUP	S00T000612	0	@IC-01 CL-02	LIQUID	6.15e+03	6.35e+03	3.200	RPD
5 DUP	S00T000612	0	@IC-01 NO2-02	LIQUID	7.49e+04	7.53e+04	0.533	RPD
5 DUP	S00T000612	0	@IC-01 BR-02	LIQUID	<1.28e3	<1.28e3		RPD
5 DUP	S00T000612	0	@IC-01 NO3-02	LIQUID	1.20e+05	1.19e+05	0.837	RPD
5 DUP	S00T000612	0	@IC-01 PO4-02	LIQUID	4.63e+03	4.09e+03	12.385	RPD
5 DUP	S00T000612	0	@IC-01 SO4-02	LIQUID	2.52e+03	4.01e+03	45.636	RPD
5 DUP	S00T000612	0	@IC-01 OXALATE2	LIQUID	<1.07e3	<1.07e3		RPD
6 SAMPLE	S00T000628	0	@IC-01 F-02	LIQUID	N/A	< 1.224e+02	122.400	ug/mL
6 SAMPLE	S00T000628	0	@IC-01 CL-02	LIQUID	N/A	6.313e+03	173.400	ug/mL

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

LABCORE Completed Worklist Report for Worklist# 33103

Seq Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
6 SAMPLE	S00T000628	0	@IC-01	NO2-02	LIQUID	N/A	7.501e+04	1102.000	ug/mL
6 SAMPLE	S00T000628	0	@IC-01	BR-02	LIQUID	N/A	< 1.275e+03	1275.000	ug/mL
6 SAMPLE	S00T000628	0	@IC-01	NO3-02	LIQUID	N/A	1.215e+05	1418.000	ug/mL
6 SAMPLE	S00T000628	0	@IC-01	PO4-02	LIQUID	N/A	4.644e+03	1224.000	ug/mL
6 SAMPLE	S00T000628	0	@IC-01	SO4-02	LIQUID	N/A	3.427e+03	1408.000	ug/mL
6 SAMPLE	S00T000628	0	@IC-01	OXALATE2	LIQUID	N/A	< 1.071e+03	1071.000	ug/mL
7 DUP	S00T000628	0	@IC-01	F-02	LIQUID	<1.22e2	<1.22e2		RPD
7 DUP	S00T000628	0	@IC-01	CL-02	LIQUID	6.31e+03	6.32e+03	0.158	RPD
7 DUP	S00T000628	0	@IC-01	NO2-02	LIQUID	7.50e+04	7.46e+04	0.535	RPD
7 DUP	S00T000628	0	@IC-01	BR-02	LIQUID	<1.28e3	<1.28e3		RPD
7 DUP	S00T000628	0	@IC-01	NO3-02	LIQUID	1.22e+05	1.21e+05	0.823	RPD
7 DUP	S00T000628	0	@IC-01	PO4-02	LIQUID	4.64e+03	3.99e+03	15.064	RPD
7 DUP	S00T000628	0	@IC-01	SO4-02	LIQUID	3.43e+03	2.85e+03	18.471	RPD
7 DUP	S00T000628	0	@IC-01	OXALATE2	LIQUID	<1.07e3	<1.07e3		RPD

Final page for worklist# 33103

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Reviewer Signature _____ Date 4/6/00

03/30/00 15:56
ws2

HNF-1699 REV. 0

Page: 1

LABCORE Data Entry Template for Worklist# 33103

Analyst: ADP Instrument: IC 4551 Book# 115N21-A LCS
114N21-A REV
 Method: LA-533-105 Rev/Mod F2
 Worklist Comment: SY-102 GRAB 6 FOR @IC-01 RTS

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC-QC	QC		
2 LCS-INST			@IC-QC	QC		
3 CCV			@IC-QC	QC		
4 SAMPLE	S00T000612 0		@IC-01	LIQUID	20000085	SY-102 GRAB6
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
5 DUP	S00T000612 0		@IC-01	LIQUID		
6 SAMPLE	S00T000628 0		@IC-01	LIQUID	20000085	SY-102 GRAB6
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
7 DUP	S00T000628 0		@IC-01	LIQUID		

Final page for worklist # 33103

Anthony Furman 040600
 Signature Date

 Signature Date

Data Entry Comments:

uploaded 4-6-00J. Howell33103APR.CSV

SO₄ was rejected on S00T000612 for high RPD
the rest was validated 4/6/00

JM Lyle

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

HNF-1699 REV. 0

Sample Name: LCS 115N21-A Date: 04/06/2000 03:58:41
 Data File : C:\DX\DATA\00040601.D07
 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 7 Detector: CDM-1
 Analyst : *Anthony Purns* Column: AG4A/AS4A anion column

04-06-00

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

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
2	1.03	fluoride	64.444	1510	5859	2	-0.32
3	1.49	chloride	88.696	1416	5498	1	-0.89
4	1.75	nitrite	535.146	4376	21721	1	-2.05
5	2.56	bromide	632.723	3185	16933	1	-0.39
6	2.89	nitrate	710.625	3832	24573	1	0.58
7	4.09	phosphate	654.587	997	10889	1	-4.14
8	5.23	sulfate	701.621	2715	32787	1	-3.92
9	6.72	oxalate	537.581	1156	20027	1	-3.86
Totals			3925.424	19186	138287		

File: 00040601.D07 Sample: LCS 115N21-A

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 359 TO 365.

HNF-1699 REV.0

```
=====
Sample Name: ICB BLANK                      Date: 04/06/2000 03:45:09
Data File  : C:\DX\DATA\00040601.D06
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1   System: 1   Inject#: 6      Detector: CDM-1
Analyst    :                               Column: AG4A/AS4A anion column
=====
```

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

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.36		0.000	12	50	1	
Totals			0.000	12	50		

File: 00040601.D06 Sample: ICB BLANK

HNF-1699 REV. 0

```

=====
Sample Name: CCV 114N21-A                      Date: 04/06/2000 04:11:02
Data File  : C:\DX\DATA\00040601.D08
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 8             Detector: CDM-1
Analyst    :                               Column: AG4A/AS4A anion column
=====

```

```

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

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.03	fluoride	67.896	1476	6175	1	-0.32
2	1.49	chloride	85.093	1438	5274	1	-0.44
3	1.76	nitrite	530.597	4294	21530	1	-1.68
4	2.57	bromide	633.021	3132	16941	1	-0.13
5	2.89	nitrate	726.936	3867	25156	1	0.81
6	4.10	phosphate	676.796	1014	11273	1	-3.98
7	5.23	sulfate	698.704	2609	32648	1	-3.92
8	6.77	oxalate	530.627	1222	19767	1	-3.10
Totals			3949.668	19053	138765		

File: 00040601.D08 Sample: CCV 114N21-A

HNF-1699 REV. 0

```

=====
Sample Name: S00T000612 SAM                      Date: 04/06/2000 04:27:05
Data File   : C:\DX\DATA\00040601.D09
Method      : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 9              Detector: CDM-1
Analyst     :                               Column: AG4A/AS4A anion column
=====

```

```

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

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.92		0.000	27	101	1	
2	1.13		0.000	284	1628	1	
3	1.49	chloride	6148.323	992	3776	1	-0.89
4	1.76	nitrite	74910.304	6124	30411	1	-1.68
5	2.88	nitrate	120039.002	6317	41921	1	0.35
6	4.10	phosphate	4626.222	59	567	1	-3.98
7	5.23	sulfate	2523.292	93	1230	1	-3.92
Totals			208247.142	13896	79635		

File: 00040601.D09 Sample: S00T000612 SAM

HNF-1699 REV. 0

```

=====
Sample Name: S00T000612 DUP                      Date: 04/06/2000 04:40:23
Data File  : C:\DX\DATA\00040601.D10
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 10              Detector: CDM-1
Analyst    :                      Column: AG4A/AS4A anion column
=====

```

```

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

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.92		0.000	27	118	2	
2	1.13		0.000	289	1658	2	
3	1.49	chloride	6348.471	1011	3898	1	-0.89
4	1.75	nitrite	75296.375	6110	30573	1	-2.05
5	2.88	nitrate	118560.996	6402	41381	1	0.35
6	4.09	phosphate	4088.552	60	479	1	-4.14
7	5.23	sulfate	4013.275	115	1905	1	-3.92
Totals			208307.669	14014	80012		

File: 00040601.D10 Sample: S00T000612 DUP

HNF-1699 REV. 0

```

=====
Sample Name: S00T000628 SAM                      Date: 04/06/2000 04:52:11
Data File   : C:\DX\DATA\00040601.D11
Method      : C:\DX\METHOD\ANIONS.MET
ACI Address : 1   System: 1   Inject#: 11          Detector: CDM-1
Analyst     :                               Column: AG4A/AS4A anion column
=====

```

```

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

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.91		0.000	24	112	2	
2	1.13		0.000	284	1609	2	
3	1.49	chloride	6312.746	1029	3877	1	-0.89
4	1.75	nitrite	75010.889	6130	30453	1	-2.05
5	2.88	nitrate	121527.003	6576	42465	1	0.35
6	4.11	phosphate	4643.818	62	570	1	-3.83
7	5.23	sulfate	3427.056	98	1640	1	-3.92
Totals			210921.512	14202	80725		

File: 00040601.D11 Sample: S00T000628 SAM

HNF-1699 REV. 0

```

=====
Sample Name: S00T000628 DUP                      Date: 04/06/2000 05:04:30
Data File  : C:\DX\DATA\00040601.D12
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 12              Detector: CDM-1
Analyst    :                               Column: AG4A/AS4A anion column
=====

```

```

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

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.93		0.000	29	143	2	
2	1.13		0.000	287	1646	2	
3	1.49	chloride	6323.234	1031	3883	1	-0.89
4	1.75	nitrite	74607.802	6183	30285	1	-2.05
5	2.88	nitrate	120926.294	6606	42245	1	0.35
6	4.11	phosphate	3987.189	55	462	1	-3.83
7	5.23	sulfate	2850.360	90	1378	1	-3.92
Totals			208694.879	14281	80042		

File: 00040601.D12 Sample: S00T000628 DUP

LABCORE Completed Worklist Report for Worklist# 33104

Analyst: rwk

Instrument: IC45S1

Book#: 115N21A

Method: LA-533-105 Rev/Mod F-2

Worklist Comment: SY-102 GRAB 6 FOR @IC-01 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 LCS-INST	0	@IC-QC	F	QC	64.0	6.73e+01	105.156 % Recovery	
2 LCS-INST	0	@IC-QC	CL	QC	85.0	8.38e+01	98.588 % Recovery	
2 LCS-INST	0	@IC-QC	NO2	QC	547	4.88e+02	89.214 % Recovery	
2 LCS-INST	0	@IC-QC	BR	QC	620	6.42e+02	103.548 % Recovery	
2 LCS-INST	0	@IC-QC	NO3	QC	655	7.23e+02	110.382 % Recovery	
2 LCS-INST	0	@IC-QC	PO4	QC	630	6.52e+02	103.492 % Recovery	
2 LCS-INST	0	@IC-QC	SO4	QC	680	6.91e+02	101.618 % Recovery	
2 LCS-INST	0	@IC-QC	OXALATE2	QC	523	5.46e+02	104.398 % Recovery	
3 CCV	0	@IC-QC	F	QC	64.5	6.54e+01	101.395 % Recovery	
3 CCV	0	@IC-QC	CL	QC	86.5	8.52e+01	98.497 % Recovery	
3 CCV	0	@IC-QC	NO2	QC	531	5.13e+02	96.610 % Recovery	
3 CCV	0	@IC-QC	BR	QC	625	6.31e+02	100.960 % Recovery	
3 CCV	0	@IC-QC	NO3	QC	695	7.17e+02	103.165 % Recovery	
3 CCV	0	@IC-QC	PO4	QC	640	6.62e+02	103.438 % Recovery	
3 CCV	0	@IC-QC	SO4	QC	680	6.99e+02	102.794 % Recovery	
3 CCV	0	@IC-QC	OXALATE2	QC	515	5.28e+02	102.524 % Recovery	
4 BLNK-PREP	0	@IC-01	F-02	SOLID	1	<1.20e-2		ug/g
4 BLNK-PREP	0	@IC-01	CL-02	SOLID	1	<1.70e-2		ug/g
4 BLNK-PREP	0	@IC-01	NO2-02	SOLID	1	3.36e-01	0.336	ug/g
4 BLNK-PREP	0	@IC-01	BR-02	SOLID	1	<1.25e-1		ug/g
4 BLNK-PREP	0	@IC-01	NO3-02	SOLID	1	1.40e-01	0.140	ug/g
4 BLNK-PREP	0	@IC-01	PO4-02	SOLID	1	<1.20e-1		ug/g
4 BLNK-PREP	0	@IC-01	SO4-02	SOLID	1	<1.38e-1		ug/g
4 BLNK-PREP	0	@IC-01	OXALATE2	SOLID	1	<1.05e-1		ug/g
5 SAMPLE	S00T000624	0 W	@IC-01	F-02	SOLID	N/A	< 4.879e+01	48.790 ug/g
5 SAMPLE	S00T000624	0 W	@IC-01	CL-02	SOLID	N/A	3.819e+03	69.120 ug/g
5 SAMPLE	S00T000624	0 W	@IC-01	NO2-02	SOLID	N/A	4.440e+04	439.100 ug/g
5 SAMPLE	S00T000624	0 W	@IC-01	BR-02	SOLID	N/A	< 5.082e+02	508.200 ug/g
5 SAMPLE	S00T000624	0 W	@IC-01	NO3-02	SOLID	N/A	7.090e+04	565.200 ug/g
5 SAMPLE	S00T000624	0 W	@IC-01	PO4-02	SOLID	N/A	2.488e+03	487.900 ug/g
5 SAMPLE	S00T000624	0 W	@IC-01	SO4-02	SOLID	N/A	1.537e+03	561.100 ug/g
5 SAMPLE	S00T000624	0 W	@IC-01	OXALATE2	SOLID	N/A	8.396e+04	426.900 ug/g
6 DUP	S00T000624	0 W	@IC-01	F-02	SOLID	<4.88e1	<4.96e1	RPD

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

LABCORE Completed Worklist Report for Worklist# 33104

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
6 DUP	S00T000624	0 W @IC-01	CL-02	SOLID	3.82e+03	3.66e+03	4.278	RPD
6 DUP	S00T000624	0 W @IC-01	NO2-02	SOLID	4.44e+04	4.37e+04	1.589	RPD
6 DUP	S00T000624	0 W @IC-01	BR-02	SOLID	<5.08e2	<5.16e2		RPD
6 DUP	S00T000624	0 W @IC-01	NO3-02	SOLID	7.09e+04	6.99e+04	1.420	RPD
6 DUP	S00T000624	0 W @IC-01	PO4-02	SOLID	2.49e+03	2.56e+03	2.772	RPD
6 DUP	S00T000624	0 W @IC-01	SO4-02	SOLID	1.54e+03	1.50e+03	2.632	RPD
6 DUP	S00T000624	0 W @IC-01	OXALATE2	SOLID	8.40e+04	7.39e+04	12.793	RPD
7 SPK	S00T000624	0 W @IC-01	F-02	SOLID	64.0	6.99e+01	109.219	% Recovery
7 SPK	S00T000624	0 W @IC-01	CL-02	SOLID	85.0	7.94e+01	93.412	% Recovery
7 SPK	S00T000624	0 W @IC-01	NO2-02	SOLID	547	4.88e+02	89.214	% Recovery
7 SPK	S00T000624	0 W @IC-01	BR-02	SOLID	620	6.17e+02	99.516	% Recovery
7 SPK	S00T000624	0 W @IC-01	NO3-02	SOLID	655	7.53e+02	114.962	% Recovery
7 SPK	S00T000624	0 W @IC-01	PO4-02	SOLID	630	6.65e+02	105.556	% Recovery
7 SPK	S00T000624	0 W @IC-01	SO4-02	SOLID	680	6.86e+02	100.882	% Recovery
7 SPK	S00T000624	0 W @IC-01	OXALATE2	SOLID	523	5.11e+02	97.706	% Recovery
8 SAMPLE	S00T000634	0 W @IC-01	F-02	SOLID	N/A	< 5.009e+01	50.090	ug/g
8 SAMPLE	S00T000634	0 W @IC-01	CL-02	SOLID	N/A	3.538e+03	70.960	ug/g
8 SAMPLE	S00T000634	0 W @IC-01	NO2-02	SOLID	N/A	4.100e+04	450.800	ug/g
8 SAMPLE	S00T000634	0 W @IC-01	BR-02	SOLID	N/A	< 5.218e+02	521.800	ug/g
8 SAMPLE	S00T000634	0 W @IC-01	NO3-02	SOLID	N/A	6.447e+04	580.200	ug/g
8 SAMPLE	S00T000634	0 W @IC-01	PO4-02	SOLID	N/A	2.351e+03	500.900	ug/g
8 SAMPLE	S00T000634	0 W @IC-01	SO4-02	SOLID	N/A	1.275e+03	576.000	ug/g
8 SAMPLE	S00T000634	0 W @IC-01	OXALATE2	SOLID	N/A	5.944e+04	438.300	ug/g
9 DUP	S00T000634	0 W @IC-01	F-02	SOLID	<5.01e1	<5.05e1		RPD
9 DUP	S00T000634	0 W @IC-01	CL-02	SOLID	3.54e+03	3.42e+03	3.448	RPD
9 DUP	S00T000634	0 W @IC-01	NO2-02	SOLID	4.10e+04	3.98e+04	2.970	RPD
9 DUP	S00T000634	0 W @IC-01	BR-02	SOLID	<5.22e2	<5.26e2		RPD
9 DUP	S00T000634	0 W @IC-01	NO3-02	SOLID	6.45e+04	6.34e+04	1.720	RPD
9 DUP	S00T000634	0 W @IC-01	PO4-02	SOLID	2.35e+03	2.08e+03	12.190	RPD
9 DUP	S00T000634	0 W @IC-01	SO4-02	SOLID	1.28e+03	1.25e+03	2.372	RPD
9 DUP	S00T000634	0 W @IC-01	OXALATE2	SOLID	5.94e+04	6.72e+04	12.322	RPD

Final page for worklist# 33104

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Reviewer Signature _____ Date _____

03/30/00 15:56
ws2

Page: 1

LABCORE Data Entry Template for Worklist# 33104Analyst: RM Instrument: ICBook# LCS 115721-A
CCV 114721-4Method: LA-533-105 Rev/Mod F-2

Worklist Comment: SY-102 GRAB 6 FOR @IC-01 RTS

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	CCB				@IC-QC	QC		
2	LCS-INST				@IC-QC	QC		
3	CCV				@IC-QC	QC		
4	BLNK-PREP				@IC-01	SOLID		
5	SAMPLE	S00T000624	0	W	@IC-01	SOLID	20000085	SY-102 GRAB6
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02								
6	DUP	S00T000624	0	W	@IC-01	SOLID		
7	SPK	S00T000624	0	W	@IC-01	SOLID		
8	SAMPLE	S00T000634	0	W	@IC-01	SOLID	20000085	SY-102 GRAB6
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02								
9	DUP	S00T000634	0	W	@IC-01	SOLID		

Final page for worklist # 33104Not King 4/9/00
Signature Date

Signature Date

Data Entry Comments:

uploaded 4-10-00validated 4/10/00 GMLJR Wavell33104 APR.CSV

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

HNF-1699 REV. 0

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=====
Sample Name: CCB                               Date: 04/08/2000 22:32:14
Data File  : C:\DX\DATA\00040721.D08
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 8           Detector: CDM-1
Analyst    : R. L. King                     Column: AG4A/AS4A anion column
=====

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

External	1	1	3300	5Hz	0.00	11.00		50
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***** Peak Report: All Peaks *****

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

Totals			0.000	0	0		
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SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 369 TO 377.

Sample Name: LCS 115N21A Date: 04/08/2000 22:46:11
 Data File : C:\DX\DATA\00040721.D09
 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 9 Detector: CDM-1
 Analyst : *Not King* Column: AG4A/AS4A anion column

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 101 3300 5Hz 0.00 11.00 50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.90		0.000	17	63	2	
2	1.03	fluoride	67.267	1474	6117	2	0.32
3	1.49	chloride	83.821	1388	5195	1	-0.44
4	1.76	nitrite	488.101	4037	19753	1	-1.68
5	2.57	bromide	642.148	3146	17193	1	-0.13
6	2.89	nitrate	723.192	3933	25022	1	0.81
7	4.11	phosphate	652.277	1007	10849	1	-3.83
8	5.28	sulfate	691.238	2498	32293	1	-2.94
9	6.83	oxalate	546.429	1212	20358	1	-2.34
Totals			3894.472	18712	136843		

File: 00040721.D09 Sample: LCS 115N21A

Sample Name: CCV 114N21A Date: 04/08/2000 23:00:59
 Data File : C:\DX\DATA\00040721.D10
 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 10 Detector: CDM-1
 Analyst : *Ms. Mary* Column: AG4A/AS4A anion column

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

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.92		0.000	15	55	2	
2	1.03	fluoride	65.388	1508	5945	2	0.32
3	1.49	chloride	85.243	1415	5283	1	-0.44
4	1.76	nitrite	513.352	4274	20809	1	-1.68
5	2.56	bromide	630.569	3121	16874	1	-0.39
6	2.89	nitrate	717.411	3939	24815	1	0.81
7	4.10	phosphate	661.770	1025	11013	1	-3.98
8	5.28	sulfate	699.330	2561	32678	1	-2.94
9	6.83	oxalate	528.232	1173	19678	1	-2.34
Totals			3901.295	19030	137149		

File: 00040721.D10 Sample: CCV 114N21A

HNF-1699 REV. 0

```
=====
Sample Name: PREP BLK                      Date: 04/08/2000 23:16:29
Data File  : C:\DX\DATA\00040721.D11
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1  System: 1  Inject#: 11      Detector: CDM-1
Analyst    :                               Column: AG4A/AS4A anion column
=====
```

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

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.29		0.000	14	52	1	
2	1.50	chloride	0.012	45	138	1	0.00
3	1.77	nitrite	0.336	211	960	1	-1.30
4	2.93	nitrate	0.140	42	222	1	1.97
Totals			0.488	313	1372

HNF-1699 REV. 0

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=====
Sample Name: S00T000624                      Date: 04/08/2000 23:30:03
Data File  : C:\DX\DATA\00040721.D12
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1  System: 1  Inject#: 12         Detector: CDM-1
Analyst    :                               Column: AG4A/AS4A anion column
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          21    3300  5Hz   0.00 11.00          50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.92		0.000	45	239	2	
2	1.14		0.000	467	3062	2	
3	1.49	chloride	19.723	1457	5881	1	-0.89
4	1.76	nitrite	229.316	9138	45808	1	-1.68
5	2.87	nitrate	366.198	9828	63486	1	-0.12
6	4.12	phosphate	12.848	93	834	1	-3.51
7	5.28	sulfate	7.937	129	1834	1	-2.94
8	6.77	oxalate	433.643	4881	79422	1	-3.10
Totals			1069.665	26038	200566		

File: 00040721.D12 Sample: S00T000624

```
=====
Sample Name: S00T000624 DUP                      Date: 04/08/2000 23:46:56
Data File  : C:\DX\DATA\00040721.D13
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 13              Detector: CDM-1
Analyst    :                               Column: AG4A/AS4A anion column
=====
```

```
-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1           21   3300  5Hz   0.00 11.00          50
-----
```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.91		0.000	38	184	2	
2	1.14		0.000	443	2847	2	
3	1.49	chloride	18.597	1399	5545	1	-0.89
4	1.76	nitrite	222.031	8942	44303	1	-1.68
5	2.87	nitrate	355.344	9602	61483	1	-0.12
6	4.11	phosphate	13.006	91	846	1	-3.83
7	5.28	sulfate	7.621	116	1764	1	-2.94
8	6.77	oxalate	375.660	4186	68489	1	-3.10
Totals			992.259	24816	185462		

File: 00040721.D13 Sample: S00T000624 DUP

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```

=====
Sample Name: S00T000624 SPK.                      Date: 04/08/2000 23:58:53
Data File  : C:\DX\DATA\00040721.D14
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 14                Detector: CDM-1
Analyst    :                      Column: AG4A/AS4A anion column
=====

```

```

-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          21    3300  5Hz   0.00 11.00          50
-----

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.91		0.000	40	157	2	
2	1.03	fluoride	13.977	1460	6113	2	0.32
3	1.13		0.000	513	2458	2	
4	1.49	chloride	35.594	2790	10701	1	-0.89
5	1.76	nitrite	326.928	13253	66216	1	-1.68
6	2.55	bromide	123.362	2981	15850	1	-0.65
7	2.85	nitrate	516.812	14056	92135	1	-0.58
8	4.10	phosphate	145.895	1081	11704	1	-3.98
9	5.28	sulfate	145.086	2625	32605	1	-2.94
10	6.72	oxalate	535.853	5667	98960	1	-3.86
Totals			1843.508	44465	336898		

File: 00040721.D14 Sample: S00T000624 SPK.

HNF-1699 REV. 0

```

=====
Sample Name: S00T000634                      Date: 04/09/2000 00:11:21
Data File  : C:\DX\DATA\00040721.D15
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 15          Detector: CDM-1
Analyst    :                               Column: AG4A/AS4A anion column
=====

```

```

-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          21    3300  5Hz   0.00 11.00          50
-----

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.92		0.000	29	146	2	
2	1.13		0.000	379	2533	2	
3	1.49	chloride	17.798	1315	5306	1	-0.89
4	1.75	nitrite	206.259	7906	41054	1	-2.05
5	2.87	nitrate	324.336	8614	55803	1	-0.12
6	4.10	phosphate	11.827	81	752	1	-3.98
7	5.28	sulfate	6.413	99	1498	1	-2.94
8	6.77	oxalate	299.058	3251	54208	1	-3.10
Totals			865.692	21674	161300		

File: 00040721.D15 Sample: S00T000634

HNF-1699 REV. 0

```

=====
Sample Name: S00T000634 DUP                      Date: 04/09/2000 00:23:37
Data File   : C:\DX\DATA\00040721.D16
Method      : C:\DX\METHOD\ANIONS.MET
ACI Address: 1   System: 1   Inject#: 16          Detector: CDM-1
Analyst     :                               Column: AG4A/AS4A anion column
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1           21  3300  5Hz   0.00 11.00          50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.91		0.000	33	173	2	
2	1.14		0.000	379	2445	2	
3	1.49	chloride	17.087	1275	5093	1	-0.89
4	1.76	nitrite	198.576	7908	39475	1	-1.68
5	2.87	nitrate	316.919	8541	54454	1	-0.12
6	4.10	phosphate	10.389	69	637	1	-3.98
7	5.28	sulfate	6.257	103	1464	1	-2.94
8	6.77	oxalate	335.528	3644	60985	1	-3.10
Totals			884.756	21952	164726		

File: 00040721.D16 Sample: S00T000634 DUP

LABCORE Completed Worklist Report for Worklist# 33165

Analyst: adp

Instrument: IC45S1

Book#: 114N21A

Method: LA-533-105 Rev/Mod F-Z

Worklist Comment: SY-102 RERUN GRAB 6 @IC-01 DF=5151 OR 4141 JHW

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 LCS-INST	0	@IC-QC	F	QC	64.0	6.44e+01	100.625 % Recovery	
2 LCS-INST	0	@IC-QC	CL	QC	85.0	8.61e+01	101.294 % Recovery	
2 LCS-INST	0	@IC-QC	NO2	QC	547	5.02e+02	91.773 % Recovery	
2 LCS-INST	0	@IC-QC	BR	QC	620	6.32e+02	101.935 % Recovery	
2 LCS-INST	0	@IC-QC	NO3	QC	655	7.04e+02	107.481 % Recovery	
2 LCS-INST	0	@IC-QC	PO4	QC	630	6.37e+02	101.111 % Recovery	
2 LCS-INST	0	@IC-QC	SO4	QC	680	6.95e+02	102.206 % Recovery	
2 LCS-INST	0	@IC-QC	OXALATE2	QC	523	5.41e+02	103.442 % Recovery	
3 CCV	0	@IC-QC	F	QC	64.5	6.92e+01	107.287 % Recovery	
3 CCV	0	@IC-QC	CL	QC	86.5	8.58e+01	99.191 % Recovery	
3 CCV	0	@IC-QC	NO2	QC	531	5.11e+02	96.234 % Recovery	
3 CCV	0	@IC-QC	BR	QC	625	6.31e+02	100.960 % Recovery	
3 CCV	0	@IC-QC	NO3	QC	695	7.16e+02	103.022 % Recovery	
3 CCV	0	@IC-QC	PO4	QC	640	6.52e+02	101.875 % Recovery	
3 CCV	0	@IC-QC	SO4	QC	680	7.03e+02	103.382 % Recovery	
3 CCV	0	@IC-QC	OXALATE2	QC	515	5.34e+02	103.689 % Recovery	
4 SAMPLE	S00T000637	0	@IC-01	CL-02	LIQUID	N/A	6.103e+03	70.400 ug/mL
4 SAMPLE	S00T000637	0	@IC-01	PO4-02	LIQUID	N/A	5.272e+03	496.900 ug/mL
4 SAMPLE	S00T000637	0	@IC-01	SO4-02	LIQUID	N/A	2.357e+03	571.500 ug/mL
4 SAMPLE	S00T000637	0	@IC-01	OXALATE2	LIQUID	N/A	4.348e+02	434.800 ug/mL
5 DUP	S00T000637	0	@IC-01	F-02	LIQUID	?	<4.97e1	RPD
5 DUP	S00T000637	0	@IC-01	CL-02	LIQUID	6.10e+03	6.13e+03	0.491 RPD
5 DUP	S00T000637	0	@IC-01	NO2-02	LIQUID	?	7.45e+04	RPD
5 DUP	S00T000637	0	@IC-01	BR-02	LIQUID	?	<5.18e2	RPD
5 DUP	S00T000637	0	@IC-01	NO3-02	LIQUID	?	1.23e+05	RPD
5 DUP	S00T000637	0	@IC-01	PO4-02	LIQUID	5.27e+03	4.86e+03	8.095 RPD
5 DUP	S00T000637	0	@IC-01	SO4-02	LIQUID	2.36e+03	2.78e+03	16.342 RPD
5 DUP	S00T000637	0	@IC-01	OXALATE2	LIQUID	<4.35e2	<4.35e2	RPD
6 SAMPLE	S00T000612	0	@IC-01	SO4-02	LIQUID	N/A	2.785e+03	571.500 ug/mL
7 DUP	S00T000612	0	@IC-01	F-02	LIQUID	?	<4.97e1	RPD
7 DUP	S00T000612	0	@IC-01	CL-02	LIQUID	?	6.35e+03	RPD
7 DUP	S00T000612	0	@IC-01	NO2-02	LIQUID	?	7.67e+04	RPD
7 DUP	S00T000612	0	@IC-01	BR-02	LIQUID	?	<5.18e2	RPD

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

LABCORE Completed Worklist Report for Worklist# 33165

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
7	DUP	S00T000612	0	@IC-01	NO3-02	LIQUID	?	1.23e+05		RPD
7	DUP	S00T000612	0	@IC-01	PO4-02	LIQUID	?	4.29e+03		RPD
7	DUP	S00T000612	0	@IC-01	SO4-02	LIQUID	2.78e+03	2.94e+03	5.594	RPD
7	DUP	S00T000612	0	@IC-01	OXALATE2	LIQUID	?	6.65e+02		RPD

Final page for worklist# 33165

Analyst Signature Date

Analyst Signature Date

4/10/00

Reviewer Signature Date

04/06/00 14:42
ws2

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Page: 1

LABCORE Data Entry Template for Worklist# 33165

Analyst: ADP Instrument: IC 4551 Book# 115N21-A LCS
 Method: LA-533-105 Rev/Mod F-2 114N21-A CCV

Worklist Comment: SY-102 RERUN GRAB 6 @IC-01 DF=5151 OR 4141 JHW

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC-QC	QC		
2 LCS-INST			@IC-QC	QC		
3 CCV			@IC-QC	QC		
4 SAMPLE	S00T000637 0	@IC-01	LIQUID		20000085 SY-102 GRAB6	
	Analytes Requested: CL-02 , OXALATE2, PO4-02 , SO4-02					
5 DUP	S00T000637 0	@IC-01	LIQUID			
6 SAMPLE	S00T000612 0	@IC-01	LIQUID		20000085 SY-102 GRAB6	
	Analytes Requested: SO4-02					
7 DUP	S00T000612 0	@IC-01	LIQUID			

Final page for worklist # 33165

 Signature Date

4 gmf 4/7/00
 02-07-00

 Signature Date

Data Entry Comments:

uploaded 4-7-00
 JH Warell

33165APR.CSV

validated 4/7/00 gmf/lye

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

Sample Name: ICV 115N21-A LCS Date: 04/07/2000 02:43:00
 Data File : C:\DX\DATA\00040701.D02
 Method : C:\DX\METHOD\ANIONS.MET
 ACI Address: 1 System: 1 Inject#: 2 Detector: CDM-1
 Analyst : *Anthony Purnell* Column: AG4A/AS4A anion column

04.06.00

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

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.90		0.000	15	55	2	
2	1.03	fluoride	64.360	1490	5851	2	0.32
3	1.49	chloride	86.085	1380	5336	1	-0.89
4	1.76	nitrite	502.021	4121	20335	1	-1.68
5	2.57	bromide	632.360	3135	16923	1	0.13
6	2.90	nitrate	704.075	3822	24339	1	1.05
7	4.07	phosphate	637.065	998	10586	1	-4.61
8	5.23	sulfate	695.079	2496	32476	1	-3.92
9	6.77	oxalate	540.897	1224	20151	1	-3.10
Totals			3861.941	18679	136052		

File: 00040701.D02 Sample: ICV 115N21-A

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETELY VERIFIED THE CALIBRATION VALUES ON PAGES 381-10.382.

```
=====
Sample Name: ICB BLANK                      Date: 04/07/2000 02:30:22
Data File  : C:\DX\DATA\00040701.D01
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1   System: 1   Inject#: 1      Detector: CDM-1
Analyst    :                      Column: AG4A/AS4A anion column
=====
```

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

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.75		0.000	90	2341	1	
Totals			0.000	90	2341

Data Reprocessed On 04/07/2000 03:03:12

```

=====
Sample Name: CCV 114N21-A                      Date: 04/07/2000 02:55:15
Data File  : C:\DX\DATA\00040701.D03
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 3             Detector: CDM-1
Analyst    :                               Column: AG4A/AS4A anion column
=====

```

```

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

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.03	fluoride	69.204	1496	6295	1	-0.32
2	1.49	chloride	85.790	1417	5317	1	-0.44
3	1.76	nitrite	511.058	4181	20713	1	-1.68
4	2.57	bromide	631.375	3076	16896	1	0.13
5	2.91	nitrate	715.995	3901	24765	1	1.28
6	4.08	phosphate	652.254	1010	10849	1	-4.45
7	5.23	sulfate	702.772	2505	32842	1	-3.92
8	6.77	oxalate	534.302	1166	19904	1	-3.10
Totals			3902.751	18750	137580		

File: 00040701.D03 Sample: CCV 114N21-A

HNF-1699 REV. 0

```

=====
Sample Name: S00T000637 SAM                      Date: 04/07/2000 03:22:42
Data File  : C:\DX\DATA\00040701.D05
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 5                Detector: CDM-1
Analyst    :                                     Column: AG4A/AS4A anion column
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          4141  3300  5Hz   0.00 11.00          50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.91		0.000	64	328	2	
2	1.13		0.000	736	4663	2	
3	1.49	chloride	6102.590	2381	9277	1	-0.89
4	1.76	nitrite	73810.308	15103	76292	1	-1.68
5	2.85	nitrate	122467.364	16806	113001	1	-0.58
6	4.08	phosphate	5271.936	173	1949	1	-4.45
7	5.23	sulfate	2357.002	186	2718	1	-3.92
Totals			210009.200	35448	208228		

File: 00040701.D05 Sample: S00T000637 SAM

HNF-1699 REV. 0

```

=====
Sample Name: S00T000637 DUP                      Date: 04/07/2000 03:34:47
Data File  : C:\DX\DATA\00040701.D06
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 6                Detector: CDM-1
Analyst    :                      Column: AG4A/AS4A anion column
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          4141   3300  5Hz   0.00 11.00          50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.91		0.000	66	321	2	
2	1.14		0.000	743	4718	2	
3	1.49	chloride	6128.032	2375	9316	1	-0.44
4	1.77	nitrite	74467.517	15153	77006	1	-1.30
5	2.86	nitrate	123443.925	16847	114016	1	-0.35
6	4.11	phosphate	4861.993	169	1782	1	-3.83
7	5.28	sulfate	2777.406	247	3188	1	-2.94
Totals			211678.873	35600	210345		

File: 00040701.D06 Sample: S00T000637 DUP

HNF-1699 REV. 0

```

=====
Sample Name: S00T000612 SAM                      Date: 04/07/2000 03:46:54
Data File  : C:\DX\DATA\00040701.D07
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 7                Detector: CDM-1
Analyst    :                      Column: AG4A/AS4A anion column
=====

```

```

-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          4141   3300  5Hz   0.00 11.00          50
-----

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.91		0.000	71	353	2	
2	1.14		0.000	769	4865	2	
3	1.49	chloride	6235.488	2421	9483	1	-0.44
4	1.77	nitrite	75666.560	15493	78308	1	-1.30
5	2.86	nitrate	121574.493	16828	112075	1	-0.35
6	4.09	phosphate	4853.654	175	1778	1	-4.14
7	5.28	sulfate	2785.456	253	3197	1	-2.94
Totals			211115.651	36009	210059		

File: 00040701.D07 Sample: S00T000612 SAM

HNF-1699 REV. 0

```

=====
Sample Name: S00T000612 DUP                      Date: 04/07/2000 03:58:55
Data File  : C:\DX\DATA\00040701.D08
Method     : C:\DX\METHOD\ANIONS.MET
ACI Address: 1 System: 1 Inject#: 8                Detector: CDM-1
Analyst    :                      Column: AG4A/AS4A anion column
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          4141   3300  5Hz   0.00 11.00          50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.92		0.000	61	301	2	
2	1.14		0.000	771	4865	2	
3	1.49	chloride	6353.220	2446	9665	1	-0.44
4	1.77	nitrite	76675.878	15634	79406	1	-1.30
5	2.86	nitrate	122598.280	16969	113137	1	-0.35
6	4.10	phosphate	4293.261	165	1550	1	-3.98
7	5.28	sulfate	2944.104	260	3374	1	-2.94
8	6.77	oxalate	664.515	28	691	1	-3.10
Totals			213529.259	36334	212990		

File: 00040701.D08 Sample: S00T000612 DUP

**This document was too large to scan
as a single document. It has
been divided into smaller sections.**

Section 2

Document Information			
Document #	HNF-1699	Revision	0
Title	TANK 241SY102 02/2000 COMPATIBILITY GRAB SAMPLES ANALYTICAL RESULTS FOR THE FINAL REPORT		
Date	07/10/2000		
Originator	KE BELL	Originator Co.	FH
Recipient		Recipient Co.	
References	EDT-628069		
Keywords			
Projects	TANK FARMS		
Other Information			

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LABCORE Data Entry Template for Worklist# 32939

Analyst: KRM Instrument: ICPQX² Book# 81B48B
4-13-00 82B48Method: LA-505-151/161 Rev/Mod C-5

Worklist Comment: ICP SY-102 (SOLID ACID DIGEST)

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	PREPSTDITJA		@ICP-A01	SOLID		
7	PREPBLKTJA		@ICP-A01	SOLID		
8	SERDIL	S00T000620 0 A	@ICP-A01	SOLID		
9	SAMPLE	S00T000620 0 A	@ICP-A01	SOLID	20000085 SY-102 GRAB6	
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	S00T000620 0 A	@ICP-A01	SOLID		
11	SPK-PREDIG	S00T000620 0 A	@ICP-A01	SOLID		
12	SPK-POST	S00T000620 0 A	@ICP-A01	SOLID		
Sgn X, 34p X, Spike QX (10 ppb) 4-6-00						
13	SAMPLE	S00T000633 0 A	@ICP-A01	SOLID	20000085 SY-102 GRAB6	
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 ,						

Data Entry Comments:

uploaded 4-13-00

JH Warell

Validated by:

Sail N. Pang

Reuploaded 4-17-00 JH Warell

04/17/2000

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

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ws2

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LABCORE Data Entry Template for Worklist# 32939

S Type	Sample#	R A	Test	Matrix	Group#	Project
			SM-A-01 , SR-A-01 , TI-A-01 , TL-A-01 , U-A-01 , V-A-01 , ZN-A-01 , ZR-A-01			
14 DUP	S00T000633	0 A	@ICP-A01	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 # 32939

04-13-00

Signature	Date	
Prep 16 TJG	DIRECT	DF 1
Prep 16 TJG	DIRECT	DF 1
S00T000630-L	3-9-2-8	DF 20
S00T000630	3-9	DF 4
S00T000630-D	3-9	DF 4
S00T000630-S	3-9	DF 4
S00T000630-X	3-9-1-9	DF 40
S00T000630-DX	3-9-1-9	DF 40
S00T000630-QX	3-9-1-9	DF 40
		DF 4
S00T000633	3-9	
S00T000633-D	3-9	DF 4

Signature	Date
-----------	------

Data Entry Comments:

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

$$Al = 163.64 \frac{\mu g}{ml} \times \frac{1}{5.278 \frac{g}{L} \times \frac{1L}{1000 ml}} =$$

$$= 3.10 \cancel{e} + 4 \frac{\mu g}{g}$$

$$Fe = 8.0496 \frac{\mu g}{ml} \times \frac{1}{5.278 \frac{g}{L} \times \frac{1L}{1000 ml}} =$$

$$= 1.53 \cancel{e} + 3 \frac{\mu g}{g}$$

Pre-dig Spk:

$$Fe = \frac{\left(\frac{12.485 \frac{\mu g}{ml}}{5.398 \frac{g}{L} \times \frac{1L}{1000 ml}} \right) - \left(\frac{8.0496 \frac{\mu g}{ml}}{5.278 \frac{g}{L} \times \frac{1L}{1000 ml}} \right)}{5.0 \frac{\mu g}{ml} \times \frac{1}{5.398 \frac{g}{L} \times \frac{1L}{1000 ml}}} \times 100 =$$

$$= 85.0\%$$

Post Spike:

$$Al = \frac{\left(\frac{555.29}{40} \right) - \left(\frac{163.64}{40} \right)}{10} \times 100 = \frac{97.9\%}{98.0\%}$$

$$Cr = \frac{\left(\frac{525.50}{40} \right) - \left(\frac{129.35}{40} \right)}{10} \times 100 = 99.0\%$$

$$Na = \frac{\left(\frac{1012.7}{40} \right) - \left(\frac{663.78}{40} \right)}{10} \times 100 = 87.2\%$$

Analysis Report

Summary

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#	Sample Name	File	Method	Date	Time	OpID	Type	Mode
1	ICV	41300A	ICP2	04/13/00	08:45	KRM	Q	CONC
2	ICB	41300A	ICP2	04/13/00	08:49	KRM	Q	CONC
3	LLS	41300A	ICP2	04/13/00	08:55	KRM	Q	CONC
4	LLS	41300A	ICP2	04/13/00	09:05	KRM	Q	CONC
5	ICSA	41300A	ICP2	04/13/00	09:11	KRM	Q	CONC
6	ICSAB	41300A	ICP2	04/13/00	09:15	KRM	Q	CONC
7	PREPSTDITJA	41300A	ICP2	04/13/00	09:20	KRM	Q	CONC
8	PREPBLKTJA	41300A	ICP2	04/13/00	09:24	KRM	Q	CONC
9	SOOT000620_L	41300A	ICP2	04/13/00	09:29	KRM	S	CONC
10	SOOT000620	41300A	ICP2	04/13/00	09:33	KRM	S	CONC
11	SOOT000620_D	41300A	ICP2	04/13/00	09:37	KRM	S	CONC
12	SOOT000620_S	41300A	ICP2	04/13/00	09:42	KRM	S	CONC
13	SOOT000620_X	41300A	ICP2	04/13/00	09:50	KRM	S	CONC
14	SOOT000620_DX	41300A	ICP2	04/13/00	09:54	KRM	S	CONC
15	SOOT000620_AX	41300A	ICP2	04/13/00	09:58	KRM	S	CONC
16	CCV	41300A	ICP2	04/13/00	11:34	KRM	Q	CONC
17	CCB	41300A	ICP2	04/13/00	11:38	KRM	Q	CONC
18	SOOT000633	41300A	ICP2	04/13/00	11:42	KRM	S	CONC
19	SOOT000633_D	41300A	ICP2	04/13/00	11:47	KRM	S	CONC
20	ICSA	41300A	ICP2	04/13/00	11:52	KRM	Q	CONC
21	ICSAB	41300A	ICP2	04/13/00	11:56	KRM	Q	CONC
22	CCV	41300A	ICP2	04/13/00	12:00	KRM	Q	CONC
23	CCV	41300A	ICP2	04/13/00	12:03	KRM	Q	CONC
24	CCB	41300A	ICP2	04/13/00	12:07	KRM	Q	CONC

4-13-08

54-102

SOOT000620

SOOT000633

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETELY VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 391 TO 395

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Analysis Report

Averages

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#	Sample Name	Ag	Al	As	B	Ba	Be
1	ICV	4.8074	4.9182	5.0084	5.0492	4.7976	4.8337
2	ICB	.00042	.00594	.00327	-.00512	.00002	.00004
3	LLS	Q.01410	.10957	.19592	.09282	.09492	.00974
4	LLS	.02099	.11084	.19696	.09603	.09564	.00976
5	ICSA	-.00317	247.62	.03841	-.00451	.00011	.00006
6	ICSAB	.96284	250.43	.03903	-.00497	.45764	.46244
7	PREPSTD TJJA	.88742	4.5186	4.3851	5.0240	4.4570	4.4870
8	PREPBLKTJA	-.00041	Q.06553	-.01172	Q.58323	.00028	-.00006
9	SOOT000620_L	.07168	169.30	-.03442	.81610	.09883	.00368
10	SOOT000620	.05391	162.03	-.08848	.83769	.09271	.00386
11	SOOT000620_D	.05284	149.65	-.08774	.42796	.08736	.00353
12	SOOT000620_S	1.0318	161.20	4.7809	5.1499	4.6324	4.7230
13	SOOT000620_X	.07627	163.64	-.18469	.59237	.09503	.00068
14	SOOT000620_DX	.00198	165.39	-.41176	.50269	.08685	.00075
15	SOOT000620_AX	387.20	555.29	399.12	395.98	394.15	396.69
16	CCV	4.7974	4.9603	4.9875	5.0506	4.8061	4.8133
17	CCB	.00102	.01240	-.00298	-.00800	-.00002	.00016
18	SOOT000633	.06571	138.15	-.11792	.63656	.08953	.00421
19	SOOT000633_D	.05625	131.15	-.05291	.62617	.08583	.00429
20	ICSA	-.00409	252.70	.05197	-.00665	.00002	.00027
21	ICSAB	.97666	255.07	.02875	-.00727	.46805	.46862
22	CCV	4.8962	5.0556	5.1036	5.1504	4.9568	4.9089
23	CCV	4.8811	5.0228	5.1053	5.1452	4.9204	4.9088
24	CCB	.00186	.02394	.00486	-.00258	.00004	.00017

#	Sample Name	Bi	Ca	Cd	Ce	Co	Cr
1	ICV	4.9427	5.0354	4.9603	4.9390	5.0069	4.9455
2	ICB	.02728	-.00019	.00026	.00792	.00087	.00107
3	LLS	Q.26444	Q.25515	.01054	.21969	.04188	.02140
4	LLS	.20937	.20451	.01017	.21068	.04004	.01930
5	ICSA	.00492	257.36	-.00587	.01951	.00130	-.00219
6	ICSAB	.02391	256.98	.93065	.01386	.46491	.46974
7	PREPSTD TJJA	4.3143	4.3330	4.2522	4.6127	4.3078	4.4261
8	PREPBLKTJA	.02556	.08223	-.00068	.00974	-.00056	.00092
9	SOOT000620_L	.85210	2.1361	.42648	.35417	.07509	131.90
10	SOOT000620	.27057	2.1220	.40292	.17060	.05620	125.11
11	SOOT000620_D	.17283	1.7914	.37492	.15206	.03596	116.13
12	SOOT000620_S	4.9863	6.6064	5.2007	4.9787	4.8387	123.36
13	SOOT000620_X	.74298	1.8325	.46718	.34529	.04532	129.55
14	SOOT000620_DX	1.6831	1.6593	.36522	-.13285	.04168	130.12
15	SOOT000620_AX	398.74	402.12	401.31	394.94	399.41	525.50
16	CCV	4.8810	4.9316	4.8674	4.9885	4.9273	4.8804
17	CCB	.02295	-.00403	.00078	.00493	.00004	.00054
18	SOOT000633	.33589	1.7399	.38333	.17755	.05196	118.51
19	SOOT000633_D	.27468	1.6480	.36918	.21304	.04872	113.60
20	ICSA	-.00390	257.82	-.00661	.00855	.00086	-.00231
21	ICSAB	.01755	255.15	.93207	.00749	.46534	.46900
22	CCV	5.0765	4.9913	4.9212	5.1124	4.9816	4.9396
23	CCV	4.9911	5.0552	4.9718	5.0735	5.0251	4.9711
24	CCB	.02720	-.00390	.00151	.00989	.00196	.00027

Analysis Report

Averages

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#	Sample Name	Cu	Eu	Fe	K	La	Li
1	ICV	4.9507	.00852	4.9853	4.8619	4.9646	4.9498
2	ICB	.00075	-.00071	.00057	.28016	-.00027	-.00074
3	LLS	.01882	.00033	.10208	Q1.0071	.09948	.02060
4	LLS	.01701	-.00052	.09923	Q.70309	.09973	.02107
5	ICSA	-.00177	.04513	97.682	.27862	-.00463	.00195
6	ICSAB	.48969	.05061	97.972	-.09750	-.00639	.98536
7	PREPSTD TJJA	4.4972	.00369	4.4423	4.3708	4.6265	4.5730
8	PREPBLKTJA	.00287	-.00470	.04033	.21659	-.00077	-.00374
9	SOOT000620_L	-.20838	-.00462	8.5305	12.471	.13862	-.00575
10	SOOT000620	-.22786	.00258	8.0496	7.8322	.12292	.00100
11	SOOT000620_D	-.21443	.00049	7.5296	7.3706	.11896	-.00348
12	SOOT000620_S	4.5399	.01108	12.485	12.685	4.9320	4.6900
13	SOOT000620_X	-.26652	.01574	8.4191	19.551	.12551	.00731
14	SOOT000620_DX	-.29448	-.00868	8.4285	2.5665	.04075	-.00015
15	SOOT000620_AX	392.74	.71682	406.49	320.49	395.40	363.19
16	CCV	5.0091	.00628	4.9366	4.7787	5.0220	5.1814
17	CCB	.00099	-.00204	.00122	-.02304	.00012	-.00121
18	SOOT000633	-.21728	-.00275	7.6499	8.2784	.12808	-.00272
19	SOOT000633_D	-.21232	-.00444	7.3296	7.0647	.12475	-.00571
20	ICSA	-.00035	.04739	98.930	.04989	-.00573	.00055
21	ICSAB	.50368	.05500	98.773	.03354	-.00628	.96886
22	CCV	5.1497	.00561	5.0085	Q4.4858	5.1650	5.1452
23	CCV	5.0846	.00647	5.0340	4.6657	5.1125	4.9435
24	CCB	.00146	-.00290	.00241	.32632	.00047	-.00205

#	Sample Name	Mg	Mn	Mo	Na	Nd	Ni
1	ICV	4.9827	4.7438	4.9405	5.0634	4.9496	4.8858
2	ICB	.00300	-.00014	-.00182	.02935	.00205	-.00092
3	LLS	.21483	.01892	.09558	.24632	.20281	.03996
4	LLS	.20889	.01913	.09294	.21958	.19701	.03691
5	ICSA	255.74	-.00899	-.01910	184.04	.00817	-.01386
6	ICSAB	256.87	.43566	-.01573	188.12	-.00012	.91566
7	PREPSTD TJJA	4.3334	4.2574	4.5097	5.3710	4.7133	4.2662
8	PREPBLKTJA	.01412	-.00038	-.00397	Q1.0038	-.00178	-.00794
9	SOOT000620_L	.18918	2.2349	.08704	729.89	.61717	1.8073
10	SOOT000620	.04524	2.1224	.19786	693.29	.49749	1.6369
11	SOOT000620_D	.06732	1.9784	.18672	676.82	.44474	1.5616
12	SOOT000620_S	4.8820	6.6238	5.0018	654.28	5.3416	6.3541
13	SOOT000620_X	.09546	2.1959	.00097	663.78	.48629	1.7020
14	SOOT000620_DX	-.53278	2.1961	.02995	692.24	.32765	1.6618
15	SOOT000620_AX	394.76	401.51	401.00	1012.7	394.78	401.32
16	CCV	4.9888	4.6876	4.8889	5.2836	5.0006	4.8100
17	CCB	.00652	-.00040	-.00028	.08349	.00188	.00415
18	SOOT000633	.09539	2.0169	.19863	688.38	.49807	1.5363
19	SOOT000633_D	.09731	1.9340	.18169	619.09	.45851	1.4885
20	ICSA	259.92	-.00981	-.01407	182.07	.00635	-.00755
21	ICSAB	260.14	.43814	-.01785	186.00	.00060	.91729
22	CCV	5.0479	4.7736	4.9694	5.2494	5.1448	4.8844
23	CCV	5.0450	4.8117	5.0121	5.0651	5.0845	4.9144
24	CCB	.01341	-.00063	-.00042	.07727	.00130	.00177

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Analysis Report

Averages

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#	Sample Name	P	Pb	S	Sb	Se	Si
1	ICV	5.0782	4.8680	4.5887	4.9477	4.8941	5.1419
2	ICB	.00310	-.00890	.01691	-.00271	.01104	-.00117
3	LLS	.39286	.20856	.20237	.10462	.21398	.10776
4	LLS	.40728	.18937	.18601	.09877	.20836	.10531
5	ICSA	.00238	.06212	-.02990	-.01251	-.01066	-.00655
6	ICSAB	-.00299	1.0214	-.02674	.00051	-.02486	.03729
7	PREPSTD TJ A	4.4820	4.1674	4.0501	4.3741	4.3576	6.8855
8	PREPBLK TJ A	.02299	.00116	.03251	-.00134	.01936	Q.24657
9	S00T000620_L	5.8411	2.5831	3.4584	.67840	1.0139	1.4216
10	S00T000620	5.3525	2.3604	3.2784	.66672	.21500	1.1391
11	S00T000620_D	5.3022	2.1959	3.3219	.65586	.16885	1.0005
12	S00T000620_S	9.9493	7.3665	7.7320	5.4800	5.0003	6.0701
13	S00T000620_X	5.9332	1.6859	3.6623	.91919	2.2824	1.7842
14	S00T000620_DX	6.1229	2.1267	3.5772	.59705	1.7531	1.4705
15	S00T000620_AX	405.63	403.43	400.33	401.20	395.98	404.96
16	CCV	4.9964	4.7688	4.5892	4.9556	4.8522	5.1006
17	CCB	.00618	-.00673	.01735	-.00026	.02840	-.00945
18	S00T000633	5.7193	2.2904	3.3431	.61397	.17988	1.0729
19	S00T000633_D	5.1033	2.1278	3.0919	.63533	.24803	1.0434
20	ICSA	.00287	.05148	-.02843	.01107	-.01120	-.02205
21	ICSAB	-.01633	1.0068	-.02962	-.00019	-.03773	.01775
22	CCV	5.1061	4.8092	4.6806	5.0708	4.9325	5.1813
23	CCV	5.0803	4.8981	4.6460	5.0687	4.9978	5.1844
24	CCB	.01134	-.00004	.01719	.00172	.04542	-.01267
#	Sample Name	Sm	Sr	Th	Ti	Tl	U
1	ICV	4.9397	4.8661	-.06761	5.0173	4.9041	9.8588
2	ICB	-.00289	-.00003	.00033	.00048	-.02101	-.01328
3	LLS	.19554	.01974	-.00081	.01982	.43059	.48051
4	LLS	.19724	.01998	-.00586	.01947	.41731	.48937
5	ICSA	-.01556	.00170	-.00468	.00162	-.03319	.19882
6	ICSAB	-.02278	.00178	-.01346	.00062	-.01289	.17786
7	PREPSTD TJ A	4.6415	4.5839	-.06156	4.6163	4.2092	9.3932
8	PREPBLK TJ A	-.05053	-.00050	.01099	.00039	.00082	-.19727
9	S00T000620_L	.06649	.02533	.22982	.06089	-.26257	2.3071
10	S00T000620	.04775	.02492	.08895	.04046	.02042	2.1637
11	S00T000620_D	.03751	.02316	.11733	.03360	.03581	1.9234
12	S00T000620_S	4.8711	4.7664	.07915	4.8080	4.8103	11.766
13	S00T000620_X	.49756	.02869	-.10139	.02428	.32958	3.5012
14	S00T000620_DX	.16193	.02460	-.10854	.02409	-.17006	2.8526
15	S00T000620_AX	393.95	394.37	-5.7413	397.26	398.77	789.00
16	CCV	5.0072	4.9160	-.07041	5.0247	4.8484	9.9423
17	CCB	-.01824	-.00023	.00503	.00066	.00329	-.06254
18	S00T000633	-.00082	.02317	.13392	.04010	.12707	1.8152
19	S00T000633_D	-.02655	.02208	.14662	.03763	-.00416	1.6289
20	ICSA	-.04003	.00166	-.00208	.00148	-.04102	.10295
21	ICSAB	-.05767	.00168	-.00574	.00049	-.02724	.07775
22	CCV	5.1434	5.0520	-.06948	5.1314	4.9138	10.195
23	CCV	5.0849	4.9952	-.06053	5.1097	4.9312	10.086
24	CCB	-.02545	-.00037	.01161	.00070	-.01304	-.10575

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#	Sample Name	V	Y	Zn	Zr
1	ICV	5.0349	.00544	4.9975	5.0359
2	ICB	-.00009	-.00004	.00062	-.00025
3	LLS	.09929	.00010	.02082	.01939
4	LLS	.09977	.00005	.02068	.02036
5	ICSA	-.00580	.00592	-.00586	.00470
6	ICSAB	.46926	.00572	.99612	.00454
7	PREPSTD TJ A	4.4911	.00268	4.1972	4.6846
8	PREPBLKT J A	-.00843	-.00209	0.01288	-.00609
9	S00T000620_L	.04998	.07358	.23872	.24336
10	S00T000620	.03163	.06970	.21361	.24540
11	S00T000620_D	.02550	.06359	.22787	.22252
12	S00T000620_S	4.8760	.07328	5.0262	5.0979
13	S00T000620_X	.12933	.08757	.24916	.30980
14	S00T000620_DX	.07374	.07749	.23450	.28274
15	S00T000620_AX	399.79	.54078	399.56	400.04
16	CCV	5.0124	.00442	4.9298	5.0426
17	CCB	-.00262	-.00064	.00023	-.00197
18	S00T000633	.01992	.06488	.20123	.22231
19	S00T000633_D	.01653	.06123	.20367	.20820
20	ICSA	-.01017	.00508	-.00680	.00173
21	ICSAB	.46970	.00431	.99687	.00000
22	CCV	5.1112	.00400	4.9933	5.1640
23	CCV	5.1174	.00446	5.0239	5.1537
24	CCB	-.00386	-.00104	.00117	-.00361

[Signature] 4-13-00

54-102

S00T000620
S00T000633

File # 31400 A

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LABCORE Data Entry Template for Worklist# 32948

Analyst: VLM Instrument: ICP02 ✓ Book# 8184813Method: LA-505-451/161 Rev/Mod C-5
✓ m03-14-00

Worklist Comment: ICP SY-102 (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 L	S00T000505 0 D	@ICP-D01	LIQUID		
7	SAMPLE	S00T000505 0 D	@ICP-D01	LIQUID	20000085	SY-102 GRAB6
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	S00T000505 0 D	@ICP-D01	LIQUID		
9	SPK ^a sample x ok	S00T000505 0 D	@ICP-D01	LIQUID		
10	SAMPLE ^x	S00T000506 0 D	@ICP-D01	LIQUID	20000085	SY-102 GRAB6
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						
11	SAMPLE	S00T000507 0 D	@ICP-D01	LIQUID	20000085	SY-102 GRAB6
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 ,						

Data Entry Comments:

uploaded 3-14-00

Sample 506 & 507
were re-run in duplicate
on worklist 33925

Validated by:

Sam M. Fay
03/15/2000

Kevin [unclear]
6/23/00

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

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LABCORE Data Entry Template for Worklist# 32948

S Type	Sample#	R A	Test	Matrix	Group#	Project
			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		
12	ICSA		@ICP-QC	QC		
13	ICSAB		@ICP-QC	QC		
14	CCV		@ICP-QC	QC		
15	CCB		@ICP-QC	QC		

Final page for worklist # 32948

Valerie Massie 03-14-00
 Signature Date

 Signature Date

500T000 505 .025-10ml DF 401
 500T000 505 D .025-10ml 401
 500T000 505 A .025-2ml SST 5-8ml - 401
 500T000 505 X .025-10ml-1ml-9ml-4010
 500T000 505 DX .025-10ml-1ml-9ml-4010
 500T000 505 a1 .025-10ml-1ml+1ml ea-7ml-4010
 500T000 506 .025-10ml 401 XWHC 28+36
 500T000 507 .025-10ml 401

Data Entry Comments:

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

File # 31400A

Analysis Report

Summary

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#	Sample Name	File	Method	Date	Time	OpID	Type	Mode
1	ICV	31400A	ICP2	03/14/00	09:29	VLM	Q	CONC
2	ICB	31400A	ICP2	03/14/00	09:33	VLM	Q	CONC
3	LLS	31400A	ICP2	03/14/00	09:36	VLM	Q	CONC
4	LLS	31400A	ICP2	03/14/00	09:39	VLM	Q	CONC
5	ICSA	31400A	ICP2	03/14/00	09:43	VLM	Q	CONC
6	ICSAB	31400A	ICP2	03/14/00	09:48	VLM	Q	CONC
7	S00T000505_L	31400A	ICP2	03/14/00	09:54	VLM	S	CONC
8	S00T000505	31400A	ICP2	03/14/00	09:58	VLM	S	CONC
9	S00T000505_D	31400A	ICP2	03/14/00	10:03	VLM	S	CONC
10	S00T000505_A	31400A	ICP2	03/14/00	10:11	VLM	S	CONC
11	S00T000505-X	31400A	ICP2	03/14/00	10:15	VLM	S	CONC
12	S00T000505_DX	31400A	ICP2	03/14/00	10:20	VLM	S	CONC
13	S00T000505_AX	31400A	ICP2	03/14/00	10:25	VLM	S	CONC
14	S00T000506	31400A	ICP2	03/14/00	10:29	VLM	S	CONC
15	S00T000507	31400A	ICP2	03/14/00	10:36	VLM	S	CONC
16	ICSA	31400A	ICP2	03/14/00	10:41	VLM	Q	CONC
17	ICSAB	31400A	ICP2	03/14/00	10:45	VLM	Q	CONC
18	CCV	31400A	ICP2	03/14/00	10:49	VLM	Q	CONC
19	CCB	31400A	ICP2	03/14/00	10:54	VLM	Q	CONC

03-14-00

Valerie L Massie

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/ANALYST THAT
 ANALYZED THE SAMPLES AND REPORTED THE RESULTS.

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Analysis Report

Averages

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#	Sample Name	Ag	Al	As	B	Ba	Be
1	ICV	4.8926	5.0430	5.1475	5.2252	4.9858	4.9635
2	ICB	.00283	-.00069	-.00350	.01114	.00004	.00018
3	LLS	.02027	.12390	.21046	.10690	.09917	.01027
4	LLS	.01903	.11342	.19700	.10040	.09882	.01021
5	ICSA	-.00493	255.67	.03281	.00917	.00029	.00009
6	ICSAB	.94517	254.42	.04869	.00939	.45258	.46171
7	SOOT000505_L	4.9713	12840.	-23.490	29.181	.00128	.24243
8	SOOT000505	9.4431	22564.	-25.945	48.444	-.06455	.14870
9	SOOT000505_D	9.6448	23546.	-29.517	49.934	-.06627	.15696
10	SOOT000505_A	375.16	23678.	396.78	453.15	375.57	386.03
11	SOOT000505-X	9.7903	23663.	-83.600	62.084	-.25365	.00351
12	SOOT000505_DX	7.2859	23773.	-58.700	70.757	-.65844	-.06628
13	SOOT000505_AX	39155.	63654.	40968.	40742.	40592.	40604.
14	SOOT000506	6.7062	12316.	-15.224	27.824	.04069	.09857
15	SOOT000507	9.4708	22657.	-17.460	50.803	-.04790	.09263
16	ICSA	-.00425	253.40	.03506	.00528	.00043	.00003
17	ICSAB	.94201	253.30	.02215	.00343	.45011	.45937
18	CCV	4.9079	5.0173	5.1813	5.1995	4.9651	4.9749
19	CCB	.00210	-.01048	-.00045	.00308	-.00010	.00010

#	Sample Name	Bi	Ca	Cd	Ce	Co	Cr
1	ICV	5.0749	5.1529	5.0269	5.1204	5.0895	5.0302
2	ICB	.00221	-.00250	-.00017	-.00162	.00013	.00117
3	LLS	.22327	.21684	.01009	.21752	.04258	.02090
4	LLS	.21511	.21503	.01068	.20342	.04374	.02246
5	ICSA	-.00475	262.57	-.00789	.00338	.00016	-.00031
6	ICSAB	-.03098	264.35	.92256	.00884	.45969	.46403
7	SOOT000505_L	69.782	58.371	.19273	3.3550	7.8662	201.10
8	SOOT000505	7.2122	56.094	.95888	-5.2166	1.2567	348.88
9	SOOT000505_D	-.14224	54.306	.86737	-4.1762	.58297	362.06
10	SOOT000505_A	395.58	473.66	400.04	391.18	402.38	758.85
11	SOOT000505-X	62.349	90.290	.63424	-10.610	9.2853	371.46
12	SOOT000505_DX	15.185	77.483	.86478	-17.421	-.42500	368.81
13	SOOT000505_AX	40531.	40801.	40745.	40384.	40300.	40906.
14	SOOT000506	6.5731	51.531	3.2220	3.7464	.56265	67.488
15	SOOT000507	-1.1399	55.523	1.3325	-5.0411	-.03472	350.79
16	ICSA	.05146	265.27	-.00751	.01425	.00083	.00032
17	ICSAB	-.01391	264.83	.91917	.00755	.45635	.46350
18	CCV	5.1085	5.2595	5.0688	5.0828	5.1131	5.0672
19	CCB	.00725	-.00473	-.00093	-.01627	.00128	.00151

#	Sample Name	Cu	Eu	Fe	K	La	Li
1	ICV	5.1145	.00690	5.0974	4.9967	5.1591	5.1576
2	ICB	.00140	-.00062	.00149	.17890	-.00119	-.00073
3	LLS	.02144	-.00049	.10578	2.64320	.10325	.02063
4	LLS	.02306	-.00060	.10415	.54637	.10133	.02021
5	ICSA	-.00088	.04322	100.42	.17288	-.00545	.00188
6	ICSAB	.48175	.04257	100.83	-.08142	-.00602	.96399
7	SOOT000505_L	11.806	.49197	4.3101	1957.7	.20166	-.63517

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#	Sample Name	Cu	Eu	Fe	K	La	Li
8	SOOT000505	7.9618	-.22601	5.2610	2446.7	-.34610	-.29622
9	SOOT000505_D	7.5967	-.40342	5.2994	2393.7	-.74125	-.42255
10	SOOT000505_A	400.55	.49200	404.76	2834.4	400.00	380.69
11	SOOT000505-X	20.450	-1.6979	7.1679	2436.1	-2.2292	-.84305
12	SOOT000505_DX	18.769	-6.2622	10.735	1330.2	-4.2209	-3.7895
13	SOOT000505_AX	40151.	66.698	40543.	39349.	40427.	39251.
14	SOOT000506	9.6740	-.15760	3.3575	1305.9	.72622	-.12676
15	SOOT000507	7.3320	-.64897	5.0188	2258.5	-.50629	-.71800
16	ICSA	-.00135	.03648	100.74	.11373	-.00414	.00261
17	ICSAB	.47899	.03878	100.60	.13361	-.00559	.97558
18	CCV	5.0785	.00823	5.1228	4.8298	5.1346	4.9914
19	CCB	.00297	-.00110	.00112	-.06978	-.00267	-.00052

#	Sample Name	Mg	Mn	Mo	Na	Nd	Ni
1	ICV	5.0873	4.7826	5.0241	5.2760	5.1314	4.9630
2	ICB	-.01388	.00001	.00142	.00868	.00143	.00327
3	LLS	.20255	.01976	.10234	.25413	.20945	.03754
4	LLS	.19447	.01957	.10477	.21795	.21405	.04403
5	ICSA	264.28	-.00973	-.01039	196.14	.01179	-.00121
6	ICSAB	263.60	.42826	-.01109	190.03	.01059	.90634
7	SOOT000505_L	4.4851	.21726	47.946	81694.	19.717	32.904
8	SOOT000505	-5.2321	-.14484	70.227	141220.	3.1625	56.641
9	SOOT000505_D	-7.5834	-.20733	72.938	146330.	-.07549	56.965
10	SOOT000505_A	390.75	365.58	472.40	144240.	400.66	454.38
11	SOOT000505-X	-19.962	-.12027	75.892	150110.	21.162	59.994
12	SOOT000505_DX	-24.935	-1.2426	78.017	149620.	6.0416	64.048
13	SOOT000505_AX	40217.	40349.	40596.	184750.	40498.	40799.
14	SOOT000506	2.0955	.25202	38.151	80098.	2.6419	42.169
15	SOOT000507	-4.7345	-.26146	70.667	140510.	.46463	59.073
16	ICSA	263.24	-.00941	-.00715	192.30	.00933	-.00695
17	ICSAB	262.70	.42662	-.00887	191.46	.00830	.90115
18	CCV	5.0670	4.8176	5.0629	5.1449	5.0998	5.0200
19	CCB	-.02106	-.00010	-.00059	-.00106	.00679	.00407

#	Sample Name	P	Pb	S	Sb	Se	Si
1	ICV	5.1790	4.9110	4.6743	5.0557	5.0228	5.2505
2	ICB	.01906	.01245	-.02913	-.01631	.01608	-.00154
3	LLS	.40859	.21560	.17839	.08933	.23913	.13951
4	LLS	.42254	.22716	.18273	.08891	.23027	.13970
5	ICSA	-.00837	.07116	-.04108	-.00537	-.02452	-.01043
6	ICSAB	-.00137	1.0315	-.05491	-.00534	-.00197	.03553
7	SOOT000505_L	751.72	86.232	537.13	-8.3897	94.131	19.125
8	SOOT000505	1273.0	28.033	1055.9	-2.1697	28.729	22.312
9	SOOT000505_D	1337.1	20.820	1109.8	-.35346	34.734	21.803
10	SOOT000505_A	1742.3	420.56	1465.8	404.30	444.56	445.13
11	SOOT000505-X	1380.9	91.306	983.60	-42.899	137.07	21.077
12	SOOT000505_DX	1411.3	45.237	999.13	-42.265	156.77	37.882
13	SOOT000505_AX	41854.	40704.	41703.	40638.	40899.	40827.
14	SOOT000506	1225.6	16.291	653.06	-.49980	30.439	15.200
15	SOOT000507	1334.9	21.568	1058.4	-1.9442	30.044	19.767

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#	Sample Name	P	Pb	S	Sb	Se	Si
16	ICSA	.00842	.07795	-.04977	-.00728	.02740	-.00333
17	ICSAB	-.00275	1.0301	-.05623	-.00580	.00810	.03729
18	CCV	5.2295	4.9950	4.6749	5.0911	5.0837	5.2685
19	CCB	.02409	.01995	-.02971	-.01166	.05151	-.00344

#	Sample Name	Sm	Sr	Th	Ti	Tl	U
1	ICV	5.1224	5.0419	-.03734	5.2085	5.0077	10.128
2	ICB	-.00781	.00003	-.00424	-.00001	-.01626	-.02435
3	LLS	.19937	.02050	-.00546	.02067	.39976	.47202
4	LLS	.19815	.02049	-.00941	.02096	.43016	.47539
5	ICSA	-.02786	.00186	-.01324	.00214	-.06219	.25145
6	ICSAB	-.02144	.00173	-.01127	.00231	-.09982	.26236
7	S00T000505_L	.86910	.13664	-8.5854	3.1170	9.9509	21.917
8	S00T000505	-5.1496	.12400	-5.0768	.22253	-5.8373	6.6545
9	S00T000505_D	-6.3162	.08265	-5.2893	.03490	-8.3457	-2.0562
10	S00T000505_A	395.95	388.01	-5.3814	402.80	391.44	796.66
11	S00T000505-X	-17.496	.00053	-16.819	3.0915	-17.083	-41.962
12	S00T000505_DX	-60.220	-.54164	8.0491	.71113	-13.778	-267.64
13	S00T000505_AX	40318.	40410.	-282.97	40296.	40752.	80444.
14	S00T000506	-3.3087	.13887	2.3440	.25712	-3.4395	-.63439
15	S00T000507	-9.3128	.05515	-4.1716	-.15091	-7.0209	-9.6850
16	ICSA	-.01539	.00180	-.00810	.00216	-.05481	.28247
17	ICSAB	-.01895	.00175	-.01801	.00244	-.04997	.27109
18	CCV	5.1007	5.0080	-.03834	5.1613	5.0548	10.061
19	CCB	-.01124	-.00010	-.00605	.00093	-.01041	-.05230

#	Sample Name	V	Y	Zn	Zr
1	ICV	5.1480	.00446	5.0646	5.1705
2	ICB	-.00118	-.00027	-.00065	.00034
3	LLS	.10046	-.00020	.02075	.02018
4	LLS	.10013	-.00020	.01983	.02140
5	ICSA	-.00946	.00529	-.00631	.00497
6	ICSAB	.46152	.00547	.97609	.00564
7	S00T000505_L	.14025	-.10595	.19623	3.3883
8	S00T000505	-.50109	-.15745	-2.6056	.51728
9	S00T000505_D	-.80472	-.30838	-2.4989	.35533
10	S00T000505_A	404.32	.27993	400.33	406.90
11	S00T000505-X	-2.7014	-.94859	-6.4078	4.0586
12	S00T000505_DX	-9.1446	-2.7856	-6.4656	-3.1813
13	S00T000505_AX	40484.	42.353	40476.	40465.
14	S00T000506	-.14786	-.07704	-1.6610	.17906
15	S00T000507	-1.0172	-.36313	-2.3456	.18889
16	ICSA	-.00769	.00580	-.00599	.00622
17	ICSAB	.46014	.00571	.97360	.00685
18	CCV	5.1677	.00488	5.1044	5.1765
19	CCB	-.00158	-.00045	-.00089	.00026

03-14-00
Valerie Z Massie

File # 40400C

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ws2

LABCORE Data Entry Template for Worklist# 32950

Analyst: ADP Instrument: ICP02Book# 81B48BMethod: LA-505-15H/161 Rev/Mod C5

ADP 04-04-00

Worklist Comment: ICP SY-102 (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	S00T000513 0 D	@ICP-D01	LIQUID		
7	SAMPLE	S00T000513 0 D	@ICP-D01	LIQUID	20000085 SY-102 GRAB6	
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	S00T000513 0 D	@ICP-D01	LIQUID		
9	SPK-POST	S00T000513 0 D	@ICP-D01	LIQUID		
10	CCV		@ICP-QC	QC		
11	CCB		@ICP-QC	QC		
12	SAMPLE	S00T000612 0 D	@ICP-D01	LIQUID	20000085 SY-102 GRAB6	
Analytes Requested: AG-D-01 , AL-D-01 , AS-D-01 , B-D-01 , BA-D-01 , BE-D-01 , BI-D-01 , CA-D-01 , CD-D-01 , CE-D-01 , CO-D-01 , CR-D-01 , CU-D-01 , FE-D-01 , K-D-01 , LA-D-01 , LI-D-01 , MG-D-01 , MN-D-01 , MO-D-01 , NA-D-01 , ND-D-01 , NI-D-01 , P-D 01 , PB-D-01 , S-D-01 , SB-D-01 , SE-D-01 , SI-D-01 , SM-D-01 , SR-D-01 , TI-D-01 , TL-D-01 , U-D-01 , V-D-01 , ZN-D-01 , ZR-D-01						

Data Entry Comments:

uploaded 4-5-00
 John W. Wall

Validated by:

Paul M. Pang
 04/05/00

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

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LABCORE Data Entry Template for Worklist# 32950

S Type	Sample#	R A	Test	Matrix	Group#	Project
13 DUP	S00T000612	0 D	@ICP-D01	LIQUID		
14 SAMPLE	S00T000628	0 D	@ICP-D01	LIQUID	20000085 SY-102 GRAB6	
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	S00T000628	0 D	@ICP-D01	LIQUID		
16 SAMPLE	S00T000637	0 D	@ICP-D01	LIQUID	20000085 SY-102 GRAB6	
Analytes Requested: AG-D-01 , AL-D-01 , AS-D-01 , B-D-01 , BA-D-01 , BE-D-01 , BI-D-01 , CA-D-01 , CD-D-01 , CE-D-01 , CO-D-01 , CR-D-01 , CU-D-01 , FE-D-01 , K-D-01 , LA-D-01 , LI-D-01 , MG-D-01 , MN-D-01 , MO-D-01 , NA-D-01 , ND-D-01 , NI-D-01 , P-D-01 , PB-D-01 , S-D-01 , SB-D-01 , SE-D-01 , SI-D-01 , SM-D-01 , SR-D-01 , TI-D-01 , TL-D-01 , U-D-01 , V-D-01 , ZN-D-01 , ZR-D-01						
17 DUP	S00T000637	0 D	@ICP-D01	LIQUID		
18 ICSA			@ICP-QC	QC		
19 JCSAB			@ICP-QC	QC		
20 CCV			@ICP-QC	QC		
21 CCB			@ICP-QC	QC		

Final page for worklist # 32950

 Signature Date
 S00T000513 - L DF=2005 .025-10-2-8mL
 S00T000513 DF 401 - .025-10
 S00T000513 - D DF 401 .025-10
 S00T000513 - A DF 401 .025-10
 S00T000513 - X DF 4010 .025-10-1-9
 S00T000513 - DX DF 4010 .025-10-1-9
 S00T000513 - AX DF 4010 .025-10-1-9
 Data Entry Comments:
 S00T000513 - AX
 CCB ADP 04-04-00
 CCB ADP 04-04-00
 CCB ADP 04-04-00
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Signature Date
 S00T000612 PF 401 .025-10
 S00T000612 - D DF 401 .025-10
 S00T000628 DF 401 .025-10
 S00T000628 - D DF 401 .025-10
 S00T000637 DF 401 .025-10
 S00T000637 - D DF 401 .025-10

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

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Analysis Report

Summary

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#	Sample Name	File	Method	Date	Time	OpID	Type	Mode
1	ICV SST5	404000	ICP2	04/04/00	19:34	ADP	Q	CONC
2	ICV SST5	40400C	ICP2	04/04/00	19:37	ADP	Q	CONC
3	ICB	40400C	ICP2	04/04/00	19:41	ADP	Q	CONC
4	LLS	40400C	ICP2	04/04/00	19:53	ADP	Q	CONC
5	LLS	40400C	ICP2	04/04/00	20:04	ADP	Q	CONC
6	LLS	40400C	ICP2	04/04/00	20:12	ADP	Q	CONC
7	LLS	40400C	ICP2	04/04/00	20:29	ADP	Q	CONC
8	ICSA	40400C	ICP2	04/04/00	20:46	ADP	Q	CONC
9	ICSAB	40400C	ICP2	04/04/00	20:49	ADP	Q	CONC
10	S00T000513_L	40400C	ICP2	04/04/00	21:53	ADP	S	CONC
11	S00T000513	40400C	ICP2	04/04/00	21:58	ADP	S	CONC
12	S00T000513_D	40400C	ICP2	04/04/00	22:03	ADP	S	CONC
13	S00T000513_A	40400C	ICP2	04/04/00	22:09	ADP	S	CONC
14	S00T000513_X	40400C	ICP2	04/04/00	22:15	ADP	S	CONC
15	S00T000513_DX	40400C	ICP2	04/04/00	22:22	ADP	S	CONC
16	S00T000513_AX	40400C	ICP2	04/04/00	22:27	ADP	S	CONC
17	CCV	40400C	ICP2	04/04/00	22:33	ADP	Q	CONC
18	CCB	40400C	ICP2	04/04/00	22:38	ADP	Q	CONC
19	S00T000612	40400C	ICP2	04/04/00	22:45	ADP	S	CONC
20	S00T000612_D	40400C	ICP2	04/04/00	22:49	ADP	S	CONC
21	S00T000628	40400C	ICP2	04/04/00	22:54	ADP	S	CONC
22	S00T000628_D	40400C	ICP2	04/04/00	22:58	ADP	S	CONC
23	S00T000637	40400C	ICP2	04/04/00	23:02	ADP	S	CONC
24	S00T000637_D	40400C	ICP2	04/04/00	23:07	ADP	S	CONC
25	ICSA	40400C	ICP2	04/04/00	23:14	ADP	Q	CONC
26	ICSAB	40400C	ICP2	04/04/00	23:17	ADP	Q	CONC
27	CCV	40400C	ICP2	04/04/00	23:21	ADP	Q	CONC
28	CCB	40400C	ICP2	04/04/00	23:25	ADP	Q	CONC

SP 4/5/00

SP 4/5/00

Anthony P. Purnell
040400

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/ANALYST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 40400, 409.

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Analysis Report

Averages

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#	Sample Name	Ag	Al	As	B	Ba	Be
1	ICV SST5	4.7972	4.9478	5.0285	5.0754	4.8488	4.8338
2	ICV SST5	4.8343	4.9835	5.0953	5.1301	4.9177	4.8601
3	ICB	.00224	.01052	-.00219	.00632	.00022	.00012
4	LLS	.02391	.11992	.20520	.10201	.10074	.00995
5	LLS	Q.02618	Q.13067	.21723	.10296	.10073	.00986
6	LLS	Q.02535	Q.12525	.20425	.09315	.09983	.00982
7	LLS	.02413	.12195	.20610	.09948	.10137	.01007
8	ICSA	-.00211	258.35	.05393	.00440	.00029	.00001
9	ICSAB	.95918	253.66	.03912	.00196	.45654	.46101
10	S00T000513_L	21.355	13077.	-19.927	49.502	.55210	-.20186
11	S00T000513	12.193	12912.	-25.450	49.531	.10192	.00415
12	S00T000513_D	11.360	12989.	-29.211	50.039	.05638	.01206
13	S00T000513_A	374.62	13099.	387.05	451.68	376.35	383.22
14	S00T000513_X	26.992	13979.	-38.294	54.578	.85376	-.32642
15	S00T000513_DX	18.808	13985.	-88.276	36.816	.60696	-.82507
16	S00T000513_AX	37592.	53787.	40016.	39931.	40132.	39769.
17	CCV	4.8906	5.0334	5.1110	5.1653	4.9916	4.8899
18	CCB	.00770	.00010	-.01199	.00188	.00014	-.00018
19	S00T000612	13.142	15503.	-26.036	51.438	.11133	.00281
20	S00T000612_D	11.798	14439.	-22.670	48.899	.12049	-.01442
21	S00T000628	12.116	13502.	-26.607	52.324	.07680	.00313
22	S00T000628_D	11.655	13510.	-23.994	50.168	.05798	.00285
23	S00T000637	11.434	12408.	-35.194	51.185	.07072	-.00512
24	S00T000637_D	10.728	11739.	-32.640	49.529	.00969	.00384
25	ICSA	-.00149	245.31	.06399	.00331	.00046	-.00014
26	ICSAB	.92660	241.13	.08184	.00591	.43453	.44672
27	CCV	4.7440	4.8138	4.9916	4.9608	4.7437	4.7647
28	CCB	.00436	.00992	.00703	.00507	.00046	-.00002

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8/4/5/00

#	Sample Name	Bi	Ca	Cd	Ce	Co	Cr
1	ICV SST5	4.8506	5.0702	4.9118	4.9990	4.9894	4.9286
2	ICV SST5	4.9892	5.0831	4.9332	5.0472	5.0091	4.9483
3	ICB	-.02197	.00150	.00103	.00280	-.00048	-.00152
4	LLS	.17275	Q.40587	.01066	.22583	.04222	.02019
5	LLS	.22623	.22644	.01182	.23601	.04305	.02034
6	LLS	.20667	Q.27143	.01136	.22882	.04032	.02057
7	LLS	.18729	.20778	.01077	.22431	.04207	.02282
8	ICSA	-.01990	260.22	-.00642	.00977	.00153	-.00251
9	ICSAB	-.01337	257.38	.91410	.01497	.45799	.46190
10	S00T000513_L	11.505	59.832	3.6830	36.188	.04004	399.50
11	S00T000513	-10.005	65.929	1.7620	2.8423	.08665	397.51
12	S00T000513_D	-8.9347	52.863	1.3994	.18202	.88308	403.67
13	S00T000513_A	381.91	457.90	393.93	396.86	396.71	785.47
14	S00T000513_X	77.802	60.235	4.9243	41.631	5.0973	435.74
15	S00T000513_DX	-128.56	51.029	4.2362	19.885	-10.807	421.90
16	S00T000513_AX	39950.	39711.	39682.	40180.	39428.	40213.
17	CCV	4.9609	5.0851	4.9309	5.1259	5.0161	4.9665
18	CCB	-.01787	-.00161	.00070	-.00385	.00157	-.00018
19	S00T000612	-20.567	55.767	1.9913	6.2936	.08587	393.72
20	S00T000612_D	-9.1448	54.597	1.8876	6.3241	1.0745	377.55
21	S00T000628	-6.5584	51.561	1.7877	5.2206	.88201	448.21

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Analysis Report

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#	Sample Name	Bi	Ca	Cd	Ce	Co	Cr
22	S00T000628_D	4.1598	51.763	1.4192	1.0569	1.0402	447.31
23	S00T000637	-5.4472	51.407	1.2780	.74233	.98033	452.55
24	S00T000637_D	5.5213	47.205	1.2714	-.88635	1.8330	425.51
25	ICSA	-.04740	255.85	-.00495	.02461	.00263	-.00287
26	ICSAB	-.02214	254.28	.90205	.02479	.44705	.45176
27	CCV	4.8268	5.0602	4.8811	4.9039	4.9324	4.8809
28	CCB	.01299	.00470	.00230	.02492	.00046	-.00013

#	Sample Name	Cu	Eu	Fe	K	La	Li
1	ICV SST5	4.9722	.00904	4.9880	5.3703	5.0116	5.1780
2	ICV SST5	5.0343	.00803	5.0164	5.3474	5.0678	5.2201
3	ICB	-.00010	-.00154	.00176	.30284	.00175	-.00092
4	LLS	.01874	-.00146	.10332	Q.97161	.10638	.02287
5	LLS	.02097	-.00168	.10330	Q1.0707	.10836	.02287
6	LLS	.02023	-.00130	.10243	Q1.1044	.10597	.02369
7	LLS	.02186	-.00149	.10363	Q.88426	.10762	.02266
8	ICSA	-.00269	.05665	100.27	.58885	-.00317	.00204
9	ICSAB	.49014	.05901	98.512	.61342	-.00295	1.0397
10	S00T000513_L	9.1891	-3.7488	11.233	3438.8	7.2549	-3.0777
11	S00T000513	6.4232	-.48620	6.9205	2366.4	1.0682	-.65756
12	S00T000513_D	6.6441	-.42526	5.7950	2387.8	.26667	-.53459
13	S00T000513_A	401.63	.21503	403.10	2692.8	402.98	392.10
14	S00T000513_X	9.1788	-2.8334	10.537	4239.0	7.2836	-2.0502
15	S00T000513_DX	.34750	-2.6091	9.0014	3478.3	4.4933	-2.4586
16	S00T000513_AX	39808.	70.365	39796.	41257.	40183.	40784.
17	CCV	5.1025	.00743	5.0429	5.0873	5.1525	5.3426
18	CCB	.00077	-.00098	.00164	-.06639	-.00006	-.00071
19	S00T000612	6.9104	-.57270	6.2685	2527.4	1.1488	-.36977
20	S00T000612_D	6.1588	-.02250	5.6461	2180.0	1.3494	-.16508
21	S00T000628	6.2298	-.65346	5.8148	2412.8	.80525	-.57533
22	S00T000628_D	6.0052	-.46349	5.5118	2710.5	.83322	-.08225
23	S00T000637	5.3940	-.28679	5.4017	2376.1	.49773	-.12366
24	S00T000637_D	5.3747	-.48117	5.2206	2241.7	.14422	-.32864
25	ICSA	-.00272	.05038	97.140	.87423	-.00238	.00357
26	ICSAB	.46026	.05136	96.126	.38303	-.00203	.91752
27	CCV	4.8570	.00996	4.9119	5.0748	4.9272	4.9221
28	CCB	.00002	.00118	.00284	.49279	.00415	.00133

#	Sample Name	Mg	Mn	Mo	Na	Nd	Ni
1	ICV SST5	5.0104	4.7137	4.9163	5.3337	4.9821	4.8575
2	ICV SST5	5.0379	4.7455	4.9398	5.3795	5.0485	4.8842
3	ICB	.00924	-.00008	.00031	.05720	-.00327	.00813
4	LLS	.22394	.01908	.10237	Q.32952	.20939	.04818
5	LLS	.23662	.01886	.10224	Q.33627	.21592	.04838
6	LLS	.23139	.01891	.10065	Q.30695	.21376	.04882
7	LLS	.21740	.01926	.10523	Q.31404	.21912	Q.05151
8	ICSA	264.14	-.00980	-.00871	204.45	.00370	-.00201
9	ICSAB	258.87	.42996	-.01048	201.04	.00739	.91367
10	S00T000513_L	44.669	-.99138	70.476	161550.	4.1515	72.786
11	S00T000513	9.7109	-.11601	69.152	147250.	-2.5368	59.818

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Analysis Report

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#	Sample Name	Mg	Mn	Mo	Na	Nd	Ni
12	S00T000513_D	1.0125	-.11347	69.892	146120.	-.55150	60.373
13	S00T000513_A	399.70	364.78	465.34	143140.	401.10	444.68
14	S00T000513_X	90.502	-.50871	84.322	164910.	10.536	81.426
15	S00T000513_DX	63.337	-.85185	73.298	166400.	-30.037	56.015
16	S00T000513_AX	39678.	39838.	39812.	200340.	40521.	40062.
17	CCV	5.0377	4.7739	4.9825	Q5.5271	5.1705	4.9336
18	CCB	-.00235	-.00017	.00203	.06605	-.00040	.00175
19	S00T000612	9.9644	-.21831	70.627	154320.	-.03690	61.265
20	S00T000612_D	12.736	-.11991	67.640	137030.	-.16457	60.201
21	S00T000628	7.5960	-.22785	68.869	147460.	1.1078	54.632
22	S00T000628_D	4.6523	-.18232	69.665	149720.	.25713	55.764
23	S00T000637	4.7193	-.12045	71.743	148900.	.81567	56.801
24	S00T000637_D	-.65914	-.20186	67.073	142480.	.83770	51.892
25	ICSA	253.37	-.00873	-.01076	186.16	.00835	.00058
26	ICSAB	249.18	.42136	-.00825	180.85	.00693	.89636
27	CCV	4.8699	4.6614	4.8705	5.0489	4.9297	4.8323
28	CCB	.03137	.00048	.00082	.03070	.00033	.01158

#	Sample Name	P	Pb	S	Sb	Se	Si
1	ICV SST5	5.0471	4.8227	4.5808	4.9500	4.8921	5.1328
2	ICV SST5	5.0853	4.8549	4.6097	4.9764	4.8958	5.1584
3	ICB	-.00709	.00197	-.00307	.00909	-.02637	-.00439
4	LLS	.40260	.20295	.18804	.10065	.18436	Q.12676
5	LLS	.39514	.22457	.18288	.10414	.17805	Q.15665
6	LLS	.39112	.21861	.17993	.10218	.19577	Q.14518
7	LLS	.41071	.22562	.17146	.10241	.20428	Q.15947
8	ICSA	-.03085	.06432	-.04357	.00792	-.05764	-.01666
9	ICSAB	-.01691	1.0079	-.04634	.01915	-.03481	.03815
10	S00T000513_L	1549.9	29.597	1087.8	26.240	22.838	40.084
11	S00T000513	1595.5	13.743	1102.9	4.8349	9.9020	31.687
12	S00T000513_D	1619.6	10.958	1111.1	2.9676	13.826	31.378
13	S00T000513_A	1997.0	398.00	1460.7	405.04	417.31	443.64
14	S00T000513_X	1744.6	72.274	1120.4	44.241	31.870	94.850
15	S00T000513_DX	1716.0	-18.902	1095.0	24.094	109.88	33.468
16	S00T000513_AX	41409.	39926.	40890.	39774.	39947.	40077.
17	CCV	5.1075	4.8552	4.6606	4.9959	4.9414	5.1866
18	CCB	.00518	.00988	-.00838	.00362	-.00033	-.00568
19	S00T000612	1632.8	13.600	1130.6	4.7868	12.653	35.410
20	S00T000612_D	1563.1	16.426	1071.2	7.3819	18.047	29.889
21	S00T000628	1559.2	17.970	1099.4	3.6235	13.704	28.078
22	S00T000628_D	1562.2	16.155	1095.3	3.8201	18.115	35.197
23	S00T000637	1613.1	14.373	1116.3	5.3438	15.332	33.602
24	S00T000637_D	1513.1	15.357	1055.9	4.2434	14.785	24.200
25	ICSA	.00990	.07091	-.04548	-.00128	.00104	-.00525
26	ICSAB	.01088	.99852	-.03253	.00370	-.00745	.04315
27	CCV	4.9845	4.8316	4.5289	4.8711	4.8422	5.0687
28	CCB	.00686	-.00342	-.00720	.01528	.02236	.00511

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Analysis Report

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#	Sample Name	Sm	Sr	Th	Ti	Tl	U
1	ICV SST5	4.9941	4.8903	-.04175	5.0329	4.8675	9.8599
2	ICV SST5	5.0444	4.9429	-.04235	5.0622	4.8883	9.9326
3	ICB	-.01965	-.00013	.01292	-.00121	.01858	-.06297
4	LLS	.18456	.02061	.01371	.01933	.43206	.42325
5	LLS	.18157	.02054	.01601	.02076	.44581	.41853
6	LLS	.18741	.02043	.00832	.02089	.41116	.44591
7	LLS	.19104	.02079	.00733	.02121	.43518	.44011
8	ICSA	-.03330	.00197	-.00146	.00109	.01620	.23870
9	ICSAB	-.03109	.00193	.00371	.00158	-.00295	.25107
10	SOOT000513_L	-.51.784	-.33797	41.700	-.14084	60.173	-186.42
11	SOOT000513	-8.3686	.02775	5.2223	-.49122	2.2925	-21.393
12	SOOT000513_D	-8.2576	.05541	1.6162	-.25500	4.2834	-11.401
13	SOOT000513_A	391.56	390.78	-2.8383	400.04	389.40	776.60
14	SOOT000513_X	-40.926	-.41133	50.135	.84596	53.263	-153.52
15	SOOT000513_DX	-53.327	-.40562	28.680	-5.5938	123.63	-214.79
16	SOOT000513_AX	39987.	40195.	-545.00	39602.	40082.	79710.
17	CCV	5.1019	5.0316	-.06252	5.1080	4.9277	10.077
18	CCB	-.01894	-.00023	.00768	-.00028	.00660	-.06774
19	SOOT000612	-9.7340	.02746	3.7647	-.37509	5.3253	-14.045
20	SOOT000612_D	-3.5208	.09605	4.2425	-.18409	3.0947	7.5916
21	SOOT000628	-9.9047	.04216	5.1713	.01494	.72160	-19.240
22	SOOT000628_D	-7.1754	.08286	.56197	.05609	10.852	-1.5067
23	SOOT000637	-6.2815	.04022	1.2236	-.00600	2.2826	2.8057
24	SOOT000637_D	-8.9247	.04179	1.4638	.12670	9.0872	-13.301
25	ICSA	-.01018	.00187	.00254	.00142	-.03829	.30227
26	ICSAB	-.00272	.00186	.00256	.00111	-.00623	.30770
27	CCV	4.8669	4.8136	-.06370	4.9255	4.8613	9.6537
28	CCB	.00942	.00024	.01007	-.00012	.03115	.03285

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#	Sample Name	V	Y	Zn	Zr
1	ICV SST5	5.0165	.00567	4.9684	5.0335
2	ICV SST5	5.0492	.00522	4.9903	5.0797
3	ICB	-.00336	-.00069	.00021	-.00252
4	LLS	.09608	-.00069	.02113	.01696
5	LLS	.09654	-.00080	.02021	.01632
6	LLS	.09606	-.00055	.02057	.01734
7	LLS	.09825	-.00055	.01939	.01811
8	ICSA	-.01008	.00555	-.00766	.00361
9	ICSAB	.46113	.00560	.97367	.00333
10	SOOT000513_L	-7.9280	-2.0023	-2.2295	-7.1827
11	SOOT000513	-.94397	-.34476	-1.9710	-.87398
12	SOOT000513_D	-.81455	-.30737	-1.7853	-.42874
13	SOOT000513_A	401.00	.12787	398.03	404.49
14	SOOT000513_X	-6.4176	-1.1836	-3.1558	-5.5061
15	SOOT000513_DX	-9.9170	-2.1983	-4.5861	-4.7396
16	SOOT000513_AX	39735.	45.636	39674.	39897.
17	CCV	5.0919	.00490	5.0089	5.1359
18	CCB	-.00311	-.00069	-.00054	-.00167
19	SOOT000612	-1.2776	-.34788	-1.9694	-.68034
20	SOOT000612_D	-.43917	-.14893	-1.9685	.01591
21	SOOT000628	-1.4993	-.40812	-1.9064	-.87448

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Analysis Report

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#	Sample Name	V	Y	Zn	Zr
22	S00T000628_D	-.87611	-.29076	-1.7447	-.26614
23	S00T000637	-.47356	-.20934	-1.7184	-.13336
24	S00T000637_D	-.80687	-.30657	-1.7778	-.32049
25	ICSA	-.00576	.00641	-.00691	.00609
26	ICSAB	.45203	.00651	.95747	.00644
27	CCV	4.9659	.00596	4.9376	4.9725
28	CCB	.00174	.00040	.00044	.00109

Anthony Purner
040400

06/20/00 15:44

ws2

File # = 44200Q

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LABCORE Data Entry Template for Worklist# 33929

Analyst: JK Sato Instrument: ICP02Book# 88548QMethod: LA-505-151/161 Rev/Mod C-5Ensure dose rate at 30cm
is $\leq$ 50 mrem/hr prior to
performing this analysisWorklist Comment: 4-12-00 ICP SY-102 (DIRECT) @ICP-D01

S Type	Sample#	R A	Test	Matrix	Group#	Project
1	ICV		@ICP-QC	QC		
2	ICB		@ICP-QC	QC		
3	ILS		@ICP-QC	QC		
4	ICSA		@ICP-QC	QC		
5	ICSAB		@ICP-QC	QC		
6	SAMPLE	S00T000506 0 D	@ICP-D01	LIQUID	20000085	SY-102 GRAB6
Analytes Requested: AG-D-01 , AL-D-01 , AS-D-01 , B-D-01 , BA-D-01 , BE-D-01 , BI-D-01 , CA-D-01 , CD-D-01 , CE-D-01 , CO-D-01 , CR-D-01 , CU-D-01 , FE-D-01 , K-D-01 , LA-D-01 , LI-D-01 , MG-D-01 , MN-D-01 , MO-D-01 , NA-D-01 , ND-D-01 , NI-D-01 , P-D-01 , PB-D-01 , S-D-01 , SB-D-01 , SE-D-01 , SI-D-01 , SM-D-01 , SR-D-01 , TI-D-01 , TL-D-01 , U-D-01 , V-D-01 , ZN-D-01 , ZR-D-01						
7	DUP	S00T000506 0 D	@ICP-D01	LIQUID		
8	SAMPLE	S00T000507 0 D	@ICP-D01	LIQUID	20000085	SY-102 GRAB6
Analytes Requested: AG-D-01 , AL-D-01 , AS-D-01 , B-D-01 , BA-D-01 , BE-D-01 , BI-D-01 , CA-D-01 , CD-D-01 , CE-D-01 , CO-D-01 , CR-D-01 , CU-D-01 , FE-D-01 , K-D-01 , LA-D-01 , LI-D-01 , MG-D-01 , MN-D-01 , MO-D-01 , NA-D-01 , ND-D-01 , NI-D-01 , P-D-01 , PB-D-01 , S-D-01 , SB-D-01 , SE-D-01 , SI-D-01 , SM-D-01 , SR-D-01 , TI-D-01 , TL-D-01 , U-D-01 , V-D-01 , ZN-D-01 , ZR-D-01						
9	DUP	S00T000507 0 D	@ICP-D01	LIQUID		
10	ICSA		@ICP-QC	QC		
11	ICSAB		@ICP-QC	QC		
12	CCV		@ICP-QC	QC		

Data Entry Comments:

Reviewed by Brian Smith
6-22-2000

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

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ws2

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LABCORE Data Entry Template for Worklist# 33929

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

Final page for worklist # 33929

Signature	Date
<i>JK</i>	06-22-00
500T000506	.05-10, DF 201
500T000506_1	.05-10, DF 201
500T000507	.05-10, DF 201
500T000507_1	.05-10, DF 201

Signature	Date
<i>Mary Frank</i>	6/22/00

Data Entry Comments:

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

Analysis Report

Summary

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page 1

#	Sample Name	File	Method	Date	Time	OpID	Type	Mode
1	BLANK	62200A	ICP2	06/22/00	08:42		X	IR
2	10 ppm std	62200A	ICP2	06/22/00	08:45		X	IR
3	10 ppm Si	62200A	ICP2	06/22/00	08:48		X	IR
4	ICV SST5	62200A	ICP2	06/22/00	08:50	DKS	Q	CONC
5	ICV	62200A	ICP2	06/22/00	08:52	DKS	Q	CONC
6	ICB	62200A	ICP2	06/22/00	08:56	DKS	Q	CONC
7	LLS	62200A	ICP2	06/22/00	08:59	DKS	Q	CONC
8	ICSA	62200A	ICP2	06/22/00	09:03	DKS	Q	CONC
9	ICSAB	62200A	ICP2	06/22/00	09:07	DKS	Q	CONC
10	S00T000506	62200A	ICP2	06/22/00	09:11	DKS	S	CONC
11	S00T000506 D	62200A	ICP2	06/22/00	09:14	DKS	S	CONC
12	S00T000507	62200A	ICP2	06/22/00	09:17	DKS	S	CONC
13	S00T000507 D	62200A	ICP2	06/22/00	09:21	DKS	S	CONC
14	ICSA	62200A	ICP2	06/22/00	09:26	DKS	Q	CONC
15	ICSAB	62200A	ICP2	06/22/00	09:29	DKS	Q	CONC
16	CCV	62200A	ICP2	06/22/00	09:54	DKS	Q	CONC
17	ICB	62200A	ICP2	06/22/00	09:59	DKS	Q	CONC

CCB RS
6-22-00

X LCB
06-22-00
Wank/ist #33929

54-102
S00T000506
S00T000507

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALCULATIONS ONLY FOR ANALYSIS 412 TO 415.

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#	Sample Name	Ag	Al	As	B	Ba	Be
1	BLANK	-.013	.06813	-.00346	.00113	-.00019	.01246
2	10 ppm std	6.32726	2.20893	4.40619	2.0722	23.7739	30.8043
3	10 ppm Si						
4	ICV SST5	4.8456	4.9769	5.0692	5.0357	4.7797	4.9252
5	ICV	4.8715	5.0218	5.1088	5.0486	4.8240	4.9442
6	ICB	-.00105	-.00383	.01361	.00032	-.00011	-.00012
7	LLS	.01974	.10707	.20312	.10028	.09668	.00989
8	ICSA	-.00156	251.85	.07693	.00044	.00023	.00008
9	ICSAB	.94842	251.04	.05863	.00449	.44385	.46129
10	S00T000506	6.1500	12748.	-12.987	31.289	-.01116	.01924
11	S00T000506_D	5.6204	12326.	-12.196	30.125	-.02413	.01919
12	S00T000507	9.9215	10809.	-28.114	61.412	-.00086	.05963
13	S00T000507_D	9.4253	10470.	-26.040	58.239	.02446	.04635
14	ICSA	-.00451	252.76	.08310	.00341	.00003	.00004
15	ICSAB	.94344	248.94	.09339	.00862	.43917	.46088
16	CCV	4.8423	4.9801	5.0598	4.9942	4.7491	4.9758
17	ICB	.00084	.00135	.00102	.00130	.00010	-.00002

#	Sample Name	Bi	Ca	Cd	Ce	Co	Cr
1	BLANK	.0076	-.02886	.00079	.013	.00439	.00659
2	10 ppm std	1.25279	11.1375	18.8949	2.48659	8.26	12.6419
3	10 ppm Si						
4	ICV SST5	4.9870	5.0406	5.0156	4.9976	5.0122	4.8965
5	ICV	4.9908	5.0703	5.0393	5.0175	5.0361	4.9148
6	ICB	-.02477	.02512	-.00101	-.00665	-.00080	-.00035
7	LLS	.16244	Q.25914	.00912	.20430	.03846	.02225
8	ICSA	-.03069	261.73	-.00571	.01989	.00213	-.00097
9	ICSAB	-.02056	263.05	.92724	.01250	.46553	.46772
10	S00T000506	-2.7125	53.422	2.9470	-1.3664	.69606	77.582
11	S00T000506_D	-3.1552	52.045	2.6862	-2.8543	.40861	75.652
12	S00T000507	-1.3510	37.452	.82066	-1.6931	1.1176	377.47
13	S00T000507_D	-1.6800	36.742	.87480	-1.2015	1.1207	368.61
14	ICSA	-.03628	265.21	-.00765	.00890	.00124	-.00082
15	ICSAB	-.04800	263.18	.92782	.00613	.46189	.46540
16	CCV	4.9143	5.0105	5.0355	5.0043	5.0272	4.9021
17	ICB	.00558	.02186	.00046	.00472	.00180	.00091

#	Sample Name	Cu	Eu	Fe	K	La	Li
1	BLANK	.00426	.12913	.0006	-.00159	.00319	.03833
2	10 ppm std	3.76193		12.5756	.14965	19.0593	6.97726
3	10 ppm Si						
4	ICV SST5	4.7756	.01020	5.0225	4.9984	4.9551	5.0034
5	ICV	4.8107	.00997	5.0511	5.1843	4.9888	5.1079
6	ICB	-.00053	.00035	.00107	.01223	-.00140	.00009
7	LLS	.02279	.00080	.10439	Q.67028	.10077	.02120
8	ICSA	-.00143	.04403	97.061	.30767	-.00406	.00334
9	ICSAB	.47295	.04291	97.315	.43601	-.00488	.90569
10	S00T000506	8.4134	.16584	2.5645	1434.1	-.05564	-.03924
11	S00T000506_D	8.1752	.32231	2.4136	1404.0	-.20396	.23069

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Analysis Report

Averages

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#	Sample Name	Cu	Eu	Fe	K	La	Li
12	S00T000507	1.4836	.07632	5.2489	2346.8	-.18235	-.07839
13	S00T000507_D	1.2188	.19668	5.2148	2260.3	-.05779	.17240
14	ICSA	-.00205	.03965	98.139	.19404	-.00579	.00344
15	ICSAB	.46875	.04034	97.092	.16884	-.00607	.87610
16	CCV	4.7692	.00940	5.0278	4.7334	4.9604	4.8598
17	ICB	-.00014	.00136	.00059	.06495	.00049	.00170

#	Sample Name	Mg	Mn	Mo	Na	Nd	Ni
1	BLANK	.00693	.07066	.00013	-.20006	.00419	-.04053
2	10 ppm std	2.26939	34.5355	5.31973	1.77919	11.8763	8.977
3	10 ppm Si						
4	ICV SST5	5.0841	4.8586	4.8249	4.9841	4.9646	4.9507
5	ICV	5.1067	4.8860	4.8505	5.1113	4.9986	4.9834
6	ICB	.00291	.00011	.00528	.02533	-.00131	.00072
7	LLS	.20941	.01969	.10374	.22832	.20505	.03810
8	ICSA	257.32	-.00850	-.00965	182.38	.00888	-.00372
9	ICSAB	256.70	.43474	-.00978	179.25	.00785	.91568
10	S00T000506	-.01298	.07110	43.023	89277.	1.9819	50.330
11	S00T000506 D	-.79112	.10515	42.724	85644.	1.7143	48.363
12	S00T000507	.67424	-.01881	75.755	139480.	.65724	54.805
13	S00T000507_D	1.6661	.01051	73.866	133040.	.66061	53.985
14	ICSA	258.76	-.00855	-.00904	176.03	.00947	-.01122
15	ICSAB	254.94	.43361	-.01192	173.97	.01021	.90990
16	CCV	5.0885	4.8640	4.8207	4.8644	4.9779	4.9492
17	ICB	.00715	.00043	-.00009	-.01433	.00394	.00087

#	Sample Name	P	Pb	S	Sb	Se	Si
1	BLANK	.25033	.05573	.02146	.00806	.26173	.16353
2	10 ppm std	5.06273	6.7586	7.85493	2.82579	2.66253	
3	10 ppm Si						5.53999
4	ICV SST5	4.9967	4.9289	4.5887	4.9511	4.9873	5.1408
5	ICV	5.0280	4.9781	4.5982	4.9733	5.0119	5.1722
6	ICB	.00386	-.01607	.04912	.00373	.00169	.01200
7	LLS	.40996	.21361	.20086	.09891	.20658	.12025
8	ICSA	.00441	.06954	-.02126	-.00616	.01295	.00282
9	ICSAB	.02075	1.0322	-.01939	.01281	.00622	.05479
10	S00T000506	1424.1	10.821	778.90	1.3289	13.999	34.855
11	S00T000506 D	1390.1	12.482	753.87	-1.7231	13.242	34.173
12	S00T000507	1231.0	12.637	1155.2	1.4749	17.864	81.792
13	S00T000507_D	1198.3	11.305	1128.2	1.0376	15.866	80.071
14	ICSA	.01238	.06611	-.02218	.00150	.00878	-.00214
15	ICSAB	.01747	1.0440	-.02049	.02076	.01416	.05023
16	CCV	5.0241	4.9243	4.6051	4.9638	4.9987	5.1060
17	ICB	.00712	.00536	.04703	-.00417	.02903	.01608

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#	Sample Name	Sm	Sr	Th	Ti	Tl	U
1	BLANK	.13199	.01833	.01759	.00273	-.01166	1.43866
2	10 ppm std	2.24146	19.1668		4.11453	2.36133	12.6467
3	10 ppm Si						
4	ICV SST5	4.9741	4.8798	-.08172	4.9196	4.9661	9.8409
5	ICV	5.0249	4.9057	-.07895	4.9375	5.0325	9.9064
6	ICB	-.00029	.00003	-.00472	-.00002	.01369	.01085
7	LLS	.20553	.02014	-.01033	.02074	.45477	.50975
8	ICSA	-.00897	.00175	-.01205	.00207	.00852	.25467
9	ICSAB	-.00627	.00177	-.00856	.00193	-.02257	.25462
10	S00T000506	.05867	.14411	-2.6695	.01669	1.7047	11.393
11	S00T000506 D	2.7170	.15742	-3.3654	-.01890	3.8775	19.767
12	S00T000507	-.74607	.07381	-2.1974	-.02027	2.9984	21.179
13	S00T000507_D	1.3245	.09439	-2.2598	.07762	4.0212	26.292
14	ICSA	-.01146	.00170	-.01636	.00223	.05817	.22213
15	ICSAB	-.00590	.00170	-.01641	.00288	.00152	.24408
16	CCV	4.9700	4.8837	-.07788	4.9511	4.9739	9.8420
17	ICB	.01262	.00024	-.00169	.00030	-.00870	.06582

#	Sample Name	V	Y	Zn	Zr
1	BLANK	.07066	.03759	.04753	.028
2	10 ppm std	5.67413		16.8135	2.85039
3	10 ppm Si				
4	ICV SST5	4.9010	.00596	5.0274	5.0704
5	ICV	4.9201	.00603	5.0492	5.1011
6	ICB	.00046	.00014	.00162	.00057
7	LLS	.09992	.00040	.02097	.02093
8	ICSA	-.00279	.00648	-.00705	.00644
9	ICSAB	.46597	.00663	.97980	.00655
10	S00T000506	.43331	.10899	-1.3714	.24768
11	S00T000506 D	.75756	.16752	-1.3492	.47655
12	S00T000507	.32325	.01169	-.92812	.08511
13	S00T000507_D	.60538	.09231	-.90932	.22481
14	ICSA	-.00358	.00639	-.00828	.00681
15	ICSAB	.46543	.00658	.97762	.00739
16	CCV	4.9107	.00596	5.0337	5.0969
17	ICB	.00254	.00058	.00100	.00169

JK
06-22-00

LABCORE Completed Worklist Report for Worklist# 32927

Analyst: kjt

Instrument: ICPMS1

Book#: 49B55

Method: LA-506-101 Rev/Mod A-3

Worklist Comment: ICP/MS SY-102 (SOLID ACID DIGEST) Iso-U

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	ICV	0	@MSU-QC U235	QC	0.000142	1.46e-04	102.817 % Recovery	
1	ICV	0	@MSU-QC U238	QC	0.020	2.08e-02	104.000 % Recovery	
2	ICB	0	@MSU-QC U233	QC	1	<1.20e-5		ug/mL
2	ICB	0	@MSU-QC U234	QC	1	<1.20e-5		ug/mL
2	ICB	0	@MSU-QC U235	QC	1	<1.20e-5		ug/mL
2	ICB	0	@MSU-QC U236	QC	1	<1.60e-5		ug/mL
2	ICB	0	@MSU-QC U238	QC	1	<1.20e-5		ug/mL
3	STD-PREP	0	@MSU-A1 U238-A1	SOLID	10.0	1.01e+01	101.000 % Recovery	
4	BLNK-PREP	0	@MSU-A1 U233-A1	SOLID	1	<4.81e-3		ug/g
4	BLNK-PREP	0	@MSU-A1 U234-A1	SOLID	1	<4.81e-3		ug/g
4	BLNK-PREP	0	@MSU-A1 U235-A1	SOLID	1	<4.81e-3		ug/g
4	BLNK-PREP	0	@MSU-A1 U236-A1	SOLID	1	<6.42e-3		ug/g
4	BLNK-PREP	0	@MSU-A1 U238-A1	SOLID	1	<4.81e-3		ug/g
5	SAMPLE	S00T000620	0 A @MSU-A1 U233-A1	SOLID	N/A <	9.124e-01	0.912	ug/g
5	SAMPLE	S00T000620	0 A @MSU-A1 U234-A1	SOLID	N/A <	9.124e-01	0.912	ug/g
5	SAMPLE	S00T000620	0 A @MSU-A1 U235-A1	SOLID	N/A	3.034e+00	0.912	ug/g
5	SAMPLE	S00T000620	0 A @MSU-A1 U236-A1	SOLID	N/A <	1.217e+00	1.217	ug/g
5	SAMPLE	S00T000620	0 A @MSU-A1 U238-A1	SOLID	N/A	4.723e+02	0.912	ug/g
6	DUP	S00T000620	0 A @MSU-A1 U233-A1	SOLID	<9.12e-1	<9.39e-1		RPD
6	DUP	S00T000620	0 A @MSU-A1 U234-A1	SOLID	<9.12e-1	<9.39e-1		RPD
6	DUP	S00T000620	0 A @MSU-A1 U235-A1	SOLID	3.03e+00	2.90e+00	4.384	RPD
6	DUP	S00T000620	0 A @MSU-A1 U236-A1	SOLID	<1.22e0	<1.25e0		RPD
6	DUP	S00T000620	0 A @MSU-A1 U238-A1	SOLID	4.72e+02	4.27e+02	10.011	RPD
7	SPK-PREDIGS	S00T000620	0 A @MSU-A1 U235-A1	SOLID	5.261	4.96e+00	94.279 % Recovery	
7	SPK-PREDIGS	S00T000620	0 A @MSU-A1 U238-A1	SOLID	1852.538	1.83e+03	98.783 % Recovery	
8	SPK-POST	S00T000620	0 A @MSU-A1 U235-A1	SOLID	0.000142	1.43e-04	100.704 % Recovery	
8	SPK-POST	S00T000620	0 A @MSU-A1 U238-A1	SOLID	0.020	2.05e-02	102.500 % Recovery	
9	SAMPLE	S00T000633	0 A @MSU-A1 U233-A1	SOLID	N/A <	9.117e-01	0.912	ug/g
9	SAMPLE	S00T000633	0 A @MSU-A1 U234-A1	SOLID	N/A <	9.117e-01	0.912	ug/g
9	SAMPLE	S00T000633	0 A @MSU-A1 U235-A1	SOLID	N/A	2.993e+00	0.912	ug/g
9	SAMPLE	S00T000633	0 A @MSU-A1 U236-A1	SOLID	N/A <	1.216e+00	1.215	ug/g
9	SAMPLE	S00T000633	0 A @MSU-A1 U238-A1	SOLID	N/A	4.628e+02	0.912	ug/g
10	DUP	S00T000633	0 A @MSU-A1 U233-A1	SOLID	<9.12e-1	<9.88e-1		RPD
10	DUP	S00T000633	0 A @MSU-A1 U234-A1	SOLID	<9.12e-1	<9.88e-1		RPD
10	DUP	S00T000633	0 A @MSU-A1 U235-A1	SOLID	2.99e+00	3.19e+00	6.472	RPD
10	DUP	S00T000633	0 A @MSU-A1 U236-A1	SOLID	<1.22e0	<1.32e0		RPD
10	DUP	S00T000633	0 A @MSU-A1 U238-A1	SOLID	4.63e+02	4.88e+02	5.258	RPD
11	CCV	0	@MSU-QC U235	QC	0.000142	1.60e-04	112.676 % Recovery	
11	CCV	0	@MSU-QC U238	QC	0.020	2.25e-02	112.500 % Recovery	
12	CCB	0	@MSU-QC U233	QC	1	<1.20e-5		ug/mL
12	CCB	0	@MSU-QC U234	QC	1	<1.20e-5		ug/mL

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

LABCORE Completed Worklist Report for Worklist# 32927

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
12 CCB		0	@MSU-QC U235	QC	1	<1.20e-5		ug/mL
12 CCB		0	@MSU-QC U236	QC	1	<1.60e-5		ug/mL
12 CCB		0	@MSU-QC U238	QC	1	<1.20e-5		ug/mL

Final page for worklist# 32927

Analyst Signature Date

Analyst Signature Date

San M. Pang 05/16/2000

Reviewer Signature Date

04/11/00 10:33

ws2

file 00815b.txt

HNF-1699 REV. 0

Page: 1

LABCORE Data Entry Template for Worklist# 32927Analyst: KST Instrument: ICPMS1 Book# 49855Method: LA-506-101 Rev/Mod A-3

Worklist Comment: ICP/MS SY-102 (SOLID ACID DIGEST) Iso-U

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	ICV				@MSU-QC	QC		
2	ICB				@MSU-QC	QC		
3	STD-PREP				@MSU-A1	SOLID		
4	BLNK-PREP				@MSU-A1	SOLID		
5	SAMPLE	S00T000620	0	A	@MSU-A1	SOLID	20000085	SY-102 GRAB6
Analytes Requested: U233-A1 , U234-A1 , U235-A1 , U236-A1 , U238-A1								
6	DUP	S00T000620	0	A	@MSU-A1	SOLID		
7	SPK-PREDIG	S00T000620	0	A	@MSU-A1	SOLID		
8	SAMPLE	S00T000633	0	A	@MSU-A1	SOLID	20000085	SY-102 GRAB6
Analytes Requested: U233-A1 , U234-A1 , U235-A1 , U236-A1 , U238-A1								
9	DUP	S00T000633	0	A	@MSU-A1	SOLID		
10	CCV				@MSU-QC	QC		
11	CCB				@MSU-QC	QC		

Final page for worklist # 32927

KS Pham 05-15-00
 Signature Date

401 df 025-10
 Signature Date

Data Entry Comments:

STD-Prep
 Blnk-Prep
 S00T000620
 S00T000620-d
 S00T000620-S
 S00T000620-a
 S00T000633
 S00T000633-d

Spike 0.02ml of High Purity Uranium

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

Analysis Report

05/15/00 13:22:45

page 1

Method: MS_TUNE

Sample Name: ms-tune

Operator: kjt

Comment:

Run Time: 05/15/00 13:21 Type: Unk

Mode: INT

Corr.Fact: 1.000000

Elem	In[115]	Ir[193]	Sc[45]
Line	115/pulse	193/pulse	45/pulse
Units	Cts/S	Cts/S	Cts/S
Avg	108500.	60510.	50980.
Stddev	1958.	633.	2398.
%RSD	1.804	1.046	4.703
#1	106500.	60320.	48760.
#2	109900.	60880.	52130.
#3	110300.	61670.	54030.
#4	108200.	59910.	50810.
#5	105000.	60130.	48950.
#6	108200.	60690.	48700.
#7	109100.	60280.	47590.
#8	106900.	60740.	53310.
#9	110100.	59430.	51480.
#10	111200.	61020.	54080.

STANDARDIZATION OF THE DATA WAS DONE BY THE FOLLOWING METHOD:
 1. AVERAGE OF THE DATA WAS TAKEN FOR EACH OF THE FOLLOWING PAGES 419 TO 436

file 00515b.txt

Ks Phenolike 5-15-00

WL 32934

Prep-Std

Prep-Blk

SOOG000009

SOOG000009-d

SOOG000009-t

201 df

11 df

.05-10

1-10

WL 32927

Std-Prep

Blwk-Prep

SOOT000620

SOOT000620-d

SOOT000620-S

SOOT000620-a

~~SOOT000620~~

SOOT000633

SOOT000633-d

401 df

.025-10

419

5-15-00 KST

```
[Sample Header]
Method=MS_TUNE
SampleName=ms-tune
Operator=kjt
Comment=
CustID=
CustSmpl=
LabID=
Run Time=05/15/2000 13:19
Sample Type=Unk
Mode=INT
CorrFactor=1.000000
Repeats=10
```

```
[Results]
;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pa
ss/fail,chklo,chkhi
Elem0=In[115],[115],,,Cts/S, 104500.,3506.,3.354, 104900., 102900.
, 99420., 100900., 105500., 100200., 105600., 108600., 108900., 10
8100.,,,
Elem1=Ir[193],[193],,,Cts/S, 60630.,785.0,1.295, 59310., 59820., 6
0540., 60220., 61130., 60780., 60680., 60910., 62250., 60680.,,,
Elem2=Sc[45],[45],,,Cts/S, 46620.,2741.,5.881, 48030., 46840., 423
80., 48410., 47930., 40800., 47310., 47260., 48680., 48530.,,,
```

```
[Internal Standards]
;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
```

```
[Sample Header]
Method=MS_TUNE
SampleName=ms-tune
Operator=kjt
Comment=
CustID=
CustSmpl=
LabID=
Run Time=05/15/2000 13:21
Sample Type=Unk
Mode=INT
CorrFactor=1.000000
Repeats=10
```

```
[Results]
;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pa
ss/fail,chklo,chkhi
Elem0=In[115],[115],,,Cts/S, 108500.,1958.,1.804, 106500., 109900.
, 110300., 108200., 105000., 108200., 109100., 106900., 110100., 1
```

11200.,,,
Elem1=Ir[193],[193],,,Cts/S, 60510.,633.0,1.046, 60320., 60880., 6
1670., 59910., 60130., 60690., 60280., 60740., 59430., 61020.,,,
Elem2=Sc[45],[45],,,Cts/S, 50980.,2398.,4.703, 48760., 52130., 540
30., 50810., 48950., 48700., 47590., 53310., 51480., 54080.,,,

[Internal Standards]
;Format=elem,wl,inst,units,avg,stddev,%rsd,repl..repn

[Sample Header]
Method=ISOU
SampleName=BLANK
Operator=
Comment=
CustID=
CustSmpl=
LabID=
Run Time=05/15/2000 13:37
Sample Type=Std
Mode=IR
CorrFactor=1.000000
Repeats=5

[Results]
;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,repl..repn,chk pa
ss/fail,chklo,chkhi
Elem0=U_[233],[233],,,Cts/S, .8105,.2726,33.64, .5764, .8582, .913
8, 1.188, .5157,,,
Elem1=U_[234],[234],,,Cts/S, .8728,.1505,17.25, .6812, .8321, 1.04
4, .8008, 1.006,,,
Elem2=U_[235],[235],,,Cts/S, .8525,.0592,6.943, .8646, .8842, .887
7, .8783, .7478,,,
Elem3=U_[236],[236],,,Cts/S, 1.082,.3106,28.70, 1.048, 1.456, 1.33
2, .8524, .7220,,,
Elem4=U_[238],[238],,,Cts/S, 1.190,.2522,21.19, 1.493, 1.040, .861
6, 1.369, 1.186,,,

[Internal Standards]
;Format=elem,wl,inst,units,avg,stddev,%rsd,repl..repn
Elem0=Ir[193],[193],,Cts/S, 19.241,.13102,.68092,19.084,19.227,19.
150,19.356,19.390

[Sample Header]
Method=ISOU
SampleName=100ppb U
Operator=
Comment=
CustID=

CustSmpl=
LabID=
Run Time=05/15/2000 13:39
Sample Type=Std
Mode=IR
CorrFactor=1.000000
Repeats=5

[Results]

;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,repl..repn,chk pass/fail,chklo,chkhi
Elem0=U [233],[233],,,Cts/S, 175.7,2.021,1.150, 178.3, 177.0, 174.6, 175.4, 173.1,,,
Elem1=U [234],[234],,,Cts/S, 175.7,2.021,1.150, 178.3, 177.0, 174.6, 175.4, 173.1,,,
Elem2=U [235],[235],,,Cts/S, 175.7,2.021,1.150, 178.3, 177.0, 174.6, 175.4, 173.1,,,
Elem3=U [236],[236],,,Cts/S, 175.7,2.021,1.150, 178.3, 177.0, 174.6, 175.4, 173.1,,,
Elem4=U [238],[238],,,Cts/S, 22340.,570.7,2.555, 22180., 22530., 22000., 23230., 21770.,,,

[Internal Standards]

;Format=elem,wl,inst,units,avg,stddev,%rsd,repl..repn
Elem0=Ir[193],[193],,Cts/S, 20.122,.22792,1.1327,20.318,20.398,20.055,19.862,19.976

[Sample Header]

Method=ISOU
SampleName=icv
Operator=kjt
Comment=isou lcs
CustID=
CustSmpl=49b55
LabID=
Run Time=05/15/2000 13:45
Sample Type=Unk
Mode=CONC
CorrFactor=1.000000
Repeats=5

[Results]

;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,repl..repn,chk pass/fail,chklo,chkhi
Elem0=U [233],[233],,,ppb, .0000,.0004,3236., .0003, -.0001, .0000, -.0006, .0004,,,
Elem1=U [234],[234],,,ppb, .0011,.0006,54.96, .0005, .0011, .0020, .0007, .0011,,,


```

Elem2=U_[235],[235],,,ppb, .1478,.0033,2.206, .1531, .1463, .1446,
.1484,.1464,,,
Elem3=U_[236],[236],,,ppb, .0012,.0010,81.07, .0008, .0017, -.0003
,.0021,.0018,,,
Elem4=U_[238],[238],,,ppb, 21.21,.7332,3.456, 22.36, 21.41, 21.01,
20.88, 20.41,,,

```

[Internal Standards]

```
;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
```

```
Elem0=Ir[193],[193],,Cts/S, 19.915,.59003,2.9628,19.079,19.733,19.
981,20.069,20.710
```

[Sample Header]

```
Method=ISOU
```

```
SampleName=icv
```

```
Operator=kjt
```

```
Comment=isou lcs
```

```
CustID=
```

```
CustSmpl=49b55
```

```
LabID=
```

```
Run Time=05/15/2000 13:45
```

```
Sample Type=Unk
```

```
Mode=CONC
```

```
CorrFactor=1.000000
```

```
Repeats=5
```

[Results]

```
;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pa
ss/fail,chklo,chkhi
```

```
Elem0=U_[233],[233],,,ppb, .0000,.0004,1135., -.0001, .0000, -.000
6, .0004, .0001,,,

```

```
Elem1=U_[234],[234],,,ppb, .0012,.0005,45.54, .0011, .0020, .0007,
.0011, .0009,,,

```

```
Elem2=U_[235],[235],,,ppb, .1461,.0016,1.085, .1463, .1446, .1484,
.1464, .1446,,,

```

```
Elem3=U_[236],[236],,,ppb, .0014,.0010,69.59, .0017, -.0003, .0021
,.0018, .0020,,,

```

```
Elem4=U_[238],[238],,,ppb, 20.80,.4558,2.191, 21.41, 21.01, 20.88,
20.41, 20.30,,,

```

[Internal Standards]

```
;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
```

```
Elem0=Ir[193],[193],,Cts/S, 20.161,.37027,1.8366,19.733,19.981,20.
069,20.710,20.312
```

[Sample Header]

```
Method=ISOU
```

```
SampleName=icb
```

Operator=kjt
Comment=2% nitric
CustID=
CustSmpl=
LabID=
Run Time=05/15/2000 13:51
Sample Type=Unk
Mode=CONC
CorrFactor=1.000000
Repeats=5

[Results]

;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pass/fail,chklo,chkhi
Elem0=U_[233],[233],,,ppb, .0002,.0008,351.1, -.0009, .0003, .0003
, .0013, .0001,,,
Elem1=U_[234],[234],,,ppb, .0002,.0004,237.9, -.0001, .0000, .0002
, .0008, -.0001,,,
Elem2=U_[235],[235],,,ppb, -.0004,.0005,102.0, -.0008, -.0007, -.0007, -.0004, .0003,,,
Elem3=U_[236],[236],,,ppb, -.0010,.0005,44.20, -.0013, -.0011, -.0006, -.0006, -.0016,,,
Elem4=U_[238],[238],,,ppb, -.0011,.0005,45.47, -.0007, -.0016, -.0004, -.0016, -.0012,,,

[Internal Standards]

;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
Elem0=Ir[193],[193],,Cts/S, 20.333,.13374,.65772,20.494,20.280,20.191,20.246,20.455

[Sample Header]

Method=ISOU
SampleName=prep-std
Operator=kjt
Comment=201 df
CustID=
CustSmpl=
LabID=
Run Time=05/15/2000 13:59
Sample Type=Unk
Mode=CONC
CorrFactor=1.000000
Repeats=5

[Results]

;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pass/fail,chklo,chkhi
Elem0=U_[233],[233],,,ppb, -.0003,.0008,252.2, .0005, -.0006, -.00

```

07, .0006, -.0014,,,
Elem1=U_[234],[234],,,,ppb, .0006,.0006,105.3, .0006, -.0003, .0005
, .0014, .0007,,,
Elem2=U_[235],[235],,,,ppb, .1314,.0049,3.734, .1272, .1336, .1374,
.1332, .1255,,,
Elem3=U_[236],[236],,,,ppb, .0051,.0011,21.82, .0053, .0063, .0059,
.0035, .0044,,,
Elem4=U_[238],[238],,,,ppb, 49.93,1.109,2.220, 49.91, 50.60, 51.41,
49.09, 48.67,,,

```

[Internal Standards]

```

;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
Elem0=Ir[193],[193],,Cts/S, 20.482,.29645,1.4473,20.484,20.740,19.
993,20.500,20.695

```

[Sample Header]

```

Method=ISOU
SampleName=blnk-prep
Operator=kjt
Comment=11 df
CustID=
CustSmpl=
LabID=
Run Time=05/15/2000 14:06
Sample Type=Unk
Mode=CONC
CorrFactor=1.000000
Repeats=5

```

[Results]

```

;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pa
ss/fail,chklo,chkhi
Elem0=U_[233],[233],,,,ppb, .0010,.0004,44.91, .0004, .0014, .0013,
.0006, .0012,,,
Elem1=U_[234],[234],,,,ppb, .0007,.0003,37.68, .0005, .0011, .0005,
.0006, .0007,,,
Elem2=U_[235],[235],,,,ppb, .0013,.0006,49.96, .0009, .0006, .0009,
.0018, .0020,,,
Elem3=U_[236],[236],,,,ppb, -.0004,.0008,189.0, .0007, -.0004, -.00
13, -.0002, -.0011,,,
Elem4=U_[238],[238],,,,ppb, .0004,.0007,168.0, .0002, .0007, -.0004
, .0013, .0001,,,

```

[Internal Standards]

```

;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
Elem0=Ir[193],[193],,Cts/S, 19.801,.41349,2.0883,19.359,19.635,20.
333,20.134,19.542

```

[Sample Header]

Method=ISOU
SampleName=S00Q000009
Operator=kjt
Comment=11 df
CustID=
CustSmpl=
LabID=
Run Time=05/15/2000 14:09
Sample Type=Unk
Mode=CONC
CorrFactor=1.000000
Repeats=5

[Results]

;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pass/fail,chklo,chkhi
Elem0=U_[233],[233],,,ppb, .0005,.0004,85.55, .0001, .0007, .0008,
.0000, .0007,,,
Elem1=U_[234],[234],,,ppb, .0009,.0008,84.69, .0018, .0004, .0014,
-.0001, .0011,,,
Elem2=U_[235],[235],,,ppb, .0146,.0017,11.41, .0155, .0121, .0161,
.0155, .0137,,,
Elem3=U_[236],[236],,,ppb, -.0005,.0005,107.6, -.0002, -.0004, -.0002,
-.0013, -.0002,,,
Elem4=U_[238],[238],,,ppb, 1.993,.1124,5.642, 2.151, 2.039, 1.986,
1.850, 1.938,,,

[Internal Standards]

;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
Elem0=Ir[193],[193],,Cts/S, 19.488,.40416,2.0738,18.786,19.508,19.772,
19.698,19.677

[Sample Header]

Method=ISOU
SampleName=S00Q000009_d
Operator=kjt
Comment=11 df
CustID=
CustSmpl=
LabID=
Run Time=05/15/2000 14:11
Sample Type=Unk
Mode=CONC
CorrFactor=1.000000
Repeats=5

[Results]

```
;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pass/fail,chklo,chkhi
Elem0=U_[233],[233],,,ppb, .0010,.0005,51.42, .0011, .0014, .0012,
.0011,.0001,,,
Elem1=U_[234],[234],,,ppb, .0007,.0006,93.71, .0014, .0008, -.0001
, .0002, .0012,,,
Elem2=U_[235],[235],,,ppb, .0143,.0029,20.51, .0120, .0155, .0140,
.0187,.0115,,,
Elem3=U_[236],[236],,,ppb, .0002,.0006,255.7, -.0006, .0007, .0004
, .0008, -.0002,,,
Elem4=U_[238],[238],,,ppb, 1.980,.1336,6.748, 1.881, 2.033, 1.869,
2.190, 1.928,,,
```

[Internal Standards]

```
;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
Elem0=Ir[193],[193],,Cts/S, 19.181,.68720,3.5827,19.070,19.490,19.
598,18.032,19.716
```

[Sample Header]

```
Method=ISOU
SampleName=S00Q000009_d
Operator=kjt
Comment=11 df
CustID=
CustSmpl=
LabID=
Run Time=05/15/2000 14:12
Sample Type=Unk
Mode=CONC
CorrFactor=1.000000
Repeats=5
```

[Results]

```
;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pass/fail,chklo,chkhi
Elem0=U_[233],[233],,,ppb, .0007,.0010,142.6, .0010, .0002, .0001,
-.0001, .0023,,,
Elem1=U_[234],[234],,,ppb, .0003,.0004,133.7, .0010, .0004, -.0003
, .0003, .0003,,,
Elem2=U_[235],[235],,,ppb, .0151,.0013,8.712, .0140, .0157, .0140,
.0171,.0145,,,
Elem3=U_[236],[236],,,ppb, -.0004,.0006,154.3, -.0013, .0004, -.00
02, -.0001, -.0008,,,
Elem4=U_[238],[238],,,ppb, 1.998,.0948,4.746, 1.913, 1.937, 1.973,
2.012, 2.153,,,
```

[Internal Standards]

```
;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
```

Elem0=Ir[193],[193],,Cts/S, 19.064,.20461,1.0732,18.845,19.204,19.302,19.110,18.860

[Sample Header]
 Method=ISOU
 SampleName=S00Q000009_t
 Operator=kjt
 Comment=11 df
 CustID=
 CustSmpl=
 LabID=
 Run Time=05/15/2000 14:13
 Sample Type=Unk
 Mode=CONC
 CorrFactor=1.000000
 Repeats=5

[Results]
 ;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pass/fail,chklo,chkhi
 Elem0=U_[233],[233],,ppb, .0014,.0011,74.37, .0009, .0033, .0010, .0011, .0009,,
 Elem1=U_[234],[234],,ppb, .0015,.0009,57.50, .0012, .0017, .0018, .0026, .0002,,
 Elem2=U_[235],[235],,ppb, .0136,.0012,8.502, .0138, .0147, .0121, .0146, .0127,,
 Elem3=U_[236],[236],,ppb, .0007,.0011,166.6, .0016, .0006, -.0007, -.0001, .0019,,
 Elem4=U_[238],[238],,ppb, 1.967,.0729,3.705, 2.059, 1.924, 2.018, 1.957, 1.876,,

[Internal Standards]
 ;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
 Elem0=Ir[193],[193],,Cts/S, 19.143,.21691,1.1331,19.066,19.296,19.124,18.834,19.394

[Sample Header]
 Method=ISOU
 SampleName=ccv
 Operator=kjt
 Comment=isou lcs
 CustID=
 CustSmpl=49b55
 LabID=
 Run Time=05/15/2000 14:19
 Sample Type=Unk
 Mode=CONC
 CorrFactor=1.000000

Repeats=5

[Results]

;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pass/fail,chklo,chkhi
Elem0=U_[233],[233],,,ppb, .0001,.0010,778.5, .0003, -.0005, .0011, .0009, -.0012,,,
Elem1=U_[234],[234],,,ppb, .0020,.0004,21.83, .0021, .0021, .0013, .0020, .0024,,,
Elem2=U_[235],[235],,,ppb, .1519,.0096,6.298, .1568, .1380, .1542, .1476, .1630,,,
Elem3=U_[236],[236],,,ppb, .0025,.0013,49.77, .0017, .0026, .0040, .0009, .0034,,,
Elem4=U_[238],[238],,,ppb, 21.30,.8175,3.839, 21.37, 20.31, 21.70, 20.71, 22.39,,,

[Internal Standards]

;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
Elem0=Ir[193],[193],,Cts/S, 20.506,.46354,2.2605,20.713,21.130,19.868,20.380,20.441

[Sample Header]

Method=ISOU
SampleName=ccb
Operator=kjt
Comment=2% nitric
CustID=
CustSmpl=
LabID=
Run Time=05/15/2000 14:23
Sample Type=Unk
Mode=CONC
CorrFactor=1.000000
Repeats=5

[Results]

;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pass/fail,chklo,chkhi
Elem0=U_[233],[233],,,ppb, .0001,.0002,214.0, .0002, .0003, .0003, .0000, -.0002,,,
Elem1=U_[234],[234],,,ppb, .0005,.0008,175.6, .0013, .0014, .0002, -.0004, -.0001,,,
Elem2=U_[235],[235],,,ppb, .0003,.0005,148.4, .0008, .0004, -.0004, .0003, .0006,,,
Elem3=U_[236],[236],,,ppb, -.0009,.0006,62.33, -.0002, -.0015, -.0009, -.0014, -.0005,,,
Elem4=U_[238],[238],,,ppb, -.0003,.0010,328.2, .0005, -.0005, .0006, -.0018, -.0003,,,

```
[Internal Standards]
;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
Elem0=Ir[193],[193],,Cts/S, 21.107,.28392,1.3451,20.901,20.721,21.
398,21.268,21.249
```

```
[Sample Header]
Method=ISOU
SampleName=prep-std
Operator=kjt
Comment=401 df
CustID=
CustSmpl=
LabID=
Run Time=05/15/2000 14:26
Sample Type=Unk
Mode=CONC
CorrFactor=1.000000
Repeats=5
```

```
[Results]
;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pa
ss/fail,chklo,chkhi
Elem0=U_[233],[233],,,ppb, .0005,.0008,172.6, .0003, .0003, .0014,
-.0007, .0011,,,
Elem1=U_[234],[234],,,ppb, .0008,.0004,50.43, .0012, .0006, .0004,
.0011, .0005,,,
Elem2=U_[235],[235],,,ppb, .0652,.0040,6.182, .0610, .0672, .0704,
.0612, .0661,,,
Elem3=U_[236],[236],,,ppb, .0021,.0010,46.48, .0017, .0035, .0023,
.0022, .0009,,,
Elem4=U_[238],[238],,,ppb, 25.25,.7403,2.932, 24.71, 24.78, 26.34,
25.71, 24.73,,,
```

```
[Internal Standards]
;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
Elem0=Ir[193],[193],,Cts/S, 20.803,.27685,1.3308,20.815,20.743,20.
545,20.650,21.264
```

```
[Sample Header]
Method=ISOU
SampleName=blink-prep
Operator=kjt
Comment=401 df
CustID=
CustSmpl=
LabID=
Run Time=05/15/2000 14:31
```


Sample Type=Unk
Mode=CONC
CorrFactor=1.000000
Repeats=5

[Results]

;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pass/fail,chklo,chkhi
Elem0=U_[233],[233],,,ppb, .0006,.0007,120.4, .0013, .0015, -.0002,
.0004, .0001,,, ,
Elem1=U_[234],[234],,,ppb, .0007,.0006,98.72, .0014, .0009, .0008,
-.0004, .0005,,, ,
Elem2=U_[235],[235],,,ppb, .0000,.0005,1428., .0001, .0000, .0000,
.0006, -.0007,,, ,
Elem3=U_[236],[236],,,ppb, -.0006,.0005,83.38, -.0004, -.0005, .0000,
-.0006, -.0013,,, ,
Elem4=U_[238],[238],,,ppb, -.0001,.0010,835.7, .0013, .0001, .0002,
-, -.0008, -.0014,,, ,

[Internal Standards]

;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
Elem0=Ir[193],[193],,Cts/S, 20.598,.35760,1.7361,20.244,20.384,20.881,20.410,21.072

[Sample Header]

Method=ISOU
SampleName=S00T000620
Operator=kjt
Comment=401 df
CustID=
CustSmpl=
LabID=
Run Time=05/15/2000 14:34
Sample Type=Unk
Mode=CONC
CorrFactor=1.000000
Repeats=5

[Results]

;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pass/fail,chklo,chkhi
Elem0=U_[233],[233],,,ppb, .0011,.0010,91.48, .0016, .0027, .0007,
.0003, .0004,,, ,
Elem1=U_[234],[234],,,ppb, .0011,.0008,72.71, .0009, .0016, .0004,
.0022, .0004,,, ,
Elem2=U_[235],[235],,,ppb, .0399,.0017,4.192, .0383, .0416, .0381,
.0400, .0414,,, ,
Elem3=U_[236],[236],,,ppb, .0010,.0005,49.77, .0008, .0012, .0007,

.0018, .0006,,,
Elem4=U_[238],[238],,,ppb, 6.212,.2574,4.143, 5.908, 6.582, 6.088,
6.142, 6.338,,,

[Internal Standards]
;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
Elem0=Ir[193],[193],,Cts/S, 20.998,.43354,2.0647,21.393,20.452,21.
338,20.617,21.190

[Sample Header]
Method=ISOU
SampleName=S00T000620_d
Operator=kjt
Comment=401 df
CustID=
CustSmpl=
LabID=
Run Time=05/15/2000 14:36
Sample Type=Unk
Mode=CONC
CorrFactor=1.000000
Repeats=5

[Results]
;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pa
ss/fail,chklo,chkhi
Elem0=U_[233],[233],,,ppb, .0017,.0007,41.50, .0017, .0026, .0020,
.0014, .0007,,,
Elem1=U_[234],[234],,,ppb, .0010,.0011,107.3, .0005, .0019, .0024,
-.0002, .0006,,,
Elem2=U_[235],[235],,,ppb, .0371,.0010,2.584, .0354, .0377, .0373,
.0377, .0375,,,
Elem3=U_[236],[236],,,ppb, .0008,.0008,90.17, .0007, .0002, .0006,
.0006, .0021,,,
Elem4=U_[238],[238],,,ppb, 5.450,.0570,1.047, 5.445, 5.515, 5.394,
5.396, 5.502,,,

[Internal Standards]
;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
Elem0=Ir[193],[193],,Cts/S, 20.193,.42841,2.1215,20.797,19.641,19.
971,20.290,20.269

[Sample Header]
Method=ISOU
SampleName=S00T000620_s
Operator=kjt
Comment=401 df
CustID=

CustSmpl=
 LabID=
 Run Time=05/15/2000 14:39
 Sample Type=Unk
 Mode=CONC
 CorrFactor=1.000000
 Repeats=5

[Results]
 ;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pass/fail,chklo,chkhi
 Elem0=U_[233],[233],,,ppb, .0014,.0006,44.24, .0016, .0012, .0018,
 .0019, .0004,,,
 Elem1=U_[234],[234],,,ppb, .0008,.0007,91.47, .0001, .0009, .0019,
 .0010, .0001,,,
 Elem2=U_[235],[235],,,ppb, .1076,.0023,2.133, .1093, .1086, .1054,
 .1048, .1098,,,
 Elem3=U_[236],[236],,,ppb, .0040,.0009,22.29, .0055, .0039, .0036,
 .0032, .0037,,,
 Elem4=U_[238],[238],,,ppb, 30.96,1.059,3.421, 31.76, 30.95, 30.92,
 29.25, 31.92,,,

[Internal Standards]
 ;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
 Elem0=Ir[193],[193],,Cts/S, 20.669,.43846,2.1213,20.613,21.300,20.
 859,20.145,20.430

[Sample Header]
 Method=ISOU
 SampleName=S00T000620_a
 Operator=kjt
 Comment=401 df
 CustID=
 CustSmpl=
 LabID=
 Run Time=05/15/2000 14:44
 Sample Type=Unk
 Mode=CONC
 CorrFactor=1.000000
 Repeats=5

[Results]
 ;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pass/fail,chklo,chkhi
 Elem0=U_[233],[233],,,ppb, .0013,.0006,48.40, .0011, .0005, .0015,
 .0022, .0011,,,
 Elem1=U_[234],[234],,,ppb, .0018,.0003,19.63, .0016, .0017, .0019,
 .0023, .0014,,,

```
Elem2=U_[235],[235],,,,ppb, .1832,.0036,1.955, .1789, .1824, .1810,  
.1861,.1875,,,  
Elem3=U_[236],[236],,,,ppb, .0034,.0014,41.12, .0050, .0030, .0021,  
.0048,.0021,,,  
Elem4=U_[238],[238],,,,ppb, 26.72,.7609,2.848, 25.70, 27.45, 26.12,  
27.20, 27.11,,,
```

[Internal Standards]

```
;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn  
Elem0=Ir[193],[193],,Cts/S, 20.625,.38289,1.8565,20.880,20.308,20.  
869,20.118,20.949
```

[Sample Header]

```
Method=ISOU  
SampleName=S00T000633  
Operator=kjt  
Comment=401 df  
CustID=  
CustSmpl=  
LabID=  
Run Time=05/15/2000 14:52  
Sample Type=Unk  
Mode=CONC  
CorrFactor=1.000000  
Repeats=5
```

[Results]

```
;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pa  
ss/fail,chklo,chkhi  
Elem0=U_[233],[233],,,,ppb, .0007,.0011,151.8, .0004, -.0008, .0011  
, .0008, .0022,,,  
Elem1=U_[234],[234],,,,ppb, .0005,.0006,120.6, .0013, .0002, -.0001  
, .0001, .0010,,,  
Elem2=U_[235],[235],,,,ppb, .0394,.0027,6.969, .0435, .0389, .0384,  
.0360, .0401,,,  
Elem3=U_[236],[236],,,,ppb, .0014,.0009,59.39, .0021, .0000, .0013,  
.0017, .0020,,,  
Elem4=U_[238],[238],,,,ppb, 6.091,.2534,4.160, 5.918, 6.294, 5.940,  
5.873, 6.431,,,
```

[Internal Standards]

```
;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn  
Elem0=Ir[193],[193],,Cts/S, 20.711,.46556,2.2479,21.178,20.735,20.  
545,21.081,20.015
```

[Sample Header]

```
Method=ISOU  
SampleName=S00T000633_d
```

Operator=kjt
Comment=401 df
CustID=
CustSmpl=
LabID=
Run Time=05/15/2000 14:56
Sample Type=Unk
Mode=CONC
CorrFactor=1.000000
Repeats=5

[Results]
;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pass/fail,chklo,chkhi
Elem0=U_[233],[233],,,ppb, .0017,.0011,66.15, .0013, .0013, .0037,
.0008, .0015,,,
Elem1=U_[234],[234],,,ppb, .0006,.0007,108.7, .0014, .0005, .0009,
.0006, -.0004,,,
Elem2=U_[235],[235],,,ppb, .0387,.0027,6.961, .0393, .0422, .0378,
.0348, .0393,,,
Elem3=U_[236],[236],,,ppb, .0007,.0004,66.15, .0005, .0014, .0006,
.0006, .0003,,,
Elem4=U_[238],[238],,,ppb, 5.930,.2426,4.091, 6.157, 5.770, 5.608,
5.952, 6.163,,,

[Internal Standards]
;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
Elem0=Ir[193],[193],,Cts/S, 20.829,.37024,1.7775,20.310,20.879,20.
905,20.716,21.336

[Sample Header]
Method=ISOU
SampleName=ccv
Operator=kjt
Comment=isou lcs
CustID=
CustSmpl=49b55
LabID=
Run Time=05/15/2000 15:05
Sample Type=Unk
Mode=CONC
CorrFactor=1.000000
Repeats=5

[Results]
;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pass/fail,chklo,chkhi
Elem0=U_[233],[233],,,ppb, .0011,.0010,90.75, -.0004, .0021, .0013

```
, .0007, .0016,,,
Elem1=U_[234],[234],,,,ppb, .0014,.0005,32.44, .0020, .0009, .0013,
.0019, .0011,,,
Elem2=U_[235],[235],,,,ppb, .1595,.0082,5.116, .1540, .1703, .1553,
.1662, .1520,,,
Elem3=U_[236],[236],,,,ppb, .0019,.0011,58.73, .0010, .0010, .0015,
.0026, .0036,,,
Elem4=U_[238],[238],,,,ppb, 22.45,.9125,4.064, 22.02, 23.35, 21.08,
22.79, 23.03,,,
```

[Internal Standards]

```
;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
Elem0=Ir[193],[193],,Cts/S, 20.923,.53546,2.5593,21.695,20.448,20.
380,21.035,21.054
```

[Sample Header]

```
Method=ISOU
SampleName=ccb
Operator=kjt
Comment=2% nitric
CustID=
CustSmpl=
LabID=
Run Time=05/15/2000 15:14
Sample Type=Unk
Mode=CONC
CorrFactor=1.000000
Repeats=5
```

[Results]

```
;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pa
ss/fail,chklo,chkhi
Elem0=U_[233],[233],,,,ppb, .0008,.0003,36.09, .0010, .0005, .0006,
.0012, .0009,,,
Elem1=U_[234],[234],,,,ppb, .0004,.0006,147.7, .0010, .0008, -.0003
, .0000, .0004,,,
Elem2=U_[235],[235],,,,ppb, .0001,.0006,936.3, -.0007, .0008, -.000
4, .0003, .0003,,,
Elem3=U_[236],[236],,,,ppb, -.0007,.0006,95.10, -.0015, -.0007, .00
03, -.0005, -.0010,,,
Elem4=U_[238],[238],,,,ppb, .0000,.0013,3721., .0009, .0017, -.0013
, .0000, -.0012,,,
```

[Internal Standards]

```
;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
Elem0=Ir[193],[193],,Cts/S, 20.933,.31367,1.4985,20.690,21.437,20.
943,20.649,20.945
```

LABCORE Completed Worklist Report for Worklist# 32931

Analyst: kjt

Instrument: ICPMS1

Book#: 62857
000516-3

Method: LA-506-101 Rev/Mod A-3

Worklist Comment: ICP/MS SY-102 (SOLID ACID DIGEST) MSPR

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	ICV		0		@MSPR-QC TC99	QC	0.020	2.04e-02	102.000	% Recovery
1	ICV		0		@MSPR-QC SN117	QC	0.020	1.95e-02	97.500	% Recovery
1	ICV		0		@MSPR-QC CS133	QC	0.020	1.89e-02	94.500	% Recovery
2	ICB		0		@MSPR-QC TC99	QC	1	<2.00e-6		ug/mL
2	ICB		0		@MSPR-QC SN117	QC	1	<1.50e-4		ug/mL
2	ICB		0		@MSPR-QC SN126	QC	1	<1.50e-4		ug/mL
2	ICB		0		@MSPR-QC CS133	QC	1	8.40e-06	0.000	ug/mL
2	ICB		0		@MSPR-QC CS135	QC	1	<2.00e-6		ug/mL
2	ICB		0		@MSPR-QC CS137	QC	1	<2.00e-6		ug/mL
3	BLNK-PREP		0		@MSPR-A1 TC99-A1	SOLID	1	1.12e-03	0.001	ug/g
3	BLNK-PREP		0		@MSPR-A1 SN117-A1	SOLID	1	<6.02e-2		ug/g
3	BLNK-PREP		0		@MSPR-A1 SN126-A1	SOLID	1	<6.02e-2		ug/g
3	BLNK-PREP		0		@MSPR-A1 CS133-A1	SOLID	1	4.45e-03	0.004	ug/g
3	BLNK-PREP		0		@MSPR-A1 CS135-A1	SOLID	1	<8.02e-4		ug/g
3	BLNK-PREP		0		@MSPR-A1 CS137-A1	SOLID	1	<8.02e-4		ug/g
4	SAMPLE	S00T000620	0	A	@MSPR-A1 TC99-A1	SOLID	N/A	1.351e+01	0.152	ug/g
4	SAMPLE	S00T000620	0	A	@MSPR-A1 SN117-A1	SOLID	N/A	< 1.141e+01	11.400	ug/g
4	SAMPLE	S00T000620	0	A	@MSPR-A1 SN126-A1	SOLID	N/A	< 1.141e+01	11.400	ug/g
4	SAMPLE	S00T000620	0	A	@MSPR-A1 CS133-A1	SOLID	N/A	4.935e+00	0.152	ug/g
4	SAMPLE	S00T000620	0	A	@MSPR-A1 CS135-A1	SOLID	N/A	1.247e+00	0.152	ug/g
4	SAMPLE	S00T000620	0	A	@MSPR-A1 CS137-A1	SOLID	N/A	1.800e+01	0.152	ug/g
5	DUP	S00T000620	0	A	@MSPR-A1 TC99-A1	SOLID	1.35e+01	1.36e+01	0.738	RPD
5	DUP	S00T000620	0	A	@MSPR-A1 SN117-A1	SOLID	<1.14e1	<1.17e1		RPD
5	DUP	S00T000620	0	A	@MSPR-A1 SN126-A1	SOLID	<1.14e1	<1.17e1		RPD
5	DUP	S00T000620	0	A	@MSPR-A1 CS133-A1	SOLID	4.93e+00	4.99e+00	1.210	RPD
5	DUP	S00T000620	0	A	@MSPR-A1 CS135-A1	SOLID	1.25e+00	1.19e+00	4.918	RPD
5	DUP	S00T000620	0	A	@MSPR-A1 CS137-A1	SOLID	1.80e+01	1.73e+01	3.966	RPD
6	SPK-POST	S00T000620	0	A	@MSPR-A1 TC99-A1	SOLID	0.020	2.33e-02	116.500	% Recovery
6	SPK-POST	S00T000620	0	A	@MSPR-A1 SN117-A1	SOLID	0.020	2.12e-02	106.000	% Recovery
6	SPK-POST	S00T000620	0	A	@MSPR-A1 CS133-A1	SOLID	0.020	2.06e-02	103.000	% Recovery
7	SAMPLE	S00T000633	0	A	@MSPR-A1 TC99-A1	SOLID	N/A	1.317e+01	0.152	ug/g
7	SAMPLE	S00T000633	0	A	@MSPR-A1 SN117-A1	SOLID	N/A	< 1.140e+01	11.400	ug/g
7	SAMPLE	S00T000633	0	A	@MSPR-A1 SN126-A1	SOLID	N/A	< 1.140e+01	11.400	ug/g
7	SAMPLE	S00T000633	0	A	@MSPR-A1 CS133-A1	SOLID	N/A	5.280e+00	0.152	ug/g
7	SAMPLE	S00T000633	0	A	@MSPR-A1 CS135-A1	SOLID	N/A	1.193e+00	0.152	ug/g
7	SAMPLE	S00T000633	0	A	@MSPR-A1 CS137-A1	SOLID	N/A	1.735e+01	0.152	ug/g
8	DUP	S00T000633	0	A	@MSPR-A1 TC99-A1	SOLID	1.32e+01	1.31e+01	0.760	RPD
8	DUP	S00T000633	0	A	@MSPR-A1 SN117-A1	SOLID	<1.14e1	<1.24e1		RPD
8	DUP	S00T000633	0	A	@MSPR-A1 SN126-A1	SOLID	<1.14e1	<1.24e1		RPD
8	DUP	S00T000633	0	A	@MSPR-A1 CS133-A1	SOLID	5.28e+00	5.06e+00	4.255	RPD
8	DUP	S00T000633	0	A	@MSPR-A1 CS135-A1	SOLID	1.19e+00	1.15e+00	3.419	RPD

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

LABCORE Completed Worklist Report for Worklist# 32931

Seq Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
8 DUP	S00T000633	0	A	@MSPR-A1 CS137-A1	SOLID	1.74e+01	1.74e+01	0.000	RPD
9 CCV		0		@MSPR-QC TC99	QC	0.020	2.07e-02	103.500	% Recovery
9 CCV		0		@MSPR-QC SN117	QC	0.020	1.95e-02	97.500	% Recovery
9 CCV		0		@MSPR-QC CS133	QC	0.020	1.84e-02	92.000	% Recovery
10 CCB		0		@MSPR-QC TC99	QC	1	2.20e-06	0.000	ug/mL
10 CCB		0		@MSPR-QC SN117	QC	1	<1.50e-4		ug/mL
10 CCB		0		@MSPR-QC SN126	QC	1	<1.50e-4		ug/mL
10 CCB		0		@MSPR-QC CS133	QC	1	1.40e-05	0.000	ug/mL
10 CCB		0		@MSPR-QC CS135	QC	1	<2.00e-6		ug/mL
10 CCB		0		@MSPR-QC CS137	QC	1	<2.00e-6		ug/mL

Final page for worklist# 32931

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Sam M. Pang 05/16/2000
Reviewer Signature _____ Date _____

04/11/00 10:37

Page: 1

ws2

LABCORE Data Entry Template for Worklist# 32931

Analyst: KST Instrument: ICPMS1 Book# 621857
 Method: LA-506-101 Rev/Mod A-3 000516-3

Worklist Comment: ICP/MS SY-102 (SOLID ACID DIGEST) MSPR

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	ICV				@MSPR-QC QC			
2	ICB				@MSPR-QC QC			
3	BLNK-PREP				@MSPR-A1 SOLID			
4	SAMPLE	S00T000620	0	A	@MSPR-A1 SOLID		20000085	SY-102 GRAB6
Analytes Requested: CS133-A1, CS135-A1, CS137-A1, I129-A1, SN117-A1, SN126-A1, TC99-A1								
5	DUP	S00T000620	0	A	@MSPR-A1 SOLID			
6	SPK-POST	S00T000620	0	A	@MSPR-A1 SOLID			
7	SAMPLE	S00T000633	0	A	@MSPR-A1 SOLID		20000085	SY-102 GRAB6
Analytes Requested: CS133-A1, CS135-A1, CS137-A1, I129-A1, SN117-A1, SN126-A1, TC99-A1								
8	DUP	S00T000633	0	A	@MSPR-A1 SOLID			
9	CCV				@MSPR-QC QC			
10	CCB				@MSPR-QC QC			

Final page for worklist # 32931

K5 Romelba 05-16-00
 Signature Date

401 df 025-10
 Signature Date

BLNK-Prep
 S00T000620
 S00T000620-d
 S00T000620-a
 S00T000620-a
 S00T000633
 S00T000633-d

Data Entry Comments:

Spikes 0.1ml MSPR SPIKE 441857, 2abml of 000316-1 SW 10ppm
Scans pr32931 pr00T620 pr00T633
 S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

439

Method: MS_TUNE

Sample Name: ms-tune

Operator: kjt

Comment:

Run Time: 05/16/00 09:05 Type: Unk

Mode: INT

Corr.Fact: 1.000000

Elem	In[115]	Ir[193]	Sc[45]
Line	115/pulse	193/pulse	45/pulse
Units	Cts/S	Cts/S	Cts/S
Avg	106500.	59620.	59890.
Stddev	1755.	1108.	4461.
%RSD	1.648	1.858	7.448
#1	108200.	60500.	65370.
#2	109100.	61040.	62920.
#3	104700.	60090.	51560.
#4	107100.	60810.	59170.
#5	107100.	60090.	60530.
#6	104200.	59900.	54800.
#7	106700.	58880.	60900.
#8	104600.	57740.	65890.
#9	105100.	58360.	57360.
#10	108200.	58800.	60430.

file 0516a.txt

Ks thermaleka 05-16-00

Spikes .1ml 44B57 ms prv

.abund of 000316-1 Sn 10 ppm

40401 df .65-10-.05-10

300T000511
 300T000511-d
 300T000511-a
 300T000511-a
 300T000611
 300T000611-d
 300T000611-a
 300T000611-a
 300T000627
 300T000627-d
 300T000636
 300T000636-d

Blank-Prep

300T000620
 300T000620-d
 300T000620-a
 300T000620-a
 300T000633
 300T000633-d

SIGNATURE AND FINGERPRINTS OF THE ANALYST MUST BE PRESENT ON EACH
 COMPLETED/VERIFIED THE CALIBRATION ANALYSIS ON PAGES 440 TO 464

Scans pr 32931 proot511, proot611, proot627, proot636
 proot620, proot633 440

HNF-1699 REV. 0

[Sample Header]
Method=MS_TUNE
SampleName=ms-tune
Operator=kjt
Comment=
CustID=
CustSmpl=
LabID=
Run Time=05/16/2000 08:38
Sample Type=Unk
Mode=INT
CorrFactor=1.000000
Repeats=10

[Results]
;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pass/fail,chklo,chkhi
Elem0=In[115],[115],,,Cts/S, 100600.,1913.,1.902, 103300., 98540., 100500., 100700., 99820., 102700., 102200., 99960., 101400., 96960.,,
Elem1=Ir[193],[193],,,Cts/S, 60080.,861.9,1.435, 60530., 60280., 60160., 60050., 59800., 59520., 58280., 61720., 60380., 60040.,,
Elem2=Sc[45],[45],,,Cts/S, 50670.,2549.,5.032, 53710., 52110., 49670., 49920., 49500., 52910., 54060., 50880., 46850., 47050.,,

[Internal Standards]
;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn

[Sample Header]
Method=MS_TUNE
SampleName=ms-tune
Operator=kjt
Comment=
CustID=
CustSmpl=
LabID=
Run Time=05/16/2000 08:42
Sample Type=Unk
Mode=INT
CorrFactor=1.000000
Repeats=10

[Results]
;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pass/fail,chklo,chkhi
Elem0=In[115],[115],,,Cts/S, 99490.,1870.,1.879, 100400., 97870., 100900., 99780., 96580., 97560., 98160., 99830., 101700., 102100.,

```
''  
Elem1=Ir[193],[193],,,Cts/S, 60270.,984.2,1.633, 59280., 61420., 6  
1360., 60240., 60000., 59720., 59230., 58950., 61520., 60950.,,  
Elem2=Sc[45],[45],,,Cts/S, 49640.,2364.,4.763, 49970., 47650., 515  
30., 49400., 45150., 50010., 48850., 50670., 49050., 54140.,,,
```

[Internal Standards]

```
;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
```

[Sample Header]

```
Method=MS_TUNE  
SampleName=ms-tune  
Operator=kjt  
Comment=  
CustID=  
CustSmpl=  
LabID=  
Run Time=05/16/2000 08:58  
Sample Type=Unk  
Mode=INT  
CorrFactor=1.000000  
Repeats=10
```

[Results]

```
;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pa  
ss/fail,chklo,chkhi  
Elem0=In[115],[115],,,Cts/S, 103100.,1876.,1.819, 103900., 103500.  
, 101700., 100500., 101900., 102000., 101800., 103900., 106700., 1  
05200.,,,  
Elem1=Ir[193],[193],,,Cts/S, 59770.,994.2,1.663, 60230., 60460., 5  
8660., 59240., 59440., 60700., 59810., 61180., 57870., 60100.,,  
Elem2=Sc[45],[45],,,Cts/S, 55600.,3690.,6.637, 56400., 60090., 543  
20., 51140., 55190., 49120., 55450., 54480., 59720., 60060.,,,
```

[Internal Standards]

```
;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
```

[Sample Header]

```
Method=MS_TUNE  
SampleName=ms-tune  
Operator=kjt  
Comment=  
CustID=  
CustSmpl=  
LabID=  
Run Time=05/16/2000 09:02  
Sample Type=Unk  
Mode=INT
```

HNF-1699 REV. 0

CorrFactor=1.000000
Repeats=10

[Results]

;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pass/fail,chklo,chkhi
Elem0=In[115],[115],,,Cts/S, 104700.,1618.,1.546, 105500., 106900., 104500., 104100., 104900., 103800., 101700., 103000., 106700., 105600.,,
Elem1=Ir[193],[193],,,Cts/S, 58180.,1130.,1.942, 58370., 58340., 59580., 58780., 57710., 57070., 58780., 55780., 58010., 59400.,,
Elem2=Sc[45],[45],,,Cts/S, 60520.,2927.,4.837, 59170., 62980., 59890., 54130., 62670., 61660., 60210., 63370., 63170., 57910.,,

[Internal Standards]

;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn

[Sample Header]

Method=MS_TUNE
SampleName=ms-tune
Operator=kjt
Comment=
CustID=
CustSmpl=
LabID=
Run Time=05/16/2000 09:05
Sample Type=Unk
Mode=INT
CorrFactor=1.000000
Repeats=10

[Results]

;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pass/fail,chklo,chkhi
Elem0=In[115],[115],,,Cts/S, 106500.,1755.,1.648, 108200., 109100., 104700., 107100., 107100., 104200., 106700., 104600., 105100., 108200.,,
Elem1=Ir[193],[193],,,Cts/S, 59620.,1108.,1.858, 60500., 61040., 60090., 60810., 60090., 59900., 58880., 57740., 58360., 58800.,,
Elem2=Sc[45],[45],,,Cts/S, 59890.,4461.,7.448, 65370., 62920., 51560., 59170., 60530., 54800., 60900., 65890., 57360., 60430.,,

[Internal Standards]

;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn

[Sample Header]

Method=PRV
SampleName=Blank

Operator=
Comment=
CustID=
CustSmpl=
LabID=
Run Time=05/16/2000 09:08
Sample Type=Std
Mode=IR
CorrFactor=1.000000
Repeats=5

[Results]

;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,repl..repn,chk pass/fail,chklo,chkhi
Elem0=Tc[99],[99],,,Cts/S, 1.031,.0910,8.831, 1.189, .9839, 1.021, .9634, .9954,,,
Elem1=Ru[102],[102],,,Cts/S, 48.10,8.678,18.04, 52.00, 53.00, 57.50, 41.00, 37.00,,,
Elem2=Te[125],[125],,,Cts/S, 1.067,.1410,13.21, 1.006, .9839, 1.253, .9175, 1.176,,,
Elem3=Sn[117],[117],,,Cts/S, 14.42,.5121,3.550, 14.41, 13.92, 14.76, 15.09, 13.94,,,
Elem4=Sn[126],[126],,,Cts/S, 1.916,.4087,21.32, 2.058, 1.919, 2.274, 2.110, 1.222,,,
Elem5=Cs[133],[133],,,Cts/S, 4.336,.5410,12.48, 4.299, 4.821, 4.687, 3.441, 4.434,,,
Elem6=Cs[135],[135],,,Cts/S, 3.973,.6661,16.76, 3.658, 4.083, 3.341, 3.716, 5.068,,,
Elem7=Cs[137],[137],,,Cts/S, 5.454,.4994,9.156, 5.671, 6.149, 5.151, 5.459, 4.841,,,
Elem8=Ba[138],[138],,,Cts/S, 21.74,1.411,6.491, 21.68, 22.97, 22.55, 22.11, 19.37,,,

[Internal Standards]

;Format=elem,wl,inst,units,avg,stddev,%rsd,repl..repn
Elem0=In[115],[115],,,Cts/S, 10.764,.34975,3.2492,10.933,10.164,10.775,10.899,11.050

[Sample Header]

Method=PRV
SampleName=PRV CAL
Operator=
Comment=
CustID=
CustSmpl=
LabID=
Run Time=05/16/2000 09:11
Sample Type=Std

Mode=IR
CorrFactor=1.000000
Repeats=5

[Results]

;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pass/fail,chklo,chkhi
Elem0=Tc[99],[99],,,Cts/S, 18110.,74.42,.4110, 18040., 18220., 18050., 18130., 18100.,,,
Elem1=Cs[133],[133],,,Cts/S, 16490.,216.0,1.310, 16160., 16700., 16410., 16640., 16530.,,,

[Internal Standards]

;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
Elem0=In[115],[115],,Cts/S, 10.760,.12382,1.1507,10.968,10.659,10.778,10.706,10.692

[Sample Header]

Method=PRV
SampleName=PRV1 CAL
Operator=
Comment=
CustID=
CustSmpl=
LabID=
Run Time=05/16/2000 09:14
Sample Type=Std
Mode=IR
CorrFactor=1.000000
Repeats=5

[Results]

;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pass/fail,chklo,chkhi
Elem0=Ru[102],[102],,,Cts/S, 348600.,4467.,1.281, 341900., 352000., 352500., 350400., 346500.,,,
Elem1=Te[125],[125],,,Cts/S, 1326.,21.48,1.620, 1331., 1348., 1331., 1290., 1328.,,,
Elem2=Cs[135],[135],,,Cts/S, 5769.,80.83,1.401, 5868., 5763., 5755., 5649., 5810.,,,
Elem3=Cs[137],[137],,,Cts/S, 10050.,155.3,1.545, 10210., 9884., 9970., 9954., 10210.,,,
Elem4=Ba[138],[138],,,Cts/S, 63550.,839.4,1.321, 64030., 63800., 62170., 63430., 64320.,,,

[Internal Standards]

;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
Elem0=In[115],[115],,Cts/S, 10.533,.12604,1.1966,10.462,10.412,10.

HNF-1699 REV. 0

675,10.663,10.451

{Sample Header}

Method=PRV

SampleName=PRV-SN CAL

Operator=

Comment=

CustID=

CustSmpl=

LabID=

Run Time=05/16/2000 09:16

Sample Type=Std

Mode=IR

CorrFactor=1.000000

Repeats=5

{Results}

;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pass/fail,chklo,chkhi

Elem0=Sn[117],[117],,,Cts/S, 15720.,432.5,2.751, 15060., 15550., 15920., 15910., 16180.,,,

Elem1=Sn[126],[126],,,Cts/S, 15720.,432.5,2.751, 15060., 15550., 15920., 15910., 16180.,,,

{Internal Standards}

;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn

Elem0=In[115],[115],,Cts/S, 10.565,.26805,2.5371,10.992,10.644,10.481,10.395,10.315

{Sample Header}

Method=PRV

SampleName=icv

Operator=kjt

Comment=mrprv lcs

CustID=

CustSmpl=62b57

LabID=

Run Time=05/16/2000 09:22

Sample Type=Unk

Mode=CONC

CorrFactor=1.000000

Repeats=5

{Results}

;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pass/fail,chklo,chkhi

Elem0=Tc[99],[99],,,ppb, 20.26,.4427,2.185, 19.72, 20.19, 20.57, 20.83, 19.99,,,


```

Elem1=Ru[102],[102],,,,ppb, .0055,.0014,25.20, .0073, .0041, .0063,
.0041, .0054,,,
Elem2=Te[125],[125],,,,ppb, .0433,.0165,38.20, .0230, .0301, .0636,
.0516, .0483,,,
Elem3=Sn[117],[117],,,,ppb, 1.911,.1501,7.855, 1.679, 1.845, 1.974,
2.004, 2.050,,,
Elem4=Sn[126],[126],,,,ppb, .0010,.0005,54.56, .0012, .0005, .0008,
.0007, .0018,,,
Elem5=Cs[133],[133],,,,ppb, 19.08,.7077,3.709, 18.18, 18.56, 19.61,
19.19, 19.87,,,
Elem6=Cs[135],[135],,,,ppb, .0115,.0012,10.57, .0110, .0110, .0106,
.0112, .0136,,,
Elem7=Cs[137],[137],,,,ppb, .0184,.0020,11.05, .0175, .0173, .0163,
.0191, .0215,,,
Elem8=Ba[138],[138],,,,ppb, .1561,.0066,4.206, .1549, .1455, .1610,
.1573, .1620,,,

```

[Internal Standards]

```
;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
```

```
Elem0=In[115],[115],,Cts/S, 10.628,.29516,2.7771,10.936,10.916,10.
471,10.567,10.251
```

[Sample Header]

```
Method=PRV
```

```
SampleName=icv
```

```
Operator=kjt
```

```
Comment=mrprv lcs
```

```
CustID=
```

```
CustSmpl=62b57
```

```
LabID=
```

```
Run Time=05/16/2000 09:22
```

```
Sample Type=Unk
```

```
Mode=CONC
```

```
CorrFactor=1.000000
```

```
Repeats=5
```

[Results]

```
;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pa
ss/fail,chklo,chkhi
```

```
Elem0=Tc[99],[99],,,,ppb, 20.35,.4201,2.064, 19.72, 20.19, 20.57, 2
0.83, 20.46,,,

```

```
Elem1=Ru[102],[102],,,,ppb, .0047,.0022,47.54, .0073, .0041, .0063,
.0041, .0015,,,

```

```
Elem2=Te[125],[125],,,,ppb, .0354,.0221,62.32, .0230, .0301, .0636,
.0516, .0088,,,

```

```
Elem3=Sn[117],[117],,,,ppb, 1.923,.1663,8.647, 1.679, 1.845, 1.974,
2.004, 2.113,,,

```

```
Elem4=Sn[126],[126],,,,ppb, .0008,.0003,36.13, .0012, .0005, .0008,
```

```
.0007, .0008,,,
Elem5=Cs[133],[133],,,,ppb, 18.85,.5578,2.959, 18.18, 18.56, 19.61,
19.19, 18.72,,,
Elem6=Cs[135],[135],,,,ppb, .0111,.0004,3.336, .0110, .0110, .0106,
.0112, .0116,,,
Elem7=Cs[137],[137],,,,ppb, .0169,.0018,10.78, .0175, .0173, .0163,
.0191, .0142,,,
Elem8=Ba[138],[138],,,,ppb, .1532,.0066,4.324, .1549, .1455, .1610,
.1573, .1472,,,
```

[Internal Standards]

```
;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
Elem0=In[115],[115],,Cts/S, 10.774,.23619,2.1922,10.936,10.916,10.
471,10.567,10.979
```

[Sample Header]

```
Method=PRV
SampleName=icv
Operator=kjt
Comment=20 ppb Sn
CustID=
CustSmpl=000516-3
LabID=
Run Time=05/16/2000 09:33
Sample Type=Unk
Mode=CONC
CorrFactor=1.000000
Repeats=5
```

[Results]

```
;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pa
ss/fail,chklo,chkhi
Elem0=Tc[99],[99],,,,ppb, .0023,.0002,9.819, .0022, .0022, .0021, .
0026, .0026,,,
Elem1=Ru[102],[102],,,,ppb, .0038,.0029,74.86, .0023, -.0003, .0070
, .0050, .0053,,,
Elem2=Te[125],[125],,,,ppb, -.0002,.0194,8867., .0284, .0031, -.014
6, .0035, -.0215,,,
Elem3=Sn[117],[117],,,,ppb, 19.54,.4234,2.167, 19.12, 19.72, 19.84,
19.97, 19.06,,,
Elem4=Sn[126],[126],,,,ppb, .0000,.0004,1033., .0003, -.0006, .0001
, .0002, -.0002,,,
Elem5=Cs[133],[133],,,,ppb, .0141,.0008,5.637, .0149, .0128, .0140,
.0141, .0146,,,
Elem6=Cs[135],[135],,,,ppb, .0035,.0004,10.49, .0037, .0033, .0033,
.0040, .0031,,,
Elem7=Cs[137],[137],,,,ppb, .0019,.0005,27.46, .0013, .0022, .0014,
.0025, .0020,,,
```

Elem8=Ba[138],[138],,,ppb, .0062,.0024,38.37, .0094, .0034, .0077,
.0049, .0054,,,

[Internal Standards]
;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
Elem0=In[115],[115],,Cts/S, 10.814,.05727,.52961,10.735,10.825,10.
864,10.778,10.869

[Sample Header]
Method=PRV
SampleName=icb
Operator=kjt
Comment=2% nitric
CustID=
CustSmpl=
LabID=
Run Time=05/16/2000 09:58
Sample Type=Unk
Mode=CONC
CorrFactor=1.000000
Repeats=5

[Results]
;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pa
ss/fail,chklo,chkhi
Elem0=Tc[99],[99],,,ppb, .0010,.0005,48.04, .0012, .0004, .0013, .
0006, .0016,,,
Elem1=Ru[102],[102],,,ppb, .0015,.0012,81.91, .0027, .0024, .0017,
.0007, -.0002,,,
Elem2=Te[125],[125],,,ppb, -.0047,.0140,296.9, -.0060, -.0253, .01
05, .0060, -.0088,,,
Elem3=Sn[117],[117],,,ppb, .0003,.0010,294.4, -.0001, .0013, -.000
1, .0014, -.0009,,,
Elem4=Sn[126],[126],,,ppb, .0000,.0002,1741., -.0003, .0001, .0004
, .0000, -.0001,,,
Elem5=Cs[133],[133],,,ppb, .0084,.0012,14.48, .0084, .0097, .0093,
.0082, .0065,,,
Elem6=Cs[135],[135],,,ppb, .0009,.0002,27.77, .0007, .0007, .0013,
.0010, .0008,,,
Elem7=Cs[137],[137],,,ppb, -.0003,.0004,118.9, .0002, -.0002, -.00
09, -.0005, -.0003,,,
Elem8=Ba[138],[138],,,ppb, .0040,.0023,58.46, .0051, .0014, .0032,
.0075, .0028,,,

[Internal Standards]
;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
Elem0=In[115],[115],,Cts/S, 10.957,.13678,1.2483,11.134,10.929,10.
780,10.897,11.046

```
;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pa
ss/fail,chklo,chkhi
Elem0=Tc[99],[99],,,ppb, .0012,.0006,47.81, .0008, .0012, .0009, .
0022, .0009,,,
Elem1=Ru[102],[102],,,ppb, -.0003,.0016,563.9, .0000, -.0023, -.00
15, .0017, .0007,,,
Elem2=Te[125],[125],,,ppb, .0038,.0109,290.1, .0195, -.0076, .0095
, .0015, -.0040,,,
Elem3=Sn[117],[117],,,ppb, .0007,.0015,195.0, .0027, .0019, -.0003
, .0003, -.0008,,,
Elem4=Sn[126],[126],,,ppb, -.0002,.0003,158.6, .0002, .0000, -.000
3, -.0002, -.0004,,,
Elem5=Cs[133],[133],,,ppb, .0098,.0009,9.062, .0086, .0098, .0111,
.0101, .0096,,,
Elem6=Cs[135],[135],,,ppb, -.0017,.0008,47.45, -.0025, -.0016, -.0
014, -.0023, -.0005,,,
Elem7=Cs[137],[137],,,ppb, -.0019,.0006,29.12, -.0013, -.0027, -.0
020, -.0015, -.0022,,,
Elem8=Ba[138],[138],,,ppb, -.0147,.0020,13.70, -.0134, -.0163, -.0
170, -.0121, -.0147,,,

```

[Internal Standards]

```
;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
Elem0=In[115],[115],,Cts/S, 10.115,.18012,1.7808,10.182,10.351,10.
062,10.122,9.8564

```

[Sample Header]

```
Method=PRV
SampleName=blnk-prep
Operator=kjt
Comment=401 df
CustID=
CustSmpl=
LabID=
Run Time=05/16/2000 11:30
Sample Type=Unk
Mode=CONC
CorrFactor=1.000000
Repeats=5

```

[Results]

```
;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pa
ss/fail,chklo,chkhi
Elem0=Tc[99],[99],,,ppb, .0031,.0006,20.15, .0041, .0024, .0030, .
0028, .0030,,,
Elem1=Ru[102],[102],,,ppb, -.0007,.0011,172.3, -.0025, .0007, -.00
05, -.0005, -.0006,,,
Elem2=Te[125],[125],,,ppb, .0139,.0200,143.7, .0141, .0456, -.0037

```

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```
, -.0026, .0160,,,
Elem3=Sn[117],[117],,,ppb, .0066,.0023,35.44, .0094, .0063, .0059,
.0033, .0082,,,
Elem4=Sn[126],[126],,,ppb, -.0002,.0005,208.5, .0005, -.0002, -.00
07, -.0002, -.0006,,,
Elem5=Cs[133],[133],,,ppb, .0120,.0007,5.708, .0111, .0115, .0121,
.0123, .0128,,,
Elem6=Cs[135],[135],,,ppb, -.0003,.0006,221.3, -.0002, .0000, -.00
06, .0005, -.0012,,,
Elem7=Cs[137],[137],,,ppb, -.0001,.0005,678.2, -.0004, .0006, -.00
06, .0002, -.0001,,,
Elem8=Ba[138],[138],,,ppb, .0025,.0020,79.32, .0033, .0045, .0032,
.0019, -.0006,,,
```

[Internal Standards]

```
;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
```

```
Elem0=In[115],[115],,Cts/S, 9.7618,.14658,1.5015,9.9635,9.5701,9.8
149,9.6873,9.7731
```

[Sample Header]

```
Method=PRV
```

```
SampleName=blnk-prep
```

```
Operator=kjt
```

```
Comment=401 df
```

```
CustID=
```

```
CustSmpl=
```

```
LabID=
```

```
Run Time=05/16/2000 11:33
```

```
Sample Type=Unk
```

```
Mode=CONC
```

```
CorrFactor=1.000000
```

```
Repeats=5
```

[Results]

```
;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pa
ss/fail,chklo,chkhi
```

```
Elem0=Tc[99],[99],,,ppb, .0028,.0006,22.06, .0031, .0021, .0032, .
0021, .0033,,,
```

```
Elem1=Ru[102],[102],,,ppb, -.0011,.0012,103.6, -.0009, -.0025, -.0
015, -.0015, .0007,,,
```

```
Elem2=Te[125],[125],,,ppb, .0192,.0141,73.07, -.0008, .0327, .0138
, .0325, .0180,,,
```

```
Elem3=Sn[117],[117],,,ppb, .0057,.0008,13.95, .0068, .0049, .0051,
.0063, .0055,,,
```

```
Elem4=Sn[126],[126],,,ppb, -.0003,.0004,117.0, .0001, -.0008, -.00
03, -.0006, -.0001,,,
```

```
Elem5=Cs[133],[133],,,ppb, .0111,.0010,8.592, .0110, .0104, .0108,
.0105, .0127,,,
```

Elem6=Cs[135],[135],,,,ppb, -.0010,.0008,79.68, -.0020, -.0001, -.0014, -.0010, -.0003,,,
Elem7=Cs[137],[137],,,,ppb, -.0008,.0008,101.1, -.0002, -.0008, -.0009, -.0021, .0000,,,
Elem8=Ba[138],[138],,,,ppb, .0003,.0009,280.1, -.0008, .0000, .0013, .0012, -.0001,,,

[Internal Standards]

;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn

Elem0=In[115],[115],,Cts/S, 9.9137,.13299,1.3415,9.9393,9.9974,9.9994,9.6807,9.9516

[Sample Header]

Method=PRV

SampleName=s00t000620

Operator=kjt

Comment=401 df

CustID=

CustSmpl=

LabID=

Run Time=05/16/2000 11:36

Sample Type=Unk

Mode=CONC

CorrFactor=1.000000

Repeats=5

[Results]

;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pass/fail,chklo,chkhi

Elem0=Tc[99],[99],,,,ppb, .1777,.0048,2.706, .1762, .1769, .1843, .1798, .1712,,,

Elem1=Ru[102],[102],,,,ppb, .1050,.0051,4.825, .1061, .1127, .0991, .1047, .1024,,,

Elem2=Te[125],[125],,,,ppb, .0605,.0271,44.86, .0340, .0991, .0755, .0560, .0379,,,

Elem3=Sn[117],[117],,,,ppb, .0082,.0011,13.28, .0073, .0072, .0084, .0099, .0082,,,

Elem4=Sn[126],[126],,,,ppb, .0002,.0002,154.2, .0000, .0000, .0004, -.0001, .0005,,,

Elem5=Cs[133],[133],,,,ppb, .0649,.0023,3.512, .0657, .0616, .0679, .0643, .0651,,,

Elem6=Cs[135],[135],,,,ppb, .0164,.0012,7.608, .0156, .0179, .0176, .0152, .0156,,,

Elem7=Cs[137],[137],,,,ppb, .2367,.0071,3.001, .2302, .2318, .2439, .2325, .2448,,,

Elem8=Ba[138],[138],,,,ppb, .0553,.0045,8.070, .0604, .0514, .0553, .0504, .0591,,,

```
[Internal Standards]
;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
Elem0=In[115],[115],,Cts/S, 9.7324,.13976,1.4360,9.8796,9.8737,9.6
749,9.6736,9.5600
```

```
[Sample Header]
Method=PRV
SampleName=s00t000620_d
Operator=kjt
Comment=401 df
CustID=
CustSmpl=
LabID=
Run Time=05/16/2000 11:40
Sample Type=Unk
Mode=CONC
CorrFactor=1.000000
Repeats=5
```

```
[Results]
;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pa
ss/fail,chklo,chkhi
Elem0=Tc[99],[99],,,ppb, .1734,.0057,3.273, .1726, .1731, .1825, .
1720, .1668,,,
Elem1=Ru[102],[102],,,ppb, .1114,.0058,5.187, .1202, .1087, .1077,
.1141, .1061,,,
Elem2=Te[125],[125],,,ppb, .0331,.0309,93.31, .0232, .0794, .0018,
.0476, .0135,,,
Elem3=Sn[117],[117],,,ppb, .0086,.0008,9.376, .0096, .0082, .0077,
.0091, .0082,,,
Elem4=Sn[126],[126],,,ppb, .0001,.0005,465.4, .0008, .0002, -.0003
, .0000, -.0003,,,
Elem5=Cs[133],[133],,,ppb, .0638,.0017,2.634, .0643, .0622, .0619,
.0656, .0651,,,
Elem6=Cs[135],[135],,,ppb, .0152,.0012,7.893, .0151, .0148, .0152,
.0139, .0172,,,
Elem7=Cs[137],[137],,,ppb, .2206,.0030,1.354, .2205, .2163, .2226,
.2195, .2240,,,
Elem8=Ba[138],[138],,,ppb, .0512,.0027,5.197, .0542, .0487, .0505,
.0489, .0539,,,
```

```
[Internal Standards]
;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
Elem0=In[115],[115],,Cts/S, 10.091,.07485,.74170,10.184,10.149,10.
086,10.009,10.030
```

```
[Sample Header]
Method=PRV
```

SampleName=s00t000620_a
Operator=kjt
Comment=msprv spk 401 df
CustID=
CustSmpl=
LabID=
Run Time=05/16/2000 11:42
Sample Type=Unk
Mode=CONC
CorrFactor=1.000000
Repeats=5

[Results]

;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pass/fail,chklo,chkhi
Elem0=Tc[99],[99],,,ppb, 23.69,.5213,2.200, 23.61, 23.03, 23.39, 24.12, 24.30,,,
Elem1=Ru[102],[102],,,ppb, .1088,.0055,5.035, .1141, .1070, .1011, .1075, .1140,,,
Elem2=Te[125],[125],,,ppb, .0131,.0171,130.0, .0108, .0210, .0284, .0209, -.0153,,,
Elem3=Sn[117],[117],,,ppb, 1.134,.0232,2.042, 1.118, 1.143, 1.134, 1.168, 1.108,,,
Elem4=Sn[126],[126],,,ppb, .0006,.0002,36.40, .0003, .0005, .0009, .0006, .0006,,,
Elem5=Cs[133],[133],,,ppb, 20.93,.6106,2.918, 20.20, 21.03, 20.96, 21.85, 20.59,,,
Elem6=Cs[135],[135],,,ppb, .0172,.0011,6.256, .0170, .0159, .0167, .0188, .0176,,,
Elem7=Cs[137],[137],,,ppb, .2394,.0046,1.913, .2328, .2385, .2412, .2454, .2391,,,
Elem8=Ba[138],[138],,,ppb, .0673,.0039,5.806, .0674, .0668, .0724, .0686, .0615,,,

[Internal Standards]

;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
Elem0=In[115],[115],,Cts/S, 9.9825,.24749,2.4793,10.328,10.031,10.049,9.6730,9.8313

[Sample Header]

Method=PRV
SampleName=s00t000620_a
Operator=kjt
Comment=msprv spk 401 df
CustID=
CustSmpl=
LabID=
Run Time=05/16/2000 11:42

Sample Type=Unk
Mode=CONC
CorrFactor=1.000000
Repeats=5

[Results]

;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pass/fail,chklo,chkhi
Elem0=Tc[99],[99],,,ppb, 23.47,.5272,2.246, 23.61, 23.03, 23.39, 24.30, 23.01,,, ,
Elem1=Ru[102],[102],,,ppb, .1096,.0056,5.087, .1141, .1070, .1011, .1140, .1118,,, ,
Elem2=Te[125],[125],,,ppb, .0124,.0167,135.3, .0108, .0210, .0284, -.0153, .0170,,, ,
Elem3=Sn[117],[117],,,ppb, 1.122,.0155,1.378, 1.118, 1.143, 1.134, 1.108, 1.109,,, ,
Elem4=Sn[126],[126],,,ppb, .0005,.0003,57.87, .0003, .0005, .0009, .0006, .0001,,, ,
Elem5=Cs[133],[133],,,ppb, 20.62,.3721,1.805, 20.20, 21.03, 20.96, 20.59, 20.31,,, ,
Elem6=Cs[135],[135],,,ppb, .0168,.0006,3.671, .0170, .0159, .0167, .0176, .0170,,, ,
Elem7=Cs[137],[137],,,ppb, .2346,.0079,3.387, .2328, .2385, .2412, .2391, .2216,,, ,
Elem8=Ba[138],[138],,,ppb, .0662,.0042,6.386, .0674, .0668, .0724, .0615, .0631,,, ,

[Internal Standards]

;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
Elem0=In[115],[115],,Cts/S, 10.059,.17697,1.7593,10.328,10.031,10.049,9.8313,10.057

[Sample Header]

Method=PRV
SampleName=s00t000620_a
Operator=kjt
Comment=sn spk 401 df
CustID=
CustSmpl=
LabID=
Run Time=05/16/2000 11:48
Sample Type=Unk
Mode=CONC
CorrFactor=1.000000
Repeats=5

[Results]

;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pa

```

ss/fail,chklo,chkhi
Elem0=Tc[99],[99],,,ppb, .1815,.0044,2.417, .1810, .1812, .1747, .
1859, .1849,,,
Elem1=Ru[102],[102],,,ppb, .1117,.0029,2.565, .1075, .1127, .1134,
.1147, .1101,,,
Elem2=Te[125],[125],,,ppb, .0190,.0104,54.89, .0141, .0330, .0220,
.0048, .0211,,,
Elem3=Sn[117],[117],,,ppb, 21.22,.3559,1.677, 21.65, 21.09, 21.52,
20.81, 21.02,,,
Elem4=Sn[126],[126],,,ppb, .0003,.0006,190.8, .0012, .0000, -.0002
,.0006, -.0001,,,
Elem5=Cs[133],[133],,,ppb, .0768,.0021,2.750, .0800, .0767, .0771,
.0759, .0742,,,
Elem6=Cs[135],[135],,,ppb, .0203,.0008,4.093, .0211, .0205, .0209,
.0190, .0198,,,
Elem7=Cs[137],[137],,,ppb, .2424,.0059,2.435, .2367, .2493, .2448,
.2357, .2453,,,
Elem8=Ba[138],[138],,,ppb, .0678,.0020,2.893, .0674, .0677, .0676,
.0655, .0709,,,

```

[Internal Standards]

```
;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
```

```
Elem0=In[115],[115],,Cts/S, 9.9407,.18346,1.8456,9.9694,9.9724,9.9
381,10.168,9.6557
```

[Sample Header]

```

Method=PRV
SampleName=s00t000633
Operator=kjt
Comment= 401 df
CustID=
CustSmpl=
LabID=
Run Time=05/16/2000 11:57
Sample Type=Unk
Mode=CONC
CorrFactor=1.000000
Repeats=5

```

[Results]

```

;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pa
ss/fail,chklo,chkhi
Elem0=Tc[99],[99],,,ppb, .1733,.0052,2.988, .1811, .1731, .1721, .
1737, .1666,,,
Elem1=Ru[102],[102],,,ppb, .1115,.0041,3.721, .1141, .1134, .1088,
.1154, .1055,,,
Elem2=Te[125],[125],,,ppb, .0197,.0273,139.0, .0074, .0612, .0333,
-.0003, -.0033,,,

```

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```

Elem3=Sn[117],[117],,,,ppb, .0076,.0009,11.68, .0084, .0086, .0069,
.0075, .0066,,,
Elem4=Sn[126],[126],,,,ppb, .0005,.0003,56.83, .0006, .0004, .0007,
.0005, .0000,,,
Elem5=Cs[133],[133],,,,ppb, .0695,.0024,3.521, .0717, .0674, .0718,
.0665, .0702,,,
Elem6=Cs[135],[135],,,,ppb, .0157,.0015,9.729, .0161, .0159, .0168,
.0130, .0165,,,
Elem7=Cs[137],[137],,,,ppb, .2284,.0064,2.799, .2308, .2275, .2361,
.2185, .2290,,,
Elem8=Ba[138],[138],,,,ppb, .0526,.0047,8.981, .0504, .0527, .0606,
.0504, .0488,,,

```

[Internal Standards]

;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn

```

Elem0=In[115],[115],,Cts/S, 10.107,.20069,1.9857,9.8712,10.120,9.9
412,10.339,10.263

```

[Sample Header]

Method=PRV

SampleName=s00t000633_d

Operator=kjt

Comment= 401 df

CustID=

CustSmpl=

LabID=

Run Time=05/16/2000 12:00

Sample Type=Unk

Mode=CONC

CorrFactor=1.000000

Repeats=5

[Results]

;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pass/fail,chklo,chkhi

```

Elem0=Tc[99],[99],,,,ppb, .1579,.0055,3.508, .1512, .1617, .1648, .
1540, .1576,,,
Elem1=Ru[102],[102],,,,ppb, .1053,.0038,3.606, .1094, .1004, .1063,
.1081, .1025,,,
Elem2=Te[125],[125],,,,ppb, .0062,.0089,144.8, .0002, .0035, .0146,
-.0039, .0164,,,
Elem3=Sn[117],[117],,,,ppb, .0073,.0018,24.56, .0075, .0080, .0044,
.0093, .0072,,,
Elem4=Sn[126],[126],,,,ppb, -.0001,.0002,320.5, -.0002, -.0003, .00
01, -.0002, .0002,,,
Elem5=Cs[133],[133],,,,ppb, .0614,.0016,2.554, .0607, .0618, .0629,
.0626, .0591,,,
Elem6=Cs[135],[135],,,,ppb, .0144,.0017,11.55, .0145, .0121, .0166,

```

.0137, .0150,,,
Elem7=Cs[137],[137],,,,ppb, .2069,.0048,2.336, .2090, .2122, .1991,
.2071, .2073,,,
Elem8=Ba[138],[138],,,,ppb, .0460,.0018,3.961, .0461, .0474, .0482,
.0441, .0443,,,

[Internal Standards]
;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
Elem0=In[115],[115],,Cts/S, 10.351,.09123,.88131,10.276,10.323,10.
311,10.337,10.509

[Sample Header]
Method=PRV
SampleName=s00t000633_d
Operator=kjt
Comment= 401 df
CustID=
CustSmpl=
LabID=
Run Time=05/16/2000 12:03
Sample Type=Unk
Mode=CONC
CorrFactor=1.000000
Repeats=5

[Results]
;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pa
ss/fail,chklo,chkhi
Elem0=Tc[99],[99],,,,ppb, .1609,.0033,2.027, .1573, .1608, .1583, .
1633, .1650,,,
Elem1=Ru[102],[102],,,,ppb, .1007,.0013,1.311, .0989, .1025, .1008,
.1011, .1001,,,
Elem2=Te[125],[125],,,,ppb, .0165,.0172,104.3, .0165, .0104, .0199,
-.0059, .0417,,,
Elem3=Sn[117],[117],,,,ppb, .0076,.0010,13.68, .0066, .0088, .0067,
.0073, .0085,,,
Elem4=Sn[126],[126],,,,ppb, .0001,.0005,469.8, -.0003, -.0002, -.00
02, .0003, .0009,,,
Elem5=Cs[133],[133],,,,ppb, .0627,.0039,6.243, .0572, .0613, .0623,
.0664, .0666,,,
Elem6=Cs[135],[135],,,,ppb, .0142,.0013,9.295, .0140, .0146, .0121,
.0146, .0157,,,
Elem7=Cs[137],[137],,,,ppb, .2168,.0138,6.347, .2123, .2007, .2088,
.2298, .2324,,,
Elem8=Ba[138],[138],,,,ppb, .0499,.0069,13.74, .0461, .0474, .0420,
.0561, .0581,,,

[Internal Standards]

```
;Format=elem,wl,inst,units,avg,stddev,%rsd,repl..repn
Elem0=In[115],[115],,Cts/S, 9.6531,.57893,5.9973,10.113,9.9599,10.
141,9.1001,8.9519
```

```
[Sample Header]
Method=PRV
SampleName=s00t000633_d
Operator=kjt
Comment= 401 df
CustID=
CustSmpl=
LabID=
Run Time=05/16/2000 12:03
Sample Type=Unk
Mode=CONC
CorrFactor=1.000000
Repeats=5
```

```
[Results]
;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,repl..repn,chk pa
ss/fail,chklo,chkhi
Elem0=Tc[99],[99],,,ppb, .1591,.0024,1.526, .1573, .1608, .1583, .
1567, .1624,,,
Elem1=Ru[102],[102],,,ppb, .1014,.0017,1.722, .0989, .1025, .1008,
.1014, .1035,,,
Elem2=Te[125],[125],,,ppb, .0213,.0103,48.55, .0165, .0104, .0199,
.0215, .0381,,,
Elem3=Sn[117],[117],,,ppb, .0077,.0017,21.61, .0066, .0088, .0067,
.0100, .0063,,,
Elem4=Sn[126],[126],,,ppb, .0000,.0003,690.9, -.0003, -.0002, -.00
02, .0000, .0004,,,
Elem5=Cs[133],[133],,,ppb, .0615,.0026,4.162, .0572, .0613, .0623,
.0635, .0632,,,
Elem6=Cs[135],[135],,,ppb, .0140,.0012,8.615, .0140, .0146, .0121,
.0137, .0153,,,
Elem7=Cs[137],[137],,,ppb, .2119,.0092,4.319, .2123, .2007, .2088,
.2117, .2260,,,
Elem8=Ba[138],[138],,,ppb, .0470,.0032,6.784, .0461, .0474, .0420,
.0494, .0500,,,
```

```
[Internal Standards]
;Format=elem,wl,inst,units,avg,stddev,%rsd,repl..repn
Elem0=In[115],[115],,Cts/S, 10.011,.11586,1.1573,10.113,9.9599,10.
141,9.9807,9.8595
```

```
[Sample Header]
Method=PRV
SampleName=ccv
```

Operator=kjt
Comment=msprv lcs
CustID=
CustSmpl=62b57
LabID=
Run Time=05/16/2000 12:16
Sample Type=Unk
Mode=CONC
CorrFactor=1.000000
Repeats=5

[Results]

;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pass/fail,chklo,chkhi
Elem0=Tc[99],[99],,,ppb, 20.68,.3712,1.795, 21.09, 20.24, 20.80, 20.34, 20.93,,,
Elem1=Ru[102],[102],,,ppb, -.0006,.0004,71.43, -.0007, -.0002, -.0007, -.0012, -.0002,,,
Elem2=Te[125],[125],,,ppb, .0104,.0230,220.9, .0472, .0156, .0061, -.0077, -.0092,,,
Elem3=Sn[117],[117],,,ppb, 2.169,.0665,3.066, 2.151, 2.087, 2.136, 2.253, 2.218,,,
Elem4=Sn[126],[126],,,ppb, -.0003,.0002,63.72, -.0004, -.0003, -.0001, -.0001, -.0006,,,
Elem5=Cs[133],[133],,,ppb, 18.69,.6538,3.498, 19.85, 18.44, 18.34, 18.48, 18.34,,,
Elem6=Cs[135],[135],,,ppb, .0089,.0013,14.63, .0101, .0103, .0087, .0071, .0085,,,
Elem7=Cs[137],[137],,,ppb, .0141,.0010,7.393, .0153, .0135, .0127, .0149, .0143,,,
Elem8=Ba[138],[138],,,ppb, .1345,.0078,5.788, .1441, .1410, .1262, .1328, .1284,,,

[Internal Standards]

;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
Elem0=In[115],[115],,Cts/S, 9.7740,.36074,3.6908,9.1566,9.8079,10.011,9.8425,10.053

[Sample Header]

Method=PRV
SampleName=ccv
Operator=kjt
Comment=msprv lcs
CustID=
CustSmpl=62b57
LabID=
Run Time=05/16/2000 12:16
Sample Type=Unk

HNF-1699 REV. 0

Mode=CONC
 CorrFactor=1.000000
 Repeats=5

[Results]

```
;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pass/fail,chklo,chkhi
Elem0=Tc[99],[99],,,ppb, 20.72,.4342,2.095, 20.24, 20.80, 20.34, 20.93, 21.29,,,
Elem1=Ru[102],[102],,,ppb, .0000,.0013,298e6 , -.0002, -.0007, -.0012, -.0002, .0023,,,
Elem2=Te[125],[125],,,ppb, .0037,.0117,314.5, .0156, .0061, -.0077, -.0092, .0138,,,
Elem3=Sn[117],[117],,,ppb, 2.175,.0659,3.029, 2.087, 2.136, 2.253, 2.218, 2.182,,,
Elem4=Sn[126],[126],,,ppb, -.0003,.0002,64.72, -.0003, -.0001, -.0001, -.0006, -.0003,,,
Elem5=Cs[133],[133],,,ppb, 18.35,.1262,.6879, 18.44, 18.34, 18.48, 18.34, 18.16,,,
Elem6=Cs[135],[135],,,ppb, .0088,.0012,13.31, .0103, .0087, .0071, .0085, .0092,,,
Elem7=Cs[137],[137],,,ppb, .0140,.0009,6.166, .0135, .0127, .0149, .0143, .0144,,,
Elem8=Ba[138],[138],,,ppb, .1311,.0061,4.651, .1410, .1262, .1328, .1284, .1270,,,

```

[Internal Standards]

```
;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
Elem0=In[115],[115],,Cts/S, 9.9433,.11018,1.1081,9.8079,10.011,9.8425,10.053,10.003

```

[Sample Header]

Method=PRV
 SampleName=ccv
 Operator=kjt
 Comment=20 ppb Sn
 CustID=
 CustSmpl=000516-3
 LabID=
 Run Time=05/16/2000 12:19
 Sample Type=Unk
 Mode=CONC
 CorrFactor=1.000000
 Repeats=5

[Results]

```
;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pass/fail,chklo,chkhi

```

```

Elem0=Tc[99],[99],,,,ppb, .0241,.0218,90.49, .0631, .0164, .0129, .
0141, .0141,,,
Elem1=Ru[102],[102],,,,ppb, .0004,.0018,438.1, .0026, -.0002, .0005
, .0013, -.0022,,,
Elem2=Te[125],[125],,,,ppb, .0280,.0153,54.60, .0060, .0403, .0282,
.0441, .0215,,,
Elem3=Sn[117],[117],,,,ppb, 19.52,.3408,1.746, 19.92, 19.54, 19.35,
19.74, 19.05,,,
Elem4=Sn[126],[126],,,,ppb, .0000,.0003,1164., -.0002, -.0002, .000
5, -.0002, .0003,,,
Elem5=Cs[133],[133],,,,ppb, .0293,.0028,9.570, .0327, .0284, .0311,
.0253, .0291,,,
Elem6=Cs[135],[135],,,,ppb, .0020,.0009,46.45, .0007, .0031, .0026,
.0016, .0019,,,
Elem7=Cs[137],[137],,,,ppb, -.0005,.0006,124.1, -.0009, -.0007, -.0
011, .0001, .0002,,,
Elem8=Ba[138],[138],,,,ppb, -.0123,.0014,11.47, -.0107, -.0114, -.0
139, -.0137, -.0120,,,

```

[Internal Standards]

```
;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
```

```
Elem0=In[115],[115],,Cts/S, 9.8670,.18728,1.8981,10.024,9.9890,9.7
188,9.9888,9.6141
```

[Sample Header]

```
Method=PRV
```

```
SampleName=ccb
```

```
Operator=kjt
```

```
Comment=2% nitric
```

```
CustID=
```

```
CustSmpl=
```

```
LabID=
```

```
Run Time=05/16/2000 12:51
```

```
Sample Type=Unk
```

```
Mode=CONC
```

```
CorrFactor=1.000000
```

```
Repeats=5
```

[Results]

```
;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pa
ss/fail,chklo,chkhi
```

```
Elem0=Tc[99],[99],,,,ppb, .0024,.0003,13.96, .0029, .0022, .0024, .
0021, .0022,,,
```

```
Elem1=Ru[102],[102],,,,ppb, -.0003,.0015,440.4, .0021, .0000, -.000
7, -.0016, -.0015,,,
```

```
Elem2=Te[125],[125],,,,ppb, .0154,.0212,137.4, .0184, .0176, -.0051
, -.0018, .0480,,,
```

```
Elem3=Sn[117],[117],,,,ppb, .0059,.0022,36.67, .0063, .0021, .0071,
```



```
.0069, .0072,,,
Elem4=Sn[126],[126],,,,ppb, -.0003,.0004,142.6, -.0007, -.0006, -.0
002, .0003, -.0001,,,
Elem5=Cs[133],[133],,,,ppb, .0143,.0008,5.295, .0144, .0142, .0138,
.0136, .0155,,,
Elem6=Cs[135],[135],,,,ppb, -.0011,.0004,38.60, -.0017, -.0013, -.0
007, -.0011, -.0007,,,
Elem7=Cs[137],[137],,,,ppb, -.0021,.0004,19.63, -.0014, -.0021, -.0
024, -.0024, -.0023,,,
Elem8=Ba[138],[138],,,,ppb, -.0123,.0013,10.60, -.0125, -.0123, -.0
143, -.0117, -.0108,,,

```

[Internal Standards]

```
;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
```

```
Elem0=In[115],[115],,Cts/S, 9.6260,.22711,2.3593,9.5362,9.6117,10.
004,9.5828,9.3953
```

[Sample Header]

```
Method=PRV
```

```
SampleName=ccb
```

```
Operator=kjt
```

```
Comment=2% nitric
```

```
CustID=
```

```
CustSmpl=
```

```
LabID=
```

```
Run Time=05/16/2000 12:51
```

```
Sample Type=Unk
```

```
Mode=CONC
```

```
CorrFactor=1.000000
```

```
Repeats=5
```

[Results]

```
;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pa
ss/fail,chklo,chkhi
```

```
Elem0=Tc[99],[99],,,,ppb, .0022,.0005,22.16, .0029, .0022, .0024, .
0021, .0016,,,

```

```
Elem1=Ru[102],[102],,,,ppb, .0002,.0015,859.2, .0021, .0000, -.0007
, -.0016, .0011,,,

```

```
Elem2=Te[125],[125],,,,ppb, .0052,.0117,224.9, .0184, .0176, -.0051
, -.0018, -.0030,,,

```

```
Elem3=Sn[117],[117],,,,ppb, .0055,.0021,37.60, .0063, .0021, .0071,
.0069, .0050,,,

```

```
Elem4=Sn[126],[126],,,,ppb, -.0004,.0004,110.2, -.0007, -.0006, -.0
002, .0003, -.0006,,,

```

```
Elem5=Cs[133],[133],,,,ppb, .0140,.0003,2.274, .0144, .0142, .0138,
.0136, .0139,,,

```

```
Elem6=Cs[135],[135],,,,ppb, -.0013,.0004,32.49, -.0017, -.0013, -.0
007, -.0011, -.0017,,,

```

```
Elem7=Cs[137],[137],,,ppb, -.0019,.0006,32.77, -.0014, -.0021, -.0  
024, -.0024, -.0010,,,  
Elem8=Ba[138],[138],,,ppb, -.0128,.0010,7.994, -.0125, -.0123, -.0  
143, -.0117, -.0134,,,
```

```
[Internal Standards]
```

```
;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
```

```
Elem0=In[115],[115],,Cts/S, 9.6931,.18811,1.9407,9.5362,9.6117,10.  
004,9.5828,9.7309
```

LABCORE Completed Worklist Report for Worklist# 32935

Analyst: dks

Instrument: ICPMS1

Book#: 48357

Method: LA-506-101 Rev/Mod A-3

64857

Worklist Comment: ICP/MS SY-102 (DIRECT) MSPR

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 ICV		0	@MSPR-QC TC99	QC	0.0205	2.14e-02	104.390 % Recovery	
1 ICV		0	@MSPR-QC SN117	QC	0.01925	1.94e-02	100.779 % Recovery	
1 ICV		0	@MSPR-QC CS133	QC	0.020	2.14e-02	107.000 % Recovery	
2 ICB		0	@MSPR-QC TC99	QC	1	<2.00e-6		ug/mL
2 ICB		0	@MSPR-QC SN117	QC	1	<1.50e-4		ug/mL
2 ICB		0	@MSPR-QC SN126	QC	1	<1.50e-4		ug/mL
2 ICB		0	@MSPR-QC CS133	QC	1	<2.00e-6		ug/mL
2 ICB		0	@MSPR-QC CS135	QC	1	<2.00e-6		ug/mL
2 ICB		0	@MSPR-QC CS137	QC	1	<2.00e-6		ug/mL
3 SAMPLE	S00T000502	0 D	@MSPR-D1 TC99-D1	LIQUID	N/A	1.074e+01	8.08e-002	ug/mL
3 SAMPLE	S00T000502	0 D	@MSPR-D1 SN117-D1	LIQUID	N/A	< 6.060e+00	6.060	ug/mL
3 SAMPLE	S00T000502	0 D	@MSPR-D1 SN126-D1	LIQUID	N/A	< 6.060e+00	6.060	ug/mL
3 SAMPLE	S00T000502	0 D	@MSPR-D1 CS133-D1	LIQUID	N/A	7.062e+00	8.08e-002	ug/mL
3 SAMPLE	S00T000502	0 D	@MSPR-D1 CS135-D1	LIQUID	N/A	2.137e+00	8.08e-002	ug/mL
3 SAMPLE	S00T000502	0 D	@MSPR-D1 CS137-D1	LIQUID	N/A	2.614e+00	8.08e-002	ug/mL
4 DUP	S00T000502	0 D	@MSPR-D1 TC99-D1	LIQUID	1.07e+01	1.12e+01	4.566	RPD
4 DUP	S00T000502	0 D	@MSPR-D1 SN117-D1	LIQUID	<6.06e0	<6.06e0		RPD
4 DUP	S00T000502	0 D	@MSPR-D1 SN126-D1	LIQUID	<6.06e0	<6.06e0		RPD
4 DUP	S00T000502	0 D	@MSPR-D1 CS133-D1	LIQUID	7.06e+00	6.94e+00	1.714	RPD
4 DUP	S00T000502	0 D	@MSPR-D1 CS135-D1	LIQUID	2.14e+00	2.09e+00	2.364	RPD
4 DUP	S00T000502	0 D	@MSPR-D1 CS137-D1	LIQUID	2.61e+00	2.54e+00	2.718	RPD
5 SPK-POST	S00T000502	0 D	@MSPR-D1 TC99-D1	LIQUID	0.0219	2.26e-02	103.196 % Recovery	
5 SPK-POST	S00T000502	0 D	@MSPR-D1 SN117-D1	LIQUID	0.019250	1.98e-02	102.857 % Recovery	
5 SPK-POST	S00T000502	0 D	@MSPR-D1 CS133-D1	LIQUID	0.0201	2.10e-02	104.478 % Recovery	
6 SAMPLE	S00T000503	0 D	@MSPR-D1 TC99-D1	LIQUID	N/A	7.086e+00	8.08e-002	ug/mL
6 SAMPLE	S00T000503	0 D	@MSPR-D1 SN117-D1	LIQUID	N/A	< 6.060e+00	6.060	ug/mL
6 SAMPLE	S00T000503	0 D	@MSPR-D1 SN126-D1	LIQUID	N/A	< 6.060e+00	6.060	ug/mL
6 SAMPLE	S00T000503	0 D	@MSPR-D1 CS133-D1	LIQUID	N/A	5.042e+00	8.08e-002	ug/mL
6 SAMPLE	S00T000503	0 D	@MSPR-D1 CS135-D1	LIQUID	N/A	1.382e+00	8.08e-002	ug/mL
6 SAMPLE	S00T000503	0 D	@MSPR-D1 CS137-D1	LIQUID	N/A	1.733e+00	8.08e-002	ug/mL
7 DUP	S00T000503	0 D	@MSPR-D1 TC99-D1	LIQUID	7.09e+00	7.29e+00	2.782	RPD
7 DUP	S00T000503	0 D	@MSPR-D1 SN117-D1	LIQUID	<6.06e0	<6.06e0		RPD
7 DUP	S00T000503	0 D	@MSPR-D1 SN126-D1	LIQUID	<6.06e0	<6.06e0		RPD
7 DUP	S00T000503	0 D	@MSPR-D1 CS133-D1	LIQUID	5.04e+00	4.75e+00	5.924	RPD
7 DUP	S00T000503	0 D	@MSPR-D1 CS135-D1	LIQUID	1.38e+00	1.37e+00	0.727	RPD
7 DUP	S00T000503	0 D	@MSPR-D1 CS137-D1	LIQUID	1.73e+00	1.67e+00	3.529	RPD
8 SAMPLE	S00T000504	0 D	@MSPR-D1 TC99-D1	LIQUID	N/A	1.294e+01	8.08e-002	ug/mL
8 SAMPLE	S00T000504	0 D	@MSPR-D1 SN117-D1	LIQUID	N/A	< 6.060e+00	6.060	ug/mL
8 SAMPLE	S00T000504	0 D	@MSPR-D1 SN126-D1	LIQUID	N/A	< 6.060e+00	6.060	ug/mL
8 SAMPLE	S00T000504	0 D	@MSPR-D1 CS133-D1	LIQUID	N/A	8.242e+00	8.08e-002	ug/mL
8 SAMPLE	S00T000504	0 D	@MSPR-D1 CS135-D1	LIQUID	N/A	2.287e+00	8.08e-002	ug/mL

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

LABCORE Completed Worklist Report for Worklist# 32935

Seq Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
8 SAMPLE	S00T000504	0	D	QMSPR-D1 CS137-D1	LIQUID	N/A	2.877e+00	8.08e-002	ug/mL
9 DUP	S00T000504	0	D	QMSPR-D1 TC99-D1	LIQUID	1.29e+01	1.29e+01	0.000	RPD
9 DUP	S00T000504	0	D	QMSPR-D1 SN117-D1	LIQUID	<6.06e0	<6.06e0		RPD
9 DUP	S00T000504	0	D	QMSPR-D1 SN126-D1	LIQUID	<6.06e0	<6.06e0		RPD
9 DUP	S00T000504	0	D	QMSPR-D1 CS133-D1	LIQUID	8.24e+00	8.25e+00	0.121	RPD
9 DUP	S00T000504	0	D	QMSPR-D1 CS135-D1	LIQUID	2.29e+00	2.46e+00	7.158	RPD
9 DUP	S00T000504	0	D	QMSPR-D1 CS137-D1	LIQUID	2.88e+00	2.99e+00	3.748	RPD
10 CCV		0		QMSPR-QC TC99	QC	0.02050	2.17e-02	105.854	% Recovery
10 CCV		0		QMSPR-QC SN117	QC	0.019250	1.93e-02	100.260	% Recovery
10 CCV		0		QMSPR-QC CS133	QC	0.0200	2.13e-02	106.500	% Recovery
11 CCB		0		QMSPR-QC TC99	QC	1	<2.00e-6		ug/mL
11 CCB		0		QMSPR-QC SN117	QC	1	<1.50e-4		ug/mL
11 CCB		0		QMSPR-QC SN126	QC	1	<1.50e-4		ug/mL
11 CCB		0		QMSPR-QC CS133	QC	1	<2.00e-6		ug/mL
11 CCB		0		QMSPR-QC CS135	QC	1	<2.00e-6		ug/mL
11 CCB		0		QMSPR-QC CS137	QC	1	<2.00e-6		ug/mL

Final page for worklist# 32935

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Sal P. Long 03/20/2000
Reviewer Signature _____ Date _____

03/13/00 13:51

pr 0316a.txt HNF-1699 REV. 0

Page: 1

ws2

LABCORE Data Entry Template for Worklist# 32935

Analyst: KST Instrument: ICPMS1 Book# 48BS7, 64BS7
 Method: LA-506-101 Rev/Mod A-3 TC99 CS133 SN117
 Worklist Comment: ICP/MS SY-102 (DIRECT) MSPR

S Type	Sample#	R A	Test	Matrix	Group#	Project
1	ICV		@MSPR-QC QC			
2	ICB		@MSPR-QC QC			
3	SAMPLE	S00T000502 0 D	@MSPR-D1 LIQUID		20000085 SY-102 GRAB6	
Analytes Requested: CS133-D1, CS135-D1, CS137-D1, SN117-D1, SN126-D1, TC99-D1						
4	DUP	S00T000502 0 D	@MSPR-D1 LIQUID			
5	SPK-POST	S00T000502 0 D	@MSPR-D1 LIQUID			
6	SAMPLE	S00T000503 0 D	@MSPR-D1 LIQUID		20000085 SY-102 GRAB6	
Analytes Requested: CS133-D1, CS135-D1, CS137-D1, SN117-D1, SN126-D1, TC99-D1						
7	DUP	S00T000503 0 D	@MSPR-D1 LIQUID			
8	SAMPLE	S00T000504 0 D	@MSPR-D1 LIQUID		20000085 SY-102 GRAB6	
Analytes Requested: CS133-D1, CS135-D1, CS137-D1, SN117-D1, SN126-D1, TC99-D1						
9	DUP	S00T000504 0 D	@MSPR-D1 LIQUID			
10	CCV		@MSPR-QC QC			
11	CCB		@MSPR-QC QC			

Final page for worklist # 32935

K5 Thorne 03-16-00
 Signature Date

 Signature Date

All Samples 40401 df .05-10 = .05-10

Data Entry Comments:

Spikes - 1ml MSPRU spike 44BS7, .25ml of
10 ppm 000316-1
Scans prout 502, prout 503, prout 504

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

03/16/00 12:59:51

page 1

Analysis Report

Operator: kjt HNF-1699 REV. 0

Method: MS_TUNE

Sample Name: ms-tune

Element:

Run Time: 03/16/00 12:58 Type: Unk

Mode: INT

Corr.Fact: 1.000000

Elem	In[115]	Ir[193]
Line	115/pulse	193/pulse
Units	Cts/S	Cts/S
Avg	85440.	32700.
Stdev	1433.	360.
RSD	1.677	1.101
	84570.	32410.
	83860.	32210.
	84800.	32320.
	84780.	32430.
	83430.	32600.
	86760.	32870.
	86970.	33250.
	86600.	32920.
	87610.	32820.
	85050.	33180.

File pr0316a.txt K5-16-00
 K5 thermolike 03-16-2000

S00T000502
 S00T000502-d
 S00T000502-a
 S00T000502-a
 S00T000503
 S00T000503-d
 S00T000504
 S00T000504-d

40401 dF .05-10-.05-10

Uploaded + Validated by:
 Sam C. H. Pang
 03/20/2000

SIGNATURES AND E-MAIL ADDRESSES OF ALL ANALYSTS WHO HAVE COMPLETED/VERIFIED THE CALIBRATION ANALYSIS ON PAGES 468 TO 490.

HNF-1699 REV. 0

Analysis Report

03/16/00 13:09:01

page 1

Method: PRV

Sample Name: Blank

Operator:

Comment:

Run Time: 03/16/00 13:06 Type: Std

Mode: IR

Corr. Fact: 1.000000

Tc[99]	Ru[102]	Te[125]	Sn[117]	Sn[126]
99/pulse	102/pulse	125/pulse	117/pulse	126/pulse
Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
2.136	27.60	2.597	163.2	2.722
.398	3.73	.321	3.6	.495
18.61	13.52	12.35	2.232	18.17

2.531	30.00	2.128	162.5	2.818
2.017	22.00	2.634	157.2	3.026
1.521	28.50	2.478	165.0	3.323
2.194	26.00	2.982	164.8	2.138
2.419	31.50	2.765	166.4	2.304

Cs[133]	Cs[135]	Cs[137]	Ba[138]
133/pulse	135/pulse	137/pulse	138/pulse
Cts/S	Cts/S	Cts/S	Cts/S
7.610	5.256	4.436	8.477
.957	.765	.255	.837
12.58	14.56	5.755	9.877

7.535	5.521	4.429	7.247
6.556	6.164	4.707	8.181
6.928	4.281	4.675	8.618
8.045	4.670	4.219	8.833
8.987	5.645	4.148	9.505

In[115]
115/pulse
Cts/S
8.8120
.1160
1.3160

8.6933
8.9227
8.8772
8.8873
8.6796

Analysis Report

03/16/00 13:11:00

page 1

Method: PRV

Sample Name: PRV CAL

Operator:

Comment:

Date Time: 03/16/00 13:10 Type: Std

Mode: IR

Corr.Fact: 1.000000

Elem.	Tc[99]	Cs[133]
Time	99/pulse	133/pulse
Units	Cts/S	Cts/S
Avg	17610.	16350.
Stddev	235.	447.
RSD	1.332	2.736

#1	17560.	15720.
#2	17300.	16350.
#3	17540.	16160.
#4	17750.	16870.
#5	17920.	16670.

Elem.	In[115]
Time	115/pulse
Units	Cts/S
Avg	8.6784
Stddev	.1472
RSD	1.6966

#1	8.8992
#2	8.6431
#3	8.7395
#4	8.5192
#5	8.5911

Analysis Report

03/16/00 13:18:23

page 1

Method: PRV

Sample Name: PRV1 CAL

Operator:

Comment:

Run Time: 03/16/00 13:17 Type: Std Mode: IR Corr.Fact: 1.000000

Elem	Ru[102]	Te[125]	Cs[135]	Cs[137]
Line	102/pulse	125/pulse	135/pulse	137/pulse
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	315100.	1781.	5340.	9139.
Stddev	7626.	44.	123.	98.
%RSD	2.421	2.495	2.301	1.071

	322000.	1735.	5403.	9263.
	311700.	1845.	5457.	9153.
	324300.	1784.	5424.	9186.
	306900.	1797.	5225.	9007.
	310500.	1744.	5190.	9085.

Elem	Ba[138]
Line	138/pulse
Units	Cts/S
Avg	57620.
Stddev	1884.
%RSD	3.270

	56360.
	58840.
	60210.
	55580.
	57120.

Elem	In[115]
Line	115/pulse
Units	Cts/S
Avg	8.6688
Stddev	.0441
%RSD	.50853

	8.7246
	8.6295
	8.6265
	8.7040
	8.6592

Method : PRV

Standardzn Report

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SI Name	Slope	Y-int	Correlation	Date Stdized
TR[199]	867.5535	2.1365	1.0000000	03/16/00 13:11:00
RA[102]	3150.3843	27.6000	1.0000000	03/16/00 13:18:23
TS[125]	17.7824	2.5974	1.0000000	03/16/00 13:18:23
SA[117]	813.3463	163.2081	1.0000000	03/16/00 13:09:01
SA[126]	821.6832	2.7219	1.0000000	03/16/00 13:09:01
TS[133]	817.3268	7.6101	1.0000000	03/16/00 13:11:00
SA[135]	808.3007	5.2562	1.0000000	03/16/00 13:18:23
SA[137]	815.5717	4.4356	1.0000000	03/16/00 13:18:23
SA[139]	576.1235	8.4768	1.0000000	03/16/00 13:18:23

HNF-1699 REV. 0

03/16/00 13:21:43

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Analysis Report

Method: PRV

Sample Name: PRV-SN CAL

Operator:

Comment:

Run Date: 03/16/00 13:20 Type: Std Mode: IR Corr.Fact: 1.000000

	Sn[117]	Sn[126]
117/pulse	117/pulse	126/pulse
Cts/S	Cts/S	Cts/S
Avg	15020.	15020.
Stdev	236.	236.
%RSD	1.573	1.573

#1	14660.	14660.
#2	15100.	15100.
#3	15160.	15160.
#4	14920.	14920.
#5	15250.	15250.

	In[115]
115/pulse	115/pulse
Cts/S	Cts/S
Avg	10.502
Stdev	.210
%RSD	2.0015

#1	10.667
#2	10.296
#3	10.302
#4	10.791
#5	10.485

Method : PRV

Standardzn Report 03/16/00 13:21:50

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Variable	Slope	Y-int	Correlation	Date Stdized
Tc[199]	867.5535	2.1365	1.0000000	03/16/00 13:11:00
Ra[102]	3150.3843	27.6000	1.0000000	03/16/00 13:18:23
Tb[125]	17.7824	2.5974	1.0000000	03/16/00 13:18:23
Sn[117]	771.7422	163.2081	1.0000000	03/16/00 13:21:42
Sp[126]	780.0791	2.7219	1.0000000	03/16/00 13:21:42
TCS[133]	817.3268	7.6101	1.0000000	03/16/00 13:11:00
CS[145]	808.3007	5.2562	1.0000000	03/16/00 13:18:23
CS[1137]	815.5717	4.4356	1.0000000	03/16/00 13:18:23
BS[1138]	576.1235	8.4768	1.0000000	03/16/00 13:18:23

Analysis Report

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HNF-1699 REV. 0

Method: PRV Sample Name: blank

Operator: kjt

Comment: background

Run Time: 03/16/00 13:26 Type: Unk

Mode: CONC

Corr.Fact: 1.000000

Element	Tc[99]	Ru[102]	Te[125]	Sn[117]	Sn[126]	Cs[133]
Line	99/pulse	102/pulse	125/pulse	117/pulse	126/pulse	133/pulse
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	.0001	.0063	-.0454	-.0178	-.0008	-.0015
Stddev	.0003	.0017	.0035	.0045	.0006	.0005
RRSD	286.3	27.43	7.733	25.47	82.23	30.20

#1	.0001	.0038	-.0393	-.0231	-.0009	-.0012
#2	-.0001	.0054	-.0457	-.0155	-.0005	-.0020
#3	-.0002	.0070	-.0473	-.0221	-.0017	-.0010
#4	.0005	.0070	-.0472	-.0161	.0000	-.0014
#5	.0003	.0082	-.0477	-.0125	-.0008	-.0020

Element	Cs[135]	Cs[137]	Ba[138]
Line	135/pulse	137/pulse	138/pulse
Units	ppb	ppb	ppb
Avg	-.0014	-.0005	.0017
Stddev	.0006	.0003	.0007
RRSD	44.00	59.70	38.89

#1	-.0007	-.0002	.0018
#2	-.0010	-.0004	.0024
#3	-.0013	-.0004	.0019
#4	-.0016	-.0011	.0006
#5	-.0024	-.0005	.0016

Std.	In[115]
Line	115/pulse
Units	Cts/S
Avg	10.453
Stddev	.187
RRSD	1.7896

#1	10.271
#2	10.647
#3	10.530
#4	10.236
#5	10.580

Analysis Report

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HNF-1699 REV. 0

Operator: kjt

Method: PRV Sample Name: icv

Comment: ms prv los

Time: 03/16/00 13:30 Type: Unk

Mode: CONC

Corr.Fact: 1.000000

Tc[99]	Ru[102]	Te[125]	Sn[117]	Sn[126]	Cs[133]
99/pulse	102/pulse	125/pulse	117/pulse	126/pulse	133/pulse
ppb	ppb	ppb	ppb	ppb	ppb
21.37	.0006	-.0247	3.762	-.0003	21.36
.45	.0005	.0035	.058	.0005	.35
2.103	81.93	14.22	1.548	150.2	1.635

20.88	.0011	-.0218	3.672	-.0005	21.40
20.98	.0006	-.0210	3.752	.0001	21.67
21.91	.0008	-.0297	3.825	-.0008	21.35
21.72	.0006	-.0255	3.761	.0002	21.59
21.35	-.0002	-.0256	3.800	-.0005	20.78

Cs[135]	Cs[137]	Ba[138]
135/pulse	137/pulse	138/pulse
ppb	ppb	ppb
.0095	.0167	.1508
.0009	.0009	.0049
9.696	5.610	3.275
.0106	.0152	.1481
.0101	.0169	.1441
.0089	.0166	.1572
.0083	.0175	.1523
.0097	.0175	.1524

In[115]
115/pulse
Cts/S
10.007
.079
.78971

9.9521
10.115
9.9105
10.027
10.033

Report

HNF-1699 REV. 0

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Method: ERV

Sample Name: icv

Operator: kjt

Comment: ms prv Sn

Run Time: 03/16/00 13:36 Type: Unk

Mode: CONC

Corr.Fact: 1.000000

Line	Tc[99] 99/pulse	Ru[102] 102/pulse	Te[125] 125/pulse	Sn[117] 117/pulse	Sn[126] 126/pulse	Cs[133] 133/pulse
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	.0006	.0181	.0723	19.42	.0032	.0221
Stddev	.0006	.0040	.0147	1.12	.0009	.0005
RSP	91.12	22.15	20.38	5.774	28.86	2.404

#1	.0015	.0179	.0752	19.50	.0032	.0224
#2	.0008	.0166	.0860	17.59	.0043	.0219
#3	.0004	.0246	.0863	19.73	.0017	.0229
#4	.0006	.0177	.0589	20.66	.0035	.0216
#5	-.0001	.0136	.0551	19.60	.0032	.0219

Line	Cs[135] 135/pulse	Cs[137] 137/pulse	Ba[138] 138/pulse
Units	ppb	ppb	ppb
Avg	.0963	.1605	1.377
Stddev	.0027	.0057	.070
RSP	2.844	3.540	5.045

#1	.0998	.1669	1.479
#2	.0947	.1574	1.404
#3	.0985	.1640	1.377
#4	.0931	.1525	1.313
#5	.0956	.1618	1.313

Line	In[115] 115/pulse
Units	Cts/S
Avg	10.741
Stddev	.112
RSP	1.0399

#1	10.549
#2	10.784
#3	10.771
#4	10.839
#5	10.764

Analysis Report

HNF-1699 REV.0

03/16/00 13:45:43

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Method: PRV

Sample Name: icb

Operator: kjt

Comment: 2% nitric

Run Time: 03/16/00 13:43 Type: Unk

Mode: CONC

Corr.Fact: 1.000000

	Tc[99]	Ru[102]	Te[125]	Sn[117]	Sn[126]
Line	99/pulse	102/pulse	125/pulse	117/pulse	126/pulse
Units	ppb	ppb	ppb	ppb	ppb
Avg	-.0002	.0027	-.0643	-.0164	-.0013
Stddev	.0004	.0009	.0076	.0059	.0001
RSD	159.8	33.80	11.77	35.76	9.994
	-.0005	.0019	-.0566	-.0210	-.0012
	-.0002	.0035	-.0568	-.0108	-.0015
	-.0004	.0028	-.0715	-.0112	-.0012
	-.0004	.0038	-.0721	-.0239	-.0013
	.0004	.0017	-.0647	-.0152	-.0015
Elem	Cs[133]	Cs[135]	Cs[137]	Ba[138]	
Line	133/pulse	135/pulse	137/pulse	138/pulse	
Units	ppb	ppb	ppb	ppb	
Avg	-.0001	-.0029	-.0019	-.0004	
Stddev	.0004	.0002	.0006	.0009	
RSD	284.9	7.618	32.02	218.9	
	.0000	-.0031	-.0013	.0007	
	.0004	-.0029	-.0024	-.0015	
	-.0003	-.0028	-.0012	-.0008	
	-.0007	-.0033	-.0025	-.0009	
	-.0001	-.0027	-.0021	.0004	
Elem	In[115]				
Line	115/pulse				
Units	Cts/S				
Avg	11.418				
Stddev	.125				
RSD	1.0957				
	11.629				
	11.336				
	11.312				
	11.411				
	11.403				

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Analysis Report

Method: BRV

Sample Name: s00t000502

Operator: kjt

Comment: 40401 df

Run Time: 03/16/00 13:46 Type: Unk

Mode: CONC

Corr.Fact: 1.000000

	Tc[99]	Ru[102]	Te[125]	Sn[117]	Sn[126]	Cs[133]
	99/pulse	102/pulse	125/pulse	117/pulse	126/pulse	133/pulse
	ppb	ppb	ppb	ppb	ppb	ppb
	.2658	.3857	-.0705	-.1875	-.0005	.1748
	.0050	.0169	.0136	.0021	.0002	.0161
	1.897	4.388	19.26	1.116	29.35	9.212
#1	.2606	.3739	-.0919	-.1839	-.0005	.1535
#2	.2655	.3706	-.0708	-.1882	-.0006	.1936
#3	.2611	.3825	-.0713	-.1876	-.0006	.1633
#4	.2710	.3885	-.0555	-.1885	-.0006	.1831
#5	.2709	.4133	-.0630	-.1893	-.0003	.1804
	Cs[135]	Cs[137]	Ba[138]			
	135/pulse	137/pulse	138/pulse			
	ppb	ppb	ppb			
	.0529	.0647	-.0044			
	.0062	.0053	.0012			
	11.73	8.256	28.00			
#1	.0426	.0571	-.0045			
#2	.0543	.0687	-.0057			
#3	.0563	.0626	-.0051			
#4	.0524	.0647	-.0044			
#5	.0587	.0707	-.0024			
Int. Std.	In[115]					
	115/pulse					
	Cts/S					
	10.726					
	.230					
	2.1436					
#1	10.898					
#2	10.454					
#3	10.908					
#4	10.872					
#5	10.495					

Analysis Report

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Method: PRV

Sample Name: s00t000502_d

Operator: kjt

Comment: 40401 df

Run Time: 03/16/00 13:51 Type: Unk

Mode: CONC

Corr.Fact: 1.000000

Elem	Tc[99]	Ru[102]	Te[125]	Sn[117]	Sn[126]	Cs[133]
Line	99/pulse	102/pulse	125/pulse	117/pulse	126/pulse	133/pulse
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	.2778	.3884	-.0574	-.1914	-.0001	.1718
Stddev	.0161	.0088	.0143	.0007	.0006	.0073
RSD	5.778	2.267	24.83	.3847	653.0	4.269

	.2743	.3771	-.0653	-.1922	.0003	.1692
#2	.2786	.3982	-.0725	-.1908	-.0004	.1628
#3	.2555	.3963	-.0383	-.1914	-.0007	.1722
#4	.3005	.3864	-.0641	-.1921	.0007	.1831
#5	.2803	.3839	-.0468	-.1906	-.0003	.1716

Elem	Cs[135]	Cs[137]	Ba[138]
Line	135/pulse	137/pulse	138/pulse
Units	ppb	ppb	ppb
Avg	.0518	.0629	-.0047
Stddev	.0053	.0050	.0011
RSD	10.15	7.921	23.63

#1	.0454	.0574	-.0055
#2	.0508	.0666	-.0050
#3	.0505	.0575	-.0027
#4	.0599	.0660	-.0052
#5	.0525	.0670	-.0050

Elem	In[115]
Line	115/pulse
Units	Cts/S
Avg	10.203
Stddev	.347
RSD	3.3989

#1	10.449
#2	10.320
#3	10.439
#4	9.6108
#5	10.195

Analysis Report **HNF-1699 REV. 0** 03/16/00 14:00:21 page 1

Method: FRV Sample Name: s00t000502_a Operator: kjt
 Comment: 40401 df
 Run Time: 03/16/00 13:58 Type: Unk Mode: CONC Corr.Fact: 1.000000

Elem	Tc[99]	Ru[102]	Te[125]	Sn[117]	Sn[126]	Cs[133]
Line	99/pulse	102/pulse	125/pulse	117/pulse	126/pulse	133/pulse
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	22.87	.3816	-.0419	1.072	-.0001	21.21
stddev	.85	.0105	.0250	.049	.0006	.97
%RSD	3.704	2.760	59.73	4.542	439.9	4.594
#1	23.58	.3804	-.0170	1.051	.0001	21.72
#2	23.28	.3731	-.0549	1.124	.0004	21.83
#3	21.46	.3858	-.0576	1.024	-.0004	19.61
#4	22.71	.3712	-.0130	1.124	.0003	21.93
#5	23.30	.3972	-.0672	1.035	-.0010	20.94

Elem	Cs[135]	Cs[137]	Ba[138]
Line	135/pulse	137/pulse	138/pulse
Units	ppb	ppb	ppb
Avg	.0524	.0645	.0104
stddev	.0033	.0031	.0026
%RSD	6.298	4.786	25.19
#1	.0552	.0653	.0079
#2	.0524	.0649	.0111
#3	.0468	.0631	.0082
#4	.0538	.0688	.0144
#5	.0539	.0604	.0105

Elem	In[115]
Line	115/pulse
Units	Cts/S
Avg	9.7609
stddev	.2949
%RSD	3.0212
#1	9.5827
#2	9.5603
#3	10.166
#4	9.5117
#5	9.9839

Analysis Report HNF-1699 REV. 0

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Method: PRV Sample Name: s00t000502_a Operator: kjt
 Comment: 40401 df
 Date/Time: 03/16/00 14:04 Type: Unk Mode: CONC Corr.Fact: 1.000000

	Tc[99]	Ru[102]	Te[125]	Sn[117]	Sn[126]	Cs[133]
Beam	99/pulse	102/pulse	125/pulse	117/pulse	126/pulse	133/pulse
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	.2910	.3621	-.0267	19.82	.0000	.1917
Stddev	.0084	.0184	.0122	.41	.0005	.0054
RSD	2.885	5.083	45.82	2.084	963.6	2.842

#1	.2891	.3499	-.0313	20.01	.0002	.1914
#2	.2974	.3891	-.0327	19.86	.0001	.1955
#3	.2781	.3428	-.0232	20.04	-.0008	.1948
#4	.2994	.3712	-.0391	19.10	.0004	.1823
#5	.2911	.3576	-.0073	20.10	.0003	.1942

	Cs[135]	Cs[137]	Ba[138]
Beam	135/pulse	137/pulse	138/pulse
Units	ppb	ppb	ppb
Avg	.0626	.0722	.0259
Stddev	.0013	.0031	.0018
RSD	2.036	4.312	7.124

#1	.0615	.0751	.0284
#2	.0641	.0704	.0245
#3	.0611	.0751	.0271
#4	.0630	.0679	.0254
#5	.0633	.0726	.0239

	In[115]
Beam	115/pulse
Units	Cts/S
Avg	9.1501
Stddev	.1993
RSD	2.1786

#1	9.0645
#2	9.1758
#3	8.9257
#4	9.4657
#5	9.1187

Analysis Report

HNF-1699 REV. 0

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Method: PRV

Sample Name: s00t000503

Operator: kjt

Comment: 40401 df

Run Time: 03/16/00 14:09 Type: Unk

Mode: CONC

Corr.Fact: 1.000000

Tc[99]	Ru[102]	Te[125]	Sn[117]	Sn[126]	Cs[133]
99/pulse	102/pulse	125/pulse	117/pulse	126/pulse	133/pulse
ppb	ppb	ppb	ppb	ppb	ppb
.1754	.2225	-.0512	-.1934	.0000	.1248
.0081	.0099	.0213	.0011	.0002	.0063
4.622	4.458	41.51	.5552	1272.	5.078

.1756	.2177	-.0773	-.1916	.0000	.1320
.1798	.2331	-.0711	-.1934	.0003	.1150
.1716	.2080	-.0345	-.1938	-.0001	.1244
.1858	.2293	-.0399	-.1944	-.0001	.1244
.1644	.2241	-.0332	-.1938	.0001	.1283

Cs[135]	Cs[137]	Ba[138]
135/pulse	137/pulse	138/pulse
ppb	ppb	ppb
.0342	.0429	-.0023
.0023	.0020	.0009
6.602	4.669	38.90

.0355	.0444	-.0015
.0332	.0401	-.0035
.0374	.0426	-.0028
.0316	.0453	-.0018
.0333	.0422	-.0016

In[115]
115/pulse
Cts/S
9.0312
.2678
2.9652

8.9975
9.3780
8.8229
8.7373
9.2201

Analysis Report

HNF-1699 REV. 0

03/16/00 14:18:50

page 1

Method: PRV

Sample Name: s00t000503_d

Operator: kjt

Comment: 40401 df

Run Time: 03/16/00 14:16 Type: Unk

Mode: CONC

Corr.Fact: 1.000000

Line	Tc[99] 99/pulse ppb	Ru[102] 102/pulse ppb	Te[125] 125/pulse ppb	Sn[117] 117/pulse ppb	Sn[126] 126/pulse ppb	Cs[133] 133/pulse ppb
	.1479	.1814	-.0328	-.1646	.0002	.1028
	.0747	.0989	.0251	.0714	.0003	.0539
	50.50	54.49	76.56	43.38	133.6	52.40
#1	.1817	.2276	-.0460	-.1975	.0002	.1262
#2	.1727	.2263	-.0668	-.1975	.0005	.1207
#3	.1913	.2320	-.0304	-.1938	.0003	.1265
#4	.1788	.2165	-.0202	-.1973	-.0003	.1340
#5	.0148	.0049	-.0007	-.0369	.0004	.0068

Line	Cs[135] 135/pulse ppb	Cs[137] 137/pulse ppb	Ba[138] 138/pulse ppb
	.0275	.0261	-.0042
	.0167	.0226	.0065
	60.49	86.54	156.7
#1	.0330	.0425	-.0045
#2	.0330	.0431	-.0016
#3	.0371	.0423	-.0046
#4	.0366	.0014	-.0140
#5	-.0021	.0014	.0039

Line	In[115] 115/pulse Cts/S
	8.8300
	.5950
	6.7383
#1	8.7151
#2	9.5766
#3	8.9912
#4	8.9361
#5	7.9310

Analysis Report HNF-1699 REV.0

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Method: ERV Sample Name: s00t000503_d Operator: kjt
 Comment: 40401 df
 Run Time: 03/16/00 14:31 Type: Unk Mode: CONC Corr.Fact: 1.000000

	Tc[99]	Ru[102]	Te[125]	Sn[117]	Sn[126]	Cs[133]
99/pulse	102/pulse	125/pulse	117/pulse	126/pulse	133/pulse	
ppb	ppb	ppb	ppb	ppb	ppb	
Avg	.1805	.2236	-.0139	-.1883	-.0003	.1175
Stddev	.0040	.0112	.0210	.0023	.0005	.0077
RSD	2.232	5.019	150.4	1.248	148.5	6.561

	.1803	.2096	-.0025	-.1894	-.0006	.1144
	.1763	.2387	-.0012	-.1882	-.0010	.1122
	.1767	.2261	.0040	-.1848	.0002	.1309
	.1841	.2160	-.0234	-.1879	-.0004	.1170
	.1850	.2277	-.0464	-.1912	.0001	.1130

	Cs[135]	Cs[137]	Ba[138]
135/pulse	137/pulse	138/pulse	
ppb	ppb	ppb	
Avg	.0339	.0413	-.0013
Stddev	.0016	.0008	.0005
RSD	4.591	1.919	41.90
#1	.0323	.0410	-.0012
#2	.0326	.0409	-.0020
#3	.0341	.0417	-.0012
#4	.0362	.0425	-.0005
#5	.0344	.0406	-.0015

	In[115]
115/pulse	
Cts/S	
Avg	8.7389
Stddev	.2672
RSD	3.0579

	8.8148
	8.9306
	8.4343
	8.4839
	9.0311

HNF-1699 REV. 0

03/16/00 14:42:27

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Analysis Report

Method: PRV

Sample Name: s00t000504

Operator: kjt

Comment: 40401 df

Run Time: 03/16/00 14:40 Type: Unk

Mode: CONC

Corr.Fact: 1.000000

	Tc[99]	Ru[102]	Te[125]	Sn[117]	Sn[126]	Cs[133]
99/pulse	102/pulse	125/pulse	117/pulse	126/pulse	133/pulse	
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	.3203	.3938	-.0396	-.1902	.0008	.2040
Stddev	.0139	.0104	.0173	.0016	.0005	.0127
RSD	4.353	2.650	43.78	.8406	63.15	6.232
	.3372	.4050	-.0243	-.1885	.0010	.2162
	.3219	.3891	-.0606	-.1885	.0011	.2105
	.3292	.3809	-.0451	-.1908	.0002	.1987
	.3026	.4041	-.0485	-.1913	.0013	.1843
	.3104	.3898	-.0193	-.1919	.0003	.2103
	Cs[135]	Cs[137]	Ba[138]			
135/pulse	137/pulse	138/pulse				
Units	ppb	ppb	ppb			
Avg	.0566	.0712	-.0028			
Stddev	.0012	.0021	.0012			
RSD	2.114	3.016	44.54			
	.0577	.0733	-.0018			
	.0580	.0712	-.0039			
	.0565	.0732	-.0026			
	.0555	.0705	-.0042			
	.0555	.0681	-.0014			
	In[115]					
115/pulse						
Cts/S						
Avg	8.9326					
Stddev	.1709					
RSD	1.9128					
	8.7719					
#2	8.8819					
#3	8.9159					
#4	9.2228					
#5	8.8704					

Analysis Report

HNF-1699 REV.0

03/16/00 14:49:36

page 1

Method: BRV

Sample Name: s00t000504_d

Operator: kjt

Comment: 140401 df

Run Time: 03/16/00 14:47 Type: Unk

Mode: CONC

Corr.Fact: 1.000000

Tc[99]	Ru[102]	Te[125]	Sn[117]	Sn[126]	Cs[133]
99/pulse	102/pulse	125/pulse	117/pulse	126/pulse	133/pulse
ppb	ppb	ppb	ppb	ppb	ppb
.3188	.4176	-.0424	-.1904	.0008	.2042
.0093	.0183	.0104	.0016	.0004	.0033
2.910	4.392	24.43	.8598	42.74	1.605
.3075	.4041	-.0421	-.1888	.0005	.2007
.3146	.4025	-.0357	-.1892	.0009	.2072
.3154	.4069	-.0309	-.1922	.0007	.2069
.3302	.4323	-.0580	-.1921	.0014	.2007
.3264	.4421	-.0452	-.1896	.0008	.2057
Cs[135]	Cs[137]	Ba[138]			
135/pulse	137/pulse	138/pulse			
ppb	ppb	ppb			
.0609	.0740	.0109			
.0023	.0023	.0065			
3.760	3.120	59.48			
.0635	.0754	.0080			
.0608	.0722	.0036			
.0627	.0769	.0212			
.0577	.0713	.0110			
.0601	.0744	.0106			

Int: Std.

In[115]

Line

115/pulse

Cts/S

9.6695

Avg

.1908

StdDev

1.9732

RSD

9.7346

9.4296

9.5225

9.9027

9.7579

HNF-1699 REV.0

03/16/00 14:53:35

page 1

Analysis Report

Method: BRV

Sample Name: ccv

Operator: kjt

Comment: msprv lcs

Run Time: 03/16/00 14:51 Type: Unk

Mode: CONC

Corr.Fact: 1.000000

	Tc[99]	Ru[102]	Te[125]	Sn[117]	Sn[126]	Cs[133]
Line	99/pulse	102/pulse	125/pulse	117/pulse	126/pulse	133/pulse
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	21.67	~.0015	-.0229	3.705	.0001	21.30
Stddev	.79	.0008	.0212	.067	.0006	.89
RSD	3.626	57.52	92.74	1.804	450.6	4.174
#1	22.86	-.0023	-.0225	3.749	.0002	22.67
#2	21.70	-.0018	.0010	3.701	.0008	21.65
#3	20.68	-.0016	-.0047	3.608	-.0009	20.52
#4	21.42	.0000	-.0429	3.685	.0000	21.09
#5	21.69	-.0016	-.0453	3.783	.0005	20.58
	Cs[135]	Cs[137]	Ba[138]			
Line	135/pulse	137/pulse	138/pulse			
Units	ppb	ppb	ppb			
Avg	.0099	.0169	.1529			
Stddev	.0006	.0014	.0063			
RSD	5.695	8.126	4.130			
#1	.0098	.0166	.1625			
#2	.0097	.0181	.1534			
#3	.0096	.0160	.1524			
#4	.0108	.0153	.1449			
#5	.0093	.0185	.1511			
Int: Std	In[115]					
Line	115/pulse					
Units	Cts/S					
Avg	9.4493					
Stddev	.2363					
RSD	2.5010					
#1	9.1050					
#2	9.3687					
#3	9.7480					
#4	9.5367					
#5	9.4882					

Analysis Report

HNF-1699 REV. 0

03/16/00 14:58:57

page 1

Method: PRV

Sample Name: ccv

Operator: kjt

Comment: ms sn

Run Time: 03/16/00 14:56 Type: Unk

Mode: CONC

Corr.Fact: 1.000000

Element	Tc[99]	Ru[102]	Te[125]	Sn[117]	Sn[126]	Cs[133]
Line	99/pulse	102/pulse	125/pulse	117/pulse	126/pulse	133/pulse
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	.0007	.0156	.0744	19.26	.0039	.0216
Stddev	.0009	.0028	.0311	.92	.0011	.0026
Count	130.4	18.03	41.87	4.760	28.87	11.92
Line						
Units						
Avg	.0021	.0192	.0844	20.88	.0056	.0252
Stddev	.0001	.0147	.0973	19.06	.0043	.0235
Count	.0004	.0135	.0232	18.72	.0029	.0194
Line						
Units						
Avg	.0007	.0128	.0681	18.92	.0028	.0197
Stddev	.0000	.0181	.0989	18.72	.0042	.0204
Line						
Units						
Avg						
Stddev						
Count						
Line						
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HNF-1699 REV. 0

03/16/00 15:06:53

page 1

Analysis Report

Operator: kjt

Method: HRV

Sample Name: ccb

Comment: 2% nitric

Run Time: 03/16/00 15:04 Type: Unk

Mode: CONC

Corr.Fact: 1.000000

Tc[99]	Ru[102]	Te[125]	Sn[117]	Sn[126]
99/pulse	102/pulse	125/pulse	117/pulse	126/pulse
ppb	ppb	ppb	ppb	ppb
-.0003	-.0008	-.0645	-.0046	-.0011
.0007	.0016	.0196	.0118	.0007
264.8	206.6	30.45	256.2	64.96
-.0011	.0001	-.0764	-.0093	-.0018
.0002	.0003	-.0830	-.0171	-.0014
-.0009	-.0005	-.0714	.0011	.0001
-.0001	-.0035	-.0333	-.0107	-.0011
.0006	-.0002	-.0583	.0130	-.0014

Cs[133]	Cs[135]	Cs[137]	Ba[138]
133/pulse	135/pulse	137/pulse	138/pulse
ppb	ppb	ppb	ppb
.0006	-.0027	-.0012	.0021
.0009	.0006	.0008	.0019
143.6	23.70	63.35	89.76
-.0005	-.0026	-.0013	.0011
.0003	-.0029	-.0011	.0010
.0005	-.0027	-.0015	.0028
.0009	-.0034	-.0021	.0005
.0019	-.0017	.0000	.0050

Int. Std.
In[115]
115/pulse
Cts/S
9.7766
.4860
4.9710

10.089
9.8031
9.7944
10.224
8.9727

LABCORE Completed Worklist Report for Worklist# 32936

Analyst: kjt

Instrument: ICPMS1

Book#: 62B57

Method: LA-506-101 Rev/Mod A-3

000516-3

Worklist Comment: ICP/MS SY-102 (DIRECT) MSPR

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 ICV		0	@MSPR-QC TC99	QC	0.020	2.04e-02	102.000	% Recovery
1 ICV		0	@MSPR-QC SN117	QC	0.020	1.95e-02	97.500	% Recovery
1 ICV		0	@MSPR-QC CS133	QC	0.020	1.89e-02	94.500	% Recovery
2 ICB		0	@MSPR-QC TC99	QC	1	<2.00e-6		ug/mL
2 ICB		0	@MSPR-QC SN117	QC	1	<1.50e-4		ug/mL
2 ICB		0	@MSPR-QC SN126	QC	1	<1.50e-4		ug/mL
2 ICB		0	@MSPR-QC CS133	QC	1	8.40e-06	0.000	ug/mL
2 ICB		0	@MSPR-QC CS135	QC	1	<2.00e-6		ug/mL
2 ICB		0	@MSPR-QC CS137	QC	1	<2.00e-6		ug/mL
3 SAMPLE	S00T000511	0 D	@MSPR-D1 TC99-D1	LIQUID	N/A	1.178e+01	8.08e-002	ug/mL
3 SAMPLE	S00T000511	0 D	@MSPR-D1 SN117-D1	LIQUID	N/A	< 6.060e+00	6.060	ug/mL
3 SAMPLE	S00T000511	0 D	@MSPR-D1 SN126-D1	LIQUID	N/A	< 6.060e+00	6.060	ug/mL
3 SAMPLE	S00T000511	0 D	@MSPR-D1 CS133-D1	LIQUID	N/A	7.305e+00	8.08e-002	ug/mL
3 SAMPLE	S00T000511	0 D	@MSPR-D1 CS135-D1	LIQUID	N/A	2.056e+00	8.08e-002	ug/mL
3 SAMPLE	S00T000511	0 D	@MSPR-D1 CS137-D1	LIQUID	N/A	2.448e+00	8.08e-002	ug/mL
4 DUP	S00T000511	0 D	@MSPR-D1 TC99-D1	LIQUID	1.18e+01	1.14e+01	3.448	RPD
4 DUP	S00T000511	0 D	@MSPR-D1 SN117-D1	LIQUID	<6.06e0	<6.06e0		RPD
4 DUP	S00T000511	0 D	@MSPR-D1 SN126-D1	LIQUID	<6.06e0	<6.06e0		RPD
4 DUP	S00T000511	0 D	@MSPR-D1 CS133-D1	LIQUID	7.30e+00	7.34e+00	0.546	RPD
4 DUP	S00T000511	0 D	@MSPR-D1 CS135-D1	LIQUID	2.06e+00	2.08e+00	0.966	RPD
4 DUP	S00T000511	0 D	@MSPR-D1 CS137-D1	LIQUID	2.45e+00	2.44e+00	0.409	RPD
5 SPK-POST	S00T000511	0 D	@MSPR-D1 TC99-D1	LIQUID	0.020	2.28e-02	114.000	% Recovery
5 SPK-POST	S00T000511	0 D	@MSPR-D1 SN117-D1	LIQUID	0.020	2.01e-02	100.500	% Recovery
5 SPK-POST	S00T000511	0 D	@MSPR-D1 CS133-D1	LIQUID	0.020	2.16e-02	108.000	% Recovery
6 SAMPLE	S00T000611	0 D	@MSPR-D1 TC99-D1	LIQUID	N/A	1.372e+01	8.08e-002	ug/mL
6 SAMPLE	S00T000611	0 D	@MSPR-D1 SN117-D1	LIQUID	N/A	< 6.060e+00	6.060	ug/mL
6 SAMPLE	S00T000611	0 D	@MSPR-D1 SN126-D1	LIQUID	N/A	< 6.060e+00	6.060	ug/mL
6 SAMPLE	S00T000611	0 D	@MSPR-D1 CS133-D1	LIQUID	N/A	8.892e+00	8.08e-002	ug/mL
6 SAMPLE	S00T000611	0 D	@MSPR-D1 CS135-D1	LIQUID	N/A	2.380e+00	8.08e-002	ug/mL
6 SAMPLE	S00T000611	0 D	@MSPR-D1 CS137-D1	LIQUID	N/A	2.856e+00	8.08e-002	ug/mL
7 DUP	S00T000611	0 D	@MSPR-D1 TC99-D1	LIQUID	1.37e+01	1.34e+01	2.214	RPD
7 DUP	S00T000611	0 D	@MSPR-D1 SN117-D1	LIQUID	<6.06e0	<6.06e0		RPD
7 DUP	S00T000611	0 D	@MSPR-D1 SN126-D1	LIQUID	<6.06e0	<6.06e0		RPD
7 DUP	S00T000611	0 D	@MSPR-D1 CS133-D1	LIQUID	8.89e+00	8.63e+00	2.968	RPD
7 DUP	S00T000611	0 D	@MSPR-D1 CS135-D1	LIQUID	2.38e+00	2.43e+00	2.079	RPD
7 DUP	S00T000611	0 D	@MSPR-D1 CS137-D1	LIQUID	2.86e+00	2.84e+00	0.702	RPD
8 SPK-POST	S00T000611	0 D	@MSPR-D1 TC99-D1	LIQUID	0.020	2.25e-02	112.500	% Recovery
8 SPK-POST	S00T000611	0 D	@MSPR-D1 SN117-D1	LIQUID	0.020	1.98e-02	99.000	% Recovery
8 SPK-POST	S00T000611	0 D	@MSPR-D1 CS133-D1	LIQUID	0.020	2.06e-02	103.000	% Recovery
9 SAMPLE	S00T000627	0 D	@MSPR-D1 TC99-D1	LIQUID	N/A	1.204e+01	8.08e-002	ug/mL
9 SAMPLE	S00T000627	0 D	@MSPR-D1 SN117-D1	LIQUID	N/A	< 6.060e+00	6.060	ug/mL

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

LABCORE Completed Worklist Report for Worklist# 32936

Seq Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
9 SAMPLE	S00T000627	0	D	@MSPR-D1 SN126-D1	LIQUID	N/A	< 6.060e+00	6.060	ug/mL
9 SAMPLE	S00T000627	0	D	@MSPR-D1 CS133-D1	LIQUID	N/A	7.729e+00	8.08e-002	ug/mL
9 SAMPLE	S00T000627	0	D	@MSPR-D1 CS135-D1	LIQUID	N/A	2.073e+00	8.08e-002	ug/mL
9 SAMPLE	S00T000627	0	D	@MSPR-D1 CS137-D1	LIQUID	N/A	2.497e+00	8.08e-002	ug/mL
10 DUP	S00T000627	0	D	@MSPR-D1 TC99-D1	LIQUID	1.20e+01	1.26e+01	4.878	RPD
10 DUP	S00T000627	0	D	@MSPR-D1 SN117-D1	LIQUID	<6.06e0	<6.06e0		RPD
10 DUP	S00T000627	0	D	@MSPR-D1 SN126-D1	LIQUID	<6.06e0	<6.06e0		RPD
10 DUP	S00T000627	0	D	@MSPR-D1 CS133-D1	LIQUID	7.73e+00	7.87e+00	1.795	RPD
10 DUP	S00T000627	0	D	@MSPR-D1 CS135-D1	LIQUID	2.07e+00	2.10e+00	1.439	RPD
10 DUP	S00T000627	0	D	@MSPR-D1 CS137-D1	LIQUID	2.50e+00	2.56e+00	2.372	RPD
11 SAMPLE	S00T000636	0	D	@MSPR-D1 TC99-D1	LIQUID	N/A	1.257e+01	8.08e-002	ug/mL
11 SAMPLE	S00T000636	0	D	@MSPR-D1 SN117-D1	LIQUID	N/A	< 6.060e+00	6.060	ug/mL
11 SAMPLE	S00T000636	0	D	@MSPR-D1 SN126-D1	LIQUID	N/A	< 6.060e+00	6.060	ug/mL
11 SAMPLE	S00T000636	0	D	@MSPR-D1 CS133-D1	LIQUID	N/A	7.515e+00	8.08e-002	ug/mL
11 SAMPLE	S00T000636	0	D	@MSPR-D1 CS135-D1	LIQUID	N/A	2.141e+00	8.08e-002	ug/mL
11 SAMPLE	S00T000636	0	D	@MSPR-D1 CS137-D1	LIQUID	N/A	2.497e+00	8.08e-002	ug/mL
12 DUP	S00T000636	0	D	@MSPR-D1 TC99-D1	LIQUID	1.26e+01	1.24e+01	1.600	RPD
12 DUP	S00T000636	0	D	@MSPR-D1 SN117-D1	LIQUID	<6.06e0	<6.06e0		RPD
12 DUP	S00T000636	0	D	@MSPR-D1 SN126-D1	LIQUID	<6.06e0	<6.06e0		RPD
12 DUP	S00T000636	0	D	@MSPR-D1 CS133-D1	LIQUID	7.51e+00	7.69e+00	2.368	RPD
12 DUP	S00T000636	0	D	@MSPR-D1 CS135-D1	LIQUID	2.14e+00	2.02e+00	5.769	RPD
12 DUP	S00T000636	0	D	@MSPR-D1 CS137-D1	LIQUID	2.50e+00	2.44e+00	2.429	RPD
13 CCV		0		@MSPR-QC TC99	QC	0.020	2.08e-02	104.000	% Recovery
13 CCV		0		@MSPR-QC SN117	QC	0.020	1.97e-02	98.500	% Recovery
13 CCV		0		@MSPR-QC CS133	QC	0.020	1.84e-02	92.000	% Recovery
14 CCB		0		@MSPR-QC TC99	QC	1	<2.00e-6		ug/mL
14 CCB		0		@MSPR-QC SN117	QC	1	<1.50e-4		ug/mL
14 CCB		0		@MSPR-QC SN126	QC	1	<1.50e-4		ug/mL
14 CCB		0		@MSPR-QC CS133	QC	1	9.80e-06	0.000	ug/mL
14 CCB		0		@MSPR-QC CS135	QC	1	<2.00e-6		ug/mL
14 CCB		0		@MSPR-QC CS137	QC	1	<2.00e-6		ug/mL

Final page for worklist# 32936

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Saul A. Pung 05/16/2000
Reviewer Signature _____ Date _____

04/11/00 10:42
ws2

prosilba.txt

Page: 1

LABCORE Data Entry Template for Worklist# 32936

Analyst: KST Instrument: ICPMS1 Book# 62857
 Method: LA-506-101 Rev/Mod A-3 000516-3

Worklist Comment: ICP/MS SY-102 (DIRECT) MSPR

S Type	Sample#	R A	Test	Matrix	Group#	Project
1	ICV		@MSPR-QC QC			
2	ICB		@MSPR-QC QC			
3	SAMPLE	S00T000511 0 D	@MSPR-D1 LIQUID		20000085	SY-102 GRAB6
Analytes Requested: CS133-D1, CS135-D1, CS137-D1, SN117-D1, SN126-D1, TC99-D1						
4	DUP	S00T000511 0 D	@MSPR-D1 LIQUID			
5	SPK-POST	S00T000511 0 D	@MSPR-D1 LIQUID			
6	SAMPLE	S00T000611 0 D	@MSPR-D1 LIQUID		20000085	SY-102 GRAB6
Analytes Requested: CS133-D1, CS135-D1, CS137-D1, SN117-D1, SN126-D1, TC99-D1						
7	DUP	S00T000611 0 D	@MSPR-D1 LIQUID			
8	SPK-POST	S00T000611 0 D	@MSPR-D1 LIQUID			
9	SAMPLE	S00T000627 0 D	@MSPR-D1 LIQUID		20000085	SY-102 GRAB6
Analytes Requested: CS133-D1, CS135-D1, CS137-D1, SN117-D1, SN126-D1, TC99-D1						
10	DUP	S00T000627 0 D	@MSPR-D1 LIQUID			
11	SAMPLE	S00T000636 0 D	@MSPR-D1 LIQUID		20000085	SY-102 GRAB6
Analytes Requested: CS133-D1, CS135-D1, CS137-D1, SN117-D1, SN126-D1, TC99-D1						
12	DUP	S00T000636 0 D	@MSPR-D1 LIQUID			
13	CCV		@MSPR-QC QC			
14	CCB		@MSPR-QC QC			

Data Entry Comments:

Uploaded & Validated by:

Saul M. Pang

05/16/2000

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

04/11/00 10:42
ws2

Page: 2

LABCORE Data Entry Template for Worklist# 32936

S Type	Sample#	R A Test	Matrix	Group#	Project
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Final page for worklist # 32936

KJ Phondike 5-16-00
Signature Date

Signature Date

S00T000511	40401 dS	05-10 - 05-10
S00T000511-d	↓	↓
S00T000511-a		
S00T000511-a		
S00T000611		
S00T000611-d		
S00T000611-a		
S00T000611-a		
S00T000627		
S00T000627-d		
S00T000636		
S00T000636-d		
BLANK-PREP		
KJ Phondike 5-16-00		

Data Entry Comments:

Spikes about 00036-1 In, 1ml of msPRV44B57

Scans pr00T511, pr00T611, pr00T627, pr00T636

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

pr

pr00T620, pr00T633 494

HNF-1699 REV. 0

[Sample Header]
 Method=MS_TUNE
 SampleName=ms-tune
 Operator=kjt
 Comment=
 CustID=
 CustSmpl=
 LabID=
 Run Time=05/16/2000 08:38
 Sample Type=Unk
 Mode=INT
 CorrFactor=1.000000
 Repeats=10

Resolving for
KJ Thorndike 6/6/00

[Results]
 ;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pass/fail,chklo,chkhi
 Elem0=In[115],[115],,,Cts/S, 100600.,1913.,1.902, 103300., 98540., 100500., 100700., 99820., 102700., 102200., 99960., 101400., 96960.,,,
 Elem1=Ir[193],[193],,,Cts/S, 60080.,861.9,1.435, 60530., 60280., 60160., 60050., 59800., 59520., 58280., 61720., 60380., 60040.,,,
 Elem2=Sc[45],[45],,,Cts/S, 50670.,2549.,5.032, 53710., 52110., 49670., 49920., 49500., 52910., 54060., 50880., 46850., 47050.,,,

[Internal Standards]
 ;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn

[Sample Header]
 Method=MS_TUNE
 SampleName=ms-tune
 Operator=kjt
 Comment=
 CustID=
 CustSmpl=
 LabID=
 Run Time=05/16/2000 08:42
 Sample Type=Unk
 Mode=INT
 CorrFactor=1.000000
 Repeats=10

[Results]
 ;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pass/fail,chklo,chkhi
 Elem0=In[115],[115],,,Cts/S, 99490.,1870.,1.879, 100400., 97870., 100900., 99780., 96580., 97560., 98160., 99830., 101700., 102100.,

SKIN SAMPLE ANALYSIS REPORT FROM CALIFORNIA THORNDIKE COLLEGE CHEMIST THAT
 COMPUTED YIELDED THE CALIFORNIA ANALYSIS ON PAGES 495-517.

```
''  
Elem1=Ir[193],[193],,,Cts/S, 60270.,984.2,1.633, 59280., 61420., 6  
1360., 60240., 60000., 59720., 59230., 58950., 61520., 60950.,,  
Elem2=Sc[45],[45],,,Cts/S, 49640.,2364.,4.763, 49970., 47650., 515  
30., 49400., 45150., 50010., 48850., 50670., 49050., 54140.,,,
```

```
[Internal Standards]  
;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
```

```
[Sample Header]  
Method=MS_TUNE  
SampleName=ms-tune  
Operator=kjt  
Comment=  
CustID=  
CustSmpl=  
LabID=  
Run Time=05/16/2000 08:58  
Sample Type=Unk  
Mode=INT  
CorrFactor=1.000000  
Repeats=10
```

```
[Results]  
;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pa  
ss/fail,chklo,chkhi  
Elem0=In[115],[115],,,Cts/S, 103100.,1876.,1.819, 103900., 103500.  
, 101700., 100500., 101900., 102000., 101800., 103900., 106700., 1  
05200.,,,  
Elem1=Ir[193],[193],,,Cts/S, 59770.,994.2,1.663, 60230., 60460., 5  
8660., 59240., 59440., 60700., 59810., 61180., 57870., 60100.,,  
Elem2=Sc[45],[45],,,Cts/S, 55600.,3690.,6.637, 56400., 60090., 543  
20., 51140., 55190., 49120., 55450., 54480., 59720., 60060.,,,
```

```
[Internal Standards]  
;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
```

```
[Sample Header]  
Method=MS_TUNE  
SampleName=ms-tune  
Operator=kjt  
Comment=  
CustID=  
CustSmpl=  
LabID=  
Run Time=05/16/2000 09:02  
Sample Type=Unk  
Mode=INT
```

CorrFactor=1.000000
Repeats=10

[Results]

;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pass/fail,chklo,chkhi
Elem0=In[115],[115],,,Cts/S, 104700.,1618.,1.546, 105500., 106900., 104500., 104100., 104900., 103800., 101700., 103000., 106700., 105600.,,,
Elem1=Ir[193],[193],,,Cts/S, 58180.,1130.,1.942, 58370., 58340., 59580., 58780., 57710., 57070., 58780., 55780., 58010., 59400.,,,
Elem2=Sc[45],[45],,,Cts/S, 60520.,2927.,4.837, 59170., 62980., 59890., 54130., 62670., 61660., 60210., 63370., 63170., 57910.,,,

[Internal Standards]

;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn

[Sample Header]

Method=MS_TUNE
SampleName=ms-tune
Operator=kjt
Comment=
CustID=
CustSmpl=
LabID=
Run Time=05/16/2000 09:05
Sample Type=Unk
Mode=INT
CorrFactor=1.000000
Repeats=10

[Results]

;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pass/fail,chklo,chkhi
Elem0=In[115],[115],,,Cts/S, 106500.,1755.,1.648, 108200., 109100., 104700., 107100., 107100., 104200., 106700., 104600., 105100., 108200.,,,
Elem1=Ir[193],[193],,,Cts/S, 59620.,1108.,1.858, 60500., 61040., 60090., 60810., 60090., 59900., 58880., 57740., 58360., 58800.,,,
Elem2=Sc[45],[45],,,Cts/S, 59890.,4461.,7.448, 65370., 62920., 51560., 59170., 60530., 54800., 60900., 65890., 57360., 60430.,,,

[Internal Standards]

;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn

[Sample Header]

Method=PRV
SampleName=Blank

Operator=
 Comment=
 CustID=
 CustSmpl=
 LabID=
 Run Time=05/16/2000 09:08
 Sample Type=Std
 Mode=IR
 CorrFactor=1.000000
 Repeats=5

[Results]

;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pass/fail,chklo,chkhi
 Elem0=Tc[99],[99],,,Cts/S, 1.031,.0910,8.831, 1.189, .9839, 1.021, .9634, .9954,,,
 Elem1=Ru[102],[102],,,Cts/S, 48.10,8.678,18.04, 52.00, 53.00, 57.50, 41.00, 37.00,,,
 Elem2=Te[125],[125],,,Cts/S, 1.067,.1410,13.21, 1.006, .9839, 1.253, .9175, 1.176,,,
 Elem3=Sn[117],[117],,,Cts/S, 14.42,.5121,3.550, 14.41, 13.92, 14.76, 15.09, 13.94,,,
 Elem4=Sn[126],[126],,,Cts/S, 1.916,.4087,21.32, 2.058, 1.919, 2.274, 2.110, 1.222,,,
 Elem5=Cs[133],[133],,,Cts/S, 4.336,.5410,12.48, 4.299, 4.821, 4.687, 3.441, 4.434,,,
 Elem6=Cs[135],[135],,,Cts/S, 3.973,.6661,16.76, 3.658, 4.083, 3.341, 3.716, 5.068,,,
 Elem7=Cs[137],[137],,,Cts/S, 5.454,.4994,9.156, 5.671, 6.149, 5.151, 5.459, 4.841,,,
 Elem8=Ba[138],[138],,,Cts/S, 21.74,1.411,6.491, 21.68, 22.97, 22.55, 22.11, 19.37,,,

[Internal Standards]

;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
 Elem0=In[115],[115],,,Cts/S, 10.764,.34975,3.2492,10.933,10.164,10.775,10.899,11.050

[Sample Header]

Method=PRV
 SampleName=PRV CAL
 Operator=
 Comment=
 CustID=
 CustSmpl=
 LabID=
 Run Time=05/16/2000 09:11
 Sample Type=Std

Mode=IR
CorrFactor=1.000000
Repeats=5

[Results]

;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pass/fail,chklo,chkhi
Elem0=Tc[99],[99],,,Cts/S, 18110.,74.42,.4110, 18040., 18220., 18050., 18130., 18100.,,,
Elem1=Cs[133],[133],,,Cts/S, 16490.,216.0,1.310, 16160., 16700., 16410., 16640., 16530.,,,

[Internal Standards]

;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
Elem0=In[115],[115],,Cts/S, 10.760,.12382,1.1507,10.968,10.659,10.778,10.706,10.692

[Sample Header]

Method=PRV
SampleName=PRV1 CAL
Operator=
Comment=
CustID=
CustSmpl=
LabID=
Run Time=05/16/2000 09:14
Sample Type=Std
Mode=IR
CorrFactor=1.000000
Repeats=5

[Results]

;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pass/fail,chklo,chkhi
Elem0=Ru[102],[102],,,Cts/S, 348600.,4467.,1.281, 341900., 352000., 352500., 350400., 346500.,,,
Elem1=Te[125],[125],,,Cts/S, 1326.,21.48,1.620, 1331., 1348., 1331., 1290., 1328.,,,
Elem2=Cs[135],[135],,,Cts/S, 5769.,80.83,1.401, 5868., 5763., 5755., 5649., 5810.,,,
Elem3=Cs[137],[137],,,Cts/S, 10050.,155.3,1.545, 10210., 9884., 9970., 9954., 10210.,,,
Elem4=Ba[138],[138],,,Cts/S, 63550.,839.4,1.321, 64030., 63800., 62170., 63430., 64320.,,,

[Internal Standards]

;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
Elem0=In[115],[115],,Cts/S, 10.533,.12604,1.1966,10.462,10.412,10.

675,10.663,10.451

[Sample Header]

Method=PRV
SampleName=PRV-SN CAL
Operator=
Comment=
CustID=
CustSmpl=
LabID=
Run Time=05/16/2000 09:16
Sample Type=Std
Mode=IR
CorrFactor=1.000000
Repeats=5

[Results]

;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pass/fail,chklo,chkhi
Elem0=Sn[117],[117],,,Cts/S, 15720.,432.5,2.751, 15060., 15550., 15920., 15910., 16180.,,
Elem1=Sn[126],[126],,,Cts/S, 15720.,432.5,2.751, 15060., 15550., 15920., 15910., 16180.,,

[Internal Standards]

;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
Elem0=In[115],[115],,Cts/S, 10.565,.26805,2.5371,10.992,10.644,10.481,10.395,10.315

[Sample Header]

Method=PRV
SampleName=icv
Operator=kjt
Comment=mrprv lcs
CustID=
CustSmpl=62b57
LabID=
Run Time=05/16/2000 09:22
Sample Type=Unk
Mode=CONC
CorrFactor=1.000000
Repeats=5

[Results]

;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pass/fail,chklo,chkhi
Elem0=Tc[99],[99],,,ppb, 20.26,.4427,2.185, 19.72, 20.19, 20.57, 20.83, 19.99,,

Elem1=Ru[102],[102],,,,ppb, .0055,.0014,25.20, .0073, .0041, .0063,
.0041, .0054,,,
Elem2=Te[125],[125],,,,ppb, .0433,.0165,38.20, .0230, .0301, .0636,
.0516, .0483,,,
Elem3=Sn[117],[117],,,,ppb, 1.911,.1501,7.855, 1.679, 1.845, 1.974,
2.004, 2.050,,,
Elem4=Sn[126],[126],,,,ppb, .0010,.0005,54.56, .0012, .0005, .0008,
.0007, .0018,,,
Elem5=Cs[133],[133],,,,ppb, 19.08,.7077,3.709, 18.18, 18.56, 19.61,
19.19, 19.87,,,
Elem6=Cs[135],[135],,,,ppb, .0115,.0012,10.57, .0110, .0110, .0106,
.0112, .0136,,,
Elem7=Cs[137],[137],,,,ppb, .0184,.0020,11.05, .0175, .0173, .0163,
.0191, .0215,,,
Elem8=Ba[138],[138],,,,ppb, .1561,.0066,4.206, .1549, .1455, .1610,
.1573, .1620,,,

[Internal Standards]

;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn

Elem0=In[115],[115],,Cts/S, 10.628,.29516,2.7771,10.936,10.916,10.
471,10.567,10.251

[Sample Header]

Method=PRV

SampleName=icv

Operator=kjt

Comment=mrprv lcs

CustID=

CustSmpl=62b57

LabID=

Run Time=05/16/2000 09:22

Sample Type=Unk

Mode=CONC

CorrFactor=1.000000

Repeats=5

[Results]

;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pa
ss/fail,chklo,chkhi

Elem0=Tc[99],[99],,,,ppb, 20.35,.4201,2.064, 19.72, 20.19, 20.57, 2
0.83, 20.46,,,

Elem1=Ru[102],[102],,,,ppb, .0047,.0022,47.54, .0073, .0041, .0063,
.0041, .0015,,,

Elem2=Te[125],[125],,,,ppb, .0354,.0221,62.32, .0230, .0301, .0636,
.0516, .0088,,,

Elem3=Sn[117],[117],,,,ppb, 1.923,.1663,8.647, 1.679, 1.845, 1.974,
2.004, 2.113,,,

Elem4=Sn[126],[126],,,,ppb, .0008,.0003,36.13, .0012, .0005, .0008,

```
.0007, .0008,,,
Elem5=Cs[133],[133],,,,ppb, 18.85,.5578,2.959, 18.18, 18.56, 19.61,
19.19, 18.72,,,
Elem6=Cs[135],[135],,,,ppb, .0111,.0004,3.336, .0110, .0110, .0106,
.0112, .0116,,,
Elem7=Cs[137],[137],,,,ppb, .0169,.0018,10.78, .0175, .0173, .0163,
.0191, .0142,,,
Elem8=Ba[138],[138],,,,ppb, .1532,.0066,4.324, .1549, .1455, .1610,
.1573, .1472,,,
```

[Internal Standards]

```
;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
Elem0=In[115],[115],,Cts/S, 10.774,.23619,2.1922,10.936,10.916,10.
471,10.567,10.979
```

[Sample Header]

```
Method=PRV
SampleName=icv
Operator=kjt
Comment=20 ppb Sn
CustID=
CustSmpl=000516-3
LabID=
Run Time=05/16/2000 09:33
Sample Type=Unk
Mode=CONC
CorrFactor=1.000000
Repeats=5
```

[Results]

```
;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pa
ss/fail,chklo,chkhi
Elem0=Tc[99],[99],,,,ppb, .0023,.0002,9.819, .0022, .0022, .0021, .
0026, .0026,,,
Elem1=Ru[102],[102],,,,ppb, .0038,.0029,74.86, .0023, -.0003, .0070
, .0050, .0053,,,
Elem2=Te[125],[125],,,,ppb, -.0002,.0194,8867., .0284, .0031, -.014
6, .0035, -.0215,,,
Elem3=Sn[117],[117],,,,ppb, 19.54,.4234,2.167, 19.12, 19.72, 19.84,
19.97, 19.06,,,
Elem4=Sn[126],[126],,,,ppb, .0000,.0004,1033., .0003, -.0006, .0001
, .0002, -.0002,,,
Elem5=Cs[133],[133],,,,ppb, .0141,.0008,5.637, .0149, .0128, .0140,
.0141, .0146,,,
Elem6=Cs[135],[135],,,,ppb, .0035,.0004,10.49, .0037, .0033, .0033,
.0040, .0031,,,
Elem7=Cs[137],[137],,,,ppb, .0019,.0005,27.46, .0013, .0022, .0014,
.0025, .0020,,,
```


Elem8=Ba[138],[138],,,ppb, .0062,.0024,38.37, .0094, .0034, .0077,
.0049, .0054,,,

[Internal Standards]

;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn

Elem0=In[115],[115],,Cts/S, 10.814,.05727,.52961,10.735,10.825,10.
864,10.778,10.869

[Sample Header]

Method=PRV

SampleName=icb

Operator=kjt

Comment=2% nitric

CustID=

CustSmpl=

LabID=

Run Time=05/16/2000 09:58

Sample Type=Unk

Mode=CONC

CorrFactor=1.000000

Repeats=5

[Results]

;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pa
ss/fail,chklo,chkhi

Elem0=Tc[99],[99],,,ppb, .0010,.0005,48.04, .0012, .0004, .0013, .
0006, .0016,,,

Elem1=Ru[102],[102],,,ppb, .0015,.0012,81.91, .0027, .0024, .0017,
.0007, -.0002,,,

Elem2=Te[125],[125],,,ppb, -.0047,.0140,296.9, -.0060, -.0253, .01
05, .0060, -.0088,,,

Elem3=Sn[117],[117],,,ppb, .0003,.0010,294.4, -.0001, .0013, -.000
1, .0014, -.0009,,,

Elem4=Sn[126],[126],,,ppb, .0000,.0002,1741., -.0003, .0001, .0004
, .0000, -.0001,,,

Elem5=Cs[133],[133],,,ppb, .0084,.0012,14.48, .0084, .0097, .0093,
.0082, .0065,,,

Elem6=Cs[135],[135],,,ppb, .0009,.0002,27.77, .0007, .0007, .0013,
.0010, .0008,,,

Elem7=Cs[137],[137],,,ppb, -.0003,.0004,118.9, .0002, -.0002, -.00
09, -.0005, -.0003,,,

Elem8=Ba[138],[138],,,ppb, .0040,.0023,58.46, .0051, .0014, .0032,
.0075, .0028,,,

[Internal Standards]

;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn

Elem0=In[115],[115],,Cts/S, 10.957,.13678,1.2483,11.134,10.929,10.
780,10.897,11.046

[Sample Header]

Method=PRV
SampleName=s00t000511
Operator=kjt
Comment=40401 df
CustID=
CustSmpl=
LabID=
Run Time=05/16/2000 10:03
Sample Type=Unk
Mode=CONC
CorrFactor=1.000000
Repeats=5

[Results]

;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pass/fail,chklo,chkhi
Elem0=Tc[99],[99],,,ppb, .2931,.0079,2.680, .2908, .2927, .2821, .3037, .2961,,,
Elem1=Ru[102],[102],,,ppb, .3483,.0067,1.925, .3563, .3395, .3528, .3488, .3441,,,
Elem2=Te[125],[125],,,ppb, .0059,.0166,282.3, .0150, .0211, .0144, -.0201, -.0009,,,
Elem3=Sn[117],[117],,,ppb, .0007,.0007,108.5, .0004, -.0002, .0018, .0008, .0006,,,
Elem4=Sn[126],[126],,,ppb, .0013,.0005,37.22, .0014, .0017, .0016, .0005, .0013,,,
Elem5=Cs[133],[133],,,ppb, .1941,.0126,6.491, .1845, .2130, .1946, .1810, .1976,,,
Elem6=Cs[135],[135],,,ppb, .0540,.0026,4.837, .0516, .0581, .0533, .0522, .0548,,,
Elem7=Cs[137],[137],,,ppb, .0644,.0042,6.511, .0631, .0675, .0638, .0584, .0691,,,
Elem8=Ba[138],[138],,,ppb, .0006,.0025,431.9, .0033, .0023, .0013, -.0024, -.0017,,,

[Internal Standards]

;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
Elem0=In[115],[115],,Cts/S, 10.316,.32868,3.1860,10.668,10.022,10.337,10.608,9.9471

[Sample Header]

Method=PRV
SampleName=s00t000511
Operator=kjt
Comment=40401 df
CustID=

CustSmpl=
LabID=
Run Time=05/16/2000 10:03
Sample Type=Unk
Mode=CONC
CorrFactor=1.000000
Repeats=5

[Results]

;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pass/fail,chklo,chkhi
Elem0=Tc[99],[99],,,ppb, .2916,.0112,3.828, .2908, .2821, .3037, .3021, .2793,,,
Elem1=Ru[102],[102],,,ppb, .3514,.0079,2.252, .3563, .3528, .3488, .3597, .3392,,,
Elem2=Te[125],[125],,,ppb, -.0002,.0169,9821., .0150, .0144, -.0201, .0063, -.0164,,,
Elem3=Sn[117],[117],,,ppb, .0009,.0007,82.34, .0004, .0018, .0008, .0000, .0015,,,
Elem4=Sn[126],[126],,,ppb, .0010,.0005,46.55, .0014, .0016, .0005, .0011, .0006,,,
Elem5=Cs[133],[133],,,ppb, .1808,.0096,5.326, .1845, .1946, .1810, .1747, .1694,,,
Elem6=Cs[135],[135],,,ppb, .0509,.0042,8.273, .0516, .0533, .0522, .0539, .0435,,,
Elem7=Cs[137],[137],,,ppb, .0606,.0038,6.244, .0631, .0638, .0584, .0628, .0550,,,
Elem8=Ba[138],[138],,,ppb, -.0015,.0039,267.6, .0033, .0013, -.0024, -.0029, -.0067,,,

[Internal Standards]

;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
Elem0=In[115],[115],,Cts/S, 10.612,.18605,1.7531,10.668,10.337,10.608,10.856,10.593

[Sample Header]

Method=PRV
SampleName=s00t000511_d
Operator=kjt
Comment=40401 df
CustID=
CustSmpl=
LabID=
Run Time=05/16/2000 10:09
Sample Type=Unk
Mode=CONC
CorrFactor=1.000000
Repeats=5

[Results]

```
;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pass/fail,chklo,chkhi
Elem0=Tc[99],[99],,,ppb, .2827,.0086,3.042, .2711, .2866, .2770, .2855, .2930,,,
Elem1=Ru[102],[102],,,ppb, .3568,.0143,4.006, .3687, .3682, .3340, .3528, .3601,,,
Elem2=Te[125],[125],,,ppb, .0008,.0125,1547., .0075, -.0166, .0160, .0029, -.0057,,,
Elem3=Sn[117],[117],,,ppb, -.0005,.0004,73.04, ~.0004, -.0005, -.0002, -.0003, -.0011,,,
Elem4=Sn[126],[126],,,ppb, .0008,.0006,81.91, .0003, .0016, .0002, .0013, .0004,,,
Elem5=Cs[133],[133],,,ppb, .1817,.0078,4.288, .1755, .1776, .1834, .1945, .1773,,,
Elem6=Cs[135],[135],,,ppb, .0516,.0023,4.413, .0482, .0507, .0533, .0519, .0539,,,
Elem7=Cs[137],[137],,,ppb, .0604,.0024,3.971, .0565, .0598, .0621, .0621, .0616,,,
Elem8=Ba[138],[138],,,ppb, -.0079,.0017,21.36, -.0101, ~.0055, -.0082, -.0075, -.0080,,,

```

[Internal Standards]

```
;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
Elem0=In[115],[115],,Cts/S, 10.752,.24973,2.3226,11.146,10.618,10.557,10.855,10.584

```

[Sample Header]

```
Method=PRV
SampleName=s00t000511_a
Operator=kjt
Comment=msprv spk 40401 df
CustID=
CustSmpl=
LabID=
Run Time=05/16/2000 10:13
Sample Type=Unk
Mode=CONC
CorrFactor=1.000000
Repeats=5

```

[Results]

```
;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pass/fail,chklo,chkhi
Elem0=Tc[99],[99],,,ppb, 23.07,.4747,2.058, 22.99, 22.73, 23.74, 23.32, 22.55,,,
Elem1=Ru[102],[102],,,ppb, .4035,.0070,1.731, .4115, .3930, .4026,

```

```
.4079, .4027,,,
Elem2=Te[125],[125],,,ppb, .0069,.0198,285.8, .0188, .0258, .0149,
-.0012, -.0237,,,
Elem3=Sn[117],[117],,,ppb, 1.110,.0370,3.330, 1.096, 1.108, 1.163,
1.062, 1.123,,,
Elem4=Sn[126],[126],,,ppb, .0013,.0004,32.03, .0013, .0009, .0019,
.0009, .0013,,,
Elem5=Cs[133],[133],,,ppb, 21.77,.2859,1.313, 21.41, 21.65, 22.19,
21.84, 21.76,,,
Elem6=Cs[135],[135],,,ppb, .0603,.0008,1.264, .0593, .0603, .0608,
.0597, .0612,,,
Elem7=Cs[137],[137],,,ppb, .0727,.0032,4.467, .0743, .0722, .0757,
.0673, .0739,,,
Elem8=Ba[138],[138],,,ppb, .0050,.0018,36.90, .0063, .0037, .0060,
.0024, .0065,,,
```

[Internal Standards]

;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn

```
Elem0=In[115],[115],,Cts/S, 10.457,.17163,1.6413,10.635,10.287,10.
282,10.461,10.619
```

[Sample Header]

Method=PRV

SampleName=s00t000511_a

Operator=kjt

Comment=sn spk 40401 df

CustID=

CustSmpl=

LabID=

Run Time=05/16/2000 10:17

Sample Type=Unk

Mode=CONC

CorrFactor=1.000000

Repeats=5

[Results]

;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pass/fail,chklo,chkhi

```
Elem0=Tc[99],[99],,,ppb, .2948,.0060,2.025, .2975, .2884, .2895, .
2958, .3029,,,
```

```
Elem1=Ru[102],[102],,,ppb, .3510,.0089,2.534, .3561, .3471, .3626,
.3392, .3498,,,
```

```
Elem2=Te[125],[125],,,ppb, .0183,.0162,88.42, .0038, .0273, .0155,
.0036, .0414,,,
```

```
Elem3=Sn[117],[117],,,ppb, 20.09,.3003,1.495, 19.72, 20.46, 19.88,
20.11, 20.29,,,
```

```
Elem4=Sn[126],[126],,,ppb, .0008,.0002,26.66, .0006, .0010, .0010,
.0009, .0006,,,
```

Elem5=Cs[133],[133],,,,ppb, .1936,.0050,2.578, .1937, .1946, .1859,
.1999, .1937,,,
Elem6=Cs[135],[135],,,,ppb, .0533,.0018,3.441, .0533, .0545, .0507,
.0526, .0555,,,
Elem7=Cs[137],[137],,,,ppb, .0614,.0044,7.209, .0562, .0573, .0626,
.0655, .0655,,,
Elem8=Ba[138],[138],,,,ppb, .0012,.0013,112.2, .0027, .0007, -.0008
, .0016, .0016,,,

[Internal Standards]

;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
Elem0=In[115],[115],,Cts/S, 10.536,.15571,1.4780,10.740,10.493,10.
607,10.316,10.525

[Sample Header]

Method=PRV
SampleName=s00t000611
Operator=kjt
Comment= 40401 df
CustID=
CustSmpl=
LabID=
Run Time=05/16/2000 10:26
Sample Type=Unk
Mode=CONC
CorrFactor=1.000000
Repeats=5

[Results]

;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pa
ss/fail,chklo,chkhi
Elem0=Tc[99],[99],,,,ppb, .3395,.0028,.8179, .3401, .3405, .3413, .
.3346, .3411,,,
Elem1=Ru[102],[102],,,,ppb, .4129,.0105,2.536, .3986, .4134, .4255,
.4195, .4075,,,
Elem2=Te[125],[125],,,,ppb, .0132,.0207,156.6, .0026, .0285, -.0137
, .0103, .0384,,,
Elem3=Sn[117],[117],,,,ppb, .0021,.0023,109.2, .0058, .0006, .0020,
.0019, .0001,,,
Elem4=Sn[126],[126],,,,ppb, .0011,.0006,56.21, .0018, .0002, .0015,
.0009, .0013,,,
Elem5=Cs[133],[133],,,,ppb, .2201,.0053,2.419, .2254, .2151, .2146,
.2256, .2198,,,
Elem6=Cs[135],[135],,,,ppb, .0589,.0023,3.922, .0589, .0567, .0579,
.0580, .0627,,,
Elem7=Cs[137],[137],,,,ppb, .0707,.0023,3.252, .0698, .0703, .0676,
.0735, .0722,,,
Elem8=Ba[138],[138],,,,ppb, -.0110,.0014,12.37, -.0093, -.0126, -.0

119, -.0113, -.0099,,,

[Internal Standards]

;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn

Elem0=In[115],[115],,Cts/S, 10.548,.17061,1.6175,10.432,10.732,10.731,10.378,10.466

[Sample Header]

Method=PRV

SampleName=s00t000611_d

Operator=kjt

Comment= 40401 df

CustID=

CustSmpl=

LabID=

Run Time=05/16/2000 10:30

Sample Type=Unk

Mode=CONC

CorrFactor=1.000000

Repeats=5

[Results]

;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pass/fail,chklo,chkhi

Elem0=Tc[99],[99],,ppb, .3328,.0045,1.364, .3330, .3264, .3325, .3328, .3393,,,

Elem1=Ru[102],[102],,ppb, .4164,.0111,2.674, .4327, .4095, .4228, .4059, .4109,,,

Elem2=Te[125],[125],,ppb, .0087,.0178,205.3, -.0042, -.0024, .0218, -.0053, .0335,,,

Elem3=Sn[117],[117],,ppb, .0011,.0014,132.9, .0030, .0012, .0018, -.0001, -.0005,,,

Elem4=Sn[126],[126],,ppb, .0009,.0003,40.07, .0003, .0009, .0011, .0011, .0008,,,

Elem5=Cs[133],[133],,ppb, .2136,.0048,2.247, .2076, .2113, .2206, .2148, .2138,,,

Elem6=Cs[135],[135],,ppb, .0601,.0012,1.924, .0605, .0602, .0580, .0609, .0607,,,

Elem7=Cs[137],[137],,ppb, .0703,.0022,3.148, .0667, .0698, .0708, .0721, .0719,,,

Elem8=Ba[138],[138],,ppb, -.0155,.0011,7.140, -.0160, -.0170, -.0148, -.0141, -.0156,,,

[Internal Standards]

;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn

Elem0=In[115],[115],,Cts/S, 10.660,.13100,1.2289,10.868,10.627,10.691,10.527,10.587

```
[Sample Header]
Method=PRV
SampleName=s00t000611_a
Operator=kjt
Comment=msprv spk 40401 df
CustID=
CustSmpl=
LabID=
Run Time=05/16/2000 10:33
Sample Type=Unk
Mode=CONC
CorrFactor=1.000000
Repeats=5
```

```
[Results]
;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pass/fail,chklo,chkhi
Elem0=Tc[99],[99],,,ppb, 22.81,.2056,.9012, 22.83, 23.00, 22.47, 22.83, 22.95,,,
Elem1=Ru[102],[102],,,ppb, .3458,.0026,.7595, .3448, .3455, .3424, .3467, .3495,,,
Elem2=Te[125],[125],,,ppb, .0163,.0210,128.6, -.0139, .0276, .0302, .0349, .0028,,,
Elem3=Sn[117],[117],,,ppb, 1.082,.0116,1.070, 1.075, 1.081, 1.067, 1.094, 1.093,,,
Elem4=Sn[126],[126],,,ppb, .0008,.0005,56.31, .0002, .0011, .0005, .0009, .0014,,,
Elem5=Cs[133],[133],,,ppb, 20.87,.4133,1.981, 20.29, 20.73, 21.01, 20.90, 21.42,,,
Elem6=Cs[135],[135],,,ppb, .0514,.0016,3.032, .0503, .0496, .0535, .0510, .0524,,,
Elem7=Cs[137],[137],,,ppb, .0610,.0025,4.116, .0578, .0615, .0593, .0622, .0642,,,
Elem8=Ba[138],[138],,,ppb, .0128,.0014,11.27, .0110, .0141, .0118, .0129, .0143,,,

```

```
[Internal Standards]
;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
Elem0=In[115],[115],,Cts/S, 10.534,.13274,1.2602,10.750,10.470,10.568,10.464,10.417
```

```
[Sample Header]
Method=PRV
SampleName=s00t000611_a
Operator=kjt
Comment=sn spk 40401 df
CustID=
CustSmpl=
```


LabID=
Run Time=05/16/2000 10:36
Sample Type=Unk
Mode=CONC
CorrFactor=1.000000
Repeats=5

[Results]

;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pass/fail,chklo,chkhi
Elem0=Tc[99],[99],,,ppb, .3377,.0037,1.094, .3365, .3326, .3422, .3401, .3369,,,
Elem1=Ru[102],[102],,,ppb, .4035,.0174,4.319, .4131, .3954, .3986, .4280, .3827,,,
Elem2=Te[125],[125],,,ppb, .0206,.0246,119.6, .0195, .0051, .0629, .0024, .0130,,,
Elem3=Sn[117],[117],,,ppb, 19.96,.6096,3.053, 19.84, 19.75, 20.47, 19.12, 20.64,,,
Elem4=Sn[126],[126],,,ppb, .0010,.0006,59.20, .0012, .0011, .0017, .0002, .0007,,,
Elem5=Cs[133],[133],,,ppb, .2198,.0066,3.015, .2244, .2246, .2241, .2100, .2157,,,
Elem6=Cs[135],[135],,,ppb, .0620,.0030,4.866, .0625, .0611, .0669, .0597, .0596,,,
Elem7=Cs[137],[137],,,ppb, .0724,.0041,5.613, .0721, .0673, .0750, .0699, .0776,,,
Elem8=Ba[138],[138],,,ppb, -.0014,.0018,124.2, .0008, -.0020, -.0019, -.0038, -.0002,,,

[Internal Standards]

;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
Elem0=In[115],[115],,Cts/S, 10.308,.37075,3.5966,10.560,10.574,10.259,10.464,9.6845

[Sample Header]

Method=PRV
SampleName=s00t000611_a
Operator=kjt
Comment=sn spk 40401 df
CustID=
CustSmpl=
LabID=
Run Time=05/16/2000 10:36
Sample Type=Unk
Mode=CONC
CorrFactor=1.000000
Repeats=5

[Results]

```
;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pass/fail,chklo,chkhi
Elem0=Tc[99],[99],,,,ppb, .3339,.0095,2.848, .3365, .3326, .3422, .3401, .3182,,,
Elem1=Ru[102],[102],,,,ppb, .4051,.0154,3.792, .4131, .3954, .3986, .4280, .3903,,,
Elem2=Te[125],[125],,,,ppb, .0209,.0245,117.5, .0195, .0051, .0629, .0024, .0144,,,
Elem3=Sn[117],[117],,,,ppb, 19.84,.4878,2.458, 19.84, 19.75, 20.47, 19.12, 20.03,,,
Elem4=Sn[126],[126],,,,ppb, .0010,.0006,55.64, .0012, .0011, .0017, .0002, .0009,,,
Elem5=Cs[133],[133],,,,ppb, .2195,.0068,3.109, .2244, .2246, .2241, .2100, .2145,,,
Elem6=Cs[135],[135],,,,ppb, .0620,.0029,4.742, .0625, .0611, .0669, .0597, .0600,,,
Elem7=Cs[137],[137],,,,ppb, .0697,.0041,5.897, .0721, .0673, .0750, .0699, .0644,,,
Elem8=Ba[138],[138],,,,ppb, -.0020,.0018,87.81, .0008, -.0020, -.0019, -.0038, -.0033,,,
```

[Internal Standards]

```
;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
Elem0=In[115],[115],,Cts/S, 10.438,.13898,1.3315,10.560,10.574,10.259,10.464,10.333
```

[Sample Header]

```
Method=PRV
SampleName=s00t000627
Operator=kjt
Comment= 40401 df
CustID=
CustSmpl=
LabID=
Run Time=05/16/2000 10:46
Sample Type=Unk
Mode=CONC
CorrFactor=1.000000
Repeats=5
```

[Results]

```
;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pass/fail,chklo,chkhi
Elem0=Tc[99],[99],,,,ppb, .2980,.0051,1.704, .3038, .3006, .2907, .2953, .2994,,,
Elem1=Ru[102],[102],,,,ppb, .3580,.0156,4.364, .3792, .3683, .3444, .3554, .3429,,,
```

```

Elem2=Te[125],[125],,,,ppb, .0058,.0209,363.0, .0341, .0198, -.0146
, -.0123, .0019,,,
Elem3=Sn[117],[117],,,,ppb, .0011,.0022,202.7, -.0001, .0011, -.000
7, .0003, .0048,,,
Elem4=Sn[126],[126],,,,ppb, .0011,.0006,54.41, .0010, .0013, .0020,
.0005, .0007,,,
Elem5=Cs[133],[133],,,,ppb, .1913,.0063,3.275, .1878, .1923, .2013,
.1847, .1905,,,
Elem6=Cs[135],[135],,,,ppb, .0513,.0021,3.999, .0497, .0505, .0516,
.0548, .0501,,,
Elem7=Cs[137],[137],,,,ppb, .0618,.0018,2.950, .0592, .0642, .0624,
.0617, .0614,,,
Elem8=Ba[138],[138],,,,ppb, -.0133,.0037,27.68, -.0077, -.0116, -.0
154, -.0148, -.0169,,,

```

[Internal Standards]

```

;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
Elem0=In[115],[115],,Cts/S, 10.479,.10076,.96150,10.535,10.531,10.
301,10.498,10.532

```

[Sample Header]

```

Method=PRV
SampleName=s00t000627_d
Operator=kjt
Comment= 40401 df
CustID=
CustSmpl=
LabID=
Run Time=05/16/2000 10:51
Sample Type=Unk
Mode=CONC
CorrFactor=1.000000
Repeats=5

```

[Results]

```

;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pa
ss/fail,chklo,chkhi
Elem0=Tc[99],[99],,,,ppb, .3122,.0033,1.055, .3118, .3111, .3105, .
3096, .3179,,,
Elem1=Ru[102],[102],,,,ppb, .3709,.0056,1.512, .3666, .3653, .3738,
.3699, .3791,,,
Elem2=Te[125],[125],,,,ppb, .0188,.0159,84.26, .0166, .0414, -.0019
, .0133, .0248,,,
Elem3=Sn[117],[117],,,,ppb, -.0005,.0008,180.1, .0004, -.0017, -.00
01, -.0008, .0000,,,
Elem4=Sn[126],[126],,,,ppb, .0012,.0004,33.89, .0007, .0009, .0013,
.0015, .0016,,,
Elem5=Cs[133],[133],,,,ppb, .1948,.0045,2.314, .2013, .1891, .1935,

```

.1967, .1935,,,
Elem6=Cs[135],[135],,,ppb, .0520,.0023,4.486, .0521, .0491, .0525,
.0554, .0509,,,
Elem7=Cs[137],[137],,,ppb, .0633,.0020,3.108, .0630, .0608, .0650,
.0621, .0655,,,
Elem8=Ba[138],[138],,,ppb, -.0171,.0010,5.717, -.0159, -.0169, -.0
167, -.0185, -.0173,,,

[Internal Standards]
;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
Elem0=In[115],[115],,Cts/S, 10.480,.06328,.60379,10.485,10.522,10.
553,10.449,10.391

[Sample Header]
Method=PRV
SampleName=s00t000636
Operator=kjt
Comment= 40401 df
CustID=
CustSmpl=
LabID=
Run Time=05/16/2000 10:54
Sample Type=Unk
Mode=CONC
CorrFactor=1.000000
Repeats=5

[Results]
;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pa
ss/fail,chklo,chkhi
Elem0=Tc[99],[99],,,ppb, .3111,.0061,1.956, .3123, .3118, .3089, .
3028, .3196,,,
Elem1=Ru[102],[102],,,ppb, .3654,.0077,2.115, .3527, .3643, .3683,
.3693, .3726,,,
Elem2=Te[125],[125],,,ppb, .0145,.0200,138.7, .0350, .0141, .0295,
-.0161, .0098,,,
Elem3=Sn[117],[117],,,ppb, .0048,.0038,78.04, .0104, .0057, .0052,
.0026, .0003,,,
Elem4=Sn[126],[126],,,ppb, .0011,.0007,57.87, .0005, .0008, .0022,
.0013, .0009,,,
Elem5=Cs[133],[133],,,ppb, .1860,.0049,2.610, .1786, .1845, .1906,
.1865, .1900,,,
Elem6=Cs[135],[135],,,ppb, .0530,.0016,3.105, .0526, .0557, .0519,
.0533, .0516,,,
Elem7=Cs[137],[137],,,ppb, .0618,.0012,1.875, .0612, .0612, .0629,
.0604, .0630,,,
Elem8=Ba[138],[138],,,ppb, -.0160,.0019,11.66, -.0175, -.0161, -.0
128, -.0169, -.0168,,,

```
[Internal Standards]
;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
Elem0=In[115],[115],,Cts/S, 10.418,.09555,.91724,10.446,10.367,10.
288,10.542,10.445
```

```
[Sample Header]
Method=PRV
SampleName=s00t000636_d
Operator=kjt
Comment= 40401 df
CustID=
CustSmpl=
LabID=
Run Time=05/16/2000 10:58
Sample Type=Unk
Mode=CONC
CorrFactor=1.000000
Repeats=5
```

```
[Results]
;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pa
ss/fail,chklo,chkhi
Elem0=Tc[99],[99],,,ppb, .3078,.0032,1.040, .3098, .3044, .3081, .
3118, .3047,,,
Elem1=Ru[102],[102],,,ppb, .3637,.0093,2.563, .3586, .3755, .3719,
.3573, .3551,,,
Elem2=Te[125],[125],,,ppb, .0089,.0159,177.7, .0203, -.0179, .0089
, .0209, .0124,,,
Elem3=Sn[117],[117],,,ppb, .0003,.0015,551.7, .0008, .0011, -.0016
, .0020, -.0010,,,
Elem4=Sn[126],[126],,,ppb, .0011,.0004,34.05, .0005, .0011, .0015,
.0011, .0012,,,
Elem5=Cs[133],[133],,,ppb, .1903,.0061,3.191, .1874, .1952, .1849,
.1857, .1984,,,
Elem6=Cs[135],[135],,,ppb, .0499,.0024,4.903, .0476, .0520, .0517,
.0468, .0512,,,
Elem7=Cs[137],[137],,,ppb, .0603,.0019,3.184, .0607, .0630, .0583,
.0586, .0608,,,
Elem8=Ba[138],[138],,,ppb, -.0178,.0007,4.012, -.0177, -.0168, -.0
178, -.0177, -.0188,,,
```

```
[Internal Standards]
;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
Elem0=In[115],[115],,Cts/S, 10.364,.16434,1.5857,10.478,10.242,10.
541,10.411,10.149
```

```
[Sample Header]
```

Method=PRV
SampleName=ccv
Operator=kjt
Comment=msprv lcs
CustID=
CustSmpl=62b57
LabID=
Run Time=05/16/2000 11:05
Sample Type=Unk
Mode=CONC
CorrFactor=1.000000
Repeats=5

[Results]

;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pass/fail,chklo,chkhi
Elem0=Tc[99],[99],,,ppb, 20.82,.2055,.9871, 20.82, 20.54, 20.74, 20.88, 21.10,,,
Elem1=Ru[102],[102],,,ppb, -.0003,.0013,401.4, -.0006, -.0006, .0003, .0014, -.0020,,,
Elem2=Te[125],[125],,,ppb, .0177,.0265,149.9, -.0216, .0282, .0419, .0031, .0368,,,
Elem3=Sn[117],[117],,,ppb, 1.945,.1388,7.139, 1.753, 1.862, 1.962, 2.058, 2.088,,,
Elem4=Sn[126],[126],,,ppb, -.0002,.0005,221.4, -.0003, .0005, -.0007, -.0005, -.0001,,,
Elem5=Cs[133],[133],,,ppb, 18.42,.2040,1.108, 18.21, 18.50, 18.53, 18.65, 18.20,,,
Elem6=Cs[135],[135],,,ppb, .0078,.0004,4.723, .0081, .0080, .0078, .0072, .0078,,,
Elem7=Cs[137],[137],,,ppb, .0143,.0019,12.94, .0113, .0139, .0160, .0149, .0154,,,
Elem8=Ba[138],[138],,,ppb, .1294,.0048,3.733, .1294, .1303, .1264, .1367, .1240,,,

[Internal Standards]

;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
Elem0=In[115],[115],,Cts/S, 10.009,.14504,1.4491,10.234,10.059,9.8620,9.9213,9.9697

[Sample Header]

Method=PRV
SampleName=ccv
Operator=kjt
Comment=20 ppb Sn
CustID=
CustSmpl=000516-3
LabID=

Run Time=05/16/2000 11:08
Sample Type=Unk
Mode=CONC
CorrFactor=1.000000
Repeats=5

[Results]

;Format=elem,wl,ISRef,inst,units,avg,stddev,%rsd,rep1..repn,chk pass/fail,chklo,chkhi
Elem0=Tc[99],[99],,,ppb, .0057,.0013,23.38, .0077, .0064, .0054, .0048, .0043,,,
Elem1=Ru[102],[102],,,ppb, -.0010,.0011,112.7, -.0022, .0001, .0003, -.0013, -.0019,,,
Elem2=Te[125],[125],,,ppb, .0299,.0341,114.0, .0503, -.0270, .0458, .0239, .0567,,,
Elem3=Sn[117],[117],,,ppb, 19.69,.2485,1.262, 19.83, 19.92, 19.71, 19.71, 19.27,,,
Elem4=Sn[126],[126],,,ppb, .0000,.0003,4644., -.0004, .0000, .0001, .0005, -.0002,,,
Elem5=Cs[133],[133],,,ppb, .0176,.0010,5.880, .0191, .0179, .0176, .0170, .0164,,,
Elem6=Cs[135],[135],,,ppb, .0017,.0007,42.06, .0011, .0026, .0013, .0024, .0012,,,
Elem7=Cs[137],[137],,,ppb, -.0008,.0005,72.68, -.0004, -.0007, -.0002, -.0016, -.0008,,,
Elem8=Ba[138],[138],,,ppb, -.0146,.0007,4.949, -.0156, -.0146, -.0142, -.0137, -.0150,,,

[Internal Standards]

;Format=elem,wl,inst,units,avg,stddev,%rsd,rep1..repn
Elem0=In[115],[115],,Cts/S, 9.8348,.05769,.58659,9.8038,9.8623,9.8548,9.7522,9.9009

[Sample Header]

Method=PRV
SampleName=ccb
Operator=kjt
Comment=2% nitric
CustID=
CustSmpl=
LabID=
Run Time=05/16/2000 11:27
Sample Type=Unk
Mode=CONC
CorrFactor=1.000000
Repeats=5

[Results]

LABCORE Completed Worklist Report for Worklist# 32937

Analyst: kjt

Instrument: ICPMS1

Book#: 49 B 55Method: LA-506-101 Rev/Mod A-3

Worklist Comment: ICP/MS SY-102 (DIRECT) Iso-U

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 ICV	0		QMSU-QC U235	QC	0.000142	1.40e-04	98.592 % Recovery	
1 ICV	0		QMSU-QC U238	QC	0.020	2.04e-02	102.000 % Recovery	
2 ICB	0		QMSU-QC U233	QC	1	<1.20e-5		ug/mL
2 ICB	0		QMSU-QC U234	QC	1	<1.20e-5		ug/mL
2 ICB	0		QMSU-QC U235	QC	1	<1.20e-5		ug/mL
2 ICB	0		QMSU-QC U236	QC	1	<1.60e-5		ug/mL
2 ICB	0		QMSU-QC U238	QC	1	<1.20e-5		ug/mL
3 SAMPLE	S00T000502	0 D	QMSU-D1 U233-D1	LIQUID	N/A	< 4.848e-01	0.485	ug/mL
3 SAMPLE	S00T000502	0 D	QMSU-D1 U234-D1	LIQUID	N/A	< 4.848e-01	0.485	ug/mL
3 SAMPLE	S00T000502	0 D	QMSU-D1 U235-D1	LIQUID	N/A	< 4.848e-01	0.485	ug/mL
3 SAMPLE	S00T000502	0 D	QMSU-D1 U236-D1	LIQUID	N/A	< 6.464e-01	0.646	ug/mL
3 SAMPLE	S00T000502	0 D	QMSU-D1 U238-D1	LIQUID	N/A	2.574e+00	0.485	ug/mL
4 DUP	S00T000502	0 D	QMSU-D1 U233-D1	LIQUID	<4.85e-1	<4.85e-1		RPD
4 DUP	S00T000502	0 D	QMSU-D1 U234-D1	LIQUID	<4.85e-1	<4.85e-1		RPD
4 DUP	S00T000502	0 D	QMSU-D1 U235-D1	LIQUID	<4.85e-1	<4.85e-1		RPD
4 DUP	S00T000502	0 D	QMSU-D1 U236-D1	LIQUID	<6.46e-1	<6.46e-1		RPD
4 DUP	S00T000502	0 D	QMSU-D1 U238-D1	LIQUID	2.57e+00	2.44e+00	5.190	RPD
5 SPK-POST	S00T000502	0 D	QMSU-D1 U235-D1	LIQUID	0.000142	1.33e-04	93.662 % Recovery	
5 SPK-POST	S00T000502	0 D	QMSU-D1 U238-D1	LIQUID	0.020	1.75e-02	87.500 % Recovery	
6 SAMPLE	S00T000503	0 D	QMSU-D1 U233-D1	LIQUID	N/A	< 4.848e-01	0.485	ug/mL
6 SAMPLE	S00T000503	0 D	QMSU-D1 U234-D1	LIQUID	N/A	< 4.848e-01	0.485	ug/mL
6 SAMPLE	S00T000503	0 D	QMSU-D1 U235-D1	LIQUID	N/A	< 4.848e-01	0.485	ug/mL
6 SAMPLE	S00T000503	0 D	QMSU-D1 U236-D1	LIQUID	N/A	< 6.464e-01	0.646	ug/mL
6 SAMPLE	S00T000503	0 D	QMSU-D1 U238-D1	LIQUID	N/A	1.442e+00	0.485	ug/mL
7 DUP	S00T000503	0 D	QMSU-D1 U233-D1	LIQUID	<4.85e-1	<4.85e-1		RPD
7 DUP	S00T000503	0 D	QMSU-D1 U234-D1	LIQUID	<4.85e-1	<4.85e-1		RPD
7 DUP	S00T000503	0 D	QMSU-D1 U235-D1	LIQUID	<4.85e-1	<4.85e-1		RPD
7 DUP	S00T000503	0 D	QMSU-D1 U236-D1	LIQUID	<6.46e-1	<6.46e-1		RPD
7 DUP	S00T000503	0 D	QMSU-D1 U238-D1	LIQUID	1.44e+00	1.51e+00	4.746	RPD
8 SAMPLE	S00T000504	0 D	QMSU-D1 U233-D1	LIQUID	N/A	< 4.848e-01	0.485	ug/mL
8 SAMPLE	S00T000504	0 D	QMSU-D1 U234-D1	LIQUID	N/A	< 4.848e-01	0.485	ug/mL
8 SAMPLE	S00T000504	0 D	QMSU-D1 U235-D1	LIQUID	N/A	< 4.848e-01	0.485	ug/mL
8 SAMPLE	S00T000504	0 D	QMSU-D1 U236-D1	LIQUID	N/A	< 6.464e-01	0.646	ug/mL
8 SAMPLE	S00T000504	0 D	QMSU-D1 U238-D1	LIQUID	N/A	2.881e+00	0.485	ug/mL
9 DUP	S00T000504	0 D	QMSU-D1 U233-D1	LIQUID	<4.85e-1	<4.85e-1		RPD
9 DUP	S00T000504	0 D	QMSU-D1 U234-D1	LIQUID	<4.85e-1	<4.85e-1		RPD
9 DUP	S00T000504	0 D	QMSU-D1 U235-D1	LIQUID	<4.85e-1	<4.85e-1		RPD
9 DUP	S00T000504	0 D	QMSU-D1 U236-D1	LIQUID	<6.46e-1	<6.46e-1		RPD
9 DUP	S00T000504	0 D	QMSU-D1 U238-D1	LIQUID	2.88e+00	2.92e+00	1.379	RPD
10 CCV	0		QMSU-QC U235	QC	0.000142	1.35e-04	95.070 % Recovery	
10 CCV	0		QMSU-QC U238	QC	0.020	1.92e-02	96.000 % Recovery	

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

LABCORE Completed Worklist Report for Worklist# 32937

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
11 CCB	0		EMSU-QC U233	QC	1	<1.20e-5		ug/mL
11 CCB	0		EMSU-QC U234	QC	1	<1.20e-5		ug/mL
11 CCB	0		EMSU-QC U235	QC	1	<1.20e-5		ug/mL
11 CCB	0		EMSU-QC U236	QC	1	<1.60e-5		ug/mL
11 CCB	0		EMSU-QC U238	QC	1	<1.20e-5		ug/mL

Final page for worklist# 32937

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Sail M. Pang 03/15/2000
Reviewer Signature _____ Date _____

HNF-1699 REV. 0

03/13/00 13:58

ws2

file 0315a.txt

Page: 1

LABCORE Data Entry Template for Worklist# 32937

Analyst: KST Instrument: ICPMS1Book# 49855
BMethod: LA-506-101 Rev/Mod A-3

Worklist Comment: ICP/MS SY-102 (DIRECT) Iso-U

S Type	Sample#	R A	Test	Matrix	Group#	Project
1	ICV		@MSU-QC	QC		
2	ICB		@MSU-QC	QC		
3	SAMPLE	S00T000502 0 D	@MSU-D1	LIQUID	20000085	SY-102 GRAB6
Analytes Requested: U233-D1 , U234-D1 , U235-D1 , U236-D1 , U238-D1						
4	DUP	S00T000502 0 D	@MSU-D1	LIQUID		
5	SPK-POST	S00T000502 0 D	@MSU-D1	LIQUID		
6	SAMPLE	S00T000503 0 D	@MSU-D1	LIQUID	20000085	SY-102 GRAB6
Analytes Requested: U233-D1 , U234-D1 , U235-D1 , U236-D1 , U238-D1						
7	DUP	S00T000503 0 D	@MSU-D1	LIQUID		
8	SAMPLE	S00T000504 0 D	@MSU-D1	LIQUID	20000085	SY-102 GRAB6
Analytes Requested: U233-D1 , U234-D1 , U235-D1 , U236-D1 , U238-D1						
9	DUP	S00T000504 0 D	@MSU-D1	LIQUID		
10	CCV		@MSU-QC	QC		
11	CCB		@MSU-QC	QC		

Final page for worklist # 32937

K3 Phenol 3-15-00
Signature Date

Signature Date

S00T000502
S00T000 502-d
S00T000 502-a
S00T000 503
S00T000 503-d
S00T000 504
S00T000 504-d

40401 d F

.05-10 -.05-10

Data Entry Comments:

Spike .02ml 10ppm High Purity hot # Uranium
Scans 000T502, 000T503

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

Analysis Report

03/15/00 12:44:30

page 1

Method: MS_TUNE

Sample Name: ms-tune

Operator: kjt

Comment:

Run Time: 03/15/00 12:43 Type: Unk

Mode: INT

Corr.Fact: 1.000000

Elem	In[115]	Ir[193]
line	115/pulse	193/pulse
Units	Cts/S	Cts/S
Avg	77110.	33760.
Stddev	861.	641.
%RSD	1.117	1.899
#1	76680.	34380.
#2	76970.	34180.
#3	78030.	34660.
#4	77100.	33640.
#5	78170.	34000.
#6	76770.	33260.
#7	78190.	33270.
#8	75480.	33840.
#9	76380.	33940.
#10	77300.	32450.

→ 0315a.txt
 file 03-15-00 K3 Phenolike

S00T000502
 S00T000502-d
 S00T000502-a
 S00T000503
 S00T000503-d
 S00T000504
 S00T000504-d

40401df 05-10-05-10

SIGNATURE ANALYST/DEPENDENTS WITH THE TECHNOLOGICAL/CHEMIST THAT
 COMPLETELY VERIFIED THE CALIBRATION ANALYSIS ON PAGES S21 TO S39.

Uploaded + Validated by.
 Sam M. Faris
 03/15/2000

03/15/00 12:46:46

page 1

Analysis Report

Method: ISOU

Sample Name: BLANK

Operator:

Comments:

Run Time: 03/15/00 12:45 Type: Std

Mode: IR

Corr.Fact: 1.000000

Elem.	U [233]	U [234]	U [235]	U [236]	U [238]
Line	233/pulse	234/pulse	235/pulse	236/pulse	238/pulse
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2.027	2.302	2.235	2.295	2.379
Stddev	.320	.252	.316	.231	.410
%RSD	15.77	10.93	14.15	10.07	17.23
#1	1.546	2.395	2.694	2.694	2.644
#2	2.320	2.067	1.916	2.168	1.664
#3	2.322	2.025	2.420	2.272	2.519
#4	1.968	2.400	2.064	2.112	2.640
#5	1.980	2.624	2.079	2.228	2.426

Elem.	Ir[193]
Line	193/pulse
Units	Cts/S
Avg	10.115
Stddev	.186
%RSD	1.8385

#1	10.023
#2	9.9159
#3	10.122
#4	10.415
#5	10.101

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Method : ISOU

Standardzn Report

03/15/00 12:46:54

page 1

[233]	207.8989	2.0272	1.0000000	03/15/00 12:46:46
[234]	207.5121	2.3022	1.0000000	03/15/00 12:46:46
[235]	207.6070	2.2348	1.0000000	03/15/00 12:46:46
[236]	207.5225	2.2949	1.0000000	03/15/00 12:46:46
[238]	191.0252	2.3786	1.0000000	03/15/00 12:46:46

Analysis Report

HNF-1699 REV.0

03/15/00 12:48:36

page 1

Method: ISOU

Sample Name: 100ppb U

Operator:

Comment:

Run Time: 03/15/00 12:47 Type: Std Mode: IR Corr.Fact: 1.000000

	U [233]	U [234]	U [235]	U [236]	U [238]
Time	233/pulse	234/pulse	235/pulse	236/pulse	238/pulse
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	160.5	160.5	160.5	160.5	20850.
Stddev	4.5	4.5	4.5	4.5	617.
%RSD	2.813	2.813	2.813	2.813	2.957
#1	162.7	162.7	162.7	162.7	19960.
#2	162.7	162.7	162.7	162.7	20720.
#3	157.8	157.8	157.8	157.8	20750.
#4	154.1	154.1	154.1	154.1	21600.
#5	165.3	165.3	165.3	165.3	21230.

	Ir[193]
Time	193/pulse
Units	Cts/S
Avg	9.7834
Stddev	.1206
%RSD	1.2329
#1	9.7499
#2	9.6818
#3	9.9576
#4	9.8522
#5	9.6754

HNF-1699 REV. 0

Method : ISOU

Standardzn Report

03/15/00 12:48:47

page 1

U [233]	222.9387	2.0272	1.0000000	03/15/00 12:48:36
U [234]	222.5519	2.3022	1.0000000	03/15/00 12:48:36
U [235]	222.6468	2.2348	1.0000000	03/15/00 12:48:36
U [236]	222.5623	2.2949	1.0000000	03/15/00 12:48:36
U [238]	209.9754	2.3786	1.0000000	03/15/00 12:48:36

Analysis Report

HNF-1699 REV. 0

03/15/00 12:55:52

page 1

Method: ISOU

Sample Name: blank

Operator: kjt

Comment: background

Run Time: 03/15/00 12:54 Type: Unk

Mode: CONC

Corr.Fact: 1.000000

Elem	U [233]	U [234]	U [235]	U [236]	U [238]
Time	233/pulse	234/pulse	235/pulse	236/pulse	238/pulse
Units	ppb	ppb	ppb	ppb	ppb
Avg	.0030	.0003	.0006	.0012	.0007
Stddev	.0015	.0012	.0013	.0014	.0017
RSD	49.52	475.5	225.1	121.1	238.1
#1	.0025	.0005	.0001	-.0001	-.0006
#2	.0008	.0019	-.0004	.0004	.0028
#3	.0030	.0005	.0002	.0012	-.0014
#4	.0044	-.0014	.0029	.0008	.0009
#5	.0043	-.0002	.0001	.0035	.0017

Int. Std.

Time	Ir[193]
193/pulse	
Units	Cts/S
Avg	10.463
Stddev	.229
RSD	2.1875

#1	10.606
#2	10.447
#3	10.769
#4	10.279
#5	10.216

Analysis Report

HNF-1699 REV. 0

03/15/00 12:57:53

page 1

Method: ISOU

Sample Name: icv

Operator: kjt

Comment: isou lcs

Run Time: 03/15/00 12:56 Type: Unk

Mode: CONC

Corr.Fact: 1.000000

Line	U [233] 233/pulse	U [234] 234/pulse	U [235] 235/pulse	U [236] 236/pulse	U [238] 238/pulse
Units	ppb	ppb	ppb	ppb	ppb
Avg	.0025	.0015	.1402	.0048	20.39
Stddev	.0021	.0016	.0049	.0017	.45
%RSD	83.52	107.8	3.481	36.17	2.215
#1	.0014	-.0011	.1393	.0066	20.52
#2	.0042	.0018	.1350	.0056	20.40
#3	.0006	.0018	.1438	.0057	19.77
#4	.0053	.0016	.1465	.0025	21.02
#5	.0010	.0034	.1364	.0034	20.26

Line	Ir[193] 193/pulse
Units	Cts/S
Avg	10.272
Stddev	.150
%RSD	1.4644

#1	10.212
#2	10.154
#3	10.362
#4	10.146
#5	10.390

Analysis Report

HNF-1699 REV. 0

03/15/00 13:09:48

page 1

Method: ISOU

Sample Name: icb

Operator: kjt

Comment: 2% nitric

Run Time: 03/15/00 13:08 Type: Unk

Mode: CONC

Corr.Fact: 1.000000

Elem	U [233]	U [234]	U [235]	U [236]	U [238]
Line	233/pulse	234/pulse	235/pulse	236/pulse	238/pulse
Units	ppb	ppb	ppb	ppb	ppb
Avg	.0026	.0016	.0003	.0016	.0013
Stddev	.0022	.0021	.0010	.0005	.0013
%RSD	82.28	134.4	306.3	33.18	101.4
#1	.0032	.0001	.0004	.0013	.0012
#2	.0049	.0021	-.0012	.0024	-.0003
#3	-.0010	.0026	.0002	.0015	.0024
#4	.0027	.0042	.0016	.0017	.0029
#5	.0033	-.0011	.0008	.0010	.0004

Std.	Ir[193]
Line	193/pulse
Units	Cts/S
Avg	9.8344
Stddev	.1057
%RSD	1.0749

#1	9.7042
#2	9.9258
#3	9.9157
#4	9.8708
#5	9.7392

Analysis Report

HNF-1699 REV. 0

03/15/00 13:12:54

page 1

Method: ISOU

Sample Name: s00t000502

Operator: kjt

Comment: 40401 df

Run Time: 03/15/00 13:11 Type: Unk

Mode: CONC

Corr.Fact: 1.000000

Elem	U [233]	U [234]	U [235]	U [236]	U [238]
Line	233/pulse	234/pulse	235/pulse	236/pulse	238/pulse
Units	ppb	ppb	ppb	ppb	ppb
Avg	.0032	.0026	.0028	.0021	.0637
Stddev	.0017	.0026	.0014	.0016	.0055
CRSD	53.83	100.2	50.96	75.73	8.617
#1	.0015	-.0007	.0022	-.0002	.0609
#2	.0044	.0044	.0030	.0041	.0678
#3	.0051	.0058	.0011	.0025	.0578
#4	.0013	.0018	.0050	.0026	.0710
#5	.0036	.0015	.0029	.0015	.0610

Int. Std.

Line	Ir[193]
193/pulse	
Units	Cts/S
Avg	9.4611
Stddev	.2012
CRSD	2.1265
#1	9.7617
#2	9.4783
#3	9.3017
#4	9.2529
#5	9.5108

Analysis Report

HNF-1699 REV. 0

03/15/00 13:19:31

page 1

Method: ISOU

Sample Name: s00t000502_d

Operator: kjt

Comment: 40401 df

Run Time: 03/15/00 13:18 Type: Unk

Mode: CONC

Corr.Fact: 1.000000

Elem	U [233]	U [234]	U [235]	U [236]	U [238]
Line	233/pulse	234/pulse	235/pulse	236/pulse	238/pulse
Units	ppb	ppb	ppb	ppb	ppb
Avg	.0016	.0021	.0042	.0024	.0604
Stddev	.0016	.0010	.0020	.0015	.0044
%RSD	96.84	48.95	46.85	62.14	7.363
#1	.0025	.0033	.0051	.0021	.0564
#2	.0004	.0023	.0021	.0006	.0591
#3	.0010	.0010	.0021	.0016	.0624
#4	.0013	.0028	.0054	.0044	.0570
#5	.0037	.0011	.0063	.0035	.0672

Ir[193]
193/pulse
Cts/S
Avg
Stddev
%RSD

#1	9.0649
#2	9.0634
#3	8.6888
#4	9.0291
#5	9.4621

Analysis Report

HNF-1699 REV. 0

03/15/00 13:25:04

page 1

Method: ISOU

Sample Name: s00t000502_a

Operator: kjt

Comment: 40401 df

Run Time: 03/15/00 13:23 Type: Unk

Mode: CONC

Corr.Fact: 1.000000

Line	U [233] 233/pulse	U [234] 234/pulse	U [235] 235/pulse	U [236] 236/pulse	U [238] 238/pulse
Units	ppb	ppb	ppb	ppb	ppb
Avg	.0023	.0031	.1330	.0071	17.55
Stddev	.0017	.0019	.0090	.0020	.99
RSD	74.20	60.60	6.800	28.51	5.616
	-.0002	.0003	.1201	.0100	16.67
	.0028	.0034	.1298	.0054	16.82
	.0031	.0024	.1445	.0050	17.38
	.0016	.0046	.1372	.0081	17.72
	.0043	.0051	.1331	.0072	19.14

Int. Std.

Line	Ir[193] 193/pulse
Units	Cts/S
Avg	8.8254
Stddev	.1480
RSD	1.6771

#1	8.8504
#2	8.8518
#3	8.6589
#4	9.0441
#5	8.7217

Analysis Report

HNF-1699 REV. 0

03/15/00 13:31:41

page 1

Method: ISOU

Sample Name: s00t000502_a

Operator: kjt

Comment: 40401 df

Run Time: 03/15/00 13:30 Type: Unk

Mode: CONC

Corr.Fact: 1.000000

	U [233]	U [234]	U [235]	U [236]	U [238]
233/pulse	233/pulse	234/pulse	235/pulse	236/pulse	238/pulse
ppb	ppb	ppb	ppb	ppb	ppb
.0039	.0034	.1250	.0077	17.75	
.0022	.0023	.0132	.0034	.72	
55.12	66.43	10.54	44.86	4.038	
.0042	.0047	.1161	.0043	17.22	
.0061	.0044	.1411	.0126	18.32	
.0038	.0006	.1077	.0045	16.77	
.0004	.0014	.1291	.0080	18.02	
.0051	.0058	.1312	.0090	18.40	

Int. Std.

Ir[193]

Line 193/pulse

Units Cts/S

Avg 9.0578

Stddev .1621

RSD 1.7900

9.0812

8.8739

9.2355

8.9709

9.1723

Analysis Report

HNF-1699 REV. 0

03/15/00 13:39:43

page 1

Method: ISOU

Sample Name: s00t000503

Operator: kjt

Comment: 40401 df

Time: 03/15/00 13:38 Type: Unk

Mode: CONC

Corr.Fact: 1.000000

Line	U [233] 233/pulse	U [234] 234/pulse	U [235] 235/pulse	U [236] 236/pulse	U [238] 238/pulse
Units	ppb	ppb	ppb	ppb	ppb
Avg	.0055	.0017	.0006	.0015	.0357
Stddev	.0017	.0011	.0021	.0007	.0023
%RSD	31.57	68.49	333.6	46.28	6.494
#1	.0073	.0027	-.0001	.0013	.0392
#2	.0045	.0018	.0019	.0026	.0328
#3	.0066	.0028	.0031	.0012	.0347
#4	.0062	.0005	-.0025	.0007	.0358
#5	.0030	.0005	.0008	.0018	.0358

Line	Ir[193] 193/pulse
Units	Cts/S
Avg	9.1832
Stddev	.2748
%RSD	2.9930
#1	9.2868
#2	9.2045
#3	9.5680
#4	8.9429
#5	8.8935

Analysis Report

HNF-1699 REV. 0

03/15/00 13:44:07

page 1

Method: ISOU

Sample Name: s00t000503_d

Operator: kjt

Comment: 40401 df

Run Time: 03/15/00 13:42

Type: Unk

Mode: CONC

Corr.Fact: 1.000000

Elem	U [233]	U [234]	U [235]	U [236]	U [238]
Line	233/pulse	234/pulse	235/pulse	236/pulse	238/pulse
Units	ppb	ppb	ppb	ppb	ppb
Avg	.0027	.0009	.0008	.0003	.0373
Stddev	.0010	.0017	.0020	.0019	.0040
SRSD	35.34	188.1	262.4	559.3	10.65
#1	.0027	-.0014	.0025	-.0016	.0408
#2	.0040	.0006	.0029	.0021	.0323
#3	.0016	.0006	-.0010	-.0018	.0339
#4	.0033	.0033	-.0016	.0016	.0387
#5	.0020	.0013	.0011	.0013	.0408

Inte Std.

Line	Ir[193]
Units	193/pulse
	Cts/S
Avg	8.9878
Stddev	.2522
SRSD	2.8066

#1	8.7747
#2	9.2344
#3	9.2053
#4	9.0488
#5	8.6759

Analysis Report

HNF-1699 REV. 0

03/15/00 13:53:06

page 1

Method: ISOU

Sample Name: s00t000503_d

Operator: kjt

Comment: 40401 df

Run Time: 03/15/00 13:51 Type: Unk

Mode: CONC

Corr.Fact: 1.000000

Item	U [233]	U [234]	U [235]	U [236]	U [238]
Line	233/pulse	234/pulse	235/pulse	236/pulse	238/pulse
Units	ppb	ppb	ppb	ppb	ppb
Avg	.0008	-.0012	-.0005	-.0006	.0360
Stddev	.0011	.0010	.0008	.0020	.0030
RSD	137.1	76.88	168.6	313.7	8.211
#1	.0008	-.0002	-.0015	-.0029	.0362
#2	.0009	-.0018	-.0008	.0006	.0337
#3	.0020	-.0026	-.0004	.0019	.0389
#4	-.0010	-.0010	-.0002	-.0022	.0388
#5	.0015	-.0006	.0006	-.0006	.0324

Int. Std.

Item	Ir[193]
Line	193/pulse
Units	Cts/S
Avg	9.5188
Stddev	.2245
RSD	2.3583
#1	9.7233
#2	9.4714
#3	9.5308
#4	9.1668
#5	9.7016

Analysis Report

HNF-1699 REV.0

03/15/00 14:24:15

page 1

Method: ISOU

Sample Name: s00t000504

Operator:

Comment: 40401 df

Run Time: 03/15/00 14:23 Type: Unk Mode: CONC Corr.Fact: 1.000000

U [233]	U [234]	U [235]	U [236]	U [238]
233/pulse	234/pulse	235/pulse	236/pulse	238/pulse
ppb	ppb	ppb	ppb	ppb
.0044	.0021	.0035	.0014	.0713
.0014	.0024	.0017	.0020	.0075
31.89	112.0	46.76	142.1	10.50
.0049	.0052	.0044	-.0004	.0646
.0048	-.0001	.0037	.0049	.0770
.0038	-.0005	.0039	.0006	.0696
.0024	.0029	.0007	.0007	.0643
.0062	.0032	.0050	.0014	.0811

Int. std.

Ir[193]
193/pulse
Cts/S
8.9036
.0834
.93662

8.8416
9.0078
8.8875
8.9695
8.8114

Analysis Report

HNF-1699 REV. 0

03/15/00 14:28:15

page 1

Method: ISOU

Sample Name: s00t000504_d

Operator: kjt

Comment: 40401 df

Run Time: 03/15/00 14:27 Type: Unk

Mode: CONC

Corr.Fact: 1.000000

	U [233]	U [234]	U [235]	U [236]	U [238]
Line	233/pulse	234/pulse	235/pulse	236/pulse	238/pulse
Units	ppb	ppb	ppb	ppb	ppb
Avg	.0033	.0023	.0029	.0022	.0722
Stddev	.0009	.0009	.0006	.0026	.0072
%RSD	28.49	39.95	19.58	116.3	9.914
#1	.0038	.0023	.0034	.0026	.0680
#2	.0028	.0033	.0024	-.0011	.0657
#3	.0046	.0012	.0032	.0058	.0786
#4	.0028	.0016	.0033	.0030	.0674
#5	.0023	.0032	.0022	.0009	.0812

	Ir[193]
Line	193/pulse
Units	Cts/S
Avg	3.8735
Stddev	.4140
%RSD	4.6651

#1	3.8906
#2	3.0620
#3	3.3422
#4	3.4358
#5	3.6468

Analysis Report

03/15/00 14:46:01

page 1

Method: ISOU

HNF-1699 BEV 0

Sample Name: ccv

Operator: kjt

Comment: isou lcs

Run Time: 03/15/00 14:44 Type: Unk

Mode: CONC

Corr.Fact: 1.000000

Elem	U [233]	U [234]	U [235]	U [236]	U [238]
Line	233/pulse	234/pulse	235/pulse	236/pulse	238/pulse
Units	ppb	ppb	ppb	ppb	ppb
Avg	.0029	.0017	.1346	.0049	19.18
Stddev	.0016	.0015	.0048	.0006	.88
RSD	56.11	89.36	3.599	12.96	4.609
#1	.0006	.0016	.1335	.0052	20.72
#2	.0019	.0002	.1286	.0051	18.67
#3	.0045	.0042	.1404	.0042	18.62
#4	.0036	.0018	.1318	.0056	18.75
#5	.0038	.0008	.1385	.0041	19.14

Int. Std.

Line	Ir[193]
Line	193/pulse
Units	Cts/S
Avg	9.0075
Stddev	.1566
RSD	1.7386

8.8374

9.1976

9.1044

9.0408

8.8575

Analysis Report

03/15/00 14:53:59

page 1

HNF-1699 REV.0

Method: ISOU

Sample Name: ccb

Operator: kjt

Comment: 2% nitric

Run Time: 03/15/00 14:52 Type: Unk

Mode: CONC

Corr.Fact: 1.000000

Elem	U [233]	U [234]	U [235]	U [236]	U [238]
Time	233/pulse	234/pulse	235/pulse	236/pulse	238/pulse
Units	ppb	ppb	ppb	ppb	ppb
Avg	.0018	.0017	.0014	.0015	.0014
Stddev	.0017	.0020	.0018	.0024	.0020
CRSD	90.10	116.2	129.0	157.6	140.8
	.0024	.0007	.0000	-.0017	.0004
	.0038	.0016	.0031	.0021	.0001
	.0027	.0050	.0033	.0043	.0009
	.0007	-.0001	.0014	.0031	.0008
	-.0003	.0013	-.0008	-.0001	.0050

Int. Std.	Ir[193]
Time	193/pulse
Units	Cts/S
Avg	9.2804
Stddev	.2227
CRSD	2.4000

1	9.3752
2	9.4139
3	8.9261
4	9.2051
5	9.4815

LABCORE Completed Worklist Report for Worklist# 32938

Analyst: kjt

Instrument: ICPMS1

Book#: 49B55

Method: LA-506-101 Rev/Mod A-3

Worklist Comment: ICP/MS SY-102 (DIRECT) Iso-U

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	ICV		0		QMSU-QC U235	QC	0.000149	1.50e-04	100.671 % Recovery	
1	ICV		0		QMSU-QC U238	QC	0.0207	2.13e-02	102.899 % Recovery	
2	ICB		0		QMSU-QC U233	QC	1	<1.20e-5		ug/mL
2	ICB		0		QMSU-QC U234	QC	1	<1.20e-5		ug/mL
2	ICB		0		QMSU-QC U235	QC	1	<1.20e-5		ug/mL
2	ICB		0		QMSU-QC U236	QC	1	<1.60e-5		ug/mL
2	ICB		0		QMSU-QC U238	QC	1	<1.20e-5		ug/mL
3	SAMPLE	S00T000511	0	D	QMSU-D1 U233-D1	LIQUID	N/A	< 4.848e-01	0.485	ug/mL
3	SAMPLE	S00T000511	0	D	QMSU-D1 U234-D1	LIQUID	N/A	< 4.848e-01	0.485	ug/mL
3	SAMPLE	S00T000511	0	D	QMSU-D1 U235-D1	LIQUID	N/A	< 4.848e-01	0.485	ug/mL
3	SAMPLE	S00T000511	0	D	QMSU-D1 U236-D1	LIQUID	N/A	< 6.464e-01	0.646	ug/mL
3	SAMPLE	S00T000511	0	D	QMSU-D1 U238-D1	LIQUID	N/A	4.226e+00	0.485	ug/mL
4	DUP	S00T000511	0	D	QMSU-D1 U233-D1	LIQUID	<4.85e-1	<4.85e-1		RPD
4	DUP	S00T000511	0	D	QMSU-D1 U234-D1	LIQUID	<4.85e-1	<4.85e-1		RPD
4	DUP	S00T000511	0	D	QMSU-D1 U235-D1	LIQUID	<4.85e-1	<4.85e-1		RPD
4	DUP	S00T000511	0	D	QMSU-D1 U236-D1	LIQUID	<6.46e-1	<6.46e-1		RPD
4	DUP	S00T000511	0	D	QMSU-D1 U238-D1	LIQUID	4.23e+00	4.10e+00	3.121	RPD
5	SPK-POST	S00T000511	0	D	QMSU-D1 U235-D1	LIQUID	0.000144	1.36e-04	94.444 % Recovery	
5	SPK-POST	S00T000511	0	D	QMSU-D1 U238-D1	LIQUID	0.020	1.91e-02	95.500 % Recovery	
6	SAMPLE	S00T000611	0	D	QMSU-D1 U233-D1	LIQUID	N/A	< 4.848e-01	0.485	ug/mL
6	SAMPLE	S00T000611	0	D	QMSU-D1 U234-D1	LIQUID	N/A	< 4.848e-01	0.485	ug/mL
6	SAMPLE	S00T000611	0	D	QMSU-D1 U235-D1	LIQUID	N/A	< 4.848e-01	0.485	ug/mL
6	SAMPLE	S00T000611	0	D	QMSU-D1 U236-D1	LIQUID	N/A	< 6.464e-01	0.646	ug/mL
6	SAMPLE	S00T000611	0	D	QMSU-D1 U238-D1	LIQUID	N/A	4.464e+00	0.485	ug/mL
7	DUP	S00T000611	0	D	QMSU-D1 U233-D1	LIQUID	<4.85e-1	<4.85e-1		RPD
7	DUP	S00T000611	0	D	QMSU-D1 U234-D1	LIQUID	<4.85e-1	<4.85e-1		RPD
7	DUP	S00T000611	0	D	QMSU-D1 U235-D1	LIQUID	<4.85e-1	<4.85e-1		RPD
7	DUP	S00T000611	0	D	QMSU-D1 U236-D1	LIQUID	<6.46e-1	<6.46e-1		RPD
7	DUP	S00T000611	0	D	QMSU-D1 U238-D1	LIQUID	4.46e+00	4.43e+00	0.675	RPD
8	SAMPLE	S00T000627	0	D	QMSU-D1 U233-D1	LIQUID	N/A	< 4.848e-01	0.485	ug/mL
8	SAMPLE	S00T000627	0	D	QMSU-D1 U234-D1	LIQUID	N/A	< 4.848e-01	0.485	ug/mL
8	SAMPLE	S00T000627	0	D	QMSU-D1 U235-D1	LIQUID	N/A	< 4.848e-01	0.485	ug/mL
8	SAMPLE	S00T000627	0	D	QMSU-D1 U236-D1	LIQUID	N/A	< 6.464e-01	0.646	ug/mL
8	SAMPLE	S00T000627	0	D	QMSU-D1 U238-D1	LIQUID	N/A	4.945e+00	0.485	ug/mL
9	DUP	S00T000627	0	D	QMSU-D1 U233-D1	LIQUID	<4.85e-1	<4.85e-1		RPD
9	DUP	S00T000627	0	D	QMSU-D1 U234-D1	LIQUID	<4.85e-1	<4.85e-1		RPD
9	DUP	S00T000627	0	D	QMSU-D1 U235-D1	LIQUID	<4.85e-1	<4.85e-1		RPD
9	DUP	S00T000627	0	D	QMSU-D1 U236-D1	LIQUID	<6.46e-1	<6.46e-1		RPD
9	DUP	S00T000627	0	D	QMSU-D1 U238-D1	LIQUID	4.95e+00	4.90e+00	1.015	RPD
10	SAMPLE	S00T000636	0	D	QMSU-D1 U233-D1	LIQUID	N/A	< 4.848e-01	0.485	ug/mL
10	SAMPLE	S00T000636	0	D	QMSU-D1 U234-D1	LIQUID	N/A	< 4.848e-01	0.485	ug/mL

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

LABCORE Completed Worklist Report for Worklist# 32938

Seq Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
10 SAMPLE	S00T000636	0	D	@MSU-D1 U235-D1	LIQUID	N/A <	4.848e-01	0.485	ug/mL
10 SAMPLE	S00T000636	0	D	@MSU-D1 U236-D1	LIQUID	N/A <	6.464e-01	0.646	ug/mL
10 SAMPLE	S00T000636	0	D	@MSU-D1 U238-D1	LIQUID	N/A	4.577e+00	0.485	ug/mL
11 DUP	S00T000636	0	D	@MSU-D1 U233-D1	LIQUID	<4.85e-1	<4.85e-1		RPD
11 DUP	S00T000636	0	D	@MSU-D1 U234-D1	LIQUID	<4.85e-1	<4.85e-1		RPD
11 DUP	S00T000636	0	D	@MSU-D1 U235-D1	LIQUID	<4.85e-1	<4.85e-1		RPD
11 DUP	S00T000636	0	D	@MSU-D1 U236-D1	LIQUID	<6.46e-1	<6.46e-1		RPD
11 DUP	S00T000636	0	D	@MSU-D1 U238-D1	LIQUID	4.58e+00	4.57e+00	0.219	RPD
12 CCV		0		@MSU-QC U235	QC	0.000149	1.53e-04	102.685	% Recovery
12 CCV		0		@MSU-QC U238	QC	0.0207	2.15e-02	103.865	% Recovery
13 CCB		0		@MSU-QC U233	QC	1	<1.20e-5		ug/mL
13 CCB		0		@MSU-QC U234	QC	1	<1.20e-5		ug/mL
13 CCB		0		@MSU-QC U235	QC	1	<1.20e-5		ug/mL
13 CCB		0		@MSU-QC U236	QC	1	<1.60e-5		ug/mL
13 CCB		0		@MSU-QC U238	QC	1	<1.20e-5		ug/mL

Final page for worklist# 32938

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Sa M. Pay 04/06/00
Reviewer Signature _____ Date _____

03/13/00 14:01
ws2

file U0406a.txt

HNF-1699 REV. 0 Page: 1

LABCORE Data Entry Template for Worklist# 32938

Analyst: KST Instrument: ICPMS1 Book# 49B55Method: LA-506-101 Rev/Mod A-3

Worklist Comment: ICP/MS SY-102 (DIRECT) Iso-U

S Type	Sample#	R A	Test	Matrix	Group#	Project
1	ICV		@MSU-QC	QC		
2	ICB		@MSU-QC	QC		
3	SAMPLE	S00T000511 0 D	@MSU-D1	LIQUID	20000085	SY-102 GRAB6
Analytes Requested: U233-D1 , U234-D1 , U235-D1 , U236-D1 , U238-D1						
4	DUP	S00T000511 0 D	@MSU-D1	LIQUID		
5	SPK-POST	S00T000511 0 D	@MSU-D1	LIQUID		
6	SAMPLE	S00T000611 0 D	@MSU-D1	LIQUID	20000085	SY-102 GRAB6
Analytes Requested: U233-D1 , U234-D1 , U235-D1 , U236-D1 , U238-D1						
7	DUP	S00T000611 0 D	@MSU-D1	LIQUID		
8	SAMPLE	S00T000627 0 D	@MSU-D1	LIQUID	20000085	SY-102 GRAB6
Analytes Requested: U233-D1 , U234-D1 , U235-D1 , U236-D1 , U238-D1						
9	DUP	S00T000627 0 D	@MSU-D1	LIQUID		
10	SAMPLE	S00T000636 0 D	@MSU-D1	LIQUID	20000085	SY-102 GRAB6
Analytes Requested: U233-D1 , U234-D1 , U235-D1 , U236-D1 , U238-D1						
11	DUP	S00T000636 0 D	@MSU-D1	LIQUID		
12	CCV		@MSU-QC	QC		
13	CCB		@MSU-QC	QC		

Final page for worklist # 32938

KS Thomas 04-06-00
Signature Date

Signature Date

Data Entry Comments:

Spiked with 0.2ml of 10ppm Uranium High Purity
Scams U00T511, U00T611, U00T627, U00T636

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

542

Uploaded & Validated by:
Sal M. Pang
04/06/00

Analysis Report

04/06/00 09:39:07

page 1

Method: MS_TUNE

Sample Name: ms-tune

Operator: kjt

Comment:

Run Time: 04/06/00 09:37 Type: Unk

Mode: INT

Corr.Fact: 1.000000

Item	In[115]	Ir[193]	Sc[45]
Time	115/pulse	193/pulse	45/pulse
Units	Cts/S	Cts/S	Cts/S
99	96950.	47740.	50790.
100	1452.	764.	931.
RSD	1.498	1.601	1.833
98800.	49130.	52110.	
95770.	47690.	51460.	
96900.	47450.	51260.	
96640.	47440.	51510.	
97610.	48630.	49440.	
98670.	47430.	51430.	
98510.	47920.	49350.	
96170.	46330.	50190.	
96090.	48010.	50750.	
94320.	47340.	50350.	

file 0406a.txt

Ks thermolike 04-06-00

S00T000511
 S00T000511-d
 S00T000511-a
 S00T000611
 S00T000611-d
 S00T000627
 S00T000627-d
 S00T000636
 S00T000636-d
 S00T000636

40401 df

.0540-.05-10

↑
 Ran second because poor RSD on first scan
 Second has better RSD

Scan U00TS11, U00T611, U00T627, U00T636
 Spike 0.02ml of 10ppm Uranium-High Purity

SIGNATURE ABOVE THIS LINE IS CUSTOMER'S APPROVAL OF THE TEST METHOD THAT
 COMPLETED VERIFIED THE USE OF A POLL ANALYZER ON PAGES 543 TO 561.

Analysis Report

HNF-1699 REV. 0

04/06/00 09:41:23

page 1

Method: ISOU

Sample Name: BLANK

Operator:

Comment:

Run Time: 04/06/00 09:40 Type: Std

Mode: IR

Corr.Fact: 1.000000

U [233]	U [234]	U [235]	U [236]	U [238]
233/pulse	234/pulse	235/pulse	236/pulse	238/pulse
Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
3.118	3.130	3.335	3.278	3.078
.425	.212	.311	.297	.188
13.64	6.780	9.337	9.054	6.119
3.730	3.226	3.528	3.159	2.924
2.998	2.929	3.583	3.239	3.136
3.349	3.148	3.181	2.947	3.148
2.855	3.426	3.527	3.292	3.325
2.658	2.924	2.857	3.754	2.857

Ir[193]

Ir[193]

193/pulse

Cts/S

14.852

.202

1.3625

14.879

14.511

14.932

14.887

15.050

ISOU

178.2311	3.1178	1.0000000	04/06/00 09:41:23
178.2134	3.1304	1.0000000	04/06/00 09:41:23
177.9251	3.3354	1.0000000	04/06/00 09:41:23
178.0058	3.2780	1.0000000	04/06/00 09:41:23
169.8926	3.0778	1.0000000	04/06/00 09:41:23

Analysis Report

HNF-1699 REV. 0

04/06/00 09:43:59

page 1

Method: ISOU

Sample Name: 100ppb U

Operator:

Comment:

Run Time: 04/06/00 09:42 Type: Std

Mode: IR

Corr.Fact: 1.000000

U [233]	U [234]	U [235]	U [236]	U [238]
233/pulse	234/pulse	235/pulse	236/pulse	238/pulse
Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
99.43	99.43	99.43	99.43	13050.
2.94	2.94	2.94	2.94	405.
2.961	2.961	2.961	2.961	3.102
99.87	99.87	99.87	99.87	13040.
98.12	98.12	98.12	98.12	12940.
101.7	101.7	101.7	101.7	13420.
102.4	102.4	102.4	102.4	13420.
95.09	95.09	95.09	95.09	12440.

Ir[193]

193/pulse

Cts/S

15.120

.344

2.2749

15.195

15.073

14.659

15.053

15.618

Marked : ISOU

Standardzn Report

04/06/00 09:44:06

page 1

135.4665	3.1178	1.0000000	04/06/00 09:43:59
135.4488	3.1304	1.0000000	04/06/00 09:43:59
135.1605	3.3354	1.0000000	04/06/00 09:43:59
135.2411	3.2780	1.0000000	04/06/00 09:43:59
131.4298	3.0778	1.0000000	04/06/00 09:43:59

Analysis Report

HNF-1699 REV.0

04/06/00 09:47:47

page 1

Method: ISOU

Sample Name: blank

Operator: kjt

Comment: background

Run Time: 04/06/00 09:46 Type: Unk

Mode: CONC

Corr.Fact: 1.000000

Item	U [233]	U [234]	U [235]	U [236]	U [238]
233/pulse	233/pulse	234/pulse	235/pulse	236/pulse	238/pulse
Units	ppb	ppb	ppb	ppb	ppb
Avg	-.0011	-.0012	-.0027	-.0023	.0004
StdDev	.0031	.0031	.0031	.0031	.0022
Range	278.5	257.2	114.2	135.3	502.1
	-.0004	-.0005	-.0020	-.0015	.0029
	-.0012	-.0012	-.0028	-.0023	-.0004
	-.0049	-.0050	-.0065	-.0061	.0026
	.0035	.0034	.0019	.0023	-.0012
	-.0027	-.0028	-.0043	-.0039	-.0017

Info Std. Ir[193]
 Line 193/pulse
 Units Cts/S
 Avg 15.697
 StdDev .285
 Range 1.8139

15.317
 15.702
 16.098
 15.586
 15.782

Analysis Report

HNF-1699 REV. 0

04/06/00 09:53:24

page 1

Method: ISOU

Sample Name: icv 2

Operator: kjt

Comment: isou lcs

Run Time: 04/06/00 09:52 Type: Unk

Mode: CONC

Corr.Fact: 1.000000

	U [233]	U [234]	U [235]	U [236]	U [238]
	233/pulse	234/pulse	235/pulse	236/pulse	238/pulse
	ppb	ppb	ppb	ppb	ppb
avg	-.0024	-.0002	.1499	.0030	21.30
stddev	.0027	.0020	.0105	.0012	.52
std	112.3	1081.	7.004	37.99	2.453

	.0018	.0034	.1662	.0044	21.87
	-.0046	-.0008	.1377	.0030	20.77
	-.0024	-.0018	.1452	.0034	21.25
	-.0048	-.0012	.1517	.0012	20.81
	-.0019	-.0005	.1485	.0033	21.79

	Ir[193]
	193/pulse
	Cts/S
avg	15.356
stddev	.183
std	1.1555

	15.623
	16.037
	15.940
	15.980
	15.699

Analysis Report

HNF-1699 REV. 0

04/06/00 09:58:04

page 1

Method: ISOU

Sample Name: icb

Operator: kjt

Concentration: 2% nitric

Run Time: 04/06/00 09:56 Type: Unk

Mode: CONC

Corr.Fact: 1.000000

U [233]	U [234]	U [235]	U [236]	U [238]
233/pulse	234/pulse	235/pulse	236/pulse	238/pulse
ppb	ppb	ppb	ppb	ppb
- .0015	- .0014	- .0023	- .0021	.0025
.0024	.0016	.0014	.0016	.0029
156.0	114.7	59.51	76.52	117.7
.0002	.0012	- .0010	- .0026	- .0002
- .0044	- .0022	- .0013	- .0033	.0069
.0014	- .0025	- .0033	- .0031	.0006
- .0034	- .0010	- .0018	.0006	.0038
- .0016	- .0024	- .0041	- .0021	.0012

Std. Ir[193]
193/pulse
Cts/S
16.436
.116
.70754

16.536
16.438
16.301
16.340
16.565

Analysis Report

HNF-1699 REV. 0

04/06/00 10:00:56

page 1

Instrument: ISOU Sample Name: s00t000511 Operator: kjt
 Sample ID: 40401 df
 Date: 04/06/00 09:59 Type: Unk Mode: CONC Corr.Fact: 1.000000

	U [233]	U [234]	U [235]	U [236]	U [238]
Units	ppb	ppb	ppb	ppb	ppb
233/pulse	233/pulse	234/pulse	235/pulse	236/pulse	238/pulse
Avg	- .0006	- .0010	- .0017	- .0006	.1046
Stdev	.0017	.0037	.0035	.0012	.0057
RSP	275.7	353.1	198.2	223.0	5.485
	.0018	.0007	- .0050	- .0022	.0957
	- .0006	.0009	.0011	.0010	.1079
	- .0005	- .0074	.0006	- .0012	.1039
	- .0030	.0015	- .0060	- .0005	.1047
	- .0007	- .0010	.0006	.0001	.1110

Ir[193]
 193/pulse
 Cts/S
 16.061
 .220
 1.3705
 15.941
 #2 15.957
 #3 16.399
 15.885
 16.222

Analysis Report

HNF-1699 REV.0

04/06/00 10:03:37

page 1

Method: ISOU

Sample Name: s00t000511_d

Operator: kjt

Comment: 40401 df

Run Time: 04/06/00 10:02 Type: Unk

Mode: CONC

Corr.Fact: 1.000000

	U [233]	U [234]	U [235]	U [236]	U [238]
233/pulse	233/pulse	234/pulse	235/pulse	236/pulse	238/pulse
ppb	ppb	ppb	ppb	ppb	ppb
	-.0010	-.0009	-.0019	-.0022	.1014
	.0019	.0029	.0017	.0023	.0030
	191.1	313.5	90.88	106.4	2.948
	.0009	.0015	-.0009	-.0016	.1038
	-.0022	.0022	-.0018	.0000	.1054
	-.0034	-.0049	-.0011	-.0006	.0987
	-.0011	-.0019	-.0048	-.0028	.0994
	.0009	-.0016	-.0007	-.0059	.0996

Int. Std.

Line Ir[193]

193/pulse

On Is Cts/S

Avg 15.991

Stddev .125

RSD .78422

16.035

16.158

15.824

16.016

15.924

Analysis Report

HNF-1699 REV. 0

04/06/00 10:05:32

page 1

Method: ISOU

Sample Name: s00t000511_a

Operator: kjt

Comment: 40401 df

Print Time: 04/06/00 10:04 Type: Unk Mode: CONC Corr.Fact: 1.000000

U [233]	U [234]	U [235]	U [236]	U [238]
233/pulse	234/pulse	235/pulse	236/pulse	238/pulse
ppb	ppb	ppb	ppb	ppb
-.0020	.0014	.1359	.0025	19.22
.0034	.0022	.0052	.0010	.44
167.0	160.8	3.856	37.89	2.268
.0015	.0003	.1318	.0024	18.93
-.0008	-.0016	.1424	.0031	19.69
-.0005	.0011	.1317	.0037	19.43
-.0030	.0036	.1327	.0021	19.42
-.0073	.0035	.1408	.0012	18.61

Ir[193]

193/pulse

Cts/S

15.981

.244

1.5279

16.382

15.969

15.729

15.864

15.961

Analysis Report

HNF-1699 REV. 0

04/06/00 10:10:45

page 1

Method: ISOU

Sample Name: s00t000611

Operator: kjt

Comment: 40401 df

Run Time: 04/06/00 10:09 Type: Unk Mode: CONC Corr.Fact: 1.000000

Item	U [233]	U [234]	U [235]	U [236]	U [238]
Line	233/pulse	234/pulse	235/pulse	236/pulse	238/pulse
Units	ppb	ppb	ppb	ppb	ppb
Avg	-.0010	.0009	-.0022	-.0018	.1105
Stddev	.0030	.0020	.0020	.0032	.0044
Count	308.5	214.8	92.31	182.2	4.024
	-.0020	.0003	-.0017	-.0071	.1069
	-.0043	-.0012	-.0055	.0007	.1068
	.0039	-.0001	.0002	-.0008	.1093
	-.0019	.0017	-.0019	.0004	.1174
	-.0006	.0039	-.0022	-.0020	.1124

Ir{193}

193/pulse

Cts/S

15.916

.156

.97742

15.793

15.986

15.908

15.753

16.140

Analysis Report

HNF-1699 REV. 0

04/06/00 10:13:18

page 1

Method: ISOU

Sample Name: s00t000611_d

Operator: kjt

Comment: 40401 df

Run Time: 04/06/00 10:12 Type: Unk

Mode: CONC

Corr.Fact: 1.000000

U [233]	U [234]	U [235]	U [236]	U [238]
233/pulse	234/pulse	235/pulse	236/pulse	238/pulse
ppb	ppb	ppb	ppb	ppb
-0.0010	-0.0002	-0.0020	-0.0021	.1096
.0023	.0009	.0022	.0027	.0054
225.2	429.5	112.2	128.2	4.914
-0.0010	.0008	-0.0035	-0.0034	.1155
.0000	-0.0001	-0.0007	.0004	.1081
-0.0023	-0.0001	.0007	-0.0008	.1019
.0021	-0.0017	-0.0049	-0.0061	.1087
-0.0038	.0001	-0.0015	-0.0006	.1138

Inty Std.

Ir[193]

193/pulse

Cts/S

15.866

.209

1.3158

15.581

16.031

16.064

15.720

15.937

Analysis Report

HNF-1699 REV.0

04/06/00 10:15:55

page 1

Method: ISOU

Sample Name: s00t000627

Operator: kjt

Comment: 40401 df

Time: 04/06/00 10:14 Type: Unk

Mode: CONC

Corr.Fact: 1.000000

	U [233]	U [234]	U [235]	U [236]	U [238]
233/pulse	233/pulse	234/pulse	235/pulse	236/pulse	238/pulse
Units	ppb	ppb	ppb	ppb	ppb
Avg	-.0003	.0008	.0005	-.0010	.1224
Stddev	.0016	.0015	.0028	.0038	.0031
RSD	503.3	199.4	555.0	395.4	2.527
	-.0011	.0034	-.0005	-.0020	.1247
	-.0011	.0006	-.0004	.0033	.1200
	-.0008	-.0007	.0023	-.0004	.1197
	.0026	.0002	-.0030	-.0067	.1266
	-.0012	.0003	.0042	.0011	.1210

Ir[193]
 193/pulse
 Cts/s
 15.778
 .170
 1.0746

15.485
 15.866
 15.787
 15.846
 15.906

SIS Report

HNF-1699 REV.0

04/06/00 10:20:20

page 1

Method: ISOU

Sample Name: s00t000627_d

Operator: kjt

Comment: 40401 df

Run Time: 04/06/00 10:19

Type: Unk

Mode: CONC

Corr.Fact: 1.000000

Item	U [233]	U [234]	U [235]	U [236]	U [238]
Time	233/pulse	234/pulse	235/pulse	236/pulse	238/pulse
Units	ppb	ppb	ppb	ppb	ppb
Avg	-.0011	-.0002	-.0010	-.0019	.1213
Stddev	.0023	.0025	.0021	.0027	.0061
RSD	202.9	1362.	206.7	137.4	4.997
	-.0015	.0012	-.0010	.0004	.1279
	.0015	.0021	.0025	-.0044	.1122
	-.0045	-.0007	-.0025	-.0048	.1219
	.0003	-.0042	-.0013	.0010	.1191
	-.0013	.0007	-.0027	-.0018	.1253

Std. Ir[193]
 193/pulse
 Units Cts/S
 Avg 15.786
 Stddev .242
 RSD 1.5303

15.767
 15.676
 16.153
 15.835
 15.497

Analysis Report

HNF-1699 REV. 0

04/06/00 10:30:48

page 1

Method: ISOU

Sample Name: s00t000636

Operator: kjt

Comment: 40401 df

Run Time: 04/06/00 10:29 Type: Unk

Mode: CONC

Corr.Fact: 1.000000

U [233]	U [234]	U [235]	U [236]	U [238]
233/pulse	234/pulse	235/pulse	236/pulse	238/pulse
ppb	ppb	ppb	ppb	ppb
-.0009	.0004	.0003	-.0008	.1133
.0025	.0010	.0019	.0024	.0021
274.6	232.1	546.5	286.4	1.894
-.0041	.0005	.0018	-.0006	.1136
.0020	.0019	-.0001	-.0020	.1163
-.0026	.0006	.0024	.0032	.1107
-.0009	.0010	-.0025	-.0025	.1118
.0010	.0002	.0001	-.0023	.1138

Ir[193]

193/pulse

Cts/S

15.672

.121

.77080

15.632

15.626

15.740

15.839

15.523

SIS Report

04/06/00 10:28:52

page 1

HNF-1699 REV. 0

Method: ISOU

Sample Name: s00t000636_d

Operator: kjt

Comment: 40401 df

Run Time: 04/06/00 10:27 Type: Unk

Mode: CONC

Corr.Fact: 1.000000

Item	U [233]	U [234]	U [235]	U [236]	U [238]
Line	233/pulse	234/pulse	235/pulse	236/pulse	238/pulse
Unit	ppb	ppb	ppb	ppb	ppb
avg	-.0018	-.0010	-.0022	-.0014	.1131
stddev	.0036	.0012	.0027	.0035	.0047
std	199.4	122.0	123.1	255.7	4.168
	-.0004	.0009	-.0027	-.0041	.1182
	-.0036	-.0012	-.0048	.0017	.1158
	-.0060	-.0009	-.0038	.0029	.1059
	-.0024	-.0013	-.0022	-.0048	.1141
	.0035	-.0023	.0023	-.0024	.1116

Std
Ir[193]
193/pulse
Cts/S
15.826
stddev
.094
std
.59302
15.822
15.986
15.801
15.765
15.754

Analysis Report

HNF-1699 REV.0

04/06/00 10:36:09

page 1

ISOU

Sample Name: ccv

Operator: kjt

ISOU lcs

Date: 04/06/00 10:34 Type: Unk

Mode: CONC

Corr.Fact: 1.000000

Line	U [233] 233/pulse	U [234] 234/pulse	U [235] 235/pulse	U [236] 236/pulse	U [238] 238/pulse
Units	ppb	ppb	ppb	ppb	ppb
Avg	-.0003	.0013	.1533	.0009	21.45
Stdev	.0022	.0032	.0050	.0013	.25
Net	630.4	251.7	3.252	143.6	1.168
	.0028	-.0013	.1470	.0013	21.15
	-.0024	-.0008	.1587	.0002	21.24
	.0000	.0034	.1581	-.0002	21.62
	.0004	.0058	.1520	.0029	21.74
	-.0025	-.0008	.1507	.0002	21.51

Ir[193]
193/pulse
Cts/S
15.896
.187
1.1782

15.753
15.738
15.851
15.952
16.196

HNF-1699 REV. 0

04/06/00 10:42:24

page 1

Analysis Report

Method: ISOU

Sample Name: ccb

Operator: kjt

Comment: 2% nitric

Run Time: 04/06/00 10:41 Type: Unk

Mode: CONC

Corr.Fact: 1.000000

U [233]	U [234]	U [235]	U [236]	U [238]
233/pulse	234/pulse	235/pulse	236/pulse	238/pulse
ppb	ppb	ppb	ppb	ppb
-.0022	-.0049	-.0033	-.0026	-.0027
.0025	.0030	.0036	.0038	.0024
116.7	62.07	106.1	148.5	89.24
-.0045	-.0067	-.0068	-.0059	-.0010
.0000	-.0061	.0023	-.0010	-.0021
-.0032	-.0001	-.0039	-.0007	-.0070
.0010	-.0038	-.0026	.0019	-.0021
-.0041	-.0076	-.0057	-.0072	-.0014

Ir[193]

193/pulse

Cts/S

16.793

1.416

8.4332

16.148

16.040

16.190

16.265

19.322

LABCORE Completed Worklist Report for Worklist# 32838

Analyst: rdm

Instrument: CARB2

Book#: 25 N 12-F
34 N 12-C

Method: LA-342-100 Rev/Mod F-4

Worklist Comment: SY102 FOR @TICTOC1, RLC

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD	0	@TICTOC1	TIC-02	LIQUID	6.05E+02	5.70E+2	94.215 % Recovery	
1 STD	0	@TICTOC1	TOC-02	LIQUID	3.01E+03	2.89E+3	96.013 % Recovery	
2 BLNK	0	@TICTOC1	TIC-02	LIQUID	1	4.10E+0	4.100 ug/mL	
2 BLNK	0	@TICTOC1	TOC-02	LIQUID	1	4.50E+0	4.500 ug/mL	
3 SAMPLE	S00T000505	0	@TICTOC1	TIC-02	LIQUID	N/A	3.45E+3	5.000 ug/mL
3 SAMPLE	S00T000505	0	@TICTOC1	TOC-02	LIQUID	N/A	5.09E+3	40.000 ug/mL
4 DUP	S00T000505	0	@TICTOC1	TIC-02	LIQUID	3.45E+3	3.48E+3	0.866 RPD
4 DUP	S00T000505	0	@TICTOC1	TOC-02	LIQUID	5.09E+3	5.38E+3	5.540 RPD
5 SPK	S00T000505	0	@TICTOC1	TIC-02	LIQUID	1.00E+02	1.04E+02	104.000 % Recovery
5 SPK	S00T000505	0	@TICTOC1	TOC-02	LIQUID	1.00E+02	9.74E+01	97.400 % Recovery
6 SAMPLE	S00T000506	0	@TICTOC1	TIC-02	LIQUID	N/A	1.95E+3	5.000 ug/mL
6 SAMPLE	S00T000506	0	@TICTOC1	TOC-02	LIQUID	N/A	4.38E+3	40.000 ug/mL
7 DUP	S00T000506	0	@TICTOC1	TIC-02	LIQUID	1.95E+3	1.91E+3	2.073 RPD
7 DUP	S00T000506	0	@TICTOC1	TOC-02	LIQUID	4.38E+3	4.30E+3	1.843 RPD

Comments Section:

Comments for sample# S00T000505 and test @TICTOC1.

Result out of limits: @TICTOC1 TOC-02 in sample S00T000505

Comments for sample# S00T000506 and test @TICTOC1.

Result out of limits: @TICTOC1 TOC-02 in sample S00T000506

Final page for worklist# 32838

Analyst Signature _____ Date _____

Mary Freeman 3/24/00
Analyst Signature Date

James Hobbs 3/24/00
Reviewer Signature Date

HNF-1699 REV. 0

03/07/00 15:31

Page: 1

WS2

LABCORE Data Entry Template for Worklist# 32838

Analyst: ROM Instrument: CARB2 Book# 25N/2F
34N/2CMethod: LA-342-100 Rev/Mod F-4

Worklist Comment: SY102 FOR @TICTOC1, RLC

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 STD			@TICTOC1	LIQUID		
2 BLNK			@TICTOC1	LIQUID		
3 SAMPLE	S00T000505 0		@TICTOC1	LIQUID	20000085	SY-102 GRAB6
Analytes Requested: TIC-02 , TOC-02						
4 DUP	S00T000505 0		@TICTOC1	LIQUID		
5 SPK	S00T000505 0		@TICTOC1	LIQUID		
6 SAMPLE	S00T000506 0		@TICTOC1	LIQUID	20000085	SY-102 GRAB6
Analytes Requested: TIC-02 , TOC-02						
7 DUP	S00T000506 0		@TICTOC1	LIQUID		
deleted @ 3/24/00 8 SAMPLE	S00T000507 0		@TICTOC1	LIQUID	20000085	SY-102 GRAB6
Analytes Requested: TIC-02 , TOC-02						
deleted @ 3/24/00 9 DUP	S00T000507 0		@TICTOC1	LIQUID		

Final page for worklist # 32838

Signature

Date

Signature

Date

Data Entry Comments:

Please put S00T000507 on another WL.

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

HNF-1699 REV. 0

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

Sample: BASE

Date: 03/23/00

Time: 08:42:06

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

Analyst : RD MEYERS
 Min Readings = 22
 Max Readings = 22
 % Difference = 10

== Reading ==	==== Analysis Time ==	==== Coulometer ==	==== % Difference ==
1	0.51	0.00	0.00
2	1.01	0.10	100.00
3	1.50	0.50	80.00
4	2.00	1.10	54.55
5	2.50	1.60	31.25
6	3.00	1.90	15.79
7	3.50	2.40	20.83
8	4.00	2.60	7.69
9	4.50	3.00	13.33
10	5.00	3.30	9.09
11	5.50	3.60	8.33
12	6.00	4.10	12.20
13	6.50	4.30	4.65
14	7.00	4.70	8.51
15	7.50	5.00	6.00
16	8.00	5.30	5.66
17	8.50	5.70	7.02
18	9.00	6.00	5.00
19	9.50	6.30	4.76
20	10.00	6.60	4.55
21	10.50	6.90	4.35
22	11.00	7.30	5.48

COMPLIANCE WITH THE NATIONAL TECHNICAL SECURITY ACT THAT
 COMPLETION OF THIS REPORT IS A MINOR ON PAGES 564 TO 586.

BLANK VALUE = 7.3 micrograms carbon

BLANK FACTOR = 7.3 / 10.99963 =

+6.6E-01 ug/min Carbon

Sample Run By:

RD MEYERS

Specifying for RD Meyers 6/6/00
 00000

HNF-1699 REV. 0

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

Sample: BASE

Date: 03/23/00

Time: 09:10:22

Sample Size = 1 uL

Dil Factor = 1

Blank ID # = BASE

Blank Value = N/A

Analyst : RD MEYERS

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==== Analysis Time ==== Coulometer ==== % Difference ==

1	0.51	0.40	0.00
2	1.01	0.70	42.86
3	1.51	0.90	22.22
4	2.00	1.40	35.71
5	2.50	1.90	26.32
6	3.00	2.90	34.48
7	3.50	4.20	30.95
8	4.00	5.80	27.59
9	4.50	7.70	24.68
10	5.00	9.60	19.79
11	5.50	11.00	12.73
12	6.00	12.20	9.84
13	6.50	13.20	7.58
14	7.00	14.10	6.38
15	7.50	14.80	4.73
16	8.00	15.50	4.52
17	8.50	16.20	4.32
18	9.00	16.80	3.57
19	9.50	17.50	4.00
20	10.00	18.00	2.78
21	10.50	18.50	2.70
22	11.00	18.90	2.12

BLANK VALUE = 18.9 micrograms carbon

BLANK FACTOR = 18.9 / 10.99805 = +1.72E+00 ug/min Carbon

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

Sample Run By:

RD MEYERS

00000

HNF-1699 REV. 0

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 25N12-F

Date: 03/23/00

Time: 09:58:21

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = .66 ug/minute C

Analyst : RD MEYERS

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==	== Analysis Time ==	== Coulometer ==	== % Difference ==
1	0.51	0.60	0.00
2	1.01	1.20	50.00
3	1.50	23.50	94.89
4	2.00	139.60	83.17
5	2.50	281.20	50.36
6	3.00	394.00	28.63
7	3.50	471.90	16.51
8	4.00	520.90	9.41
9	4.50	547.50	4.86
10	5.00	560.70	2.35
11	5.50	567.10	1.13
12	6.00	570.10	0.53
13	6.50	571.70	0.28
14	7.00	572.60	0.16
15	7.50	573.40	0.14
16	8.00	574.00	0.10
17	8.50	574.60	0.10
18	9.00	575.10	0.09
19	9.50	575.70	0.10
20	10.00	576.20	0.09
21	10.50	576.70	0.09
22	11.00	577.10	0.07

USER INPUT BLANK VALUE

BLANK VALUE = 7.258711 micrograms carbon

BLANK FACTOR = 7.258711 / 10.99805 = +6.6E-01 ug/min Carbon

SAMPLE RESULTS:

(577.1 - 7.257382) (1)/(1) = +5.698E+02 g/L Carbon
 (577.1 - 7.257382) (1)/(1)(12) = +4.749E+01 Molar Carbon

Sample Run By:

RD MEYERS

00000

HNF-1699 REV. 0

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 34N12-C

Date: 03/23/00

Time: 09:45:44

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 1.72 ug/minute C

Analyst : RD MEYERS

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==	== Analysis Time ==	== Coulometer ==	== % Difference ==
1	0.51	0.70	0.00
2	1.01	1.20	41.67
3	1.51	9.80	87.76
4	2.00	50.30	80.52
5	2.50	147.50	65.90
6	3.00	287.80	48.75
7	3.50	416.30	30.87
8	4.00	500.00	16.74
9	4.50	546.70	8.54
10	5.00	569.60	4.02
11	5.50	580.10	1.81
12	6.00	585.10	0.85
13	6.50	587.80	0.46
14	7.00	589.60	0.31
15	7.50	590.80	0.20
16	8.00	591.90	0.19
17	8.50	592.80	0.15
18	9.00	593.60	0.13
19	9.50	594.30	0.12
20	10.00	595.00	0.12
21	10.50	595.50	0.08
22	11.00	596.20	0.12

USER INPUT BLANK VALUE

BLANK VALUE = 18.91664 micrograms carbon

BLANK FACTOR = 18.91664 / 10.99805 = +1.7E+00 ug/min Carbon

SAMPLE RESULTS:

(596.2 - 18.91633) (1)/(1) = +5.773E+02 g/L Carbon
 (596.2 - 18.91633) (1)/(1) (12) = +4.811E+01 Molar Carbon
 <<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

RD MEYERS

00000

HNF-1699 REV. 0

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLK

Date: 03/23/00

Time: 10:10:45

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = .66 ug/minute C

Analyst : RD MEYERS

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==	==== Analysis Time ==	==== Coulometer ==	==== % Difference ==
1	0.51	0.30	0.00
2	1.01	1.20	75.00
3	1.51	2.80	57.14
4	2.01	4.00	30.00
5	2.50	4.80	16.67
6	3.00	5.50	12.73
7	3.50	6.00	8.33
8	4.00	6.40	6.25
9	4.50	6.80	5.88
10	5.00	7.30	6.85
11	5.50	7.70	5.19
12	6.00	8.00	3.75
13	6.50	8.40	4.76
14	7.00	8.70	3.45
15	7.50	9.10	4.40
16	8.00	9.40	3.19
17	8.50	9.80	4.08
18	9.00	10.10	2.97
19	9.50	10.40	2.88
20	10.00	10.70	2.80
21	10.50	11.10	3.60
22	11.00	11.40	2.63

USER INPUT BLANK VALUE

BLANK VALUE = 7.258711 micrograms carbon

BLANK FACTOR = 7.258711 / 10.99805 = +6.6E-01 ug/min Carbon

SAMPLE RESULTS:

(11.4 - 7.258711) (1)/(1)	=	+4.14E+00	g/L Carbon
(11.4 - 7.258711) (1)/(1) (12)	=	+3.45E-01	Molar Carbon

Sample Run By:

RD MEYERS

00000

HNF-1699 REV. 0

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLK

Date: 03/23/00

Time: 11:09:14

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 1.72 ug/minute C

Analyst : RD MEYERS

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==	== Analysis Time ==	== Coulometer ==	== % Difference ==
1	0.51	1.50	0.00
2	1.01	3.10	51.61
3	1.51	5.60	44.64
4	2.00	9.20	39.13
5	2.50	12.20	24.59
6	3.00	14.30	14.69
7	3.50	15.80	9.49
8	4.00	16.80	5.95
9	4.50	17.50	4.00
10	5.00	18.20	3.85
11	5.50	18.80	3.19
12	6.00	19.20	2.08
13	6.50	19.80	3.03
14	7.00	20.30	2.46
15	7.50	20.80	2.40
16	8.00	21.30	2.35
17	8.50	21.60	1.39
18	9.00	22.00	1.82
19	9.50	22.40	1.79
20	10.00	22.80	1.75
21	10.50	23.10	1.30
22	11.00	23.40	1.28

USER INPUT BLANK VALUE

BLANK VALUE = 18.91664 micrograms carbon

BLANK FACTOR = 18.91664 / 10.99805 = +1.7E+00 ug/min Carbon

SAMPLE RESULTS:

(23.4 - 18.91633) (1)/(1) = +4.48E+00 g/L Carbon
 (23.4 - 18.91633) (1)/(1) (12) = +3.74E-01 Molar Carbon
 <<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

RD MEYERS

00000

HNF-1699 REV. 0

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S00T000505

Date: 03/23/00

Time: 13:23:20

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = .66 ug/minute C

Analyst : RD MEYERS

Min Readings = 22

Max Readings = 22

% Difference = 10

Reading	Analysis Time	Coulometer	% Difference
1	0.51	0.80	0.00
2	1.01	2.50	68.00
3	1.50	14.60	82.88
4	2.00	84.20	82.66
5	2.50	174.70	51.80
6	3.00	247.10	29.30
7	3.50	294.00	15.95
8	4.00	320.40	8.24
9	4.50	333.40	3.90
10	5.00	339.60	1.83
11	5.50	343.00	0.99
12	6.00	345.10	0.61
13	6.50	346.40	0.38
14	7.00	347.50	0.32
15	7.50	348.40	0.26
16	8.00	349.20	0.23
17	8.50	349.80	0.17
18	9.00	350.30	0.14
19	9.50	350.90	0.17
20	10.00	351.40	0.14
21	10.50	351.90	0.14
22	11.00	352.30	0.11

USER INPUT BLANK VALUE

BLANK VALUE = 7.258711 micrograms carbon

BLANK FACTOR = 7.258711 / 10.99805 = +6.6E-01 ug/min Carbon

SAMPLE RESULTS:

(352.3 - 7.25988) (1)/(1) = +3.450E+02 g/L Carbon

(352.3 - 7.25988) (1)/(1) (12) = +2.875E+01 Molar Carbon

Sample Run By:

RD MEYERS

00000

HNF-1699 REV. 0

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 505

Date: 03/23/00

Time: 13:36:28

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 1.72 ug/minute C

Analyst : RD MEYERS

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==== Analysis Time ==== Coulometer ==== % Difference ==

1	0.51	0.40	0.00
2	1.01	1.70	76.47
3	1.50	13.30	87.22
4	2.00	62.40	78.69
5	2.50	165.70	62.34
6	3.00	292.50	43.35
7	3.50	387.00	24.42
8	4.00	438.90	11.83
9	4.50	466.70	5.96
10	5.00	483.10	3.39
11	5.50	493.90	2.19
12	6.00	501.70	1.55
13	6.50	507.60	1.16
14	7.00	512.10	0.88
15	7.50	515.70	0.70
16	8.00	518.60	0.56
17	8.50	521.00	0.46
18	9.00	523.00	0.38
19	9.50	524.60	0.30
20	10.00	526.10	0.29
21	10.50	527.30	0.23
22	11.00	528.30	0.19

USER INPUT BLANK VALUE

BLANK VALUE = 18.91664 micrograms carbon

BLANK FACTOR = 18.91664 / 10.99805 = +1.7E+00 ug/min Carbon

SAMPLE RESULTS:

(528.3 - 18.91811) (1)/(1) = +5.094E+02 g/L Carbon
 (528.3 - 18.91811) (1)/(1) (12) = +4.245E+01 Molar Carbon
 <<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

RD MEYERS

00000

HNF-1699 REV. 0

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 505DUP

Date: 03/23/00

Time: 13:49:13

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = .66 ug/minute C

Analyst : RD MEYERS

Min Readings = 22

Max Readings = 22

% Difference = 10

Reading	Analysis Time	Coulometer	% Difference
1	0.51	0.70	0.00
2	1.01	1.60	56.25
3	1.50	13.70	88.32
4	2.00	80.00	82.88
5	2.50	168.80	52.61
6	3.00	243.80	30.76
7	3.50	292.20	16.56
8	4.00	320.10	8.72
9	4.50	333.90	4.13
10	5.00	341.00	2.08
11	5.50	344.70	1.07
12	6.00	346.90	0.63
13	6.50	348.60	0.49
14	7.00	349.70	0.31
15	7.50	350.70	0.29
16	8.00	351.50	0.23
17	8.50	352.40	0.26
18	9.00	353.00	0.17
19	9.50	353.60	0.17
20	10.00	354.10	0.14
21	10.50	354.70	0.17
22	11.00	355.30	0.17

USER INPUT BLANK VALUE

BLANK VALUE = 7.258711 micrograms carbon

BLANK FACTOR = 7.258711 / 10.99805 = +6.6E-01 ug/min Carbon

SAMPLE RESULTS:

(355.3 - 7.257503) (1)/(1)	=	+3.480E+02	g/L Carbon
(355.3 - 7.257503) (1)/(1) (12)	=	+2.900E+01	Molar Carbon

Sample Run By:

RD MEYERS

00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 505DUP

Date: 03/23/00

Time: 14:02:20

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 1.72 ug/minute C

Analyst : RD MEYERS

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==	== Analysis Time ==	== Coulometer ==	== % Difference ==
1	0.51	0.50	0.00
2	1.01	2.40	79.17
3	1.50	22.90	89.52
4	2.00	94.40	75.74
5	2.50	224.90	58.03
6	3.00	352.00	36.11
7	3.50	428.00	17.76
8	4.00	469.60	8.86
9	4.50	496.10	5.34
10	5.00	513.30	3.35
11	5.50	524.40	2.12
12	6.00	531.50	1.34
13	6.50	537.00	1.02
14	7.00	541.30	0.79
15	7.50	544.60	0.61
16	8.00	547.20	0.48
17	8.50	549.40	0.40
18	9.00	551.40	0.36
19	9.50	553.00	0.29
20	10.00	554.40	0.25
21	10.50	555.70	0.23
22	11.00	556.80	0.20

USER INPUT BLANK VALUE

BLANK VALUE = 18.91664 micrograms carbon

BLANK FACTOR = 18.91664 / 10.99805 = +1.7E+00 ug/min Carbon

SAMPLE RESULTS:

(556.8 - 18.918) (1)/(1) = +5.379E+02 g/L Carbon
 (556.8 - 18.918) (1)/(1)(12) = +4.482E+01 Molar Carbon
 <<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

RD MEYERS

00000

HNF-1699 REV. 0

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 505SPK

Date: 03/23/00

Time: 14:17:23

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = .66 ug/minute C

Analyst : RD MEYERS

Min Readings = 22

Max Readings = 22

% Difference = 10

Reading	Analysis Time	Coulometer	% Difference
1	0.51	0.50	0.00
2	1.01	1.10	54.55
3	1.50	33.70	96.74
4	2.00	170.10	80.19
5	2.50	337.10	49.54
6	3.00	474.80	29.00
7	3.50	563.20	15.70
8	4.00	613.30	8.17
9	4.50	638.10	3.89
10	5.00	649.30	1.72
11	5.50	654.80	0.84
12	6.00	657.70	0.44
13	6.50	659.70	0.30
14	7.00	661.30	0.24
15	7.50	662.50	0.18
16	8.00	663.80	0.20
17	8.50	664.70	0.14
18	9.00	665.60	0.14
19	9.50	666.30	0.11
20	10.00	667.10	0.12
21	10.50	667.70	0.09
22	11.00	668.40	0.10

USER INPUT BLANK VALUE

BLANK VALUE = 7.258711 micrograms carbon

BLANK FACTOR = 7.258711 / 10.99805 = +6.6E-01 ug/min Carbon

SAMPLE RESULTS:

(668.4 - 7.256818) (1)/(1) =

+6.611E+02 g/L Carbon

(668.4 - 7.256818) (1)/(1)(12) =

+5.510E+01 Molar Carbon

Sample Run By:

RD MEYERS

00000

HNF-1699 REV. 0

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 505SPK

Date: 03/23/00

Time: 14:29:52

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 1.72 ug/minute C

Analyst : RD MEYERS

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.70	0.00
2	1.01	1.80	61.11
3	1.51	19.50	90.77
4	2.00	86.30	77.40
5	2.50	232.80	62.93
6	3.00	437.60	46.80
7	3.50	598.90	26.93
8	4.00	687.90	12.94
9	4.50	738.10	6.80
10	5.00	765.40	3.57
11	5.50	780.80	1.97
12	6.00	790.20	1.19
13	6.50	797.00	0.85
14	7.00	802.30	0.66
15	7.50	806.10	0.47
16	8.00	809.50	0.42
17	8.50	812.30	0.34
18	9.00	814.80	0.31
19	9.50	817.10	0.28
20	10.00	818.70	0.20
21	10.50	820.20	0.18
22	11.00	821.50	0.16

USER INPUT BLANK VALUE

BLANK VALUE = 18.91664 micrograms carbon

BLANK FACTOR = 18.91664 / 10.99805 = +1.7E+00 ug/min Carbon

SAMPLE RESULTS:

(821.5 - 18.91654) (1)/(1) = +8.026E+02 g/L Carbon
 (821.5 - 18.91654) (1)/(1) (12) = +6.688E+01 Molar Carbon
 <<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

RD MEYERS

00000

HNF-1699 REV. 0

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 506

Date: 03/23/00

Time: 14:46:24

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = .66 ug/minute C

Analyst : RD MEYERS

Min Readings = 22

Max Readings = 22

% Difference = 10

Reading	Analysis Time	Coulometer	% Difference
1	0.51	2.30	0.00
2	1.01	3.50	34.29
3	1.51	8.50	58.82
4	2.01	40.70	79.12
5	2.50	95.40	57.34
6	3.00	141.70	32.67
7	3.50	169.90	16.60
8	4.00	183.10	7.21
9	4.50	189.20	3.22
10	5.00	192.30	1.61
11	5.50	194.00	0.88
12	6.00	195.30	0.67
13	6.50	196.30	0.51
14	7.00	197.20	0.46
15	7.50	198.10	0.45
16	8.00	198.80	0.35
17	8.50	199.40	0.30
18	9.00	200.10	0.35
19	9.50	200.70	0.30
20	10.00	201.40	0.35
21	10.50	201.90	0.25
22	11.00	202.50	0.30

USER INPUT BLANK VALUE

BLANK VALUE = 7.258711 micrograms carbon

BLANK FACTOR = 7.258711 / 10.99805 = +6.6E-01 ug/min Carbon

SAMPLE RESULTS:

(202.5 - 7.259195) (1)/(1)	=	+1.952E+02	g/L Carbon
(202.5 - 7.259195) (1)/(1) (12)	=	+1.627E+01	Molar Carbon

Sample Run By:

RD MEYERS

00000

HNF-1699 REV. 0

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 506

Date: 03/23/00

Time: 14:59:33

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 1.72 ug/minute C

Analyst : RD MEYERS

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==	==== Analysis Time ==	==== Coulometer ==	==== % Difference ==
1	0.51	0.50	0.00
2	1.00	2.10	76.19
3	1.50	19.70	89.34
4	2.00	81.80	75.92
5	2.50	192.70	57.55
6	3.00	297.50	35.23
7	3.50	360.50	17.48
8	4.00	393.60	8.41
9	4.50	411.90	4.44
10	5.00	422.90	2.60
11	5.50	430.70	1.81
12	6.00	436.20	1.26
13	6.50	440.30	0.93
14	7.00	443.60	0.74
15	7.50	446.40	0.63
16	8.00	448.80	0.53
17	8.50	450.60	0.40
18	9.00	452.20	0.35
19	9.50	453.70	0.33
20	10.00	454.90	0.26
21	10.50	456.00	0.24
22	11.00	457.10	0.24

USER INPUT BLANK VALUE

BLANK VALUE = 18.91664 micrograms carbon

BLANK FACTOR = 18.91664 / 10.99805 = +1.7E+00 ug/min Carbon

SAMPLE RESULTS:

(457.1 - 18.91486) (1)/(1) = +4.382E+02 g/L Carbon
 (457.1 - 18.91486) (1)/(1) (12) = +3.652E+01 Molar Carbon
 <<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

RD MEYERS

00000

HNF-1699 REV. 0

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 506DUP

Date: 03/23/00

Time: 15:12:11

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = .66 ug/minute C

Analyst : RD MEYERS

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==	Analysis Time ==	Coulometer ==	% Difference ==
1	0.51	0.80	0.00
2	1.01	1.60	50.00
3	1.50	8.30	80.72
4	2.00	49.70	83.30
5	2.50	104.50	52.44
6	3.00	145.80	28.33
7	3.50	169.40	13.93
8	4.00	180.80	6.31
9	4.50	186.10	2.85
10	5.00	188.60	1.33
11	5.50	190.30	0.89
12	6.00	191.50	0.63
13	6.50	192.40	0.47
14	7.00	193.30	0.47
15	7.50	194.00	0.36
16	8.00	194.70	0.36
17	8.50	195.30	0.31
18	9.00	195.90	0.31
19	9.50	196.40	0.25
20	10.00	196.90	0.25
21	10.50	197.40	0.25
22	11.00	197.90	0.25

USER INPUT BLANK VALUE

BLANK VALUE = 7.258711 micrograms carbon

BLANK FACTOR = 7.258711 / 10.99805 = +6.6E-01 ug/min Carbon

SAMPLE RESULTS:

(197.9 - 7.258671) (1)/(1)	=	+1.906E+02	g/L Carbon
(197.9 - 7.258671) (1)/(1) (12)	=	+1.589E+01	Molar Carbon

Sample Run By:

RD MEYERS

00000

HNF-1699 REV. 0

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 506DUP

Date: 03/23/00

Time: 15:25:26

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 1.72 ug/minute C

Analyst : RD MEYERS

Min Readings = 22

Max Readings = 22

% Difference = 10

Reading	Analysis Time	Coulometer	% Difference
1	0.51	0.50	0.00
2	1.01	2.10	76.19
3	1.51	20.30	89.66
4	2.00	88.80	77.14
5	2.50	201.00	55.82
6	3.00	300.60	33.13
7	3.50	357.20	15.85
8	4.00	387.50	7.82
9	4.50	404.10	4.11
10	5.00	415.10	2.65
11	5.50	422.50	1.75
12	6.00	427.60	1.19
13	6.50	431.90	1.00
14	7.00	435.40	0.80
15	7.50	438.30	0.66
16	8.00	440.50	0.50
17	8.50	442.50	0.45
18	9.00	444.20	0.38
19	9.50	445.80	0.36
20	10.00	447.00	0.27
21	10.50	448.20	0.27
22	11.00	449.20	0.22

USER INPUT BLANK VALUE

BLANK VALUE = 18.91664 micrograms carbon

BLANK FACTOR = 18.91664 / 10.99805 = +1.7E+00 ug/min Carbon

SAMPLE RESULTS:

(449.2 - 18.91318) (1)/(1) = +4.303E+02 g/L Carbon
 (449.2 - 18.91318) (1)/(1) (12) = +3.586E+01 Molar Carbon
 <<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

RD MEYERS

00000

WORKBOOK PAGE: STD1

TIC/TOC : LA-342-100 (F-4)

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)	577.1	596.2
32838	µg of Carbon from Baseline (C2)	7.3	18.9
Test Code	Standard Book Number	25N12F	34N12C
@TICTOC1	Standard Value (µg/ml)	605	3009

Matrix
LIQUID

Batch Number
20000897

Rerun
0

Sample Prep
N/A

Sample #
STD

Instrument Code
CARB2

Prepared By
MF

Chemist
JFG

Analyst
RDM

Date Complete
03/24/2000

Analysis Date
03/23/2000

Analysis Time
03:45 AM

Sample Point
SY 102

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
03:45 AM	QC Actual in µg/mL	6.05E+02	3.01E+03
Sample Point	QC Found in µg/mL	5.70E+02	2.89E+03
SY 102	Percent Standard Recovery	94.2	95.9

Data Entered By:	MF	Date: 03/24/2000
Signature of Chemist:		Date: 3/24/2000

STANDARD.WB1 REV 1.0

342100ML

WORKBOOK PAGE: BLANK2

TIC/TOC : LA-342-100 (F-4)

LIQUIDS

		TIC	TOC
Type	Sample Size in mL (SS)	0.0000	0.0000
BLNK	Dilution Factor (DF)	1	1
Work List	µg of Carbon in Sample (C1)	11.4	23.4
32838	µg of Carbon from Baseline (C2)	7.3	18.9
Test Code			
@TICTOC1			
Matrix			
LIQUID			
Batch Number			
20000897			
Rerun	µg of Carbon = C1-C2		
0			
Sample Prep			
N/A			
Sample #			
BLNK			
Instrument Code			
CARB2			
Prepared By			
MF			
Chemist			
JFG			
Analyst			
RDM			
Date Complete			
03/24/2000			
Analysis Date			
03/23/2000			
Analysis Time	Method Detection Limit in µg/mL	5	40
03:45 AM			
Sample Point	µg of Carbon	4.10E+00	4.50E+00
SY 102			

Data Entered By:	MF	Date:	03/24/2000
Signature of Chemist:		Date:	

BLANK.WB1 REV 1.0

342100ML

581

WORKBOOK PAGE: SAM3

TIC/TOC : LA-342-100 (F-4)

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)	352.3	528.3
32838	µg of Carbon from Baseline (C2)	7.3	18.9
Test Code			
@TICTOC1			
Matrix			
LIQUID			
Batch Number			
20000897			
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 #			
S00T000505			
Instrument Code			
CARB2			
Prepared By			
MF			
Chemist			
JFG			
Analyst			
RDM			
Date Complete			
03/24/2000			
Analysis Date			
03/23/2000			
Analysis Time	Method Detection Limit in µg/mL	TIC	TOC
03:45 AM		5	40
Sample Point	µg of Carbon/mL	3.45E+03	5.09E+03
SY 102			

Data Entered By:	MF	Date: 03/24/2000
Signature of Chemist:		Date:

SAMPLE.WB1 REV 1.0

342100ML

582

WORKBOOK PAGE: DUP4

TIC/TOC : LA-342-100 (F-4)

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)	355.3	556.8
32838	µg of Carbon from Baseline (C2)	7.3	18.9
Test Code	Known µg of C from Original Sample	3.45E+3	5.09E+3
@TICTOC1			
Matrix			
LIQUID			
Batch Number			
20000897			
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 #			
S00T000505			
Instrument Code			
CARB2			
Prepared By			
MF			
Chemist			
JFG			
Analyst			
RDM			
Date Complete			
03/24/2000			
Analysis Date			
03/23/2000			
Analysis Time	Method Detection Limit in µg/mL	5	40
03:45 AM			
Sample Point	µg of Carbon/mL	3.48E+03	5.38E+03
SY 102			

Data Entered By:	MF	Date: 03/24/2000
Signature of Chemist:		Date:

SAMPLE.WB1 REV 1.0

342100ML

583

TIC/TOC : LA-342-100 (F-4)

LIQUIDS

Type	Sample Vial Data	TIC	TOC
SPK	Sample Volume in mL (SS)	0.1000	0.1000
Work List	Final Coulometer Reading in µg (C1)	352.3	528.3
32838	Spiked Vial Data		
Test Code	Sample Volume in mL (SPK SS)	0.1000	0.1000
@TICTOC1	Amount of Spike Std. in mL (SPK VOL)	0.500	0.100
Matrix	Final Coulometer Reading in µg (C2)	668.4	821.5
LIQUID	Spike Book Number	25N12F	34N12C
Batch Number	Spike Standard Value in µg/mL (SPK CONC)	605	3009
20000897	µg C in baseline (BL)	7.3	18.9
Rerun	$\text{Percent Spike Recovery} = ((C2-BL) - (C1-BL) * (SPK SS) / SS) / ((SPK CONC) * (SPK VOL)) * 100$ $\text{QC Actual in } \mu\text{g/mL} = \text{Spike Value } (\mu\text{g/mL})$ $\text{QC Found in } \mu\text{g/mL} = (\text{Percent Spike Recovery}) * (\text{QC Actual}) / 100$		
0			
Sample Prep			
N/A			
Sample #			
S00T000505			
Instrument Code			
CARB2			
Prepared By			
MF			
Chemist			
JFG			
Analyst			
RDM			
Date Complete			
03/24/2000			
Analysis Date			
03/23/2000			
Analysis Time			
03:45 AM	QC Actual in µg/mL	6.05E+02	3.01E+03
Sample Point	QC Found in µg/mL	6.32E+02	2.93E+03
SY 102	Percent Spike Recovery	104.5	97.4

Data Entered By:	MF	Date:	03/24/2000
Signature of Chemist:		Date:	

SPIKE.WB1 REV 1.3

342100ML

WORKBOOK PAGE: SAM6

TIC/TOC : LA-342-100 (F-4)

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)	202.5	457.1
32838	µg of Carbon from Baseline (C2)	7.3	18.9
Test Code			
@TICTOC1			
Matrix			
LIQUID			
Batch Number			
20000897			
Rerun			
0			
Sample Prep			
N/A			
Sample #			
S00T000506			
Instrument Code			
CARB2			
Prepared By			
MF			
Chemist			
JFG			
Analyst			
RDM			
Date Complete			
03/24/2000			
Analysis Date			
03/23/2000			
Analysis Time	Method Detection Limit in µg/mL	TIC	TOC
03:45 AM		5	40
Sample Point	µg of Carbon/mL	1.95E+03	4.38E+03
SY 102			

$\mu\text{g of Carbon/mL} = (C1 - C2) * DF / SS$
 $\mu\text{g of Carbon/mL for TIC} = 5 \text{ if } C1 < C2$
 $\mu\text{g of Carbon/mL for TOC} = 40 \text{ if } C1 < C2$

Data Entered By:	MF	Date:	03/24/2000
Signature of Chemist:		Date:	

WORKBOOK PAGE: DUP7

TIC/TOC : LA-342-100 (F-4)

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)	197.9	449.2
32838	µg of Carbon from Baseline (C2)	7.3	18.9
Test Code	Known µg of C from Original Sample	1.95E+3	4.38E+3
@TICTOC1			
Matrix			
LIQUID			
Batch Number			
20000897			
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 #			
S00T000506			
Instrument Code			
CARB2			
Prepared By			
MF			
Chemist			
JFG			
Analyst			
RDM			
Date Complete			
03/24/2000			
Analysis Date			
03/23/2000			
Analysis Time	Method Detection Limit in µg/mL	TIC	TOC
03:45 AM		5	40
Sample Point	µg of Carbon/mL	1.91E+03	4.30E+03
SY 102			

Data Entered By:	MF	Date: 03/24/2000
Signature of Chemist:		Date:

SAMPLE.WB1 REV 1.0

342100ML

586

LABCORE Completed Worklist Report for Worklist# 33039

Analyst: rdm

Instrument: CARB2

Book#: 25N12-F
34N12-C

Method: LA-342-100 Rev/Mod F-4

Worklist Comment: SY 102 FOR @TICTOC1 MF

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD		0	@TICTOC1 TIC-02	LIQUID	6.05E+02	6.05E+2	100.000 % Recovery	
1 STD		0	@TICTOC1 TOC-02	LIQUID	3.01E+03	2.78E+3	92.359 % Recovery	
2 BLNK		0	@TICTOC1 TIC-02	LIQUID	1	1.10E+0	1.100 ug/mL	
2 BLNK		0	@TICTOC1 TOC-02	LIQUID	1	4.00E-1	0.400 ug/mL	
3 SAMPLE	S00T000507	0	@TICTOC1 TIC-02	LIQUID	N/A	3.63E+03	5.000 ug/mL	
3 SAMPLE	S00T000507	0	@TICTOC1 TOC-02	LIQUID	N/A	5.33E+03	40.000 ug/mL	
4 DUP	S00T000507	0	@TICTOC1 TIC-02	LIQUID	3.63E+3	3.52E+3	3.077 RPD	
4 DUP	S00T000507	0	@TICTOC1 TOC-02	LIQUID	5.33E+3	5.20E+3	2.469 RPD	

Final page for worklist# 33039

Analyst Signature

Date

Analyst Signature

Date

Reviewer Signature

Date

HNF-1699 REV. 0

03/24/00 12:56

Page: 1

ws2

LABCORE Data Entry Template for Worklist# 33039Analyst: RDm Instrument: CARB2 Book# 25012-F
34N12-CMethod: LA-342-100 Rev/Mod F-4

Worklist Comment: SY 102 FOR @TICTOC1 MF

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	STD				@TICTOC1	LIQUID		
2	BLNK				@TICTOC1	LIQUID		
3	SAMPLE	S00T000507 0			@TICTOC1	LIQUID	20000085	SY-102 GRAB6
Analytes Requested: TIC-02 , TOC-02								
4	DUP	S00T000507 0			@TICTOC1	LIQUID		

Final page for worklist # 33039RDm
Signature3/24/00
DateLarry Freeman
Signature3/27/00
Date

Data Entry Comments:

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

HNF-1699 REV. 0

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

Sample: BASE

Date: 03/24/00

Time: 09:41:43

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

Analyst : RD MEYERS
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading ==	Analysis Time	Coulometer	% Difference ==
1	0.51	0.20	0.00
2	1.01	0.80	75.00
3	1.50	2.00	60.00
4	2.00	2.80	28.57
5	2.50	3.30	15.15
6	3.00	4.00	17.50
7	3.50	4.60	13.04
8	4.00	5.10	9.80
9	4.50	5.60	8.93
10	5.00	6.30	11.11
11	5.50	6.70	5.97
12	6.00	7.30	8.22
13	6.50	7.70	5.19
14	7.00	8.30	7.23
15	7.50	8.80	5.68
16	8.00	9.40	6.38
17	8.50	9.90	5.05
18	9.00	10.40	4.81
19	9.50	10.90	4.59
20	10.00	11.40	4.39
21	10.50	11.90	4.20
22	11.00	12.30	3.25

BLANK VALUE = 12.3 micrograms carbon

BLANK FACTOR = 12.3 / 10.9978 = +1.12E+00 ug/min Carbon

SIGNATURE BELOW IS TO BE USED ONLY FOR TECHNOLOGICAL PURPOSES THAT
COMPLETELY ADVERTISED THE CALCULATION/ANALYSIS ON PAGES ____ TO ____.

Sample Run By:

RD MEYERS

00000

HNF-1699 REV. 0

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

Sample: BASE

Date: 03/24/00

Time: 09:55:05

Sample Size = 1 uL

Dil Factor = 1

Blank ID # = BASE

Blank Value = N/A

Analyst : RD MEYERS

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==	== Analysis Time ==	== Coulometer ==	== % Difference ==
1	0.51	0.00	0.00
2	1.00	1.00	100.00
3	1.50	2.80	64.29
4	2.00	5.30	47.17
5	2.50	8.10	34.57
6	3.00	10.10	19.80
7	3.50	11.50	12.17
8	4.00	12.60	8.73
9	4.50	13.40	5.97
10	5.00	14.20	5.63
11	5.50	14.90	4.70
12	6.00	15.70	5.10
13	6.50	16.20	3.09
14	7.00	16.70	2.99
15	7.50	17.40	4.02
16	8.00	17.80	2.25
17	8.50	18.30	2.73
18	9.00	18.90	3.17
19	9.50	19.40	2.58
20	10.00	19.90	2.51
21	10.50	20.40	2.45
22	11.00	21.00	2.86

BLANK VALUE = 21 micrograms carbon

BLANK FACTOR = 21 / 10.99701 =

+1.91E+00 ug/min Carbon

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

Sample Run By:

RD MEYERS

00000

HNF-1699 REV. 0

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 25N12-F

Date: 03/24/00

Time: 10:12:50

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 1.1 ug/minute C

Analyst : RD MEYERS

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==	== Analysis Time ==	== Coulometer ==	== % Difference ==
1	0.51	0.60	0.00
2	1.00	4.50	86.67
3	1.50	128.10	96.49
4	2.00	320.80	60.07
5	2.50	467.10	31.32
6	3.00	547.30	14.65
7	3.50	584.10	6.30
8	4.00	598.40	2.39
9	4.50	605.10	1.11
10	5.00	607.80	0.44
11	5.50	609.60	0.30
12	6.00	610.70	0.18
13	6.50	611.70	0.16
14	7.00	612.50	0.13
15	7.50	613.00	0.08
16	8.00	613.70	0.11
17	8.50	614.40	0.11
18	9.00	614.90	0.08
19	9.50	615.40	0.08
20	10.00	615.90	0.08
21	10.50	616.50	0.10
22	11.00	617.10	0.10

USER INPUT BLANK VALUE

BLANK VALUE = 12.09671 micrograms carbon

BLANK FACTOR = 12.09671 / 10.99701 = +1.1E+00 ug/min Carbon

SAMPLE RESULTS:

(617.1 - 12.09765) (1)/(1) = +6.050E+02 g/L Carbon
 (617.1 - 12.09765) (1)/(1) (12) = +5.042E+01 Molar Carbon

Sample Run By:

RD MEYERS

00000

HNF-1699 REV. 0

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 34N12-C

Date: 03/24/00

Time: 10:26:50

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 1.9 ug/minute C

Analyst : RD MEYERS

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==	== Analysis Time ==	== Coulometer ==	== % Difference ==
1	0.51	0.00	0.00
2	1.01	3.30	100.00
3	1.50	42.80	92.29
4	2.00	157.90	72.89
5	2.50	314.90	49.86
6	3.00	442.90	28.90
7	3.50	513.50	13.75
8	4.00	545.10	5.80
9	4.50	558.90	2.47
10	5.00	564.90	1.06
11	5.50	567.90	0.53
12	6.00	569.60	0.30
13	6.50	570.80	0.21
14	7.00	571.90	0.19
15	7.50	572.80	0.16
16	8.00	573.60	0.14
17	8.50	574.40	0.14
18	9.00	575.20	0.14
19	9.50	575.70	0.09
20	10.00	576.30	0.10
21	10.50	577.00	0.12
22	11.00	577.40	0.07

USER INPUT BLANK VALUE

BLANK VALUE = 20.89432 micrograms carbon

BLANK FACTOR = 20.89432 / 10.99701 = +1.9E+00 ug/min Carbon

SAMPLE RESULTS:

(577.4 - 20.89606) (1)/(1) = +5.565E+02 g/L Carbon
 (577.4 - 20.89606) (1)/(1) (12) = +4.638E+01 Molar Carbon
 <<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

RD MEYERS

00000

HNF-1699 REV. 0

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLK

Date: 03/24/00

Time: 10:40:17

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 1.1 ug/minute C

Analyst : RD MEYERS

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==	==== Analysis Time ==	==== Coulometer ==	==== % Difference ==
1	0.51	0.30	0.00
2	1.00	1.60	81.25
3	1.50	3.20	50.00
4	2.00	4.10	21.95
5	2.50	4.70	12.77
6	3.00	5.20	9.62
7	3.50	5.70	8.77
8	4.00	6.00	5.00
9	4.50	6.50	7.69
10	5.00	6.90	5.80
11	5.50	7.30	5.48
12	6.00	7.60	3.95
13	6.50	8.00	5.00
14	7.00	8.40	4.76
15	7.50	8.80	4.55
16	8.00	9.10	3.30
17	8.50	9.50	4.21
18	9.00	9.90	4.04
19	9.50	10.20	2.94
20	10.00	10.50	2.86
21	10.50	10.80	2.78
22	11.00	11.20	3.57

USER INPUT BLANK VALUE

BLANK VALUE = 12.09671 micrograms carbon

BLANK FACTOR = 12.09671 / 10.99701 = +1.1E+00 ug/min Carbon

SAMPLE RESULTS:

(11.2 - 12.09577) (1)/(1) = < 5.00 E-3 g/L Carbon
 (11.2 - 12.09577) (1)/(1) (12) = < 4.17 E-4 Molar Carbon

Sample Run By:

RD MEYERS

00000

HNF-1699 REV. 0

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLK

Date: 03/24/00

Time: 10:53:09

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 1.9 ug/minute C

Analyst : RD MEYERS

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==	== Analysis Time ==	== Coulometer ==	== % Difference ==
1	0.51	0.20	0.00
2	1.01	1.40	85.71
3	1.51	4.00	65.00
4	2.00	6.90	42.03
5	2.50	9.40	26.60
6	3.00	11.30	16.81
7	3.50	12.70	11.02
8	4.00	13.60	6.62
9	4.50	14.40	5.56
10	5.00	15.10	4.64
11	5.50	15.70	3.82
12	6.00	16.20	3.09
13	6.50	16.90	4.14
14	7.00	17.30	2.31
15	7.50	17.80	2.81
16	8.00	18.20	2.20
17	8.50	18.60	2.15
18	9.00	19.20	3.13
19	9.50	19.60	2.04
20	10.00	19.90	1.51
21	10.50	20.40	2.45
22	11.00	20.60	0.97

USER INPUT BLANK VALUE

BLANK VALUE = 20.89432 micrograms carbon

BLANK FACTOR = 20.89432 / 10.99701 = +1.9E+00 ug/min Carbon

SAMPLE RESULTS:

(20.6 - 20.89768) (1)/(1) = < 5.00 E-3 g/L Carbon
 (20.6 - 20.89768) (1)/(1)(12) = < 4.17 E-4 Molar Carbon
 <<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

RD MEYERS

00000

HNF-1699 REV. 0

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S00T000507

Date: 03/24/00

Time: 13:27:32

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 1.1 ug/minute C

Analyst : RD MEYERS

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==	== Analysis Time ==	== Coulometer ==	== % Difference ==
1	0.51	0.00	0.00
2	1.01	0.60	100.00
3	1.50	60.30	99.00
4	2.00	170.70	64.67
5	2.50	260.60	34.50
6	3.00	315.30	17.35
7	3.50	342.10	7.83
8	4.00	355.20	3.69
9	4.50	361.70	1.80
10	5.00	364.90	0.88
11	5.50	367.30	0.65
12	6.00	368.60	0.35
13	6.50	369.90	0.35
14	7.00	370.90	0.27
15	7.50	371.50	0.16
16	8.00	372.30	0.21
17	8.50	372.90	0.16
18	9.00	373.60	0.19
19	9.50	374.00	0.11
20	10.00	374.60	0.16
21	10.50	375.00	0.11
22	11.00	375.40	0.11

USER INPUT BLANK VALUE

BLANK VALUE = 12.09671 micrograms carbon

BLANK FACTOR = 12.09671 / 10.99701 = +1.1E+00 ug/min Carbon

SAMPLE RESULTS:

(375.4 - 12.09765) (1)/(1) = +3.633E+02 g/L Carbon
 (375.4 - 12.09765) (1)/(1) (12) = +3.028E+01 Molar Carbon

Sample Run By:

RD MEYERS

00000

HNF-1699 REV. 0

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 507

Date: 03/24/00

Time: 13:44:10

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 1.9 ug/minute C

Analyst : RD MEYERS

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==	== Analysis Time ==	== Coulometer ==	== % Difference ==
1	0.51	0.20	0.00
2	1.01	3.90	94.87
3	1.51	38.20	89.79
4	2.00	144.60	73.58
5	2.50	295.10	51.00
6	3.00	409.50	27.94
7	3.50	464.00	11.75
8	4.00	490.10	5.33
9	4.50	506.50	3.24
10	5.00	517.80	2.18
11	5.50	525.80	1.52
12	6.00	531.50	1.07
13	6.50	536.30	0.90
14	7.00	539.70	0.63
15	7.50	542.80	0.57
16	8.00	545.40	0.48
17	8.50	547.40	0.37
18	9.00	549.00	0.29
19	9.50	550.60	0.29
20	10.00	552.10	0.27
21	10.50	553.40	0.23
22	11.00	554.40	0.18

USER INPUT BLANK VALUE

BLANK VALUE = 20.89432 micrograms carbon

BLANK FACTOR = 20.89432 / 10.99701 = +1.9E+00 ug/min Carbon

SAMPLE RESULTS:

(554.4 - 20.89617) (1)/(1) = +5.335E+02 g/L Carbon
 (554.4 - 20.89617) (1)/(1) (12) = +4.446E+01 Molar Carbon
 <<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

RD MEYERS

00000

HNF-1699 REV. 0

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 507DUP

Date: 03/24/00

Time: 13:57:55

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 1.1 ug/minute C

Analyst : RD MEYERS

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading	=== Analysis Time	==== Coulometer	==== % Difference
1	0.51	0.00	0.00
2	1.01	1.60	100.00
3	1.51	59.60	97.32
4	2.00	165.90	64.07
5	2.50	250.70	33.83
6	3.00	302.60	17.15
7	3.50	329.60	8.19
8	4.00	343.00	3.91
9	4.50	349.30	1.80
10	5.00	352.70	0.96
11	5.50	354.90	0.62
12	6.00	356.30	0.39
13	6.50	357.80	0.42
14	7.00	358.80	0.28
15	7.50	359.60	0.22
16	8.00	360.50	0.25
17	8.50	361.20	0.19
18	9.00	361.70	0.14
19	9.50	362.40	0.19
20	10.00	362.90	0.14
21	10.50	363.50	0.17
22	11.00	364.00	0.14

USER INPUT BLANK VALUE

BLANK VALUE = 12.09671 micrograms carbon

BLANK FACTOR = 12.09671 / 10.99701 = +1.1E+00 ug/min Carbon

SAMPLE RESULTS:

(364 - 12.09872) (1) / (1) = +3.519E+02 g/L Carbon
 (364 - 12.09872) (1) / (1) (12) = +2.933E+01 Molar Carbon

Sample Run By:

RD MEYERS

00000

HNF-1699 REV. 0

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 507DUP

Date: 03/24/00

Time: 14:10:52

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 1.9 ug/minute C

Analyst : RD MEYERS

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==== Analysis Time ==== Coulometer ==== % Difference ==

1	0.51	0.30	0.00
2	1.01	3.50	91.43
3	1.50	35.20	90.06
4	2.00	134.00	73.73
5	2.50	272.60	50.84
6	3.00	382.50	28.73
7	3.50	438.70	12.81
8	4.00	468.10	6.28
9	4.50	485.70	3.62
10	5.00	496.70	2.21
11	5.50	506.00	1.84
12	6.00	513.00	1.36
13	6.50	518.80	1.12
14	7.00	523.00	0.80
15	7.50	526.50	0.66
16	8.00	529.60	0.59
17	8.50	532.10	0.47
18	9.00	534.20	0.39
19	9.50	536.30	0.39
20	10.00	538.30	0.37
21	10.50	540.00	0.31
22	11.00	541.40	0.26

USER INPUT BLANK VALUE

BLANK VALUE = 20.89432 micrograms carbon

BLANK FACTOR = 20.89432 / 10.99701 = +1.9E+00 ug/min Carbon

SAMPLE RESULTS:

(541.4 - 20.89791) (1)/(1) = +5.205E+02 g/L Carbon
 (541.4 - 20.89791) (1)/(1) (12) = +4.338E+01 Molar Carbon
 <<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

RD MEYERS

00000

WORKBOOK PAGE: STD1

TIC/TOC : LA-342-100 (F-4)

LIQUIDS

		TIC	TOC
Type	Sample Size in mL (SS)	1.0000	0.2000
STD	Dilution Factor (DF)	1	1
Work List	Final Coulometer Reading in µg (C1)	617.1	577.4
33039	µg of Carbon from Baseline (C2)	12.3	21
Test Code	Standard Book Number	25N12F	34N12C
@TICTOC1	Standard Value (µg/ml)	605	3009
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			
20001112			
Rerun			
0			
Sample Prep			
N/A			
Sample #			
STD			
Instrument Code			
CARB2			
Prepared By			
MF			
Chemist			
JFG			
Analyst			
RDM			
Date Complete			
03/27/2000			
Analysis Date			
03/24/2000			
Analysis Time	Method Detection Limit in µg/mL	5	40
02:10 PM	QC Actual in µg/mL	6.05E+02	3.01E+03
Sample Point	QC Found in µg/mL	6.05E+02	2.78E+03
SY 102	Percent Standard Recovery	100.0	92.5

Data Entered By:	MF	Date: 03/27/2000
Signature of Chemist:		Date: 3/29/00

STANDARD.WB1 REV 1.0

342100ML

WORKBOOK PAGE: BLANK2

TIC/TOC : LA-342-100 (F-4)

LIQUIDS

		TIC	TOC
Type	Sample Size in mL (SS)	0.0000	0.0000
BLNK	Dilution Factor (DF)	1	1
Work List	µg of Carbon in Sample (C1)	11.2	20.6
33039	µg of Carbon from Baseline (C2)	12.3	21
Test Code	µg of Carbon = C1-C2		
@TICTOC1			
Matrix			
LIQUID			
Batch Number			
20001112			
Rerun			
0			
Sample Prep			
N/A			
Sample #			
BLNK			
Instrument Code			
CARB2			
Prepared By			
MF			
Chemist			
JFG			
Analyst			
RDM			
Date Complete			
03/27/2000			
Analysis Date			
03/24/2000			
Analysis Time	Method Detection Limit in µg/mL	5	40
02:10 PM			
Sample Point	µg of Carbon	1.10E+00	4.00E-01
SY 102			

Data Entered By:	MF	Date:	03/27/2000
Signature of Chemist:	<i>MF</i>	Date:	

BLANK.WB1 REV 1.0

342100ML

600

WORKBOOK PAGE: SAM3

TIC/TOC : LA-342-100 (F-4)

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)	375.4	554.4
33039	µg of Carbon from Baseline (C2)	12.3	21
Test Code			
@TICTOC1			
Matrix			
LIQUID			
Batch Number			
20001112			
Rerun			
0			
Sample Prep			
N/A			
Sample #			
S00T000507			
Instrument Code			
CARB2			
Prepared By			
MF			
Chemist			
JFG			
Analyst			
RDM			
Date Complete			
03/27/2000			
Analysis Date			
03/24/2000			
Analysis Time	Method Detection Limit in µg/mL	5	40
02:10 PM			
Sample Point	µg of Carbon/mL	3.63E+03	5.33E+03
SY 102			

$\mu\text{g of Carbon/mL} = (C1 - C2) * DF / SS$
 $\mu\text{g of Carbon/mL for TIC} = 5 \text{ if } C1 < C2$
 $\mu\text{g of Carbon/mL for TOC} = 40 \text{ if } C1 < C2$

Data Entered By:	MF	Date: 03/27/2000
Signature of Chemist:		Date:

SAMPLE.WB1 REV 1.0

342100ML

601

WORKBOOK PAGE: DUP4

TIC/TOC : LA-342-100 (F-4)

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)	364	541.4
33039	µg of Carbon from Baseline (C2)	12.3	21
Test Code	Known µg of C from Original Sample	3.63E+3	5.33E+3
@TICTOC1			
Matrix	µg of Carbon/mL = (C1-C2) * DF / SS µg of Carbon/mL for TIC = 5 if C1 < C2 µg of Carbon/mL for TOC = 40 if C1 < C2		
LIQUID			
Batch Number			
20001112			
Rerun			
0			
Sample Prep			
N/A			
Sample #			
S00T000507			
Instrument Code			
CARB2			
Prepared By			
MF			
Chemist			
JFG			
Analyst			
RDM			
Date Complete			
03/27/2000			
Analysis Date			
03/24/2000			
Analysis Time	Method Detection Limit in µg/mL	TIC	TOC
02:10 PM		5	40
Sample Point	µg of Carbon/mL	3.52E+03	5.20E+03
SY 102			

Data Entered By:	MF	Date: 03/27/2000
Signature of Chemist:		Date:

SAMPLE.WB1 REV 1.0

342100ML

602

LABCORE Completed Worklist Report for Worklist# 33093

Analyst: slh

Instrument: CARB2

Book#: 25N12-F
34N12-C

Method: LA-342-100 Rev/Mod F-4

Worklist Comment: SY-102 GRAB 6 FOR @TICTOC1 RTS

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 BLNK	0		@TICTOC1 TIC-02	LIQUID	1	5.40E+0	5.400	ug/mL
1 BLNK	0		@TICTOC1 TOC-02	LIQUID	1	7.40E+0	7.400	ug/mL
2 STD	0		@TICTOC1 TIC-02	LIQUID	6.05E+02	5.98E+2	98.843	% Recovery
2 STD	0		@TICTOC1 TOC-02	LIQUID	3.01E+03	2.76E+3	91.694	% Recovery
3 SAMPLE	S00T000513	0	@TICTOC1 TIC-02	LIQUID	N/A	3.56E+03	5.000	ug/mL
3 SAMPLE	S00T000513	0	@TICTOC1 TOC-02	LIQUID	N/A	5.06E+03	40.000	ug/mL
4 DUP	S00T000513	0	@TICTOC1 TIC-02	LIQUID	3.56E+3	3.61E+3	1.395	RPD
4 DUP	S00T000513	0	@TICTOC1 TOC-02	LIQUID	5.06E+3	5.15E+3	1.763	RPD
5 SPK	S00T000513	0	@TICTOC1 TIC-02	LIQUID	1.00E+02	1.01E+02	101.000	% Recovery
5 SPK	S00T000513	0	@TICTOC1 TOC-02	LIQUID	1.00E+02	9.77E+01	97.700	% Recovery
6 SAMPLE	S00T000637	0	@TICTOC1 TIC-02	LIQUID	N/A	3.83E+03	5.000	ug/mL
6 SAMPLE	S00T000637	0	@TICTOC1 TOC-02	LIQUID	N/A	5.16E+03	40.000	ug/mL
7 DUP	S00T000637	0	@TICTOC1 TIC-02	LIQUID	3.83E+3	3.67E+3	4.267	RPD
7 DUP	S00T000637	0	@TICTOC1 TOC-02	LIQUID	5.16E+3	4.95E+3	4.154	RPD
8 SAMPLE	S00T000612	0	@TICTOC1 TIC-02	LIQUID	N/A	3.62E+03	5.000	ug/mL
8 SAMPLE	S00T000612	0	@TICTOC1 TOC-02	LIQUID	N/A	5.34E+03	40.000	ug/mL
9 DUP	S00T000612	0	@TICTOC1 TIC-02	LIQUID	3.62E+3	3.60E+3	0.554	RPD
9 DUP	S00T000612	0	@TICTOC1 TOC-02	LIQUID	5.34E+3	5.33E+3	0.187	RPD
10 SAMPLE	S00T000628	0	@TICTOC1 TIC-02	LIQUID	N/A	3.57E+03	5.000	ug/mL
10 SAMPLE	S00T000628	0	@TICTOC1 TOC-02	LIQUID	N/A	4.93E+03	40.000	ug/mL
11 DUP	S00T000628	0	@TICTOC1 TIC-02	LIQUID	3.57E+3	3.73E+3	4.384	RPD
11 DUP	S00T000628	0	@TICTOC1 TOC-02	LIQUID	4.93E+3	5.02E+3	1.809	RPD

Final page for worklist# 33093

Analyst Signature

Date

Analyst Signature

Date

Reviewer Signature

Date

HNF-1699 REV. 0

03/30/00 15:52

Page: 1

ws2

LABCORE Data Entry Template for Worklist# 33093

Analyst: SLH Instrument: CARB2 Book# TIC 25N12-F
TOC 34N12-C

Method: LA-342-100 Rev/Mod _____

Worklist Comment: SY-102 GRAB 6 FOR @TICTOC1 RTS

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 BLNK			@TICTOC1	LIQUID		
2 STD			@TICTOC1	LIQUID		
3 SAMPLE	S00T000513 0		@TICTOC1	LIQUID	20000085	SY-102 GRAB6
	Analytes Requested: TIC-02 , TOC-02					
4 DUP	S00T000513 0		@TICTOC1	LIQUID		
5 SPK	S00T000513 0		@TICTOC1	LIQUID		
6 SAMPLE	S00T000637 0		@TICTOC1	LIQUID	20000085	SY-102 GRAB6
	Analytes Requested: TIC-02 , TOC-02					
7 DUP	S00T000637 0		@TICTOC1	LIQUID		
8 SAMPLE	S00T000612 0		@TICTOC1	LIQUID	20000085	SY-102 GRAB6
	Analytes Requested: TIC-02 , TOC-02					
9 DUP	S00T000612 0		@TICTOC1	LIQUID		
10 SAMPLE	S00T000628 0		@TICTOC1	LIQUID	20000085	SY-102 GRAB6
	Analytes Requested: TIC-02 , TOC-02					
11 DUP	S00T000628 0		@TICTOC1	LIQUID		

Final page for worklist # 33093

SLH Bpatry Wt
Signature Date
4-8-2000

Mary Jones 4/10/00
Signature Date

Faxed out
SLH
4-9-2000

Data Entry Comments:

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

HNF-1699 REV. 0

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

Sample: BASE 1

Date: 04/08/00

Time: 06:40:36

Sample Size = 1 uL
Dil Factor = 1
Blank ID # = BASE 1
Blank Value = N/AAnalyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading ==	Analysis Time ==	Coulometer ==	% Difference ==
1	0.51	0.10	0.00
2	1.01	0.30	66.67
3	1.51	0.30	0.00
4	2.01	0.40	25.00
5	2.51	0.60	33.33
6	3.01	0.90	33.33
7	3.50	1.00	10.00
8	4.00	1.20	16.67
9	4.50	1.40	14.29
10	5.00	1.50	6.67
11	5.50	1.60	6.25
12	6.00	1.70	5.88
13	6.50	1.90	10.53
14	7.00	1.90	0.00
15	7.50	2.00	5.00
16	8.00	2.20	9.09
17	8.50	2.30	4.35
18	9.00	2.30	0.00
19	9.50	2.50	8.00
20	10.00	2.60	3.85
21	10.50	2.70	3.70
22	11.00	2.80	3.57

BLANK VALUE = 2.8 micrograms carbon
BLANK FACTOR = 2.8 / 10.99802 =

+2.5E-01 ug/min Carbon

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 605 TO 639

Sample Run By:

SL HOOD

00001

4-8-2000

HNF-1699 REV. 0

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

Sample: BASE 1

Date: 04/08/00

Time: 06:52:49

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	0.20	0.00
3	1.50	0.70	71.43
4	2.00	2.50	72.00
5	2.50	5.30	52.83
6	3.00	8.30	36.14
7	3.50	10.10	17.82
8	4.00	11.00	8.18
9	4.50	11.80	6.78
10	5.00	12.50	5.60
11	5.50	13.00	3.85
12	6.00	13.60	4.41
13	6.50	14.10	3.55
14	7.00	14.60	3.42
15	7.50	14.80	1.35
16	8.00	15.20	2.63
17	8.50	15.30	0.65
18	9.00	15.50	1.29
19	9.50	15.60	0.64
20	10.00	15.90	1.89
21	10.50	16.00	0.63
22	11.00	16.10	0.62

BLANK VALUE = 16.1 micrograms carbon

BLANK FACTOR = 16.1 / 10.99799 =

+1.46E+00 ug/min Carbon

Sample Run By:

SL HOOD

00001

4-8-2000

HNF-1699 REV. 0

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: STD 1

Date: 04/08/00

Time: 07:06:42

Sample Size = 1000 uL

Dil Factor = 1

Blank ID # =

Blank Value = .25 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	0.90	88.89
3	1.50	48.90	98.16
4	2.00	178.40	72.59
5	2.50	328.70	45.73
6	3.00	450.30	27.00
7	3.50	526.20	14.42
8	4.00	566.80	7.16
9	4.50	584.60	3.04
10	5.00	592.20	1.28
11	5.50	595.20	0.50
12	6.00	596.90	0.28
13	6.50	597.70	0.13
14	7.00	598.30	0.10
15	7.50	598.80	0.08
16	8.00	599.30	0.08
17	8.50	599.50	0.03
18	9.00	600.10	0.10
19	9.50	600.30	0.03
20	10.00	600.50	0.03
21	10.50	600.80	0.05
22	11.00	601.10	0.05

USER INPUT BLANK VALUE

BLANK VALUE = 2.749496 micrograms carbon

BLANK FACTOR = 2.749496 / 10.99799 = +2.5E-01 ug/min Carbon

SAMPLE RESULTS:

(601.1 - 2.749245) (1) / (1000) = +5.984E-01 g/L Carbon
 (601.1 - 2.749245) (1) / (1000) (12) = +4.986E-02 Molar Carbon

Sample Run By:

SL HOOD

00001

SS = 1ml

25N12-F 607

HNF-1699 REV. 0

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: STD 1

Date: 04/08/00

Time: 07:21:00

Sample Size = 200 uL

Dil Factor = 1

Blank ID # =

Blank Value = 1.46 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	1.50	2.10	76.19
4	2.00	15.30	86.27
5	2.50	56.30	72.82
6	3.00	138.50	59.35
7	3.50	258.10	46.34
8	4.00	381.30	32.31
9	4.50	470.50	18.96
10	5.00	521.40	9.76
11	5.50	545.50	4.42
12	6.00	555.80	1.85
13	6.50	560.60	0.86
14	7.00	563.00	0.43
15	7.50	564.20	0.21
16	8.00	565.10	0.16
17	8.50	565.80	0.12
18	9.00	566.50	0.12
19	9.50	567.00	0.09
20	10.00	567.40	0.07
21	10.50	567.90	0.09
22	11.00	568.30	0.07

USER INPUT BLANK VALUE

BLANK VALUE = 16.05706 micrograms carbon

BLANK FACTOR = 16.05706 / 10.99799 = +1.5E+00 ug/min Carbon

SAMPLE RESULTS:

(568.3 - 16.05443) (1) / (200) = +2.761E+00 g/L Carbon
 (568.3 - 16.05443) (1) / (200) (12) = +2.301E-01 Molar Carbon

Sample Run By:

SL HOOD

00001

SS = 200 ml

34N12-C

608

HNF-1699 REV. 0

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLK 1

Date: 04/08/00

Time: 07:33:40

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = .25 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	0.80	62.50
3	1.50	2.30	65.22
4	2.00	3.70	37.84
5	2.50	4.40	15.91
6	3.00	4.80	8.33
7	3.50	5.30	9.43
8	4.00	5.50	3.64
9	4.50	5.60	1.79
10	5.00	5.90	5.08
11	5.50	6.10	3.28
12	6.00	6.30	3.17
13	6.50	6.60	4.55
14	7.00	6.70	1.49
15	7.50	6.90	2.90
16	8.00	7.10	2.82
17	8.50	7.30	2.74
18	9.00	7.50	2.67
19	9.50	7.60	1.32
20	10.00	7.80	2.56
21	10.50	8.00	2.50
22	11.00	8.20	2.44

USER INPUT BLANK VALUE

BLANK VALUE = 2.749496 micrograms carbon

BLANK FACTOR = 2.749496 / 10.99799 = +2.5E-01 ug/min Carbon

SAMPLE RESULTS:

(8.2 - 2.74971) (1)/(1) = +5.5E+00 g/L Carbon
 (8.2 - 2.74971) (1)/(1) (12) = +4.5E-01 Molar Carbon

Sample Run By:

SL HOOD

00001

HNF-1699 REV. 0

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLK 1

Date: 04/08/00

Time: 07:47:48

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 1.46 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	0.60	50.00
3	1.50	1.90	68.42
4	2.00	5.80	67.24
5	2.50	9.60	39.58
6	3.00	13.30	27.82
7	3.50	15.70	15.29
8	4.00	17.20	8.72
9	4.50	18.10	4.97
10	5.00	19.00	4.74
11	5.50	19.70	3.55
12	6.00	20.30	2.96
13	6.50	20.90	2.87
14	7.00	21.30	1.88
15	7.50	21.60	1.39
16	8.00	21.90	1.37
17	8.50	22.20	1.35
18	9.00	22.60	1.77
19	9.50	22.80	0.88
20	10.00	23.10	1.30
21	10.50	23.40	1.28
22	11.00	23.50	0.43

USER INPUT BLANK VALUE

BLANK VALUE = 16.05706 micrograms carbon

BLANK FACTOR = 16.05706 / 10.99799 = +1.5E+00 ug/min Carbon

SAMPLE RESULTS:

(23.5 - 16.05416) (1)/(1) = +7.45E+00 g/L Carbon
 (23.5 - 16.05416) (1)/(1) (12) = +6.20E-01 Molar Carbon

Sample Run By:

SL HOOD

00001

HNF-1699 REV. 0

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S00T000513

Date: 04/08/00

Time: 08:21:36

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = .25 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	0.30	66.67
3	1.51	1.40	78.57
4	2.00	42.40	96.70
5	2.50	147.10	71.18
6	3.00	244.40	39.81
7	3.50	303.60	19.50
8	4.00	332.60	8.72
9	4.50	344.90	3.57
10	5.00	350.30	1.54
11	5.50	352.50	0.62
12	6.00	353.80	0.37
13	6.50	355.10	0.37
14	7.00	355.70	0.17
15	7.50	356.30	0.17
16	8.00	357.00	0.20
17	8.50	357.40	0.11
18	9.00	357.80	0.11
19	9.50	358.10	0.08
20	10.00	358.50	0.11
21	10.50	358.90	0.11
22	11.00	359.20	0.08

USER INPUT BLANK VALUE

BLANK VALUE = 2.749496 micrograms carbon

BLANK FACTOR = 2.749496 / 10.99799 = +2.5E-01 ug/min Carbon

SAMPLE RESULTS:

(359.2 - 2.749702) (1)/(1) = +3.565E+02 g/L Carbon
 (359.2 - 2.749702) (1)/(1) (12) = +2.970E+01 Molar Carbon

Sample Run By:

SL HOOD

00001

SS = .100 ml = .11667g

HNF-1699 REV. 0

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S00T000513

Date: 04/08/00

Time: 08:34:33

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 1.46 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	0.70	57.14
3	1.51	4.60	84.78
4	2.00	38.90	88.17
5	2.50	118.90	67.28
6	3.00	237.50	49.94
7	3.50	343.00	30.76
8	4.00	410.80	16.50
9	4.50	447.50	8.20
10	5.00	468.80	4.54
11	5.50	483.10	2.96
12	6.00	493.30	2.07
13	6.50	500.70	1.48
14	7.00	506.40	1.13
15	7.50	510.60	0.82
16	8.00	514.20	0.70
17	8.50	516.30	0.41
18	9.00	518.00	0.33
19	9.50	519.70	0.33
20	10.00	520.60	0.17
21	10.50	521.60	0.19
22	11.00	522.50	0.17

USER INPUT BLANK VALUE

BLANK VALUE = 16.05706 micrograms carbon

BLANK FACTOR = 16.05706 / 10.99799 = +1.5E+00 ug/min Carbon

SAMPLE RESULTS:

(522.5 - 16.05563) (1) / (1) =	+5.064E+02	g/L Carbon
(522.5 - 16.05563) (1) / (1) (12) =	+4.220E+01	Molar Carbon

Sample Run By:

SL HOOD

00001

SS = .100 ml = .11667g

HNF-1699 REV. 0

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S00T00513 DUP Date: 04/08/00 Time: 08:50:38

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .25 ug/minute CAnalyst : 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	4.00	87.50
4	2.00	53.50	92.52
5	2.50	144.20	62.90
6	3.00	233.20	38.16
7	3.50	296.10	21.24
8	4.00	330.10	10.30
9	4.50	345.80	4.54
10	5.00	352.80	1.98
11	5.50	355.90	0.87
12	6.00	357.60	0.48
13	6.50	358.50	0.25
14	7.00	359.60	0.31
15	7.50	360.20	0.17
16	8.00	360.70	0.14
17	8.50	361.20	0.14
18	9.00	361.80	0.17
19	9.50	362.30	0.14
20	10.00	362.60	0.08
21	10.50	363.00	0.11
22	11.00	363.40	0.11

USER INPUT BLANK VALUE

BLANK VALUE = 2.749496 micrograms carbon

BLANK FACTOR = 2.749496 / 10.99799 = +2.5E-01 ug/min Carbon

SAMPLE RESULTS:

(363.4 - 2.74971) (1)/(1) = +3.607E+02 g/L Carbon
 (363.4 - 2.74971) (1)/(1) (12) = +3.005E+01 Molar Carbon

Sample Run By:

SL HOOD

00001

SS = .100 ml = .12275g

HNF-1699 REV. 0

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S00T00513 DUP Date: 04/08/00 Time: 09:03:47

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.46 ug/minute CAnalyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

Reading	Analysis Time	Coulometer	% Difference
1	0.51	0.40	0.00
2	1.01	0.90	55.56
3	1.51	3.10	70.97
4	2.00	28.80	89.24
5	2.50	103.30	72.12
6	3.00	219.70	52.98
7	3.50	334.40	34.30
8	4.00	410.50	18.54
9	4.50	451.70	9.12
10	5.00	475.60	5.03
11	5.50	490.50	3.04
12	6.00	500.80	2.06
13	6.50	508.30	1.48
14	7.00	513.40	0.99
15	7.50	517.50	0.79
16	8.00	520.70	0.61
17	8.50	523.30	0.50
18	9.00	525.80	0.48
19	9.50	527.60	0.34
20	10.00	529.00	0.26
21	10.50	530.00	0.19
22	11.00	531.20	0.23

USER INPUT BLANK VALUE

BLANK VALUE = 16.05706 micrograms carbon

BLANK FACTOR = 16.05706 / 10.99799 = +1.5E+00 ug/min Carbon

SAMPLE RESULTS:

(531.2 - 16.05563) (1)/(1)	=	+5.151E+02	g/L Carbon
(531.2 - 16.05563) (1)/(1) (12)	=	+4.293E+01	Molar Carbon

Sample Run By:

SL HOOD

00001

SS = .100 ml = .12275g

HNF-1699 REV. 0

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S00T00513 SPK Date: 04/08/00 Time: 09:17:14

Sample Size = 1 uL Analyst : SL HOOD
 Dil Factor = 1 Min Readings = 22
 Blank ID # = Max Readings = 22
 Blank Value = .25 ug/minute C % Difference = 10

== Reading ==	==== Analysis Time ==	==== Coulometer ==	==== % Difference ==
1	0.51	0.30	0.00
2	1.01	0.70	57.14
3	1.51	8.40	91.67
4	2.00	123.60	93.20
5	2.50	330.20	62.57
6	3.00	493.00	33.02
7	3.50	585.80	15.84
8	4.00	628.60	6.81
9	4.50	646.60	2.78
10	5.00	653.90	1.12
11	5.50	657.30	0.52
12	6.00	659.00	0.26
13	6.50	660.30	0.20
14	7.00	661.40	0.17
15	7.50	662.20	0.12
16	8.00	662.80	0.09
17	8.50	663.50	0.11
18	9.00	664.20	0.11
19	9.50	664.70	0.08
20	10.00	665.20	0.08
21	10.50	665.60	0.06
22	11.00	666.10	0.08

USER INPUT BLANK VALUE

BLANK VALUE = 2.749496 micrograms carbon

BLANK FACTOR = 2.749496 / 10.99799 = +2.5E-01 ug/min Carbon

SAMPLE RESULTS:

(666.1 - 2.74971) (1)/(1) = +6.634E+02 g/L Carbon
 (666.1 - 2.74971) (1)/(1) (12) = +5.528E+01 Molar Carbon

Sample Run By:

SL HOOD

00001

SS = .100ml = .11860g + .500ml spk 25N12-F

HNF-1699 REV. 0

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S00T00513 SPK Date: 04/08/00 Time: 09:29:57

Sample Size = 1 uL Analyst : SL HOOD
Dil Factor = 1 Min Readings = 22
Blank ID # = Max Readings = 22
Blank Value = 1.46 ug/minute C % Difference = 10

== Reading ==	==== Analysis Time ==	==== Coulometer ==	==== % Difference ==
1	0.51	0.30	0.00
2	1.01	0.70	57.14
3	1.51	5.90	88.14
4	2.00	46.40	87.28
5	2.50	137.10	66.16
6	3.00	278.10	50.70
7	3.50	445.50	37.58
8	4.00	586.60	24.05
9	4.50	675.80	13.20
10	5.00	726.70	7.00
11	5.50	756.40	3.93
12	6.00	773.80	2.25
13	6.50	785.20	1.45
14	7.00	793.20	1.01
15	7.50	798.40	0.65
16	8.00	803.10	0.59
17	8.50	806.30	0.40
18	9.00	809.20	0.36
19	9.50	811.10	0.23
20	10.00	813.40	0.28
21	10.50	815.10	0.21
22	11.00	816.60	0.18

USER INPUT BLANK VALUE

BLANK VALUE = 16.05706 micrograms carbon

BLANK FACTOR = 16.05706 / 10.99799 = +1.5E+00 ug/min Carbon

SAMPLE RESULTS:

(816.6 - 16.05679) (1)/(1) = +8.005E+02 g/L Carbon
(816.6 - 16.05679) (1)/(1) (12) = +6.671E+01 Molar Carbon

Sample Run By:

SL HOOD

00001

SS = .100ml = .11860g ^{spk} + .250g 34N12-C
616

HNF-1699 REV. 0

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S00T000637

Date: 04/08/00

Time: 09:44:00

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = .25 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	1.00	1.20	41.67
3	1.50	6.50	81.54
4	2.00	69.50	90.65
5	2.50	176.90	60.71
6	3.00	268.50	34.12
7	3.50	326.60	17.79
8	4.00	356.30	8.34
9	4.50	369.20	3.49
10	5.00	375.10	1.57
11	5.50	378.00	0.77
12	6.00	379.50	0.40
13	6.50	380.70	0.32
14	7.00	381.60	0.24
15	7.50	382.50	0.24
16	8.00	383.10	0.16
17	8.50	383.50	0.10
18	9.00	384.00	0.13
19	9.50	384.60	0.16
20	10.00	385.00	0.10
21	10.50	385.50	0.13
22	11.00	385.90	0.10

USER INPUT BLANK VALUE

BLANK VALUE = 2.749496 micrograms carbon

BLANK FACTOR = 2.749496 / 10.99799 = +2.5E-01 ug/min Carbon

SAMPLE RESULTS:

(385.9 - 2.748978) (1)/(1) = +3.832E+02 g/L Carbon
 (385.9 - 2.748978) (1)/(1) (12) = +3.193E+01 Molar Carbon

Sample Run By:

SL HOOD

00001

SS = .100 we = .12002 g
 617

HNF-1699 REV. 0

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S00T000637

Date: 04/08/00

Time: 09:57:24

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 1.46 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	1.00	0.70	42.86
3	1.50	3.00	76.67
4	2.00	28.90	89.62
5	2.50	96.10	69.93
6	3.00	196.10	50.99
7	3.50	305.30	35.77
8	4.00	388.50	21.42
9	4.50	438.00	11.30
10	5.00	466.90	6.19
11	5.50	484.80	3.69
12	6.00	497.40	2.53
13	6.50	506.20	1.74
14	7.00	512.80	1.29
15	7.50	517.70	0.95
16	8.00	521.80	0.79
17	8.50	524.70	0.55
18	9.00	526.90	0.42
19	9.50	528.90	0.38
20	10.00	530.20	0.25
21	10.50	531.70	0.28
22	11.00	532.40	0.13

USER INPUT BLANK VALUE

BLANK VALUE = 16.05706 micrograms carbon

BLANK FACTOR = 16.05706 / 10.99799 = +1.5E+00 ug/min Carbon

SAMPLE RESULTS:

(532.4 - 16.05287) (1)/(1)	=	+5.163E+02	g/L Carbon
(532.4 - 16.05287) (1)/(1) (12)	=	+4.303E+01	Molar Carbon

Sample Run By:

SL HOOD

00001

SS = .100ml = .12002g

618

HNF-1699 REV. 0

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S00T00637 **DUP** Date: 04/08/00 Time: 10:41:10

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .25 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	0.90	33.33
3	1.51	12.00	92.50
4	2.00	88.90	86.50
5	2.50	184.40	51.79
6	3.00	263.50	30.02
7	3.50	315.40	16.46
8	4.00	342.30	7.86
9	4.50	354.30	3.39
10	5.00	359.90	1.56
11	5.50	362.30	0.66
12	6.00	363.80	0.41
13	6.50	364.90	0.30
14	7.00	365.80	0.25
15	7.50	366.40	0.16
16	8.00	367.00	0.16
17	8.50	367.70	0.19
18	9.00	367.90	0.05
19	9.50	368.60	0.19
20	10.00	368.80	0.05
21	10.50	369.30	0.14
22	11.00	369.60	0.08

USER INPUT BLANK VALUE

BLANK VALUE = 2.749496 micrograms carbon

BLANK FACTOR = 2.749496 / 10.99799 = +2.5E-01 ug/min Carbon

SAMPLE RESULTS:

(369.6 - 2.749512) (1)/(1) = +3.669E+02 g/L Carbon
 (369.6 - 2.749512) (1)/(1) (12) = +3.057E+01 Molar Carbon

Sample Run By:

SL HOOD

00001

SS = .100ml = .1203g

HNF-1699 REV. 0

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S00T00637 DWP Date: 04/08/00 Time: 10:54:24

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.46 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	1.00	0.90	44.44
3	1.50	7.00	87.14
4	2.00	47.40	85.23
5	2.50	132.70	64.28
6	3.00	249.00	46.71
7	3.50	350.60	28.98
8	4.00	412.20	14.94
9	4.50	446.40	7.66
10	5.00	466.10	4.23
11	5.50	479.10	2.71
12	6.00	487.70	1.76
13	6.50	493.70	1.22
14	7.00	497.90	0.84
15	7.50	501.40	0.70
16	8.00	504.00	0.52
17	8.50	505.60	0.32
18	9.00	507.20	0.32
19	9.50	508.60	0.28
20	10.00	509.40	0.16
21	10.50	510.40	0.20
22	11.00	511.10	0.14

USER INPUT BLANK VALUE

BLANK VALUE = 16.05706 micrograms carbon

BLANK FACTOR = 16.05706 / 10.99799 = +1.5E+00 ug/min Carbon

SAMPLE RESULTS:

(511.1 - 16.05296) (1)/(1) = +4.950E+02 g/L Carbon
(511.1 - 16.05296) (1)/(1) (12) = +4.125E+01 Molar Carbon

Sample Run By:

SL HOOD

00001

SS = .100ml = .12031g

620

HNF-1699 REV. 0

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S00T000612

Date: 04/08/00

Time: 11:06:40

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = .25 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	1.00	0.80	50.00
3	1.51	8.20	90.24
4	2.00	85.70	90.43
5	2.50	198.60	56.85
6	3.00	280.70	29.25
7	3.50	325.50	13.76
8	4.00	344.90	5.62
9	4.50	352.80	2.24
10	5.00	355.90	0.87
11	5.50	358.10	0.61
12	6.00	359.20	0.31
13	6.50	360.20	0.28
14	7.00	360.90	0.19
15	7.50	361.70	0.22
16	8.00	362.30	0.17
17	8.50	362.80	0.14
18	9.00	363.10	0.08
19	9.50	363.70	0.16
20	10.00	364.00	0.08
21	10.50	364.40	0.11
22	11.00	364.80	0.11

USER INPUT BLANK VALUE

BLANK VALUE = 2.749496 micrograms carbon

BLANK FACTOR = 2.749496 / 10.99799 = +2.5E-01 ug/min Carbon

SAMPLE RESULTS:

(364.8 - 2.749496) (1)/(1)	=	+3.621E+02	g/L Carbon
(364.8 - 2.749496) (1)/(1)(12)	=	+3.017E+01	Molar Carbon

Sample Run By:

SL HOOD

00001

SS = .100ml = .1270/g

HNF-1699 REV. 0

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S00T000612

Date: 04/08/00

Time: 11:19:35

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 1.46 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	4.70	87.23
4	2.00	38.60	87.82
5	2.50	115.50	66.58
6	3.00	225.90	48.87
7	3.50	338.00	33.17
8	4.00	417.50	19.04
9	4.50	463.20	9.87
10	5.00	490.10	5.49
11	5.50	507.00	3.33
12	6.00	518.50	2.22
13	6.50	526.70	1.56
14	7.00	532.70	1.13
15	7.50	537.00	0.80
16	8.00	540.60	0.67
17	8.50	543.40	0.52
18	9.00	545.20	0.33
19	9.50	546.90	0.31
20	10.00	548.50	0.29
21	10.50	549.40	0.16
22	11.00	550.40	0.18

USER INPUT BLANK VALUE

BLANK VALUE = 16.05706 micrograms carbon

BLANK FACTOR = 16.05706 / 10.99799 = +1.5E+00 ug/min Carbon

SAMPLE RESULTS:

(550.4 - 16.05706) (1)/(1) = +5.343E+02 g/L Carbon
 (550.4 - 16.05706) (1)/(1) (12) = +4.453E+01 Molar Carbon

Sample Run By:

SL HOOD

00001

SS = .100 ml = .1270/g

HNF-1699 REV. 0

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S00T00612 DUP Date: 04/08/00 Time: 11:33:36

Sample Size = 1 uL Analyst : SL HOOD
Dil Factor = 1 Min Readings = 22
Blank ID # = Max Readings = 22
Blank Value = .25 ug/minute C % Difference = 10

== Reading ==	==== Analysis Time ==	==== Coulometer ==	==== % Difference ==
1	0.51	0.40	0.00
2	1.01	0.90	55.56
3	1.51	5.40	83.33
4	2.00	64.60	91.64
5	2.50	169.00	61.78
6	3.00	256.30	34.06
7	3.50	310.10	17.35
8	4.00	336.90	7.95
9	4.50	348.30	3.27
10	5.00	352.80	1.28
11	5.50	355.40	0.73
12	6.00	357.00	0.45
13	6.50	358.00	0.28
14	7.00	358.90	0.25
15	7.50	359.60	0.19
16	8.00	360.20	0.17
17	8.50	360.90	0.19
18	9.00	361.30	0.11
19	9.50	361.80	0.14
20	10.00	362.40	0.17
21	10.50	362.80	0.11
22	11.00	363.30	0.14

USER INPUT BLANK VALUE

BLANK VALUE = 2.749496 micrograms carbon

BLANK FACTOR = 2.749496 / 10.99799 = +2.5E-01 ug/min Carbon

SAMPLE RESULTS:

(363.3 - 2.749954) (1)/(1) = +3.606E+02 g/L Carbon
(363.3 - 2.749954) (1)/(1) (12) = +3.005E+01 Molar Carbon

Sample Run By:

SL HOOD

00001

$\alpha = .100 \text{ ml} = .12427 \text{ g}$

623

HNF-1699 REV. 0

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S00T00612 DUP Date: 04/08/00 Time: 11:47:13

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.46 ug/minute C

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

== Reading ==	Analysis Time ==	Coulometer ==	% Difference ==
1	0.51	0.40	0.00
2	1.01	0.90	55.56
3	1.51	5.50	83.64
4	2.00	42.10	86.94
5	2.50	123.40	65.88
6	3.00	239.40	48.45
7	3.50	351.00	31.79
8	4.00	424.90	17.39
9	4.50	467.80	9.17
10	5.00	492.80	5.07
11	5.50	508.50	3.09
12	6.00	519.30	2.08
13	6.50	526.80	1.42
14	7.00	532.30	1.03
15	7.50	536.50	0.78
16	8.00	539.60	0.57
17	8.50	541.90	0.42
18	9.00	544.00	0.39
19	9.50	545.60	0.29
20	10.00	546.70	0.20
21	10.50	548.10	0.26
22	11.00	548.60	0.09

USER INPUT BLANK VALUE

BLANK VALUE = 16.05706 micrograms carbon

BLANK FACTOR = 16.05706 / 10.99799 = +1.5E+00 ug/min Carbon

SAMPLE RESULTS:

(548.6 - 16.0567) (1)/(1) = +5.325E+02 g/L Carbon
 (548.6 - 16.0567) (1)/(1) (12) = +4.438E+01 Molar Carbon

Sample Run By:

SL HOOD

00001

SS = .100ml = .124275

624

HNF-1699 REV. 0

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S00T000628

Date: 04/08/00

Time: 14:07:12

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = .25 ug/minute C

Analyst : SL HOOD

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==== Analysis Time ==== Coulometer ==== % Difference ==

1	0.51	0.20	0.00
2	1.00	0.50	60.00
3	1.50	9.30	94.62
4	2.00	90.90	89.77
5	2.50	201.60	54.91
6	3.00	280.40	28.10
7	3.50	321.20	12.70
8	4.00	340.00	5.53
9	4.50	347.70	2.21
10	5.00	350.90	0.91
11	5.50	352.50	0.45
12	6.00	354.00	0.42
13	6.50	354.80	0.23
14	7.00	355.50	0.20
15	7.50	356.10	0.17
16	8.00	356.70	0.17
17	8.50	357.20	0.14
18	9.00	357.70	0.14
19	9.50	358.10	0.11
20	10.00	358.60	0.14
21	10.50	358.90	0.08
22	11.00	359.30	0.11

USER INPUT BLANK VALUE

BLANK VALUE = 2.749496 micrograms carbon

BLANK FACTOR = 2.749496 / 10.99799 = +2.5E-01 ug/min Carbon

SAMPLE RESULTS:

(359.3 - 2.749466) (1) / (1) = +3.566E+02 g/L Carbon
 (359.3 - 2.749466) (1) / (1) (12) = +2.971E+01 Molar Carbon

Sample Run By:

SL HOOD

00001

nc - 100ml = 11860e

625

HNF-1699 REV. 0

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S00T000628

Date: 04/08/00

Time: 14:19:52

Sample Size = 1 uL

Analyst : SL HOOD

Dil Factor = 1

Min Readings = 22

Blank ID # =

Max Readings = 22

Blank Value = 1.46 ug/minute C

% Difference = 10

== Reading ==	Analysis Time	Coulometer	% Difference ==
1	0.51	0.50	0.00
2	1.00	0.70	28.57
3	1.50	4.60	84.78
4	2.00	35.60	87.08
5	2.50	103.20	65.50
6	3.00	201.20	48.71
7	3.50	303.40	33.68
8	4.00	378.10	19.76
9	4.50	423.00	10.61
10	5.00	449.10	5.81
11	5.50	465.50	3.52
12	6.00	476.90	2.39
13	6.50	485.10	1.69
14	7.00	491.10	1.22
15	7.50	495.30	0.85
16	8.00	498.90	0.72
17	8.50	501.80	0.58
18	9.00	504.10	0.46
19	9.50	505.80	0.34
20	10.00	507.30	0.30
21	10.50	508.30	0.20
22	11.00	509.30	0.20

USER INPUT BLANK VALUE

BLANK VALUE = 16.05706 micrograms carbon

BLANK FACTOR = 16.05706 / 10.99799 = +1.5E+00 ug/min Carbon

SAMPLE RESULTS:

(509.3 - 16.05563) (1)/(1) =

+4.932E+02 g/L Carbon

(509.3 - 16.05563) (1)/(1) (12) =

+4.110E+01 Molar Carbon

Sample Run By:

SL HOOD

00001

626

SS = .100ml = .11860g

HNF-1699 REV. 0

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S00T00628 DUP

Date: 04/08/00

Time: 14:34:01

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = .25 ug/minute C

Analyst : SL HOOD

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==	== Analysis Time ==	== Coulometer ==	== % Difference ==
1	0.51	0.30	0.00
2	1.01	1.00	70.00
3	1.50	15.10	93.38
4	2.00	87.10	82.66
5	2.50	186.70	53.35
6	3.00	270.30	30.93
7	3.50	322.60	16.21
8	4.00	349.20	7.62
9	4.50	360.70	3.19
10	5.00	365.40	1.29
11	5.50	368.10	0.73
12	6.00	369.40	0.35
13	6.50	370.70	0.35
14	7.00	371.50	0.22
15	7.50	372.10	0.16
16	8.00	372.80	0.19
17	8.50	373.40	0.16
18	9.00	373.90	0.13
19	9.50	374.40	0.13
20	10.00	374.80	0.11
21	10.50	375.30	0.13
22	11.00	375.70	0.11

USER INPUT BLANK VALUE

BLANK VALUE = 2.749496 micrograms carbon

BLANK FACTOR = 2.749496 / 10.99799 = +2.5E-01 ug/min Carbon

SAMPLE RESULTS:

(375.7 - 2.74971) (1)/(1) = +3.730E+02 g/L Carbon
 (375.7 - 2.74971) (1)/(1) (12) = +3.108E+01 Molar Carbon

Sample Run By:

SL HOOD

00001

SS = .100 ml = .12210g 627

HNF-1699 REV. 0

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S00T00628 DUP

Date: 04/08/00

Time: 14:47:40

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 1.46 ug/minute C

Analyst : SL HOOD

Min Readings = 22

Max Readings = 22

% Difference = 10

Reading	Analysis Time	Coulometer	% Difference
1	0.51	0.50	0.00
2	1.01	0.80	37.50
3	1.51	5.50	85.45
4	2.00	39.70	86.15
5	2.50	115.30	65.57
6	3.00	221.50	47.95
7	3.50	328.00	32.47
8	4.00	400.50	18.10
9	4.50	441.70	9.33
10	5.00	465.50	5.11
11	5.50	480.70	3.16
12	6.00	490.90	2.08
13	6.50	498.20	1.47
14	7.00	503.30	1.01
15	7.50	507.10	0.75
16	8.00	510.00	0.57
17	8.50	512.00	0.39
18	9.00	514.00	0.39
19	9.50	515.20	0.23
20	10.00	516.40	0.23
21	10.50	517.40	0.19
22	11.00	518.10	0.14

USER INPUT BLANK VALUE

BLANK VALUE = 16.05706 micrograms carbon

BLANK FACTOR = 16.05706 / 10.99799 = +1.5E+00 ug/min Carbon

SAMPLE RESULTS:

(518.1 - 16.05706) (1)/(1) = +5.020E+02 g/L Carbon
 (518.1 - 16.05706) (1)/(1)(12) = +4.184E+01 Molar Carbon

Sample Run By:

SL HOOD

00001

SS = .100ml = .12210g

628

WORKBOOK PAGE: BLANK1

TIC/TOC : LA-342-100 (F-4)

LIQUIDS

		TIC	TOC
Type	Sample Size in mL (SS)	0.0000	0.0000
BLNK	Dilution Factor (DF)	1	1
Work List	µg of Carbon in Sample (C1)	8.2	23.5
33093	µg of Carbon from Baseline (C2)	2.8	16.1
Test Code	µg of Carbon = C1-C2		
@TICTOC1			
Matrix			
LIQUID			
Batch Number			
20001174			
Rerun			
0			
Sample Prep			
N/A			
Sample #			
BLNK			
Instrument Code			
CARB2			
Prepared By			
MF			
Chemist			
JFG			
Analyst			
SLH			
Date Complete			
04/10/2000			
Analysis Date			
04/08/2000			
Analysis Time	Method Detection Limit in µg/mL	5	40
02:47 PM			
Sample Point	µg of Carbon	5.40E+00	7.40E+00
SY-102 GRAB 6			

Data Entered By:	MF	Date:	04/10/2000
Signature of Chemist:		Date:	

BLANK.WB1 REV 1.0

342100ML

TIC/TOC : LA-342-100 (F-4)

LIQUIDS

		TIC	TOC
Type	Sample Size in mL (SS)	1.0000	0.2000
STD	Dilution Factor (DF)	1	1
Work List	Final Coulometer Reading in µg (C1)	601.1	568.3
33093	µg of Carbon from Baseline (C2)	2.8	16.1
Test Code	Standard Book Number	25N12F	34N12C
@TICTOC1	Standard Value (µg/ml)	605	3009
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			
20001174			
Rerun			
0			
Sample Prep			
N/A			
Sample #			
STD			
Instrument Code			
CARB2			
Prepared By			
MF			
Chemist			
JFG			
Analyst			
SLH			
Date Complete			
04/10/2000			
Analysis Date			
04/08/2000			
Analysis Time	Method Detection Limit in µg/mL	TIC	TOC
02:47 PM	QC Actual in µg/mL	5	40
Sample Point	QC Found in µg/mL	6.05E+02	3.01E+03
SY-102 GRAB 6	Percent Standard Recovery	5.98E+02	2.76E+03
		98.9	91.8

Data Entered By:	MF	Date:	04/10/2000
Signature of Chemist:		Date:	

STANDARD.WB1 REV 1.0

342100ML

WORKBOOK PAGE: SAM3

TIC/TOC : LA-342-100 (F-4)

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)	359.2	522.5
33093	µg of Carbon from Baseline (C2)	2.8	16.1
Test Code			
@TICTOC1			
Matrix			
LIQUID			
Batch Number			
20001174			
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 #			
S00T000513			
Instrument Code			
CARB2			
Prepared By			
MF			
Chemist			
JFG			
Analyst			
SLH			
Date Complete			
04/10/2000			
Analysis Date			
04/08/2000			
Analysis Time	Method Detection Limit in µg/mL	TIC	TOC
02:47 PM		5	40
Sample Point	µg of Carbon/mL	3.56E+03	5.06E+03
SY-102 GRAB 6			

Data Entered By:

MF

Date: 04/10/2000

Signature of Chemist:

Date:

SAMPLE.WB1 REV 1.0

342100ML

631

WORKBOOK PAGE: DUP4

TIC/TOC : LA-342-100 (F-4)

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)	363.4	531.2
33093	µg of Carbon from Baseline (C2)	2.8	16.1
Test Code	Known µg of C from Original Sample	3.56E+3	5.06E+3
@TICTOC1			
Matrix			
LIQUID			
Batch Number			
20001174			
Rerun			
0			
Sample Prep			
N/A			
Sample #			
S00T000513			
Instrument Code			
CARB2			
Prepared By			
MF			
Chemist			
JFG			
Analyst			
SLH			
Date Complete			
04/10/2000			
Analysis Date			
04/08/2000			
Analysis Time	Method Detection Limit in µg/mL	5	40
02:47 PM			
Sample Point	µg of Carbon/mL	3.61E+03	5.15E+03
SY-102 GRAB 6			

$\mu\text{g of Carbon/mL} = (C1 - C2) * DF / SS$
 $\mu\text{g of Carbon/mL for TIC} = 5 \text{ if } C1 < C2$
 $\mu\text{g of Carbon/mL for TOC} = 40 \text{ if } C1 < C2$

Data Entered By:	MF	Date: 04/10/2000
Signature of Chemist:		Date:

SAMPLE.WB1 REV 1.0

342100ML

632

WORKBOOK PAGE: SPIKE5

TIC/TOC : LA-342-100 (F-4)

LIQUIDS

Type	Sample Vial Data	TIC	TOC
SPK	Sample Volume in mL (SS)	0.1000	0.1000
Work List	Final Coulometer Reading in µg (C1)	359.2	522.5
33093	Spiked Vial Data		
Test Code	Sample Volume in mL (SPK SS)	0.1000	0.1000
@TIC/TOC1	Amount of Spike Std. in mL (SPK VOL)	0.500	0.100
Matrix	Final Coulometer Reading in µg (C2)	666.1	816.6
LIQUID	Spike Book Number	25N12F	34N12C
Batch Number	Spike Standard Value in µg/mL (SPK CONC)	605	3009
20001174	µg C in baseline (BL)	2.8	16.1
Rerun			
0			
Sample Prep			
N/A			
Sample #	Percent Spike Recovery = ((C2-BL) - (C1-BL) * (SPK SS) / SS) / ((SPK CONC) * (SPK VOL)) * 100		
S00T000513			
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			
MF			
Chemist			
JFG			
Analyst			
SLH			
Date Complete			
04/10/2000			
Analysis Date			
04/08/2000			
Analysis Time		TIC	TOC
02:47 PM	QC Actual in µg/mL	6.05E+02	3.01E+03
Sample Point	QC Found in µg/mL	6.14E+02	2.94E+03
SY-102 GRAB 6	Percent Spike Recovery	101.5	97.7

Data Entered By:	MF	Date:	04/10/2000
Signature of Chemist:		Date:	

SPIKE.WB1 REV 1.3

342100ML

WORKBOOK PAGE: SAM6

TIC/TOC : LA-342-100 (F-4)

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)	385.9	532.4
33093	µg of Carbon from Baseline (C2)	2.8	16.1
Test Code			
@TICTOC1			
Matrix	µg of Carbon/mL = (C1-C2) * DF / SS µg of Carbon/mL for TIC = 5 if C1 < C2 µg of Carbon/mL for TOC = 40 if C1 < C2		
LIQUID			
Batch Number			
20001174			
Rerun			
0			
Sample Prep			
N/A			
Sample #			
S00T000637			
Instrument Code			
CARB2			
Prepared By			
MF			
Chemist			
JFG			
Analyst			
SLH			
Date Complete			
04/10/2000			
Analysis Date			
04/08/2000			
Analysis Time	Method Detection Limit in µg/mL	TIC	TOC
02:47 PM		5	40
Sample Point	µg of Carbon/mL	3.83E+03	5.16E+03
SY-102 GRAB 6			

Data Entered By:

MF

Date: 04/10/2000

Signature of Chemist:

Date:

SAMPLE.WB1 REV 1.0

342100ML

634

WORKBOOK PAGE: DUP7

TIC/TOC : LA-342-100 (F-4)

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)	369.6	511.1
33093	µg of Carbon from Baseline (C2)	2.8	16.1
Test Code	Known µg of C from Original Sample	3.83E+3	5.16E+3
@TICTOC1			
Matrix	µg of Carbon/mL = (C1-C2) • DF / SS µg of Carbon/mL for TIC = 5 if C1 < C2 µg of Carbon/mL for TOC = 40 if C1 < C2		
LIQUID			
Batch Number			
20001174			
Rerun			
0			
Sample Prep			
N/A			
Sample #			
S00T000637			
Instrument Code			
CARB2			
Prepared By			
MF			
Chemist			
JFG			
Analyst			
SLH			
Date Complete			
04/10/2000			
Analysis Date			
04/08/2000			
Analysis Time	Method Detection Limit in µg/mL	TIC	TOC
02:47 PM		5	40
Sample Point	µg of Carbon/mL	3.67E+03	4.95E+03
SY-102 GRAB 6			

Data Entered By:

MF

Date: 04/10/2000

Signature of Chemist:

Date:

SAMPLE.WB1 REV 1.0

342100ML

635

WORKBOOK PAGE: SAM8

TIC/TOC : LA-342-100 (F-4)

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)	364.8	550.4
33093	µg of Carbon from Baseline (C2)	2.8	16.1
Test Code			
@TICTOC1			
Matrix			
LIQUID			
Batch Number			
20001174			
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 #			
S00T000612			
Instrument Code			
CARB2			
Prepared By			
MF			
Chemist			
JFG			
Analyst			
SLH			
Date Complete			
04/10/2000			
Analysis Date			
04/08/2000			
Analysis Time	Method Detection Limit in µg/mL	TIC	TOC
02:47 PM		5	40
Sample Point	µg of Carbon/mL		
SY-102 GRAB 6		3.62E+03	5.34E+03

Data Entered By:

MF

Date: 04/10/2000

Signature of Chemist:

Date:

WORKBOOK PAGE: DUP9

TIC/TOC : LA-342-100 (F-4)

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)	363.3	548.6
33093	µg of Carbon from Baseline (C2)	2.8	16.1
Test Code	Known µg of C from Original Sample	3.62E+3	5.34E+3
@TICTOC1			
Matrix			
LIQUID			
Batch Number			
20001174			
Rerun			
0			
Sample Prep			
N/A			
Sample #			
S00T000612			
Instrument Code			
CARB2			
Prepared By			
MF			
Chemist			
JFG			
Analyst			
SLH			
Date Complete			
04/10/2000			
Analysis Date			
04/08/2000			
Analysis Time	Method Detection Limit in µg/mL	5	40
02:47 PM			
Sample Point	µg of Carbon/mL	3.61E+03	5.33E+03
SY-102 GRAB 6			

$\mu\text{g of Carbon/mL} = (C1 - C2) * DF / SS$
 $\mu\text{g of Carbon/mL for TIC} = 5 \text{ if } C1 < C2$
 $\mu\text{g of Carbon/mL for TOC} = 40 \text{ if } C1 < C2$

Data Entered By:	MF	Date: 04/10/2000
Signature of Chemist:	<i>NA</i>	Date:

SAMPLE.WB1 REV 1.0

342100ML

637

WORKBOOK PAGE: SAM10

TIC/TOC : LA-342-100 (F-4)

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)	359.3	509.3
33093	µg of Carbon from Baseline (C2)	2.8	16.1
Test Code			
@TICTOC1			
Matrix			
LIQUID			
Batch Number			
20001174			
Rerun			
0			
Sample Prep			
N/A			
Sample #			
S00T000628			
Instrument Code			
CARB2			
Prepared By			
MF			
Chemist			
JFG			
Analyst			
SLH			
Date Complete			
04/10/2000			
Analysis Date			
04/08/2000			
Analysis Time	Method Detection Limit in µg/mL	5	40
02:47 PM			
Sample Point	µg of Carbon/mL	3.57E+03	4.93E+03
SY-102 GRAB 6			

$\mu\text{g of Carbon/mL} = (C1 - C2) \cdot DF / SS$
 $\mu\text{g of Carbon/mL for TIC} = 5 \text{ if } C1 < C2$
 $\mu\text{g of Carbon/mL for TOC} = 40 \text{ if } C1 < C2$

Data Entered By:	MF	Date: 04/10/2000
Signature of Chemist:	<i>NA</i>	Date:

SAMPLE.WB1 REV 1.0

342100ML

638

WORKBOOK PAGE: DUP11

TIC/TOC : LA-342-100 (F-4)

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)	375.7	518.1
33093	µg of Carbon from Baseline (C2)	2.8	16.1
Test Code	Known µg of C from Original Sample	3.57E+3	4.93E+3
@TICTOC1			
Matrix	µg of Carbon/mL = (C1-C2) * DF / SS µg of Carbon/mL for TIC = 5 if C1 < C2 µg of Carbon/mL for TOC = 40 if C1 < C2		
LIQUID			
Batch Number			
20001174			
Rerun			
0			
Sample Prep			
N/A			
Sample #			
S00T000628			
Instrument Code			
CARB2			
Prepared By			
MF			
Chemist			
JFG			
Analyst			
SLH			
Date Complete			
04/10/2000			
Analysis Date			
04/08/2000			
Analysis Time	Method Detection Limit in µg/mL	TIC	TOC
02:47 PM		5	40
Sample Point	µg of Carbon/mL	3.73E+03	5.02E+03
SY-102 GRAB 6			

Data Entered By:	MF	Date: 04/10/2000
Signature of Chemist:		Date:

LABCORE Completed Worklist Report for Worklist# 33094

Analyst: slh

Instrument: CARB2

Book#: 25N12-F
34N12-C

Method: LA-342-100 Rev/Mod F-4

Worklist Comment: SY-102 GRAB 6 FOR @TICTOC1 RTS

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 BLNK		0	@TICTOC1 TIC-02	SOLID	1	1.90E+0	1.900	ug/g
1 BLNK		0	@TICTOC1 TOC-02	SOLID	1	4.00E-1	0.400	ug/g
2 STD		0	@TICTOC1 TIC-02	SOLID	6.05E+02	6.07E+2	100.331	% Recovery
2 STD		0	@TICTOC1 TOC-02	SOLID	3.01E+03	2.74E+3	91.030	% Recovery
3 SAMPLE	S00T000614	0	@TICTOC1 TIC-02	SOLID	N/A	3.27E+03	5.000	ug/g
3 SAMPLE	S00T000614	0	@TICTOC1 TOC-02	SOLID	N/A	2.64E+04	40.000	ug/g
4 DUP	S00T000614	0	@TICTOC1 TIC-02	SOLID	3.27E+3	3.08E+3	5.984	RPD
4 DUP	S00T000614	0	@TICTOC1 TOC-02	SOLID	2.64E+4	3.01E+4	13.097	RPD
5 SPK	S00T000614	0	@TICTOC1 TIC-02	SOLID	1.00E+02	1.03E+02	103.000	% Recovery
5 SPK	S00T000614	0	@TICTOC1 TOC-02	SOLID	1.00E+02	1.11E+02	111.000	% Recovery
6 SAMPLE	S00T000630	0	@TICTOC1 TIC-02	SOLID	N/A	3.82E+03	5.000	ug/g
6 SAMPLE	S00T000630	0	@TICTOC1 TOC-02	SOLID	N/A	3.85E+04	40.000	ug/g
7 DUP	S00T000630	0	@TICTOC1 TIC-02	SOLID	3.82E+3	3.56E+3	7.046	RPD
7 DUP	S00T000630	0	@TICTOC1 TOC-02	SOLID	3.85E+4	4.07E+4	5.556	RPD

Final page for worklist# 33094

Analyst Signature _____ Date _____

Mary Tracy 4/11/00
Analyst Signature Date

James Link 4/11/00
Reviewer Signature Date

HNF-1699 REV. 0

03/30/00 15:52

Page: 1

ws2

LABCORE Data Entry Template for Worklist# 33094Analyst: SLH Instrument: CARB2 Book# TLC 25N12-FMethod: LA-342-100 Rev/Mod F-4 TOC 34N12-C

Worklist Comment: SY-102 GRAB 6 FOR @TICTOC1 RTS

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 BLNK			@TICTOC1	SOLID		
2 STD			@TICTOC1	SOLID		
3 SAMPLE	S00T000614 0		@TICTOC1	SOLID	20000085	SY-102 GRAB6
	Analytes Requested: TIC-02 , TOC-02					
4 DUP	S00T000614 0		@TICTOC1	SOLID		
5 SPK	S00T000614 0		@TICTOC1	SOLID		
6 SAMPLE	S00T000630 0		@TICTOC1	SOLID	20000085	SY-102 GRAB6
	Analytes Requested: TIC-02 , TOC-02					
7 DUP	S00T000630 0		@TICTOC1	SOLID		

Final page for worklist # 33094

Andrea L. Hand Boatright
Signature Date
4-7-2000

Yvonne J. Frank 4/10/00
Signature Date

Faced int
4/8
4/9-2000
SLH

Data Entry Comments:

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

HNF-1699 REV. 0

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

Sample: BASE 1

Date: 04/07/00

Time: 10:12:54

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	0.50	0.00
2	1.00	1.00	50.00
3	1.50	1.50	33.33
4	2.00	2.10	28.57
5	2.50	2.60	19.23
6	3.00	3.10	16.13
7	3.50	3.50	11.43
8	4.00	3.80	7.89
9	4.50	4.10	7.32
10	5.00	4.40	6.82
11	5.50	4.70	6.38
12	6.00	5.00	6.00
13	6.50	5.40	7.41
14	7.00	5.70	5.26
15	7.50	6.00	5.00
16	8.00	6.30	4.76
17	8.50	6.60	4.55
18	9.00	6.90	4.35
19	9.50	7.20	4.17
20	10.00	7.50	4.00
21	10.50	7.90	5.06
22	11.00	8.10	2.47

BLANK VALUE = 8.1 micrograms carbon
BLANK FACTOR = 8.1 / 10.9978 =

+7.4E-01 ug/min Carbon

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 642 TO 664

Sample Run By:

SL HOOD

00001

4-7-2000

HNF-1699 REV. 0

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

Sample: BASE 1

Date: 04/07/00

Time: 10:25:19

Sample Size = 1 uL
Dil Factor = 1
Blank ID # = BASE 1
Blank Value = N/AAnalyst : 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	1.70	70.59
4	2.00	4.60	63.04
5	2.50	9.90	53.54
6	3.00	14.70	32.65
7	3.50	18.10	18.78
8	4.00	20.20	10.40
9	4.50	21.40	5.61
10	5.00	22.50	4.89
11	5.50	23.50	4.26
12	6.00	24.20	2.89
13	6.50	24.90	2.81
14	7.00	25.50	2.35
15	7.50	26.00	1.92
16	8.00	26.60	2.26
17	8.50	27.20	2.21
18	9.00	27.50	1.09
19	9.50	28.10	2.14
20	10.00	28.50	1.40
21	10.50	28.90	1.38
22	11.00	29.30	1.37

BLANK VALUE = 29.3 micrograms carbon

BLANK FACTOR = 29.3 / 10.99615 = +2.66E+00 ug/min Carbon

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

Sample Run By:

SL HOOD

00001

4-7-2000

HNF-1699 REV. 0

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: STD 1

Date: 04/07/00

Time: 10:37:28

Sample Size = 1000 uL

Dil Factor = 1

Blank ID # =

Blank Value = .74 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	1.00	1.00	60.00
3	1.50	33.70	97.03
4	2.00	195.10	82.73
5	2.50	378.00	48.39
6	3.00	500.90	24.54
7	3.50	564.10	11.20
8	4.00	592.10	4.73
9	4.50	603.00	1.81
10	5.00	607.30	0.71
11	5.50	609.30	0.33
12	6.00	610.30	0.16
13	6.50	610.90	0.10
14	7.00	611.50	0.10
15	7.50	612.00	0.08
16	8.00	612.50	0.08
17	8.50	613.00	0.08
18	9.00	613.50	0.08
19	9.50	613.80	0.05
20	10.00	614.20	0.07
21	10.50	614.60	0.07
22	11.00	615.00	0.07

USER INPUT BLANK VALUE

BLANK VALUE = 8.137155 micrograms carbon

BLANK FACTOR = 8.137155 / 10.99615 = +7.4E-01 ug/min Carbon

SAMPLE RESULTS:

(615 - 8.137019) (1) / (1000) =

+6.069E-01 g/L Carbon

(615 - 8.137019) (1) / (1000) (12) =

+5.057E-02 Molar Carbon

Sample Run By:

SL HOOD

00001

SS = 1/ml = 25 N12-F

644

HNF-1699 REV. 0

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: STD 1

Date: 04/07/00

Time: 10:49:53

Sample Size = 200 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.66 ug/minute C

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

== Reading ==	== Analysis Time ==	== Coulometer ==	== % Difference ==
1	0.51	0.40	0.00
2	1.01	1.40	71.43
3	1.50	19.20	92.71
4	2.00	85.20	77.46
5	2.50	208.10	59.06
6	3.00	352.00	40.88
7	3.50	462.90	23.96
8	4.00	524.30	11.71
9	4.50	551.60	4.95
10	5.00	562.40	1.92
11	5.50	567.00	0.81
12	6.00	569.40	0.42
13	6.50	570.80	0.25
14	7.00	571.80	0.17
15	7.50	572.80	0.17
16	8.00	573.60	0.14
17	8.50	574.20	0.10
18	9.00	574.90	0.12
19	9.50	575.30	0.07
20	10.00	575.90	0.10
21	10.50	576.50	0.10
22	11.00	577.20	0.12

USER INPUT BLANK VALUE

BLANK VALUE = 29.24977 micrograms carbon

BLANK FACTOR = 29.24977 / 10.99615 = +2.7E+00 ug/min Carbon

SAMPLE RESULTS:

(577.2 - 29.25432) (1)/(200) = +2.740E+00 g/L Carbon
 (577.2 - 29.25432) (1)/(200) (12) = +2.283E-01 Molar Carbon
 <<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

SL HOOD

00001

SS = 200ml 34N12.C
645

HNF-1699 REV. 0

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLK 1

Date: 04/07/00

Time: 12:35:38

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = .74 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	1.50	0.80	37.50
4	2.00	1.30	38.46
5	2.50	1.70	23.53
6	3.00	2.00	15.00
7	3.50	2.40	16.67
8	4.00	2.60	7.69
9	4.50	2.90	10.34
10	5.00	3.10	6.45
11	5.50	3.40	8.82
12	6.00	3.60	5.56
13	6.50	3.90	7.69
14	7.00	4.10	4.88
15	7.50	4.40	6.82
16	8.00	4.60	4.35
17	8.50	4.90	6.12
18	9.00	5.20	5.77
19	9.50	5.40	3.70
20	10.00	5.60	3.57
21	10.50	5.90	5.08
22	11.00	6.20	4.84

USER INPUT BLANK VALUE

BLANK VALUE = 8.137155 micrograms carbon

BLANK FACTOR = 8.137155 / 10.99615 = +7.4E-01 ug/min Carbon

SAMPLE RESULTS:

(6.2 - 8.13851) (1)/(1) =

< 5.00 E-3 g/L Carbon

(6.2 - 8.13851) (1)/(1)(12) =

< 4.17 E-4 Molar Carbon

Sample Run By:

SL HOOD

00001

HNF-1699 REV. 0

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLK 1

Date: 04/07/00

Time: 12:50:02

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 2.66 ug/minute.C

Analyst : SL HOOD

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==	Analysis Time ==	Coulometer ==	% Difference ==
1	0.51	0.20	0.00
2	1.01	1.20	83.33
3	1.50	4.20	71.43
4	2.00	9.70	56.70
5	2.50	15.20	36.18
6	3.00	18.70	18.72
7	3.50	20.80	10.10
8	4.00	22.00	5.45
9	4.50	22.90	3.93
10	5.00	23.70	3.38
11	5.50	24.40	2.87
12	6.00	25.00	2.40
13	6.50	25.50	1.96
14	7.00	26.00	1.92
15	7.50	26.50	1.89
16	8.00	26.80	1.12
17	8.50	27.20	1.47
18	9.00	27.60	1.45
19	9.50	28.00	1.43
20	10.00	28.30	1.06
21	10.50	28.60	1.05
22	11.00	28.90	1.04

USER INPUT BLANK VALUE

BLANK VALUE = 29.24977 micrograms carbon

BLANK FACTOR = 29.24977 / 10.99615 = +2.7E+00 ug/min Carbon

SAMPLE RESULTS:

(28.9 - 29.24701) (1)/(1) = < 5.00 E-3 g/L Carbon
 (28.9 - 29.24701) (1)/(1) (12) = < 4.17 E-4 Molar Carbon
 <<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

SL HOOD

00001

HNF-1699 REV. 0

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S00T000614

Date: 04/07/00

Time: 13:02:36

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = .74 ug/minute C

Analyst : SL HOOD

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==	== Analysis Time ==	== Coulometer ==	== % Difference ==
1	0.51	0.30	0.00
2	1.01	1.30	76.92
3	1.51	21.00	93.81
4	2.01	66.50	68.42
5	2.51	100.70	33.96
6	3.01	118.30	14.88
7	3.51	126.20	6.26
8	4.00	130.20	3.07
9	4.50	132.30	1.59
10	5.00	133.70	1.05
11	5.50	134.80	0.82
12	6.00	135.90	0.81
13	6.50	136.60	0.51
14	7.00	137.30	0.51
15	7.50	137.80	0.36
16	8.00	138.30	0.36
17	8.50	138.80	0.36
18	9.00	139.20	0.29
19	9.50	139.70	0.36
20	10.00	140.00	0.21
21	10.50	140.50	0.36
22	11.00	140.80	0.21

USER INPUT BLANK VALUE

BLANK VALUE = 8.137155 micrograms carbon

BLANK FACTOR = 8.137155 / 10.99615 = +7.4E-01 ug/min Carbon

SAMPLE RESULTS:

(140.8 - 8.139774) (1)/(1) = +1.327E+02 g/L Carbon
 (140.8 - 8.139774) (1)/(1) (12) = +1.106E+01 Molar Carbon

Sample Run By:

SL HOOD

00001

SS = .040545

HNF-1699 REV. 0

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S00T000614

Date: 04/07/00

Time: 13:16:56

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 2.66 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	5.90	91.53
3	1.50	215.50	97.26
4	2.00	581.10	62.92
5	2.50	813.80	28.59
6	3.00	947.40	14.10
7	3.50	1021.30	7.24
8	4.00	1055.80	3.27
9	4.50	1071.20	1.44
10	5.00	1078.70	0.70
11	5.50	1083.70	0.46
12	6.00	1087.10	0.31
13	6.50	1089.70	0.24
14	7.00	1091.80	0.19
15	7.50	1093.30	0.14
16	8.00	1094.70	0.13
17	8.50	1096.00	0.12
18	9.00	1096.90	0.08
19	9.50	1097.70	0.07
20	10.00	1098.40	0.06
21	10.50	1099.20	0.07
22	11.00	1099.70	0.05

USER INPUT BLANK VALUE

BLANK VALUE = 29.24977 micrograms carbon

BLANK FACTOR = 29.24977 / 10.99615 = +2.7E+00 ug/min Carbon

SAMPLE RESULTS:

(1099.7 - 29.25204) (1)/(1) = +1.0704E+03 g/L Carbon
 (1099.7 - 29.25204) (1)/(1) (12) = +8.9204E+01 Molar Carbon
 <<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

SL HOOD

00001

SS = .04054g

649

HNF-1699 REV. 0

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S00T00⁶¹⁴~~416~~ ^{dup} Date: 04/07/00 Time: 14:02:30

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .74 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	1.40	57.14
3	1.51	17.50	92.00
4	2.00	59.40	70.54
5	2.50	92.50	35.78
6	3.00	108.90	15.06
7	3.50	116.10	6.20
8	4.00	119.20	2.60
9	4.50	121.10	1.57
10	5.00	121.90	0.66
11	5.50	122.70	0.65
12	6.00	123.30	0.49
13	6.50	123.90	0.48
14	7.00	124.50	0.48
15	7.50	124.90	0.32
16	8.00	125.50	0.48
17	8.50	125.90	0.32
18	9.00	126.30	0.32
19	9.50	126.70	0.32
20	10.00	127.20	0.39
21	10.50	127.60	0.31
22	11.00	128.00	0.31

USER INPUT BLANK VALUE

BLANK VALUE = 8.137155 micrograms carbon

BLANK FACTOR = 8.137155 / 10.99615 = +7.4E-01 ug/min Carbon

SAMPLE RESULTS:

(128 - 8.137787) (1)/(1) = +1.199E+02 g/L Carbon
 (128 - 8.137787) (1)/(1)(12) = +9.989E+00 Molar Carbon

Sample Run By:

SL HOOD

00001

SS: .03899

650

HNF-1699 REV. 0

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S00T00614 **DUP** Date: 04/07/00 Time: 14:15:16

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.66 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	15.20	96.71
3	1.50	346.70	95.62
4	2.00	740.30	53.17
5	2.50	947.30	21.85
6	3.00	1061.10	10.72
7	3.50	1129.90	6.09
8	4.00	1163.70	2.90
9	4.50	1177.90	1.21
10	5.00	1184.70	0.57
11	5.50	1189.00	0.36
12	6.00	1192.00	0.25
13	6.50	1194.30	0.19
14	7.00	1196.20	0.16
15	7.50	1197.70	0.13
16	8.00	1199.10	0.12
17	8.50	1200.10	0.08
18	9.00	1201.00	0.07
19	9.50	1201.80	0.07
20	10.00	1202.50	0.06
21	10.50	1203.10	0.05
22	11.00	1203.70	0.05

USER INPUT BLANK VALUE

BLANK VALUE = 29.24977 micrograms carbon

BLANK FACTOR = 29.24977 / 10.99615 = +2.7E+00 ug/min Carbon

SAMPLE RESULTS:

(1203.7 - 29.25188) (1)/(1) = +1.1744E+03 g/L Carbon
(1203.7 - 29.25188) (1)/(1) (12) = +9.7871E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

SL HOOD

00001

SS = .03899g

651

HNF-1699 REV. 0

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S00T00614 SP~~X~~ Date: 04/07/00 Time: 16:16:34

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

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

== Reading ==	==== Analysis Time ==	==== Coulometer ==	==== % Difference ==
1	0.51	0.40	0.00
2	1.01	1.60	75.00
3	1.51	68.40	97.66
4	2.00	212.50	67.81
5	2.50	323.90	34.39
6	3.00	387.40	16.39
7	3.50	418.70	7.48
8	4.00	433.50	3.41
9	4.50	439.50	1.37
10	5.00	442.20	0.61
11	5.50	443.60	0.32
12	6.00	444.70	0.25
13	6.50	445.50	0.18
14	7.00	446.20	0.16
15	7.50	446.90	0.16
16	8.00	447.50	0.13
17	8.50	448.10	0.13
18	9.00	448.70	0.13
19	9.50	449.30	0.13
20	10.00	449.80	0.11
21	10.50	450.30	0.11
22	11.00	450.80	0.11

USER INPUT BLANK VALUE

BLANK VALUE = 8.137155 micrograms carbon

BLANK FACTOR = 8.137155 / 10.99615 = +7.4E-01 ug/min Carbon

SAMPLE RESULTS:

(450.8 - 8.13851) (1)/(1) = +4.427E+02 g/L Carbon
 (450.8 - 8.13851) (1)/(1) (12) = +3.689E+01 Molar Carbon

Sample Run By:

SL HOOD

00001

SS = .04010g + .500ml spk 25N12-F
652

HNF-1699 REV. 0

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S00T00614 SPK Date: 04/07/00 Time: 16:28:44

Sample Size = 1 uL Analyst : SL HOOD
Dil Factor = 1 Min Readings = 22
Blank ID # = Max Readings = 22
Blank Value = 2.66 ug/minute C % Difference = 10

== Reading ==	== Analysis Time ==	== Coulometer ==	== % Difference ==
1	0.51	0.60	0.00
2	1.01	13.40	95.52
3	1.50	317.90	95.78
4	2.00	706.90	55.03
5	2.50	937.10	24.57
6	3.00	1111.80	15.71
7	3.50	1249.20	11.00
8	4.00	1336.50	6.53
9	4.50	1380.30	3.17
10	5.00	1396.90	1.19
11	5.50	1403.70	0.48
12	6.00	1407.60	0.28
13	6.50	1410.40	0.20
14	7.00	1412.60	0.16
15	7.50	1414.40	0.13
16	8.00	1416.00	0.11
17	8.50	1417.30	0.09
18	9.00	1418.50	0.08
19	9.50	1419.50	0.07
20	10.00	1420.40	0.06
21	10.50	1421.30	0.06
22	11.00	1422.10	0.06

USER INPUT BLANK VALUE

BLANK VALUE = 29.24977 micrograms carbon

BLANK FACTOR = 29.24977 / 10.99615 = +2.7E+00 ug/min Carbon

SAMPLE RESULTS:

(1422.1 - 29.25464) (1)/(1) = +1.3928E+03 g/L Carbon
 (1422.1 - 29.25464) (1)/(1) (12) = +1.1607E+02 Molar Carbon
 <<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

SL HOOD

00001

SS = .04010g

+ .100ml spk 34N12-C
653

HNF-1699 REV. 0

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S00T000630

Date: 04/07/00

Time: 15:03:49

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = .74 ug/minute C

Analyst : SL HOOD

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==	Analysis Time ==	Coulometer ==	% Difference ==
1	0.51	3.10	0.00
2	1.01	4.60	32.61
3	1.50	22.50	79.56
4	2.00	65.50	65.65
5	2.50	99.00	33.84
6	3.00	116.70	15.17
7	3.50	125.10	6.71
8	4.00	130.50	4.14
9	4.50	135.00	3.33
10	5.00	137.80	2.03
11	5.50	139.20	1.01
12	6.00	140.30	0.78
13	6.50	141.20	0.64
14	7.00	141.90	0.49
15	7.50	142.50	0.42
16	8.00	143.10	0.42
17	8.50	143.70	0.42
18	9.00	144.30	0.42
19	9.50	144.80	0.35
20	10.00	145.30	0.34
21	10.50	145.80	0.34
22	11.00	146.20	0.27

USER INPUT BLANK VALUE

BLANK VALUE = 8.137155 micrograms carbon

BLANK FACTOR = 8.137155 / 10.99615 = +7.4E-01 ug/min Carbon

SAMPLE RESULTS:

{ 146.2 - 8.137742 } (1)/(1) =	+1.381E+02 g/L Carbon
{ 146.2 - 8.137742 } (1)/(1) (12) =	+1.151E+01 Molar Carbon

Sample Run By:

SL HOOD

00001

SS = .03611g

HNF-1699 REV. 0

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S00T000630

Date: 04/07/00

Time: 15:17:43

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 2.66 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	10.10	96.04
3	1.51	231.30	95.63
4	2.00	693.90	66.67
5	2.50	1024.90	32.30
6	3.00	1192.20	14.03
7	3.50	1295.10	7.95
8	4.00	1358.10	4.64
9	4.50	1386.30	2.03
10	5.00	1397.70	0.82
11	5.50	1403.70	0.43
12	6.00	1407.50	0.27
13	6.50	1410.30	0.20
14	7.00	1412.50	0.16
15	7.50	1414.20	0.12
16	8.00	1415.80	0.11
17	8.50	1416.90	0.08
18	9.00	1418.10	0.08
19	9.50	1419.00	0.06
20	10.00	1419.80	0.06
21	10.50	1420.50	0.05
22	11.00	1421.10	0.04

USER INPUT BLANK VALUE

BLANK VALUE = 29.24977 micrograms carbon

BLANK FACTOR = 29.24977 / 10.99615 = +2.7E+00 ug/min Carbon

SAMPLE RESULTS:

(1421.1 - 29.25432) (1)/(1) = +1.3918E+03 g/L Carbon
 (1421.1 - 29.25432) (1)/(1) (12) = +1.1599E+02 Molar Carbon
 <<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

SL HOOD

00001

SS = .06311g

655

HNF-1699 REV. 0

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S00T00630 DUP

Date: 04/07/00

Time: 15:34:32

Sample Size = 1 uL

Dil Factor = 1

Blank ID # = *74*Blank Value = ~~2.66~~ ug/minute C

Analyst : SL HOOD

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==	Analysis Time	Coulometer	% Difference ==
1	0.51	2.00	0.00
2	1.00	8.70	77.01
3	1.50	29.80	70.81
4	2.00	68.50	56.50
5	2.50	94.80	27.74
6	3.00	107.60	11.90
7	3.50	113.00	4.78
8	4.00	115.30	1.99
9	4.50	116.50	1.03
10	5.00	117.50	0.85
11	5.50	118.10	0.51
12	6.00	118.80	0.59
13	6.50	119.30	0.42
14	7.00	119.90	0.50
15	7.50	120.50	0.50
16	8.00	121.00	0.41
17	8.50	121.50	0.41
18	9.00	122.00	0.41
19	9.50	122.40	0.33
20	10.00	123.00	0.49
21	10.50	123.40	0.32
22	11.00	123.90	0.40

8.137155
USER INPUT BLANK VALUEBLANK VALUE = ~~29.24977~~ micrograms carbonBLANK FACTOR = ~~29.24977~~ / 10.99615 =8.137155
SAMPLE RESULTS: ~~7742~~(123.9 - ~~29.25464~~) (1) / (1) =(123.9 - ~~29.25464~~) (1) / (1) (12) =

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

8.137155
+7.4E-01~~+2.7E+00~~ ug/min Carbon*+1.157+02*~~+9.465E+01~~ g/L Carbon~~+7.887E+00~~ Molar Carbon*8.137142*

Sample Run By:

SL HOOD

00001

656

SS = .03250

HNF-1699 REV. 0

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S00T00630 DUP Date: 04/07/00 Time: 15:49:30

Sample Size = 1 uL Analyst : SL HOOD
Dil Factor = 1 Min Readings = 22
Blank ID # = Max Readings = 22
Blank Value = 2.66 ug/minute C % Difference = 10

== Reading ==	Analysis Time ==	Coulometer ==	% Difference ==
1	0.01	0.00	0.00
2	0.51	0.40	100.00
3	1.01	3.30	87.88
4	1.51	193.40	98.29
5	2.00	632.60	69.43
6	2.50	948.30	33.29
7	3.00	1120.00	15.33
8	3.50	1224.70	8.55
9	4.00	1289.30	5.01
10	4.50	1318.60	2.22
11	5.00	1330.20	0.87
12	5.50	1336.20	0.45
13	6.00	1339.90	0.28
14	6.50	1342.80	0.22
15	7.00	1345.10	0.17
16	7.50	1346.90	0.13
17	8.00	1348.30	0.10
18	8.50	1349.80	0.11
19	9.00	1351.00	0.09
20	9.50	1351.90	0.07
21	10.00	1352.80	0.07
22	10.50	1353.60	0.06

USER INPUT BLANK VALUE

BLANK VALUE = 29.24977 micrograms carbon

BLANK FACTOR = 29.24977 / 10.99615 = +2.7E+00 ug/min Carbon

SAMPLE RESULTS:

(1353.6 - 27.92513) (1)/(1) = +1.3257E+03 g/L Carbon
 (1353.6 - 27.92513) (1)/(1) (12) = +1.1047E+02 Molar Carbon
 <<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

SL HOOD

00001

SS = .03250g

657

WORKBOOK PAGE: BLANK1

TIC/TOC : LA-342-100 (F-4)

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)	6.2	28.9
33094	µg of Carbon from Baseline (C2)	8.1	29.3
Test Code			
@TICTOC1			
Matrix			
SOLID			
Batch Number			
20001175			
Rerun	µg of Carbon = C1-C2		
0			
Sample Prep			
N/A			
Sample #			
BLNK			
Instrument Code			
CARB2			
Prepared By			
MF			
Chemist			
JFG			
Analyst			
SLH			
Date Complete			
04/11/2000			
Analysis Date			
04/07/2000			
Analysis Time	Method Detection Limit in ug/g	5	40
03:49 PM			
Sample Point	µg of Carbon	1.90E+00	4.00E-01
SY-102 GRAB 2			

Data Entered By:	MF	Date:	04/11/2000
Signature of Chemist:	<i>NA</i>	Date:	

BLANK.WB1 REV 1.0

342100ML

WORKBOOK PAGE: STD2

TIC/TOC : LA-342-100 (F-4)

LIQUIDS

		TIC	TOC
Type	Sample Size in mL (SS)	1.0000	0.2000
STD	Dilution Factor (DF)	1	1
Work List	Final Coulometer Reading in µg (C1)	615	577.2
33094	µg of Carbon from Baseline (C2)	8.1	29.3
Test Code	Standard Book Number	25N12F	34N12C
@TICTOC1	Standard Value (µg/ml)	605	3009
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			
20001175			
Rerun			
0			
Sample Prep			
N/A			
Sample #			
STD			
Instrument Code			
CARB2			
Prepared By			
MF			
Chemist			
JFG			
Analyst			
SLH			
Date Complete			
04/11/2000			
Analysis Date			
04/07/2000			
Analysis Time	Method Detection Limit in µg/mL	TIC	TOC
03:49 PM	QC Actual in µg/mL	5	40
Sample Point	QC Found in µg/mL	6.05E+02	3.01E+03
SY-102 GRAB 2	Percent Standard Recovery	6.07E+02	2.74E+03
		100.3	91.0

Data Entered By:	MF	Date:	04/11/2000
Signature of Chemist:	<i>MF</i>	Date:	

STANDARD.WB1 REV 1.0

342100ML

WORKBOOK PAGE: SAM3

TIC/TOC : LA-342-100 (F-4)

SOLIDS

		TIC	TOC
Type	Sample Size in g (SS)	0.0405	0.0405
SAMPLE	Dilution Factor (DF)	1	1
Work List	µg of Carbon in Sample (C1)	140.8	1099.7
33094	µg of Carbon from Baseline (C2)	8.1	29.3
Test Code			
@TICTOC1			
Matrix			
SOLID			
Batch Number			
20001175			
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 #			
S00T000614			
Instrument Code			
CARB2			
Prepared By			
MF			
Chemist			
JFG			
Analyst			
SLH			
Date Complete			
04/11/2000			
Analysis Date			
04/07/2000			
Analysis Time	Method Detection Limit in ug/g	TIC	TOC
03:49 PM		5	40
Sample Point	µg of Carbon/g	3.27E+03	2.64E+04
SY-102 GRAB 2			

Data Entered By:	MF	Date: 04/11/2000
Signature of Chemist:	<i>NA</i>	Date:

SAMPLE.WB1 REV 1.0

342100ML

660

WORKBOOK PAGE: DUP4

TIC/TOC : LA-342-100 (F-4)

SOLIDS

		TIC	TOC
Type	Sample Size in g (SS)	0.0390	0.0390
DUP	Dilution Factor (DF)	1	1
Work List	µg of Carbon in Sample (C1)	128	1203.7
33094	µg of Carbon from Baseline (C2)	8.1	29.3
Test Code	Known µg of C from Original Sample	3.27E+3	2.64E+4
@TICTOC1			
Matrix			
SOLID			
Batch Number			
20001175			
Rerun			
0			
Sample Prep			
N/A			
Sample #			
S00T000614			
Instrument Code			
CARB2			
Prepared By			
MF			
Chemist			
JFG			
Analyst			
SLH			
Date Complete			
04/11/2000			
Analysis Date			
04/07/2000			
Analysis Time	Method Detection Limit in ug/g	5	40
03:49 PM			
Sample Point	µg of Carbon/g	3.08E+03	3.01E+04
SY-102 GRAB 2			

$\mu\text{g of Carbon/g} = (C1 - C2) * DF / SS$
 $\mu\text{g of Carbon/g for TIC} = 5 \text{ if } C1 < C2$
 $\mu\text{g of Carbon/g for TOC} = 40 \text{ if } C1 < C2$

Data Entered By:	MF	Date: 04/11/2000
Signature of Chemist:	<i>NA</i>	Date:

SAMPLE.WB1 REV 1.0

342100ML

661

TIC/TOC : LA-342-100 (F-4)

SOLIDS

Type	Sample Vial Data	TIC	TOC
SPK	Sample Size in g (SS)	0.0405	0.0405
Work List	Final Coulometer Reading in µg (C1)	140.8	1099.7
33094	Spiked Vial Data		
Test Code	Sample Size in g (SPK SS)	0.0401	0.0401
@TICTOC1	Amount of Spike Std. in mL (SPK VOL)	0.500	0.100
Matrix	Final Coulometer Reading in µg (C2)	450.8	1422.1
SOLID	Spike Book Number	25N12F	34N12C
Batch Number	Spike Standard Value in µg/mL (SPK CONC)	605	3009
20001175	µg C in baseline (BL)	8.1	29.3
Rerun	$\text{Percent Spike Recovery} = ((C2-BL) - (C1-BL) * (SPK SS) / SS) / ((SPK CONC) * (SPK VOL)) * 100$ $QC \text{ Actual in } \mu\text{g/mL} = \text{Spike Value } (\mu\text{g/mL})$ $QC \text{ Found in } \mu\text{g/mL} = (\text{Percent Spike Recovery}) * (QC \text{ Actual}) / 100$		
0			
Sample Prep			
N/A			
Sample #			
S00T000614			
Instrument Code			
CARB2			
Prepared By			
MF			
Chemist			
JFG			
Analyst			
SLH			
Date Complete			
04/11/2000			
Analysis Date			
04/07/2000			
Analysis Time		TIC	TOC
03:49 PM	QC Actual in µg/mL	6.05E+02	3.01E+03
Sample Point	QC Found in µg/mL	6.23E+02	3.34E+03
SY-102 GRAB 2	Percent Spike Recovery	103.0	111.0

Data Entered By:	MF	Date:	04/11/2000
Signature of Chemist:	<i>NA</i>	Date:	

WORKBOOK PAGE: SAM6

TIC/TOC : LA-342-100 (F-4)

SOLIDS

		TIC	TOC
Type	Sample Size in g (SS)	0.0361	0.0361
SAMPLE	Dilution Factor (DF)	1	1
Work List	µg of Carbon in Sample (C1)	146.2	1421.1
33094	µg of Carbon from Baseline (C2)	8.1	29.3
Test Code			
@TICTOC1			
Matrix			
SOLID			
Batch Number			
20001175			
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 #			
S00T000630			
Instrument Code			
CARB2			
Prepared By			
MF			
Chemist			
JFG			
Analyst			
SLH			
Date Complete			
04/11/2000			
Analysis Date			
04/07/2000			
Analysis Time	Method Detection Limit in ug/g	TIC	TOC
03:49 PM		5	40
Sample Point	µg of Carbon/g	3.82E+03	3.85E+04
SY-102 GRAB 2			

Data Entered By:	MF	Date: 04/11/2000
Signature of Chemist:		Date:

SAMPLE.WB1 REV 1.0

342100ML

663

WORKBOOK PAGE: DUP7

TIC/TOC : LA-342-100 (F-4)

SOLIDS

		TIC	TOC
Type	Sample Size in g (SS)	0.0325	0.0325
DUP	Dilution Factor (DF)	1	1
Work List	µg of Carbon in Sample (C1)	123.9	1353.6
33094	µg of Carbon from Baseline (C2)	8.1	29.3
Test Code	Known µg of C from Original Sample	3.82E+3	3.85E+4
@TICTOC1			
Matrix			
SOLID			
Batch Number			
20001175			
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 #			
S00T000630			
Instrument Code			
CARB2			
Prepared By			
MF			
Chemist			
JFG			
Analyst			
SLH			
Date Complete			
04/11/2000			
Analysis Date			
04/07/2000			
Analysis Time	Method Detection Limit in ug/g	TIC	TOC
03:49 PM		5	40
Sample Point	µg of Carbon/g	3.56E+03	4.07E+04
SY-102 GRAB 2			

Data Entered By:

MF

Date: 04/11/2000

Signature of Chemist:

Date:

SAMPLE.WB1 REV 1.0

342100ML

664

LABCORE Completed Worklist Report for Worklist# 32875

Analyst: rwk

Instrument: U01

Book#: 50855

Method: LA-925-009 Rev/Mod D-1

Worklist Comment: SY-102 GRAB6 FOR U-02 RTS

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 ICB	0		U-02	LIQUID	1	<1.88e-3		ug/mL
2 ICV	0		U-02	LIQUID	5.e-2	5.19e-2	103.800 % Recovery	
3 STD	0		U-02	LIQUID	5.e-2	4.99e-2	99.800 % Recovery	
4 BLNK	0		U-02	LIQUID	1	<1.88e-1		ug/mL
5 SAMPLE	S00T000502	0	U-02	LIQUID	N/A	2.17	0.188	ug/mL
6 DUP	S00T000502	0	U-02	LIQUID	2.17	2.11	2.804	RPD
7 SPK	S00T000502	0	U-02	LIQUID	100	80.6	80.600 % Recovery	
8 SAMPLE	S00T000503	0	U-02	LIQUID	N/A	1.27	0.188	ug/mL
9 DUP	S00T000503	0	U-02	LIQUID	1.27	1.31	3.101	RPD
10 SAMPLE	S00T000504	0	U-02	LIQUID	N/A	2.37	0.188	ug/mL
11 DUP	S00T000504	0	U-02	LIQUID	2.37	2.35	0.847	RPD

Final page for worklist# 32875

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Reviewer Signature

Date

HNF-1699 REV. 0

03/08/00 10:39

Page: 1

ws2

LABCORE Data Entry Template for Worklist# 32875Analyst: ML Instrument: U01 Book# 50855Method: LA-925-009 Rev/Mod 12-1

Worklist Comment: SY-102 GRAB6 FOR U-02 RTS

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 STD			U-02	LIQUID		
2 BLNK			U-02	LIQUID		
3 SAMPLE	S00T000502 0		U-02	LIQUID	20000085	SY-102 GRAB6
	Analytes Requested: U-02					
4 DUP	S00T000502 0		U-02	LIQUID		
5 SPK	S00T000502 0		U-02	LIQUID		
6 SAMPLE	S00T000503 0		U-02	LIQUID	20000085	SY-102 GRAB6
	Analytes Requested: U-02					
7 DUP	S00T000503 0		U-02	LIQUID		
8 SAMPLE	S00T000504 0		U-02	LIQUID	20000085	SY-102 GRAB6
	Analytes Requested: U-02					
9 DUP	S00T000504 0		U-02	LIQUID		

Final page for worklist # 32875

Usta Wang 3/12/00
Signature Date

Wang Wang 3/13/00
Signature Date

Data Entry Comments:

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

HNF-1699 REV. 0

KPAWin® Single Sample Report - Sample

Customer ID:	None	Date Analyzed:	03/12/2000 07:35 PM
Sample ID:	ICB	Analyte:	Uranium
Description:	0.5 M HNO3	Analyst:	rwk
		Date Printed:	03/12/2000 07:36 PM

Configuration

Sample Unit:	µg/ml	KPA Unit	999 EProm3-Man
Performance:	1001 120799	Calibration:	1003 120899
QC Limits:	1000 Release	Alarms:	1000 Release

Sample Preparation & Analysis

Procedure ID:	None	
Range:	Low	
Calibration ID:	Default	
Equation:	Y= +6957990.0X +51.918	
Specific Gravity:	1	Specific Activity (Bq/g): 25000

Range	(Low)
Sample Results	ICB
Reference Lifetime:	347
LSR Time Gates:	5 - 49
Sample Lifetime (µsec):	445
Sample R ² Intensity:	.922
Reference Ratio:	.861
Sample Intercept:	9023
Analytical Result:	1.29E-03
Dilution Factor:	1.00
Aliquot Factor:	1.00
Final Result:	1.29E-03
Uncertainty:	5.20E-05

Interpreted Results

Detection Limit (IDL):	N/A
Detection Limit (MDL):	N/A
Min Significant Sample Limit:	3.00E-04

Flags

IDL Flags:	
MDL Flags:	
Calibration:	
Sample:	A8, A10

HNF-1699 REV. 0

KPAWin® Single Sample Report - Sample

Customer ID:	None	Date Analyzed:	03/12/2000 03:08 AM
Sample ID:	ICV	Analyte:	Uranium
Description:	USTD	Analyst:	rwk
		Date Printed:	03/12/2000 07:33 PM

Configuration

Sample Unit:	µg/ml	KPA Unit	999 EProm3-Man
Performance:	1001 120799	Calibration:	1003 120899
QC Limits:	1000 Release	Alarms:	1000 Release

Sample Preparation & Analysis

Procedure ID:	None		
Range:	High		
Calibration ID:	Default		
Equation:	Y= +86801.0X +70.543		
Specific Gravity:	1	Specific Activity (Bq/g):	25000

Range	(High)
<u>Sample Results</u>	<u>ICV</u>
Reference Lifetime:	349
LSR Time Gates:	5 - 49
Sample Lifetime (µsec):	257
Sample R ² Intensity:	.999
Reference Ratio:	.861
Sample Intercept:	4575
Analytical Result:	5.19E-02
Dilution Factor:	1.00
Aliquot Factor:	1.00
Final Result:	5.19E-02
Uncertainty:	1.65E-03

Interpreted ResultsFlags

Detection Limit(IDL):	N/A	IDL Flags:
Detection Limit(MDL):	N/A	MDL Flags:
		Calibration:
Min Significant Sample Limit: 3.00E-04		Sample:

HNF-1699 REV. 0

KPAWin® Single Sample Report - Sample

Customer ID:	None	Date Analyzed:	03/12/2000 07:38 PM
Sample ID:	LCS	Analyte:	Uranium
Description:	USTD	Analyst:	rwk
		Date Printed:	03/12/2000 07:40 PM

Configuration

Sample Unit:	µg/ml	KPA Unit	999 EProm3-Man
Performance:	1001 120799	Calibration:	1003 120899
QC Limits:	1000 Release	Alarms:	1000 Release

Sample Preparation & Analysis

Procedure ID:	None		
Range:	High		
Calibration ID:	Default		
Equation:	Y= +86801.0X +70.543		
Specific Gravity:	1	Specific Activity (Bq/g):	25000

<u>Range</u>	<u>(High)</u>
<u>Sample Results</u>	<u>LCS</u>
Reference Lifetime:	347
LSR Time Gates:	5 - 49
Sample Lifetime (µsec):	265
Sample R ² Intensity:	.999
Reference Ratio:	.865
Sample Intercept:	4400
Analytical Result:	4.99E-02
Dilution Factor:	1.00
Aliquot Factor:	1.00
Final Result:	4.99E-02
Uncertainty:	1.57E-03

Interpreted Results

Detection Limit (IDL):	N/A
Detection Limit (MDL):	N/A
Min Significant Sample Limit:	3.00E-04

Flags

IDL Flags:
MDL Flags:
Calibration:
Sample:

HNF-1699 REV. 0

KPAWin© Single Sample Report - Sample

Customer ID:	None	Date Analyzed:	03/13/2000 12:04 AM
Sample ID:	BLK	Analyte:	Uranium
Description:	SY-102	Analyst:	rwk
		Date Printed:	03/13/2000 12:06 AM

Configuration

Sample Unit:	µg/ml	KPA Unit	999 EProm3-Man
Performance:	1001 120799	Calibration:	1003 120899
QC Limits:	1000 Release	Alarms:	1000 Release

Sample Preparation & Analysis

Procedure ID:	None		
Range:	Low		
Calibration ID:	Default		
Equation:	Y= +6957990.0X +51.918		
Specific Gravity:	1	Specific Activity (Bq/g):	25000

Range	(Low)
<u>Sample Results</u>	<u>BLK</u>
Reference Lifetime:	352
LSR Time Gates:	5 - 49
Sample Lifetime (µsec):	440
Sample R ² Intensity:	.929
Reference Ratio:	.853
Sample Intercept:	9375
Analytical Result:	1.34E-03
Dilution Factor:	100.00
Aliquot Factor:	1.00
Final Result:	1.34E-01
Uncertainty:	5.17E-03

Interpreted Results

Detection Limit(IDL):	N/A
Detection Limit(MDL):	N/A
Min Significant Sample Limit:	3.00E-04

Flags

IDL Flags:	
MDL Flags:	
Calibration:	
Sample:	A8, A10

HNF-1699 REV. 0

KPAWin® Single Sample Report - Sample

Customer ID:	None	Date Analyzed:	03/12/2000 07:42 PM
Sample ID:	S00T000502	Analyte:	Uranium
Description:	SAMPLE	Analyst:	rwk
		Date Printed:	03/12/2000 11:20 PM

Configuration

Sample Unit:	µg/ml	KPA Unit	999 EProm3-Man
Performance:	1001 120799	Calibration:	1003 120899
QC Limits:	1000 Release	Alarms:	1000 Release

Sample Preparation & Analysis

Procedure ID:	None		
Range:	High		
Calibration ID:	Default		
Equation:	Y- +86801.0X +70.543		
Specific Gravity:	1	Specific Activity (Bq/g):	25000

<u>Range</u>	<u>(High)</u>
<u>Sample Results</u>	<u>S00T000502</u>
Reference Lifetime:	352
LSR Time Gates:	5 - 49
Sample Lifetime (µsec):	181
Sample R ² Intensity:	.996
Reference Ratio:	.846
Sample Intercept:	1954
Analytical Result:	2.17E-02
Dilution Factor:	100.00
Aliquot Factor:	1.00
Final Result:	2.17E+00
Uncertainty:	8.12E-02

Interpreted Results

Detection Limit (IDL):	N/A
Detection Limit (MDL):	N/A
Min Significant Sample Limit:	3.00E-04

Flags

IDL Flags:
MDL Flags:
Calibration:
Sample:

HNF-1699 REV. 0

KPAWin® Single Sample Report - Sample

Customer ID:	None	Date Analyzed:	03/12/2000 11:25 PM
Sample ID:	S00T000502	Analyte:	Uranium
Description:	DUP	Analyst:	rwk
		Date Printed:	03/12/2000 11:28 PM

Configuration

Sample Unit:	µg/ml	KPA Unit	999 EProm3-Man
Performance:	1001 120799	Calibration:	1003 120899
QC Limits:	1000 Release	Alarms:	1000 Release

Sample Preparation & Analysis

Procedure ID:	None		
Range:	High		
Calibration ID:	Default		
Equation:	Y= +86801.0X +70.543		
Specific Gravity:	1	Specific Activity (Bq/g):	25000

Range(High)Sample ResultsS00T000502

Reference Lifetime:	353
LSR Time Gates:	5 - 49
Sample Lifetime (µsec):	178
Sample R ² Intensity:	.994
Reference Ratio:	.842
Sample Intercept:	1905
Analytical Result:	2.11E-02
Dilution Factor:	100.00
Aliquot Factor:	1.00
Final Result:	2.11E+00
Uncertainty:	8.47E-02

Interpreted ResultsFlags

Detection Limit (IDL):	N/A	IDL Flags:
Detection Limit (MDL):	N/A	MDL Flags:
		Calibration:
Min Significant Sample Limit: 3.00E-04		Sample:

HNF-1699 REV. 0

KPAWin© Single Sample Report - Sample

Customer ID:	None	Date Analyzed:	03/12/2000 11:30 PM
Sample ID:	S00T000502	Analyte:	Uranium
Description:	SPK	Analyst:	rwk
		Date Printed:	03/12/2000 11:32 PM

Configuration

Sample Unit:	µg/ml	KPA Unit	999 EProm3-Man
Performance:	1001 120799	Calibration:	1003 120899
QC Limits:	1000 Release	Alarms:	1000 Release

Sample Preparation & Analysis

Procedure ID:	None		
Range:	High		
Calibration ID:	Default		
Equation:	Y= +86801.0X +70.543		
Specific Gravity:	1	Specific Activity (Bq/g):	25000

Range(High)Sample ResultsS00T000502

Reference Lifetime:	352
LSR Time Gates:	5 - 49
Sample Lifetime (µsec):	169
Sample R ² Intensity:	.997
Reference Ratio:	.848
Sample Intercept:	36943
Analytical Result:	4.25E-01
Dilution Factor:	100.00
Aliquot Factor:	1.00
Final Result:	4.25E+01
Uncertainty:	1.53E+00

W/L 3/13/00
$$\frac{42.5 - 2.17}{50} \times 100 = 80.6\%$$

Interpreted ResultsFlags

Detection Limit(IDL):	N/A	IDL Flags:	
Detection Limit(MDL):	N/A	MDL Flags:	
Min Significant Sample Limit:	3.00E-04	Calibration:	
		Sample:	

HNF-1699 REV. 0

KPAWin© Single Sample Report - Sample

Customer ID:	None	Date Analyzed:	03/12/2000 11:35 PM
Sample ID:	S00T000503	Analyte:	Uranium
Description:	SAMPLE	Analyst:	rwk
		Date Printed:	03/12/2000 11:38 PM

Configuration

Sample Unit:	µg/ml	KPA Unit	999 EProm3-Man
Performance:	1001 120799	Calibration:	1003 120899
QC Limits:	1000 Release	Alarms:	1000 Release

Sample Preparation & Analysis

Procedure ID:	None		
Range:	Low		
Calibration ID:	Default		
Equation:	Y= +6957990.0X +51.918		
Specific Gravity:	1	Specific Activity (Bq/g):	25000

Range(Low)Sample ResultsS00T000503

Reference Lifetime:	354
LSR Time Gates:	5 - 49
Sample Lifetime (µsec):	211
Sample R ² Intensity:	.996
Reference Ratio:	.861
Sample Intercept:	88163
Analytical Result:	1.27E-02
Dilution Factor:	100.00
Aliquot Factor:	1.00
Final Result:	1.27E+00
Uncertainty:	2.67E-02

Interpreted Results

Detection Limit (IDL):	N/A
Detection Limit (MDL):	N/A
Min Significant Sample Limit:	3.00E-04

Flags

IDL Flags:
MDL Flags:
Calibration:
Sample:

HNF-1699 REV. 0

KPAWin© Single Sample Report - Sample

Customer ID:	None	Date Analyzed:	03/12/2000 11:39 PM
Sample ID:	S00T000503	Analyte:	Uranium
Description:	DUP	Analyst:	rwk
		Date Printed:	03/12/2000 11:42 PM

Configuration

Sample Unit:	ug/ml	KPA Unit	999 EProm3-Man
Performance:	1001 120799	Calibration:	1003 120899
QC Limits:	1000 Release	Alarms:	1000 Release

Sample Preparation & Analysis

Procedure ID:	None		
Range:	Low		
Calibration ID:	Default		
Equation:	Y= +6957990.0X +51.918		
Specific Gravity:	1	Specific Activity (Bq/g):	25000

Range(Low)Sample ResultsS00T000503

Reference Lifetime:	353
LSR Time Gates:	5 - 49
Sample Lifetime (µsec):	224
Sample R ² Intensity:	.993
Reference Ratio:	.850
Sample Intercept:	91519
Analytical Result:	1.31E-02
Dilution Factor:	100.00
Aliquot Factor:	1.00
Final Result:	1.31E+00
Uncertainty:	3.18E-02

Interpreted ResultsFlags

Detection Limit (IDL):	N/A	IDL Flags:
Detection Limit (MDL):	N/A	MDL Flags:
		Calibration:
Min Significant Sample Limit: 3.00E-04		Sample:

HNF-1699 REV. 0

KPAWin® Single Sample Report - Sample

Customer ID:	None	Date Analyzed:	03/12/2000 11:54 PM
Sample ID:	S00T000504	Analyte:	Uranium
Description:	SAMPLE	Analyst:	rwk
		Date Printed:	03/12/2000 11:58 PM

Configuration

Sample Unit:	µg/ml	KPA Unit	999 EProm3-Man
Performance:	1001 120799	Calibration:	1003 120899
QC Limits:	1000 Release	Alarms:	1000 Release

Sample Preparation & Analysis

Procedure ID:	None		
Range:	Low		
Calibration ID:	Default		
Equation:	Y= +6957990.0X +51.918		
Specific Gravity:	1	Specific Activity (Bq/g):	25000

Range	(Low)
<u>Sample Results</u>	<u>S00T000504</u>
Reference Lifetime:	351
LSR Time Gates:	5 ~ 49
Sample Lifetime (µsec):	196
Sample R ² Intensity:	.988
Reference Ratio:	.845
Sample Intercept:	165136
Analytical Result:	2.37E-02
Dilution Factor:	100.00
Aliquot Factor:	1.00
Final Result:	2.37E+00
Uncertainty:	8.42E-02

Interpreted Results

Detection Limit(IDL):	N/A
Detection Limit(MDL):	N/A
Min Significant Sample Limit:	3.00E-04

Flags

IDL Flags:
MDL Flags:
Calibration:
Sample:

HNF-1699 REV. 0

KPAWin® Single Sample Report - Sample

Customer ID:	None	Date Analyzed:	03/12/2000 11:58 PM
Sample ID:	S00T000504	Analyte:	Uranium
Description:	DUP	Analyst:	rwk
		Date Printed:	03/13/2000 12:01 AM

Configuration

Sample Unit:	µg/ml	KPA Unit	999 EProm3-Man
Performance:	1001 120799	Calibration:	1003 120899
QC Limits:	1000 Release	Alarms:	1000 Release

Sample Preparation & Analysis

Procedure ID:	None		
Range:	Low		
Calibration ID:	Default		
Equation:	Y= +6957990.0X +51.918		
Specific Gravity:	1	Specific Activity (Bq/g):	25000

Range	(Low)
<u>Sample Results</u>	<u>S00T000504</u>

Reference Lifetime:	350
LSR Time Gates:	5 - 49
Sample Lifetime (µsec):	185
Sample R ² Intensity:	.991
Reference Ratio:	.857
Sample Intercept:	163901
Analytical Result:	2.35E-02
Dilution Factor:	100.00
Aliquot Factor:	1.00
Final Result:	2.35E+00
Uncertainty:	7.77E-02

Interpreted Results

Detection Limit (IDL):	N/A
Detection Limit (MDL):	N/A
Min Significant Sample Limit:	3.00E-04

Flags

IDL Flags:
MDL Flags:
Calibration:
Sample:

LABCORE Completed Worklist Report for Worklist# 33115

Analyst: tlm

Instrument: U01

Book#: 50B55

Method: LA-925-009 Rev/Mod D-1

Worklist Comment: SY-102 GRAB 6 FOR U-02 RTS

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	ICB	0	U-02	LIQUID	1	<1.88e-3		ug/mL
2	ICV	0	U-02	LIQUID	5e-2	5.54e-2	110.800	% Recovery
3	STD	0	U-02	LIQUID	5e-2	5.14e-2	102.800	% Recovery
4	SAMPLE	S00T000511 0	U-02	LIQUID	N/A	3.62	1.88e-003	ug/mL
5	DUP	S00T000511 0	U-02	LIQUID	3.62	3.86	6.417	RPD
6	SPK	S00T000511 0	U-02	LIQUID	100	98.6	98.600	% Recovery
7	SAMPLE	S00T000611 0	U-02	LIQUID	N/A	3.43	1.88e-003	ug/mL
8	DUP	S00T000611 0	U-02	LIQUID	3.43	3.75	8.914	RPD
9	SAMPLE	S00T000627 0	U-02	LIQUID	N/A	4.01	1.88e-003	ug/mL
10	DUP	S00T000627 0	U-02	LIQUID	4.01	4.11	2.463	RPD
11	SAMPLE	S00T000636 0	U-02	LIQUID	N/A	3.81	1.88e-003	ug/mL
12	DUP	S00T000636 0	U-02	LIQUID	3.81	3.27	15.254	RPD

Final page for worklist# 33115

Analyst Signature

Date

Analyst Signature

Date

Reviewer Signature

Date

HNF-1699 REV. 0

03/30/00 16:03

Page: 1

ws2

LABCORE Data Entry Template for Worklist# 33115

Analyst: Int Instrument: U01Book# 50355Method: LA-925-009 Rev/Mod D-1Spk# 48355

Worklist Comment: SY-102 GRAB 6 FOR U-02 RTS

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	ICB				U-02	LIQUID		
2	ICV				U-02	LIQUID		
3	STD				U-02	LIQUID		
4	BLNK				U-02	LIQUID		W/L 4/11/00
5	SAMPLE	S00T000511 0			U-02	LIQUID	20000085	SY-102 GRAB6
		Analytes Requested: U-02						
6	DUP	S00T000511 0			U-02	LIQUID		
7	SPK	S00T000511 0			U-02	LIQUID		
8	SAMPLE	S00T000611 0			U-02	LIQUID	20000085	SY-102 GRAB6
		Analytes Requested: U-02						
9	DUP	S00T000611 0			U-02	LIQUID		
10	SAMPLE	S00T000627 0			U-02	LIQUID	20000085	SY-102 GRAB6
		Analytes Requested: U-02						
11	DUP	S00T000627 0			U-02	LIQUID		
12	SAMPLE	S00T000636 0			U-02	LIQUID	20000085	SY-102 GRAB6
		Analytes Requested: U-02						
13	CCB				U-02	LIQUID		
14	CCV				U-02	LIQUID		Int 4/10/00
15	DUP	S00T000636 0			U-02	LIQUID		

Data Entry Comments:

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

HNF-1699 REV. 0

03/30/00 16:03
ws2

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LABCORE Data Entry Template for Worklist# 33115

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
---	------	---------	---	---	------	--------	--------	---------

Final page for worklist # 33115

Lesesa Mia 4/10/00
Signature Date

Mary Stray 4/12/00
Signature Date

Data Entry Comments:

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

HNF-1699 REV. 0

KPAWin® Single Sample Report - Sample

Customer ID:	None	Date Analyzed:	04/10/2000 10:46 AM
Sample ID:	ICB	Analyte:	Uranium
Description:	0.5 M HNO3	Analyst:	TLM
		Date Printed:	04/10/2000 10:48 AM

Configuration

Sample Unit:	µg/ml	KPA Unit	1001 032200
Performance:	1001 032200	Calibration:	1001 032200
QC Limits:	1000 Release	Alarms:	1001 032200

Sample Preparation & Analysis

Procedure ID:	None	
Range:	Low	
Calibration ID:	Default	
Equation:	Y= +7126226.0X +1600.329	
Specific Gravity:	1	Specific Activity (Bq/g): 25000

Range(Low)Sample ResultsICB

Reference Lifetime:	329	
LSR Time Gates:	5 - 49	
Sample Lifetime (µsec):	483	
Sample R ² Intensity:	.939	
Reference Ratio:	1.002	
Sample Intercept:	1388	
Analytical Result:	-2.98E-05	
Dilution Factor:	1.00	
Aliquot Factor:	1.00	
Final Result:	-2.98E-05	< 1.88 E-3
Uncertainty:	-9.92E-07	

Interpreted ResultsFlags

Detection Limit (IDL):	N/A	IDL Flags:	
Detection Limit (MDL):	N/A	MDL Flags:	
		Calibration:	
Min Significant Sample Limit:	3.00E-04	Sample:	A73

HNF-1699 REV. 0

KPAWin® Single Sample Report - Sample

Customer ID:	None	Date Analyzed:	04/10/2000 10:44 AM
Sample ID:	ICV	Analyte:	Uranium
Description:	U-STD Direct	Analyst:	TLM
		Date Printed:	04/10/2000 10:46 AM

Configuration

Sample Unit:	µg/ml	KPA Unit	1001 032200
Performance:	1001 032200	Calibration:	1001 032200
QC Limits:	1000 Release	Alarms:	1001 032200

Sample Preparation & Analysis

Procedure ID:	None		
Range:	High		
Calibration ID:	Default		
Equation:	Y= +89129.77X -592.887		
Specific Gravity:	1	Specific Activity (Bq/g):	25000

Range	(High)
<u>Sample Results</u>	<u>ICV</u>
Reference Lifetime:	330
LSR Time Gates:	5 - 49
Sample Lifetime (µsec):	341
Sample R ² Intensity:	1.000
Reference Ratio:	1.015
Sample Intercept:	4349
Analytical Result:	5.54E-02
Dilution Factor:	1.00
Aliquot Factor:	1.00
Final Result:	5.54E-02
Uncertainty:	1.72E-03

Interpreted Results

Detection Limit(IDL):	N/A
Detection Limit(MDL):	N/A
Min Significant Sample Limit:	3.00E-04

Flags

IDL Flags:
MDL Flags:
Calibration:
Sample:

HNF-1699 REV. 0

KPAWin® Single Sample Report - Sample

Customer ID:	None	Date Analyzed:	04/10/2000 10:49 AM
Sample ID:	STD	Analyte:	Uranium
Description:	50B55	Analyst:	TLM
		Date Printed:	04/10/2000 10:52 AM

Configuration

Sample Unit:	µg/ml	KPA Unit	1001 032200
Performance:	1001 032200	Calibration:	1001 032200
QC Limits:	1000 Release	Alarms:	1001 032200

Sample Preparation & Analysis

Procedure ID:	None		
Range:	High		
Calibration ID:	Default		
Equation:	Y= +89129.77X -592.887		
Specific Gravity:	1	Specific Activity (Bq/g):	25000

Range	(High)
<u>Sample Results</u>	<u>STD</u>
Reference Lifetime:	326
LSR Time Gates:	5 - 49
Sample Lifetime (µsec):	293
Sample R ² Intensity:	.999
Reference Ratio:	1.025
Sample Intercept:	3991
Analytical Result:	5.14E-02
Dilution Factor:	1.00
Aliquot Factor:	1.00
Final Result:	5.14E-02
Uncertainty:	1.60E-03

Interpreted Results

Detection Limit (IDL):	N/A
Detection Limit (MDL):	N/A
Min Significant Sample Limit:	3.00E-04

Flags

IDL Flags:
MDL Flags:
Calibration:
Sample:

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KPAWin® Single Sample Report - Sample

Customer ID:	None	Date Analyzed:	04/10/2000 11:12 AM
Sample ID:	S00T000511	Analyte:	Uranium
Description:	SAM	Analyst:	TLM
		Date Printed:	04/10/2000 11:14 AM

Configuration

Sample Unit:	µg/ml	KPA Unit	1001 032200
Performance:	1001 032200	Calibration:	1001 032200
QC Limits:	1000 Release	Alarms:	1001 032200

Sample Preparation & Analysis

Procedure ID:	None		
Range:	Low		
Calibration ID:	Default		
Equation:	Y= +7126226.0X +1600.329		
Specific Gravity:	1	Specific Activity (Bq/g):	25000

Range

(Low)

Sample ResultsS00T000511

Reference Lifetime:	326
LSR Time Gates:	5 - 49
Sample Lifetime (µsec):	203
Sample R ² Intensity:	.992
Reference Ratio:	1.020
Sample Intercept:	25054
Analytical Result:	3.29E-03
Dilution Factor:	100.00
Aliquot Factor:	11.00
Final Result:	3.62E+00
Uncertainty:	1.01E-01

Interpreted ResultsFlags

Detection Limit(IDL):	N/A	IDL Flags:
Detection Limit(MDL):	N/A	MDL Flags:
Min Significant Sample Limit: 3.00E-04		Calibration:
		Sample:

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KPAWin® Single Sample Report - Sample

Customer ID:	None	Date Analyzed:	04/10/2000 11:19 AM
Sample ID:	S00T000511	Analyte:	Uranium
Description:	DUP	Analyst:	TLM
		Date Printed:	04/10/2000 01:34 PM

Configuration

Sample Unit:	µg/ml	KPA Unit	1001 032200
Performance:	1001 032200	Calibration:	1001 032200
QC Limits:	1000 Release	Alarms:	1001 032200

Sample Preparation & Analysis

Procedure ID:	None		
Range:	Low		
Calibration ID:	Default		
Equation:	Y= +7126226.0X +1600.329		
Specific Gravity:	1	Specific Activity (Bq/g):	25000

Range

(Low)

Sample Results**S00T000511**

Reference Lifetime:	329
LSR Time Gates:	5 - 49
Sample Lifetime (µsec):	264
Sample R ² Intensity:	.977
Reference Ratio:	.994
Sample Intercept:	26635
Analytical Result:	3.51E-03
Dilution Factor:	100.00
Aliquot Factor:	11.00
Final Result:	3.86E+00
Uncertainty:	1.40E-01

Interpreted Results

Detection Limit (IDL):	N/A
Detection Limit (MDL):	N/A
Min Significant Sample Limit:	3.00E-04

Flags

IDL Flags:
MDL Flags:
Calibration:
Sample:

HNF-1699 REV. 0

KPAWin® Single Sample Report - Sample

Customer ID:	None	Date Analyzed:	04/10/2000 01:35 PM
Sample ID:	S00T000511	Analyte:	Uranium
Description:	SPK	Analyst:	TLM
		Date Printed:	04/10/2000 01:37 PM

Configuration

Sample Unit:	ug/ml	KPA Unit	1001 032200
Performance:	1001 032200	Calibration:	1001 032200
QC Limits:	1000 Release	Alarms:	1001 032200

Sample Preparation & Analysis

Procedure ID:	None	
Range:	High	
Calibration ID:	Default	
Equation:	Y= +89129.77X -592.887	
Specific Gravity:	1	Specific Activity (Bq/g): 25000

Range(High)Sample ResultsS00T000511

Reference Lifetime:	328
LSR Time Gates:	5 - 49
Sample Lifetime (µsec):	173
Sample R ² Intensity:	.998
Reference Ratio:	1.018
Sample Intercept:	3693
Analytical Result:	4.81E-02
Dilution Factor:	100.00
Aliquot Factor:	11.00
Final Result:	5.29E+01
Uncertainty:	1.79E+00

$$\frac{52.9 - 3.62}{50} \times 100 = 98.6 \% \text{ Rec}$$

Interpreted ResultsFlags

Detection Limit(IDL):	N/A	IDL Flags:
Detection Limit(MDL):	N/A	MDL Flags:
		Calibration:
Min Significant Sample Limit: 3.00E-04		Sample:

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KPAWin© Single Sample Report - Sample

Customer ID:	None	Date Analyzed:	04/10/2000 01:37 PM
Sample ID:	S00T000611	Analyte:	Uranium
Description:	SAM	Analyst:	TLM
		Date Printed:	04/10/2000 01:40 PM

Configuration

Sample Unit:	µg/ml	KPA Unit	1001 032200
Performance:	1001 032200	Calibration:	1001 032200
QC Limits:	1000 Release	Alarms:	1001 032200

Sample Preparation & Analysis

Procedure ID:	None		
Range:	Low		
Calibration ID:	Default		
Equation:	Y= +7126226.0X +1600.329		
Specific Gravity:	1	Specific Activity (Bq/g):	25000

Range(Low)Sample ResultsS00T000611

Reference Lifetime:	328
LSR Time Gates:	5 - 49
Sample Lifetime (µsec):	204
Sample R ² Intensity:	.995
Reference Ratio:	1.011
Sample Intercept:	23833
Analytical Result:	3.12E-03
Dilution Factor:	100.00
Aliquot Factor:	11.00
Final Result:	3.43E+00
Uncertainty:	7.90E-02

Interpreted ResultsFlags

Detection Limit (IDL):	N/A	IDL Flags:
Detection Limit (MDL):	N/A	MDL Flags:
		Calibration:
Min Significant Sample Limit:	3.00E-04	Sample:

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KPAWin© Single Sample Report - Sample

Customer ID:	None	Date Analyzed:	04/10/2000 01:40 PM
Sample ID:	S00T000611	Analyte:	Uranium
Description:	DUP	Analyst:	TLM
		Date Printed:	04/10/2000 01:42 PM

Configuration

Sample Unit:	µg/ml	KPA Unit	1001 032200
Performance:	1001 032200	Calibration:	1001 032200
QC Limits:	1000 Release	Alarms:	1001 032200

Sample Preparation & Analysis

Procedure ID:	None		
Range:	Low		
Calibration ID:	Default		
Equation:	Y= +7126226.0X +1600.329		
Specific Gravity:	1	Specific Activity (Bq/g):	25000

Range(Low)Sample ResultsS00T000611

Reference Lifetime:	331
LSR Time Gates:	5 - 49
Sample Lifetime (µsec):	220
Sample R ² Intensity:	.990
Reference Ratio:	1.001
Sample Intercept:	25899
Analytical Result:	3.41E-03
Dilution Factor:	100.00
Aliquot Factor:	11.00
Final Result:	3.75E+00
Uncertainty:	1.08E-01

Interpreted ResultsFlags

Detection Limit(IDL):	N/A	IDL Flags:
Detection Limit(MDL):	N/A	MDL Flags:
		Calibration:
Min Significant Sample Limit: 3.00E-04		Sample:

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KPAWin© Single Sample Report - Sample

Customer ID:	None	Date Analyzed:	04/10/2000 01:42 PM
Sample ID:	S00T000627	Analyte:	Uranium
Description:	SAM	Analyst:	TLM
		Date Printed:	04/10/2000 01:45 PM

Configuration

Sample Unit:	µg/ml	KPA Unit	1001 032200
Performance:	1001 032200	Calibration:	1001 032200
QC Limits:	1000 Release	Alarms:	1001 032200

Sample Preparation & Analysis

Procedure ID:	None		
Range:	Low		
Calibration ID:	Default		
Equation:	Y= +7126226.0X +1600.329		
Specific Gravity:	1	Specific Activity (Bq/g):	25000

Range(Low)Sample ResultsS00T000627

Reference Lifetime:	326
LSR Time Gates:	5 - 49
Sample Lifetime (µsec):	216
Sample R ² Intensity:	.982
Reference Ratio:	1.016
Sample Intercept:	27600
Analytical Result:	3.65E-03
Dilution Factor:	100.00
Aliquot Factor:	11.00
Final Result:	4.01E+00
Uncertainty:	1.54E-01

Interpreted ResultsFlags

Detection Limit (IDL):	N/A	IDL Flags:
Detection Limit (MDL):	N/A	MDL Flags:
		Calibration:
Min Significant Sample Limit: 3.00E-04		Sample:

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KPAWin® Single Sample Report - Sample

Customer ID:	None	Date Analyzed:	04/10/2000 01:45 PM
Sample ID:	S00T000627	Analyte:	Uranium
Description:	DUP	Analyst:	TLM
		Date Printed:	04/10/2000 01:48 PM

Configuration

Sample Unit:	µg/ml	KPA Unit	1001 032200
Performance:	1001 032200	Calibration:	1001 032200
QC Limits:	1000 Release	Alarms:	1001 032200

Sample Preparation & Analysis

Procedure ID:	None		
Range:	Low		
Calibration ID:	Default		
Equation:	Y= +7126226.0X +1600.329		
Specific Gravity:	1	Specific Activity (Bq/g):	25000

Range(Low)Sample ResultsS00T000627

Reference Lifetime:	329
LSR Time Gates:	5 - 49
Sample Lifetime (µsec):	194
Sample R ² Intensity:	.991
Reference Ratio:	1.009
Sample Intercept:	28202
Analytical Result:	3.73E-03
Dilution Factor:	100.00
Aliquot Factor:	11.00
Final Result:	4.11E+00
Uncertainty:	1.26E-01

Interpreted ResultsFlags

Detection Limit(IDL):	N/A	IDL Flags:
Detection Limit(MDL):	N/A	MDL Flags:
		Calibration:
Min Significant Sample Limit: 3.00E-04		Sample:

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KPAWin® Single Sample Report - Sample

Customer ID:	None	Date Analyzed:	04/10/2000 01:48 PM
Sample ID:	S00T000636	Analyte:	Uranium
Description:	SAM	Analyst:	TLM
		Date Printed:	04/10/2000 01:50 PM

Configuration

Sample Unit:	µg/ml	KPA Unit	1001 032200
Performance:	1001 032200	Calibration:	1001 032200
QC Limits:	1000 Release	Alarms:	1001 032200

Sample Preparation & Analysis

Procedure ID:	None		
Range:	Low		
Calibration ID:	Default		
Equation:	Y= +7126226.0X +1600.329		
Specific Gravity:	1	Specific Activity (Bq/g):	25000

Range(Low)Sample ResultsS00T000636

Reference Lifetime:	330
LSR Time Gates:	5 - 49
Sample Lifetime (µsec):	213
Sample R ² Intensity:	.981
Reference Ratio:	1.012
Sample Intercept:	26309
Analytical Result:	3.47E-03
Dilution Factor:	100.00
Aliquot Factor:	11.00
Final Result:	3.81E+00
Uncertainty:	1.54E-01

Interpreted Results

Detection Limit (IDL):	N/A
Detection Limit (MDL):	N/A
Min Significant Sample Limit:	3.00E-04

Flags

IDL Flags:
MDL Flags:
Calibration:
Sample:

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KPAWin® Single Sample Report - Sample

Customer ID:	None	Date Analyzed:	04/10/2000 01:51 PM
Sample ID:	S00T000636	Analyte:	Uranium
Description:	DUP	Analyst:	TLM
		Date Printed:	04/10/2000 01:55 PM

Configuration

Sample Unit:	µg/ml	KPA Unit	1001 032200
Performance:	1001 032200	Calibration:	1001 032200
QC Limits:	1000 Release	Alarms:	1001 032200

Sample Preparation & Analysis

Procedure ID:	None		
Range:	Low		
Calibration ID:	Default		
Equation:	Y= +7126226.0X +1600.329		
Specific Gravity:	1	Specific Activity (Bq/g):	25000

Range	(Low)
<u>Sample Results</u>	<u>S00T000636</u>
Reference Lifetime:	330
LSR Time Gates:	5 - 49
Sample Lifetime (µsec):	194
Sample R ² Intensity:	.994
Reference Ratio:	1.018
Sample Intercept:	22756
Analytical Result:	2.97E-03
Dilution Factor:	100.00
Aliquot Factor:	11.00
Final Result:	3.27E+00
Uncertainty:	8.65E-02

Interpreted Results

Detection Limit (IDL):	N/A
Detection Limit (MDL):	N/A
Min Significant Sample Limit:	3.00E-04

Flags

IDL Flags:
MDL Flags:
Calibration:
Sample:

LABCORE Completed Worklist Report for Worklist# 33116

Analyst: tlm

Instrument: U01

Book#: 50B55

Method: LA-925-009 Rev/Mod D-1

Worklist Comment: SY-102 GRAB 6 FOR U-02 RTS

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 ICV	0		U-02	SOLID	5e-2	5.61e-2	112.200 % Recovery	
2 ICB	0		U-02	SOLID	1	<1.88e-3	ug/mL	
3 STD	0		U-02	SOLID	5e-2	5.07e-2	101.400 % Recovery	
4 BLNK-PREP	0		U-02	SOLID	1	<1.02e3	ug/g	
5 SAMPLE	S00T000619	0 F	U-02	SOLID	N/A <	1.02e3	1020.000 ug/g	
6 DUP	S00T000619	0 F	U-02	SOLID	<1.02e3	<1.02e3	RPD	
7 SPK	S00T000619	0 F	U-02	SOLID	100	96.4	96.400 % Recovery	
8 SAMPLE	S00T000632	0 F	U-02	SOLID	N/A	358	0.188 ug/g	
9 DUP	S00T000632	0 F	U-02	SOLID	358	373	4.104 RPD	

Final page for worklist# 33116

Analyst Signature

Date

Analyst Signature

Date

Reviewer Signature

Date

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03/30/00 16:04

Page: 1

WS2

LABCORE Data Entry Template for Worklist# 33116Analyst: LM Instrument: U01Book# 50B35Method: LA-925-009 Rev/Mod D-1SPK# 48B55

Worklist Comment: SY-102 GRAB 6 FOR U-02 RTS

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	ICB				U-02	LIQUID		
2	ICV				U-02	LIQUID		
3	STD				U-02	SOLID		
4	BLNK-PREP				U-02	SOLID		
5	SAMPLE	S00T000619	0	F	U-02	SOLID	20000085	SY-102 GRAB6
		Analytes Requested: U-02						
6	DUP	S00T000619	0	F	U-02	SOLID		
7	SPK	S00T000619	0	F	U-02	SOLID		
8	SAMPLE	S00T000632	0	F	U-02	SOLID	20000085	SY-102 GRAB6
		Analytes Requested: U-02						
9	DUP	S00T000632	0	F	U-02	SOLID		
10	CCB				U-02	LIQUID		
11	CCV				U-02	LIQUID		

MK 4/10/00

Final page for worklist # 33116

Sever M 4/10/00
Signature Date

Mary Franz 4/12/00
Signature Date

Data Entry Comments:

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

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KPAWin© Single Sample Report - Sample

Customer ID:	None	Date Analyzed:	04/10/2000 09:34 AM
Sample ID:	ICV	Analyte:	Uranium
Description:	U-STD Direct	Analyst:	TLM
		Date Printed:	04/10/2000 09:36 AM

Configuration

Sample Unit:	µg/ml	KPA Unit	1001 032200
Performance:	1001 032200	Calibration:	1001 032200
QC Limits:	1000 Release	Alarms:	1001 032200

Sample Preparation & Analysis

Procedure ID:	None	
Range:	High	
Calibration ID:	Default	
Equation:	Y= +89129.77X -592.887	
Specific Gravity:	1	Specific Activity (Bq/g): 25000

<u>Range</u>	<u>(High)</u>
<u>Sample Results</u>	<u>ICV</u>
Reference Lifetime:	333
LSR Time Gates:	5 - 49
Sample Lifetime (µsec):	345
Sample R ² Intensity:	.999
Reference Ratio:	.939
Sample Intercept:	4409
Analytical Result:	5.61E-02
Dilution Factor:	1.00
Aliquot Factor:	1.00
Final Result:	5.61E-02
Uncertainty:	1.76E-03

Interpreted Results

Detection Limit (IDL):	N/A
Detection Limit (MDL):	N/A
Min Significant Sample Limit:	3.00E-04

Flags

IDL Flags:
MDL Flags:
Calibration:
Sample:

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KPAWin® Single Sample Report - Sample

Customer ID:	None	Date Analyzed:	04/10/2000 09:36 AM
Sample ID:	ICB	Analyte:	Uranium
Description:	0.5 M HN03	Analyst:	TLM
		Date Printed:	04/10/2000 09:38 AM

Configuration

Sample Unit:	µg/ml	KPA Unit	1001 032200
Performance:	1001 032200	Calibration:	1001 032200
QC Limits:	1000 Release	Alarms:	1001 032200

Sample Preparation & Analysis

Procedure ID:	None	
Range:	Low	
Calibration ID:	Default	
Equation:	Y= +7126226.0X +1600.329	
Specific Gravity:	1	Specific Activity (Bq/g): 25000

<u>Range</u>	<u>(Low)</u>	
<u>Sample Results</u>	<u>ICB</u>	
Reference Lifetime:	333	
LSR Time Gates:	5 - 49	
Sample Lifetime (µsec):	467	
Sample R ² Intensity:	.941	
Reference Ratio:	1.000	
Sample Intercept:	1611	
Analytical Result:	1.52E-06	
Dilution Factor:	1.00	
Aliquot Factor:	1.00	
Final Result:	1.52E-06	mk 4/11/00 < 1.88E-3
Uncertainty:	5.13E-08	

Interpreted Results

Detection Limit (IDL):	N/A
Detection Limit (MDL):	N/A
Min Significant Sample Limit:	3.00E-04

Flags

IDL Flags:	
MDL Flags:	
Calibration:	
Sample:	A73

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KPAWin® Single Sample Report - Sample

Customer ID:	None	Date Analyzed:	04/10/2000 09:51 AM
Sample ID:	STD	Analyte:	Uranium
Description:	50B55	Analyst:	TLM
		Date Printed:	04/10/2000 09:54 AM

Configuration

Sample Unit:	µg/ml	KPA Unit	1001 032200
Performance:	1001 032200	Calibration:	1001 032200
QC Limits:	1000 Release	Alarms:	1001 032200

Sample Preparation & Analysis

Procedure ID:	None	
Range:	High	
Calibration ID:	Default	
Equation:	Y= +89129.77X -592.887	
Specific Gravity:	1	Specific Activity (Bq/g): 25000

Range(High)Sample ResultsSTD

Reference Lifetime:	332
LSR Time Gates:	5 - 49
Sample Lifetime (µsec):	305
Sample R ² Intensity:	1.000
Reference Ratio:	1.002
Sample Intercept:	3929
Analytical Result:	5.07E-02
Dilution Factor:	1.00
Aliquot Factor:	1.00
Final Result:	5.07E-02
Uncertainty:	1.58E-03

Interpreted ResultsFlags

Detection Limit (IDL):	N/A	IDL Flags:
Detection Limit (MDL):	N/A	MDL Flags:
		Calibration:
Min Significant Sample Limit: 3.00E-04		Sample:

KPAWin© Single Sample Report - Sample

Customer ID:	None	Date Analyzed:	04/10/2000 09:54 AM
Sample ID:	BLNK-PREP	Analyte:	Uranium
Description:	BLNK-PREP	Analyst:	TLM
		Date Printed:	04/10/2000 10:16 AM

Configuration

Sample Unit:	µg/ml	KPA Unit	1001 032200
Performance:	1001 032200	Calibration:	1001 032200
QC Limits:	1000 Release	Alarms:	1001 032200

Sample Preparation & Analysis

Procedure ID:	None	
Range:	Low	
Calibration ID:	Default	
Equation:	Y= +7126226.0X +1600.329	
Specific Gravity:	1	Specific Activity (Bq/g): 25000

Range

(Low)

Sample ResultsBLNK-PREP

Reference Lifetime:	331
LSR Time Gates:	5 - 49
Sample Lifetime (µsec):	337
Sample R ² Intensity:	.994
Reference Ratio:	.989
Sample Intercept:	11690
Analytical Result:	1.42E-03
Dilution Factor:	100.00
Aliquot Factor:	11.00
Final Result:	1.56E+00 $\times (2.07/2.0248) \times 1000 = < 1.02E3 \mu\text{g/g}$
Uncertainty:	2.68E-02

Interpreted ResultsFlags

Detection Limit(IDL):	N/A	IDL Flags:
Detection Limit(MDL):	N/A	MDL Flags:
		Calibration:
Min Significant Sample Limit: 3.00E-04		Sample:

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KPAWin® Single Sample Report - Sample

Customer ID:	None	Date Analyzed:	04/10/2000 09:57 AM
Sample ID:	S00T000619	Analyte:	Uranium
Description:	SAM	Analyst:	TLM
		Date Printed:	04/10/2000 10:17 AM

Configuration

Sample Unit:	µg/ml	KPA Unit	1001 032200
Performance:	1001 032200	Calibration:	1001 032200
QC Limits:	1000 Release	Alarms:	1001 032200

Sample Preparation & Analysis

Procedure ID:	None		
Range:	Low		
Calibration ID:	Default		
Equation:	Y= +7126226.0X +1600.329		
Specific Gravity:	1	Specific Activity (Bq/g):	25000

Range

(Low)

Sample ResultsS00T000619

Reference Lifetime:	331
LSR Time Gates:	5 - 49
Sample Lifetime (µsec):	387
Sample R ² Intensity:	.976
Reference Ratio:	.993
Sample Intercept:	12478
Analytical Result:	1.53E-03
Dilution Factor:	100.00
Aliquot Factor:	11.00
Final Result:	1.68E+00 <i>mk 4/11/00</i> 2.07 1.02 E 3 µg/g
Uncertainty:	4.49E-02

Interpreted ResultsFlags

Detection Limit(IDL):	N/A	IDL Flags:
Detection Limit(MDL):	N/A	MDL Flags:
		Calibration:
Min Significant Sample Limit: 3.00E-04		Sample:

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KPAWin® Single Sample Report - Sample

Customer ID:	None	Date Analyzed:	04/10/2000 10:00 AM
Sample ID:	S00T000619	Analyte:	Uranium
Description:	DUP	Analyst:	TLM
		Date Printed:	04/10/2000 10:18 AM

Configuration

Sample Unit:	µg/ml	KPA Unit	1001 032200
Performance:	1001 032200	Calibration:	1001 032200
QC Limits:	1000 Release	Alarms:	1001 032200

Sample Preparation & Analysis

Procedure ID:	None		
Range:	Low		
Calibration ID:	Default		
Equation:	Y= +7126226.0X +1600.329		
Specific Gravity:	1	Specific Activity (Bq/g):	25000

Range

(Low)

Sample ResultsS00T000619

Reference Lifetime:	330	
LSR Time Gates:	5 - 49	
Sample Lifetime (µsec):	388	
Sample R ² Intensity:	.975	
Reference Ratio:	.992	
Sample Intercept:	12433	
Analytical Result:	1.52E-03	
Dilution Factor:	100.00	
Aliquot Factor:	11.00	m/L 4/11/00
Final Result:	1.67E-00	$(2.07/2.0372) \times 1000 = < 1.02E3 \text{ µg/g}$
Uncertainty:	4.52E-02	

Interpreted ResultsFlags

Detection Limit (IDL):	N/A	IDL Flags:
Detection Limit (MDL):	N/A	MDL Flags:
		Calibration:
Min Significant Sample Limit: 3.00E-04		Sample:

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KPAWin® Single Sample Report - Sample

Customer ID:	None	Date Analyzed:	04/10/2000 10:04 AM
Sample ID:	S00T000619	Analyte:	Uranium
Description:	SPK	Analyst:	TLM
		Date Printed:	04/10/2000 10:20 AM

Configuration

Sample Unit:	µg/ml	KPA Unit	1001 032200
Performance:	1001 032200	Calibration:	1001 032200
QC Limits:	1000 Release	Alarms:	1001 032200

Sample Preparation & Analysis

Procedure ID:	None	
Range:	High	
Calibration ID:	Default	
Equation:	Y= +89129.77X -592.887	
Specific Gravity:	1	Specific Activity (Bq/g): 25000

Range(High)Sample ResultsS00T000619

Reference Lifetime:	328
LSR Time Gates:	5 - 49
Sample Lifetime (µsec):	306
Sample R ² Intensity:	.999
Reference Ratio:	.970
Sample Intercept:	3312
Analytical Result:	4.38E-02
Dilution Factor:	100.00
Aliquot Factor:	11.00
Final Result:	4.82E+01
Uncertainty:	1.51E+00

$$\frac{48.2}{50} \times 100 = 96.4\%$$

Interpreted ResultsFlags

Detection Limit(IDL):	N/A	IDL Flags:
Detection Limit(MDL):	N/A	MDL Flags:
		Calibration:
Min Significant Sample Limit: 3.00E-04		Sample:

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KPAWin® Single Sample Report - Sample

Customer ID:	None	Date Analyzed:	04/10/2000 10:23 AM
Sample ID:	S00T000632	Analyte:	Uranium
Description:	SAM	Analyst:	TLM
		Date Printed:	04/10/2000 10:25 AM

Configuration

Sample Unit:	µg/ml	KPA Unit	1001 032200
Performance:	1001 032200	Calibration:	1001 032200
QC Limits:	1000 Release	Alarms:	1001 032200

Sample Preparation & Analysis

Procedure ID:	None	
Range:	Low	
Calibration ID:	Default	
Equation:	Y= +7126226.0X +1600.329	
Specific Gravity:	1	Specific Activity (Bq/g): 25000

Range(Low)Sample ResultsS00T000632

Reference Lifetime:	327
LSR Time Gates:	5 - 49
Sample Lifetime (µsec):	196
Sample R ² Intensity:	.993
Reference Ratio:	1.006
Sample Intercept:	53453
Analytical Result:	7.28E-03
Dilution Factor:	100.00
Aliquot Factor:	1.00
Final Result:	7.28E-03
Uncertainty:	2.02E-02

$$7.28E-1/2.0312 \times 1000 = 358 \mu\text{g/g}$$

Interpreted ResultsFlags

Detection Limit (IDL):	N/A	IDL Flags:
Detection Limit (MDL):	N/A	MDL Flags:
		Calibration:
Min Significant Sample Limit: 3.00E-04		Sample:

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KPAWin® Single Sample Report - Sample

Customer ID:	None	Date Analyzed:	04/10/2000 10:27 AM
Sample ID:	S00T000632	Analyte:	Uranium
Description:	DUP	Analyst:	TLM
		Date Printed:	04/10/2000 10:29 AM

Configuration

Sample Unit:	µg/ml	KPA Unit	1001 032200
Performance:	1001 032200	Calibration:	1001 032200
QC Limits:	1000 Release	Alarms:	1001 032200

Sample Preparation & Analysis

Procedure ID:	None	
Range:	Low	
Calibration ID:	Default	
Equation:	Y= +7126226.0X +1600.329	
Specific Gravity:	1	Specific Activity (Bq/g): 25000

Range

(Low)

Sample ResultsS00T000632

Reference Lifetime:	328
LSR Time Gates:	5 - 49
Sample Lifetime (µsec):	211
Sample R ² Intensity:	.990
Reference Ratio:	1.007
Sample Intercept:	55302
Analytical Result:	7.54E-03
Dilution Factor:	100.00
Aliquot Factor:	1.00
Final Result:	7.54E-01
Uncertainty:	2.29E-02

$$\frac{7.54 \text{ E-}1}{2.0224} \times 1000 = 373 \text{ µg/g}$$

Interpreted ResultsFlags

Detection Limit (IDL):	N/A
Detection Limit (MDL):	N/A
Min Significant Sample Limit:	3.00E-04

IDL Flags:
MDL Flags:
Calibration:
Sample:

**This document was too large to scan
as a single document. It has
been divided into smaller sections.**

Section 3

Document Information			
Document #	HNF-1699	Revision	0
Title	TANK 241SY102 02/2000 COMPATIBILITY GRAB SAMPLES ANALYTICAL RESULTS FOR THE FINAL REPORT		
Date	07/10/2000		
Originator	KE BELL	Originator Co.	FH
Recipient		Recipient Co.	
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Keywords			
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Other Information			

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RADIOCHEMICAL ANALYSIS

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LABCORE Completed Worklist Report for Worklist# 32870

Analyst: scl

Instrument: GEA02

Book#: 60B57

Method: LA-548-121 Rev/Mod F-2

Worklist Comment: SY-102 FOR @GEA-03 mcb

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD	0	0	GEA-03	CO60-02	LIQUID	2.733e-03	2.81e-03	102.817	% Recovery
1	STD	0	0	GEA-03	CO60-02H	LIQUID	1	4.25	4.250	% Ct Error
1	STD	0	0	GEA-03	CS13702	LIQUID	6.140e-03	6.39e-03	104.072	% Recovery
1	STD	0	0	GEA-03	CS13702H	LIQUID	1	3.23	3.230	% Ct Error
2	BLNK	0	0	GEA-03	CO60-02	LIQUID	1	<1.90e-3		uCi/mL
2	BLNK	0	0	GEA-03	NB94-02	LIQUID	1	<1.88e-3		uCi/mL
2	BLNK	0	0	GEA-03	RU10602	LIQUID	1	<3.04e-2		uCi/mL
2	BLNK	0	0	GEA-03	CS13402	LIQUID	1	<1.77e-3		uCi/mL
2	BLNK	0	0	GEA-03	CS13702	LIQUID	1	<4.17e-3		uCi/mL
2	BLNK	0	0	GEA-03	CE14402	LIQUID	1	<1.73e-2		uCi/mL
2	BLNK	0	0	GEA-03	EU15402	LIQUID	1	<5.28e-3		uCi/mL
2	BLNK	0	0	GEA-03	EU15502	LIQUID	1	<4.19e-3		uCi/mL
2	BLNK	0	0	GEA-03	RA22602	LIQUID	1	<2.96e-2		uCi/mL
3	SAMPLE	S00T000505	0	0	GEA-03	CO60-02	LIQUID	N/A	1.090e-02	uCi/mL
3	SAMPLE	S00T000505	0	0	GEA-03	CO60-02H	LIQUID	N/A	23.5	% Ct. Error
3	SAMPLE	S00T000505	0	0	GEA-03	NB94-02	LIQUID	N/A	< 5.189e-03	5.19e-003 uCi/mL
3	SAMPLE	S00T000505	0	0	GEA-03	NB94-02H	LIQUID	N/A	n/a	% Ct. Error
3	SAMPLE	S00T000505	0	0	GEA-03	RU10602	LIQUID	N/A	< 7.059e-01	0.706 uCi/mL
3	SAMPLE	S00T000505	0	0	GEA-03	RU10602H	LIQUID	N/A	n/a	% Ct. Error
3	SAMPLE	S00T000505	0	0	GEA-03	CS13402	LIQUID	N/A	< 3.546e-02	3.55e-002 uCi/mL
3	SAMPLE	S00T000505	0	0	GEA-03	CS13402H	LIQUID	N/A	n/a	% Ct. Error
3	SAMPLE	S00T000505	0	0	GEA-03	CS13702	LIQUID	N/A	2.660e+02	uCi/mL
3	SAMPLE	S00T000505	0	0	GEA-03	CS13702H	LIQUID	N/A	0.0900	% Ct. Error
3	SAMPLE	S00T000505	0	0	GEA-03	CE14402	LIQUID	N/A	< 4.484e-01	0.448 uCi/mL
3	SAMPLE	S00T000505	0	0	GEA-03	CE14402H	LIQUID	N/A	n/a	% Ct. Error
3	SAMPLE	S00T000505	0	0	GEA-03	EU15402	LIQUID	N/A	< 9.703e-03	9.70e-003 uCi/mL
3	SAMPLE	S00T000505	0	0	GEA-03	EU15402H	LIQUID	N/A	n/a	% Ct. Error
3	SAMPLE	S00T000505	0	0	GEA-03	EU15502	LIQUID	N/A	< 1.040e-01	0.104 uCi/mL
3	SAMPLE	S00T000505	0	0	GEA-03	EU15502H	LIQUID	N/A	n/a	% Ct. Error
3	SAMPLE	S00T000505	0	0	GEA-03	RA22602	LIQUID	N/A	< 1.218e+00	1.218 uCi/mL
3	SAMPLE	S00T000505	0	0	GEA-03	RA22602H	LIQUID	N/A	n/a	% Ct. Error
4	DUP	S00T000505	0	0	GEA-03	CO60-02	LIQUID	1.09e-02	1.30e-02	17.573 RPD
4	DUP	S00T000505	0	0	GEA-03	CO60-02H	LIQUID	1	18.2	18.200 % Ct Error
4	DUP	S00T000505	0	0	GEA-03	NB94-02	LIQUID	<5.19e-3	<5.16e-3	RPD
4	DUP	S00T000505	0	0	GEA-03	NB94-02H	LIQUID	1	n/a	% Ct Error
4	DUP	S00T000505	0	0	GEA-03	RU10602	LIQUID	<7.06e-1	<7.06e-1	RPD
4	DUP	S00T000505	0	0	GEA-03	RU10602H	LIQUID	1	n/a	% Ct Error
4	DUP	S00T000505	0	0	GEA-03	CS13402	LIQUID	<3.55e-2	<3.56e-2	RPD
4	DUP	S00T000505	0	0	GEA-03	CS13402H	LIQUID	1	n/a	% Ct Error
4	DUP	S00T000505	0	0	GEA-03	CS13702	LIQUID	2.66e+02	2.65e+02	0.377 RPD
4	DUP	S00T000505	0	0	GEA-03	CS13702H	LIQUID	1	0.0900	0.090 % Ct Error

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

LABCORE Completed Worklist Report for Worklist# 32870

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
4 DUP	S00T000505	0	EGEA-03	CE14402	LIQUID	<4.48e-1	<4.48e-1	RPD
4 DUP	S00T000505	0	EGEA-03	CE14402E	LIQUID	1	n/a	% Ct Error
4 DUP	S00T000505	0	EGEA-03	EU15402	LIQUID	<9.70e-3	<9.59e-3	RPD
4 DUP	S00T000505	0	EGEA-03	EU15402E	LIQUID	1	n/a	% Ct Error
4 DUP	S00T000505	0	EGEA-03	EU15502	LIQUID	<1.04e-1	<1.04e-1	RPD
4 DUP	S00T000505	0	EGEA-03	EU15502E	LIQUID	1	n/a	% Ct Error
4 DUP	S00T000505	0	EGEA-03	RA22602	LIQUID	<1.22e0	<8.41e-1	RPD
4 DUP	S00T000505	0	EGEA-03	RA22602E	LIQUID	1	n/a	% Ct Error
5 SAMPLE	S00T000506	0	EGEA-03	CO60-02	LIQUID	N/A	9.010e-03	uCi/mL
5 SAMPLE	S00T000506	0	EGEA-03	CO60-02E	LIQUID	N/A	17.7	% Ct. Error
5 SAMPLE	S00T000506	0	EGEA-03	NB94-02	LIQUID	N/A	3.199e-03	3.20e-003 uCi/mL
5 SAMPLE	S00T000506	0	EGEA-03	NB94-02E	LIQUID	N/A	n/a	% Ct. Error
5 SAMPLE	S00T000506	0	EGEA-03	RU10602	LIQUID	N/A	5.297e-01	0.530 uCi/mL
5 SAMPLE	S00T000506	0	EGEA-03	RU10602E	LIQUID	N/A	n/a	% Ct. Error
5 SAMPLE	S00T000506	0	EGEA-03	CS13402	LIQUID	N/A	2.657e-02	2.66e-002 uCi/mL
5 SAMPLE	S00T000506	0	EGEA-03	CS13402E	LIQUID	N/A	n/a	% Ct. Error
5 SAMPLE	S00T000506	0	EGEA-03	CS13702	LIQUID	N/A	1.520e+02	uCi/mL
5 SAMPLE	S00T000506	0	EGEA-03	CS13702E	LIQUID	N/A	0.120	% Ct. Error
5 SAMPLE	S00T000506	0	EGEA-03	CE14402	LIQUID	N/A	3.374e-01	0.337 uCi/mL
5 SAMPLE	S00T000506	0	EGEA-03	CE14402E	LIQUID	N/A	n/a	% Ct. Error
5 SAMPLE	S00T000506	0	EGEA-03	EU15402	LIQUID	N/A	1.343e-02	1.34e-002 uCi/mL
5 SAMPLE	S00T000506	0	EGEA-03	EU15402E	LIQUID	N/A	n/a	% Ct. Error
5 SAMPLE	S00T000506	0	EGEA-03	EU15502	LIQUID	N/A	7.846e-02	7.85e-002 uCi/mL
5 SAMPLE	S00T000506	0	EGEA-03	EU15502E	LIQUID	N/A	n/a	% Ct. Error
5 SAMPLE	S00T000506	0	EGEA-03	RA22602	LIQUID	N/A	6.353e-01	0.635 uCi/mL
5 SAMPLE	S00T000506	0	EGEA-03	RA22602E	LIQUID	N/A	n/a	% Ct. Error
6 DUP	S00T000506	0	EGEA-03	CO60-02	LIQUID	9.01e-03	8.38e-03	7.246 RPD
6 DUP	S00T000506	0	EGEA-03	CO60-02E	LIQUID	1	18.7	18.700 % Ct Error
6 DUP	S00T000506	0	EGEA-03	NB94-02	LIQUID	<3.20e-3	<3.45e-3	RPD
6 DUP	S00T000506	0	EGEA-03	NB94-02E	LIQUID	1	n/a	% Ct Error
6 DUP	S00T000506	0	EGEA-03	RU10602	LIQUID	<5.30e-1	<5.35e-1	RPD
6 DUP	S00T000506	0	EGEA-03	RU10602E	LIQUID	1	n/a	% Ct Error
6 DUP	S00T000506	0	EGEA-03	CS13402	LIQUID	<2.66e-2	<2.67e-2	RPD
6 DUP	S00T000506	0	EGEA-03	CS13402E	LIQUID	1	n/a	% Ct Error
6 DUP	S00T000506	0	EGEA-03	CS13702	LIQUID	1.52e+02	1.53e+02	0.656 RPD
6 DUP	S00T000506	0	EGEA-03	CS13702E	LIQUID	1	0.120	0.120 % Ct Error
6 DUP	S00T000506	0	EGEA-03	CE14402	LIQUID	<3.37e-1	<3.40e-1	RPD
6 DUP	S00T000506	0	EGEA-03	CE14402E	LIQUID	1	n/a	% Ct Error
6 DUP	S00T000506	0	EGEA-03	EU15402	LIQUID	<1.34e-2	<8.85e-3	RPD
6 DUP	S00T000506	0	EGEA-03	EU15402E	LIQUID	1	n/a	% Ct Error
6 DUP	S00T000506	0	EGEA-03	EU15502	LIQUID	<7.85e-2	<7.87e-2	RPD
6 DUP	S00T000506	0	EGEA-03	EU15502E	LIQUID	1	n/a	% Ct Error
6 DUP	S00T000506	0	EGEA-03	RA22602	LIQUID	<6.35e-1	<6.38e-1	RPD
6 DUP	S00T000506	0	EGEA-03	RA22602E	LIQUID	1	n/a	% Ct Error
7 SAMPLE	S00T000507	0	EGEA-03	CO60-02	LIQUID	N/A	1.160e-02	uCi/mL
7 SAMPLE	S00T000507	0	EGEA-03	CO60-02E	LIQUID	N/A	17.7	% Ct. Error
7 SAMPLE	S00T000507	0	EGEA-03	NB94-02	LIQUID	N/A	4.949e-03	4.97e-003 uCi/mL
7 SAMPLE	S00T000507	0	EGEA-03	NB94-02E	LIQUID	N/A	n/a	% Ct. Error
7 SAMPLE	S00T000507	0	EGEA-03	RU10602	LIQUID	N/A	6.874e-01	0.687 uCi/mL

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

LABCORE Completed Worklist Report for Worklist# 32870

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
7 SAMPLE	S00T000507	0	OGEA-03	RU10602E LIQUID	N/A	n/a		% Ct. Error
7 SAMPLE	S00T000507	0	OGEA-03	CS13402 LIQUID	N/A	3.459e-02	3.46e-002	uCi/mL
7 SAMPLE	S00T000507	0	OGEA-03	CS13402E LIQUID	N/A	n/a		% Ct. Error
7 SAMPLE	S00T000507	0	OGEA-03	CS13702 LIQUID	N/A	2.520e+02		uCi/mL
7 SAMPLE	S00T000507	0	OGEA-03	CS13702E LIQUID	N/A	0.0900		% Ct. Error
7 SAMPLE	S00T000507	0	OGEA-03	CE14402 LIQUID	N/A	4.377e-01	0.438	uCi/mL
7 SAMPLE	S00T000507	0	OGEA-03	CE14402E LIQUID	N/A	n/a		% Ct. Error
7 SAMPLE	S00T000507	0	OGEA-03	EU15402 LIQUID	N/A	9.288e-03	9.29e-003	uCi/mL
7 SAMPLE	S00T000507	0	OGEA-03	EU15402E LIQUID	N/A	n/a		% Ct. Error
7 SAMPLE	S00T000507	0	OGEA-03	EU15502 LIQUID	N/A	1.014e-01	0.101	uCi/mL
7 SAMPLE	S00T000507	0	OGEA-03	EU15502E LIQUID	N/A	n/a		% Ct. Error
7 SAMPLE	S00T000507	0	OGEA-03	RA22602 LIQUID	N/A	8.207e-01	0.821	uCi/mL
7 SAMPLE	S00T000507	0	OGEA-03	RA22602E LIQUID	N/A	n/a		% Ct. Error
8 DUP	S00T000507	0	OGEA-03	CO60-02 LIQUID	1.16e-02	1.18e-02	1.709	RPD
8 DUP	S00T000507	0	OGEA-03	CO60-02E LIQUID	1	16.9	16.900	% Ct. Error
8 DUP	S00T000507	0	OGEA-03	NE94-02 LIQUID	<4.97e-3	<4.98e-3		RPD
8 DUP	S00T000507	0	OGEA-03	NE94-02E LIQUID	1	n/a		% Ct. Error
8 DUP	S00T000507	0	OGEA-03	RU10602 LIQUID	<6.87e-1	<6.84e-1		RPD
8 DUP	S00T000507	0	OGEA-03	RU10602E LIQUID	1	n/a		% Ct. Error
8 DUP	S00T000507	0	OGEA-03	CS13402 LIQUID	<3.46e-2	<3.43e-2		RPD
8 DUP	S00T000507	0	OGEA-03	CS13402E LIQUID	1	n/a		% Ct. Error
8 DUP	S00T000507	0	OGEA-03	CS13702 LIQUID	2.52e+02	2.50e+02	0.797	RPD
8 DUP	S00T000507	0	OGEA-03	CS13702E LIQUID	1	0.0900	0.090	% Ct. Error
8 DUP	S00T000507	0	OGEA-03	CE14402 LIQUID	<4.38e-1	<4.35e-1		RPD
8 DUP	S00T000507	0	OGEA-03	CE14402E LIQUID	1	n/a		% Ct. Error
8 DUP	S00T000507	0	OGEA-03	EU15402 LIQUID	<9.29e-3	<9.48e-3		RPD
8 DUP	S00T000507	0	OGEA-03	EU15402E LIQUID	1	n/a		% Ct. Error
8 DUP	S00T000507	0	OGEA-03	EU15502 LIQUID	<1.01e-1	<1.01e-1		RPD
8 DUP	S00T000507	0	OGEA-03	EU15502E LIQUID	1	n/a		% Ct. Error
8 DUP	S00T000507	0	OGEA-03	RA22602 LIQUID	<8.21e-1	<8.18e-1		RPD
8 DUP	S00T000507	0	OGEA-03	RA22602E LIQUID	1	n/a		% Ct. Error

Comments Section:

Comments for sample# S00T000505 and test @GEA-03 .
DL=0 => n/a.

Comments for sample# S00T000506 and test @GEA-03 .
DL=0 => n/a.

Comments for sample# S00T000507 and test @GEA-03 .
DL=0 => n/a.

Final page for worklist# 32870

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

LABCORE Completed Worklist Report for Worklist# 32870

Seq Type	Sample# R A	Test	Matrix	Actual	Found	DL or Yield	Unit
Analyst Signature		Date			Analyst Signature		Date
		3/16/00			
		Reviewer Signature		Date			

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

LABCORE Data Entry Template for Worklist# 32870

Analyst: sc1 Instrument: GEA00 #2 Book# 60357Method: LA-548-121 Rev/Mod F-2

Worklist Comment: SY-102 FOR @GEA-03 mcb

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	STD				@GEA-03	LIQUID		
2	BLNK				@GEA-03	LIQUID		
3	SAMPLE	S00T000505 0			@GEA-03	LIQUID	20000085	SY-102 GRAB6
					Analytes Requested: CE14402 , CE14402E, CO60-02 , CO60-02E, CS13402 , CS13402E, CS13702 , CS13702E, EU15402 , EU15402E, EU15502 , EU15502E, NB94-02 , NB94-02E, RA22602 , RA22602E, RU10602 , RU10602E			
4	DUP	S00T000505 0			@GEA-03	LIQUID		
5	SAMPLE	S00T000506 0			@GEA-03	LIQUID	20000085	SY-102 GRAB6
					Analytes Requested: CE14402 , CE14402E, CO60-02 , CO60-02E, CS13402 , CS13402E, CS13702 , CS13702E, EU15402 , EU15402E, EU15502 , EU15502E, NB94-02 , NB94-02E, RA22602 , RA22602E, RU10602 , RU10602E			
6	DUP	S00T000506 0			@GEA-03	LIQUID		
7	SAMPLE	S00T000507 0			@GEA-03	LIQUID	20000085	SY-102 GRAB6
					Analytes Requested: CE14402 , CE14402E, CO60-02 , CO60-02E, CS13402 , CS13402E, CS13702 , CS13702E, EU15402 , EU15402E, EU15502 , EU15502E, NB94-02 , NB94-02E, RA22602 , RA22602E, RU10602 , RU10602E			
8	DUP	S00T000507 0			@GEA-03	LIQUID		

Final page for worklist # 32870

Signature

Date

MCB, sc1 3/16/00
Signature Date

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 32870

Analyst: S. L Instrument: GEA00 2 Book# 60 B57

Method: LA-548-121 Rev/Mod F-2

Worklist Comment: SY-102 FOR @GEA-01 RTS

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	STD				@GEA-01	LIQUID		
2	BLNK				@GEA-01	LIQUID		
3	SAMPLE	S00T000505 0			@GEA-01	LIQUID	20000085	SY-102 GRAB6
Analytes Requested: CO60-02 , CO60-02E, CS13702 , CS13702E								
4	DUP	S00T000505 0			@GEA-01	LIQUID		
5	SAMPLE	S00T000506 0			@GEA-01	LIQUID	20000085	SY-102 GRAB6
Analytes Requested: CO60-02 , CO60-02E, CS13702 , CS13702E								
6	DUP	S00T000506 0			@GEA-01	LIQUID		
7	SAMPLE	S00T000507 0			@GEA-01	LIQUID	20000085	SY-102 GRAB6
Analytes Requested: CO60-02 , CO60-02E, CS13702 , CS13702E								
8	DUP	S00T000507 0			@GEA-01	LIQUID		

Final page for worklist # 32870

Sue Lai 3-14-00
Signature Date

Signature Date

*Re batched with
@GEA-03 Test.
per Kevin Bell*

Data Entry Comments:

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

 * 222-S Laboratory Counting Room 14-MAR-2000 12:08:20.08 *

>>>>>>>> SAMPLE INFORMATION <<<<<<<<<

Worklist #: 32870
 Sample ID: WL32870-STD
 Sample Size: 1.00000E-03 L
 Dilution Factor: 1.00000E+00

Removed by:

>>>>>>>> COUNT INFORMATION <<<<<<<<<

Detector ID: GEA2
 File Number: dka300:[spec.GEA2]2g2644.cnf
 Geometry: 42
 Count Time: 0 00:50:00.00 sec
 Real Time: 0 00:50:18.35 sec
 Dead Time: 0.6%

Verified by:

>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<

Sample Count Time: 14-MAR-2000 11:17:29.85
 Decayed to: 14-MAR-2000 11:17:29.85
 Standard Deviations: 2
 Analysis Library: ENVGEA
 Analyst: MB
 Background Subtract: DKA300:[SPEC.GEA2]2GBACK

>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<

Date of last energy calibration: 3-MAY-1999 14:49:30.70
 Date of last efficiency calibration: 3-MAY-1999 14:49:59.73

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/L
0	661.65*	4372	1.54	1323.17	1315	16	3.2		CS-137	6.39
0	1173.18	1431	1.79	2346.38	2338	16	6.1		CO-60	2.83
0	1332.40	1285	1.92	2664.90	2654	18	5.9		CO-60	2.80
0	1460.77*	20	1.35	2921.69	2915	131	11.0		K-40	0.449

Summary of Nuclide Activity

Page : 2

Sample ID : WL32870-STD

Acquisition date : 14-MAR-2000 11:17:29

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	Wtd Mean	Decay Corr	2-Sigma Error	2-Sigma	%Error	Flags
			Uncorrected	Decay Corr					
			uCi/L	uCi/L					
K-40	1.28E+09Y	1.00	4.488E-01	4.488E-01	4.980E-01	110.96			
CO-60	5.27Y	1.00	2.814E+00	2.814E+00	0.120E+00	4.25			16 Mar 00
CS-137	30.00Y	1.00	6.385E+00	6.385E+00	0.206E+00	3.23			
Total Activity :			9.648E+00	9.648E+00					

Grand Total Activity : 9.648E+00 9.648E+00

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Minimum Detectable Activity Report
Sample ID : WL32870-STD

Page : 3
Acquisition date : 14-MAR-2000 11:17:29

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
BE-7	204.	477.59	6.2010E-01
NA-24	6.	1368.55	3.1168E-02
AR-41	20.	1293.60	5.8883E-02
SC-46	58.	1120.55	7.2536E-02
CR-51	225.	320.08	4.5920E-01
MN-54	84.	834.83	6.8596E-02
CO-56	77.	846.76	6.6496E-02
CO-58	62.	810.78	5.8493E-02
FE-59	98.	1099.25	1.6181E-01
ZN-65	77.	1115.55	1.6225E-01
SE-75	246.	264.66	7.0106E-02
KR-85	185.	514.00	1.5084E+01
SR-85	185.	514.01	6.8201E-02
Y-88	5.	1836.06	3.8244E-02
Y-91	33.	1204.67	1.9759E+01
NB-94	83.	871.09	7.0491E-02
ZRNB-95	62.	724.20	2.3989E-01
RU-103	156.	497.08	6.4438E-02
RURH-106	104.	621.93	1.1909E+00
AG-108m	65.	722.94	5.9543E-02
CD-109	200.	88.03	1.1456E+00
AG-110M	141.	657.76	7.5906E-02
SN-113	183.	391.69	7.8966E-02
TE-123m	261.	159.00	3.8135E-02
SB-124	103.	602.73	5.8624E-02
SB-125	213.	427.89	2.0095E-01
TE-125m	227.	109.27	1.1900E+01
I-129	188.	39.60	1.2164E+01
I-131	199.	364.48	6.0727E-02
XE-131m	240.	163.93	1.5818E+00
BA-133	210.	356.02	7.9552E-02
CS-134	90.	604.70	5.5292E-02
CS-136	80.	818.51	6.5990E-02
CS-138	3.	1435.86	5.3524E-02
CE-139	222.	165.85	3.7445E-02
BA-140	142.	537.31	2.4668E-01
LA-140	3.	1596.21	2.9453E-02
CE-141	240.	145.44	6.3541E-02
CE-144	223.	133.51	2.6994E-01
CEPR-144	223.	133.51	5.3925E-01
EU-152	235.	121.78	1.1174E-01
EU-154	19.	1274.51	1.4005E-01
EU-155	202.	86.54	1.3039E-01
HF-181	202.	482.18	8.0116E-02
TA-182	202.	67.75	1.8347E-01
HG-203	220.	279.20	4.9875E-02
BI-207	116.	569.70	5.8832E-02
TL-208	220.	277.36	6.4002E-01
PB-210	197.	46.50	8.7126E+00
BI-212	74.	727.18	8.6323E-01
PB-212	264.	238.63	8.9816E-02

Minimum Detectable Activity Report (continued)

Page : 4

Sample ID : WL32870-STD

Acquisition date : 14-MAR-2000 11:17:29

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
BI-214	109.	609.31	1.3263E-01
PB-214	191.	351.92	2.3325E-01
RA-224	275.	240.99	1.0155E+00
RA-226	285.	186.10	1.0016E+00
AC-228	117.	911.21	3.2309E-01
TH-228	215.	84.37	3.6456E+00
TH-229	203.	88.47	1.6712E-01
U-232	188.	57.78	6.2953E+01
PA-233	223.	312.17	1.1676E-01
UTH-233	261.	245.34	3.6151E+01
PA-234M	97.	1001.03	1.3031E+01
TH-234	181.	63.29	2.3370E+00
U-235	289.	185.71	6.1340E-02
NP-237	203.	86.48	3.4598E-01
U-237	221.	101.07	1.4117E-01
NP-238	74.	984.45	2.6577E-01
NP-239	201.	106.12	1.4265E-01
PU-239	225.	129.30	4.7359E+02
AM-241	186.	59.54	3.1111E-01
AM-243	190.	74.67	9.4105E-02

 * 222-S Laboratory Counting Room 14-MAR-2000 15:48:16.22 *

>>>>>>>> SAMPLE INFORMATION <<<<<<<<<

Worklist #: 32870
 Sample ID: WL32870-BLNK
 Sample Size: 1.00000E-03 L
 Dilution Factor: 1.01000E+02

Removed by:

>>>>>>>> COUNT INFORMATION <<<<<<<<<

Detector ID: GEA2
 File Number: dka300:[spec.GEA2]2g2646.cnf
 Geometry: 42
 Count Time: 0 02:30:00.00 sec
 Real Time: 0 02:30:28.19 sec
 Dead Time: 0.3%

Verified by:

>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<

Sample Count Time: 14-MAR-2000 13:17:18.15
 Decayed to: 14-MAR-2000 13:17:18.15
 Standard Deviations: 2
 Analysis Library: ENVGEA
 Analyst: SZC
 Background Subtract: DKA300:[SPEC.GEA2]2GBACK

>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<

Date of last energy calibration: 3-MAY-1999 14:49:30.70
 Date of last efficiency calibration: 3-MAY-1999 14:49:59.73

Post-NID Peak Search Report

***** No peaks found *****

Summary of Nuclide Activity

Sample ID : WL32870-BLNK

Page : 2

Acquisition date : 14-MAR-2000 13:17:18

**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Minimum Detectable Activity Report
Sample ID : WL32870-BLNK

Page : 3
Acquisition date : 14-MAR-2000 13:17:18

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
BE-7	82.	477.59	1.3555E+01
NA-24	22.	1368.55	1.9331E+00
K-40	332.	1460.75	6.4892E+01
AR-41	21.	1293.60	2.6958E+00
SC-46	53.	1120.55	2.3442E+00
CR-51	137.	320.08	1.2196E+01
MN-54	44.	834.83	1.6993E+00
CO-56	48.	846.76	1.7956E+00
CO-58	56.	810.78	1.8748E+00
FE-59	26.	1099.25	2.9634E+00
CO-60	25.	1332.50	1.9048E+00
ZN-65	36.	1115.55	3.8435E+00
SE-75	164.	264.66	1.9427E+00
KR-85	110.	514.00	3.9736E+02
SR-85	110.	514.01	1.7941E+00
Y-88	5.	1836.06	1.2878E+00
Y-91	36.	1204.67	6.9219E+02
NB-94	51.	871.09	1.8826E+00
ZRNB-95	57.	724.20	7.7358E+00
RU-103	75.	497.08	1.5367E+00
RURH-106	57.	621.93	3.0385E+01
AG-108m	59.	722.94	1.9097E+00
CD-109	165.	88.03	3.5147E+01
AG-110M	60.	657.76	1.7104E+00
SN-113	93.	391.69	1.9254E+00
TE-123m	174.	159.00	1.0568E+00
SB-124	66.	602.73	1.5983E+00
SB-125	112.	427.89	4.9792E+00
TE-125m	163.	109.27	3.4197E+02
I-129	124.	39.60	3.3543E+02
I-131	108.	364.48	1.5317E+00
XE-131m	211.	163.93	5.0097E+01
BA-133	111.	356.02	1.9789E+00
CS-134	81.	604.70	1.7669E+00
CS-136	52.	818.51	1.8274E+00
CS-137	312.	661.66	4.1728E+00
CS-138	18.	1435.86	7.7407E+00
CE-139	204.	165.85	1.2081E+00
BA-140	73.	537.31	6.0888E+00
LA-140	11.	1596.21	1.6590E+00
CE-141	188.	145.44	1.9026E+00
CE-144	201.	133.51	8.6487E+00
CEPR-144	201.	133.51	1.7281E+01
EU-152	174.	121.78	3.2626E+00
EU-154	24.	1274.51	5.2846E+00
EU-155	183.	86.54	4.1904E+00
HF-181	90.	482.18	1.8312E+00
TA-182	151.	67.75	5.3731E+00
HG-203	158.	279.20	1.4329E+00
BI-207	68.	569.70	1.5398E+00
TL-208	168.	277.36	1.8948E+01

Minimum Detectable Activity Report (continued)

Page : 4

Sample ID : WL32870-BLNK

Acquisition date : 14-MAR-2000 13:17:18

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
PB-210	135.	46.50	2.4612E+02
BI-212	76.	727.18	2.9519E+01
PB-212	210.	238.63	2.7068E+00
BI-214	113.	609.31	4.5362E+00
PB-214	177.	351.92	1.6794E+01
RA-224	193.	240.99	2.9022E+01
RA-226	217.	186.10	2.9556E+01
AC-228	60.	911.21	7.9499E+00
TH-228	182.	84.37	1.1331E+02
TH-229	169.	88.47	5.1507E+00
U-232	131.	57.78	1.7820E+03
PA-233	126.	312.17	2.9907E+00
UTH-233	181.	245.34	1.0203E+03
PA-234M	39.	1001.03	2.8493E+02
TH-234	159.	63.29	7.3995E+01
U-235	226.	185.71	1.8337E+00
NP-237	186.	86.48	1.1186E+01
U-237	159.	101.07	4.0715E+00
NP-238	35.	984.45	6.4217E+00
NP-239	153.	106.12	4.2602E+00
PU-239	208.	129.30	1.5332E+04
AM-241	145.	59.54	9.2869E+00
AM-243	174.	74.67	3.0366E+00

 * 222-S Laboratory Counting Room 14-MAR-2000 18:46:22.11 *

>>>>>>>> SAMPLE INFORMATION <<<<<<<<<

Worklist #: 32870
 Sample ID: S00T505-SAM
 Sample Size: 1.00000E-03 L
 Dilution Factor: 1.01000E+02

Removed by:

Em Baer

>>>>>>>> COUNT INFORMATION <<<<<<<<<

Detector ID: GEA2
 File Number: dka300:[spec.GEA2]2g2647.cnf
 Geometry: 42
 Count Time: 0 02:30:00.00 sec
 Real Time: 0 02:55:02.56 sec
 Dead Time: 14%

Verified by:

John Reigen 16 Mar 2002

>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<

Sample Count Time: 14-MAR-2000 15:50:49.88
 Decayed to: 14-MAR-2000 15:50:49.88
 Standard Deviations: 2
 Analysis Library: ENVGEA
 Analyst: MB
 Background Subtract: DKA300:[SPEC.GEA2]2GBACK

>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<

Date of last energy calibration: 3-MAY-1999 14:49:30.70
 Date of last efficiency calibration: 3-MAY-1999 14:49:59.73

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/L
0	186.01	2934	1.40	371.92	369	7	51.0		U-235	74.1
0	661.76*	5415610	1.55	1323.40	1315	17	0.1		RA-226	1.218E+03
0	1173.30	160	2.24	2346.61	2339	17	43.0		CS-137	2.663E+05
0	1323.05	1483	2.15	2646.18	2637	17	5.7		CO-60	10.6
0	1332.84	151	1.91	2665.77	2657	18	28.0		CO-60	11.1
0	1460.83*	36	1.87	2921.81	2912	18	128.2		K-40	26.5

Summary of Nuclide Activity
Sample ID : S00T505-SAM

Page : 2
Acquisition date : 14-MAR-2000 15:50:49

Total number of lines in spectrum 6
Number of unidentified lines 1
Number of lines tentatively identified by NID 5 83.33%

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
K-40	1.28E+09Y	1.00	2.654E+01	2.654E+01	3.402E+01	128.18	JTR
CO-60	5.27Y	1.00	1.093E+01	1.093E+01	0.257E+01	23.47	
CS-137	30.00Y	1.00	2.663E+05	2.663E+05	0.002E+05	0.09	
RA-226	1600.00Y	1.00	1.218E+03	1.218E+03	0.621E+03	51.00	JTR
U-235	7.04E+08Y	1.00	7.406E+01	7.406E+01	3.777E+01	51.00	JTR
Total Activity :			2.676E+05	2.676E+05			16 Mar 2000

Grand Total Activity : 2.676E+05 2.676E+05

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Minimum Detectable Activity Report
Sample ID : S00T505-SAM

Page : 3
Acquisition date : 14-MAR-2000 15:50:49

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
BE-7	168919.	477.59	5.7843E+02
NA-24	21.	1368.55	1.9435E+00
AR-41	56.	1293.60	4.4897E+00
SC-46	214.	1120.55	4.5295E+00
CR-51	136608.	320.08	3.6775E+02
MN-54	482.	834.83	5.3303E+00
CO-56	458.	846.76	5.2632E+00
CO-58	619.	810.78	5.9147E+00
FE-59	204.	1099.25	7.7210E+00
ZN-65	203.	1115.55	8.6757E+00
SE-75	152009.	264.66	5.6636E+01
KR-85	86334.	514.00	1.0554E+04
SR-85	86319.	514.01	4.7738E+01
Y-88	12.	1836.06	1.8658E+00
Y-91	99.	1204.67	1.1087E+03
NB-94	425.	871.09	5.1891E+00
ZRNB-95	3046.	724.20	5.3121E+01
RU-103	104972.	497.08	5.3861E+01
RURH-106	35727.	621.93	7.0589E+02
AG-108m	3087.	722.94	1.2986E+01
CD-109	122958.	88.03	9.1956E+02
AG-110M	105908.	657.76	6.6817E+01
SN-113	149705.	391.69	7.3058E+01
TE-123m	147615.	159.00	2.9537E+01
SB-124	36769.	602.73	3.5349E+01
SB-125	173101.	427.89	1.8581E+02
TE-125m	132093.	109.27	9.3283E+03
I-129	112546.	39.60	9.6333E+03
I-131	140481.	364.48	5.2387E+01
XE-131m	147798.	163.93	1.2778E+03
BA-133	138802.	356.02	6.6318E+01
CS-134	36688.	604.70	3.5462E+01
CS-136	576.	818.51	5.7539E+00
CS-138	18.	1435.86	8.7757E+00
CE-139	148424.	165.85	3.1397E+01
BA-140	63122.	537.31	1.6784E+02
LA-140	13.	1596.21	1.7991E+00
CE-141	148238.	145.44	5.1365E+01
CE-144	146511.	133.51	2.2441E+02
CEPR-144	146511.	133.51	4.4843E+02
EU-152	141973.	121.78	8.9278E+01
EU-154	91.	1274.51	9.7030E+00
EU-155	122465.	86.54	1.0399E+02
HF-181	135518.	482.18	6.7233E+01
TA-182	113995.	67.75	1.4121E+02
HG-203	145322.	279.20	4.1596E+01
BI-207	41452.	569.70	3.5664E+01
TL-208	145929.	277.36	5.3467E+02
PB-210	111306.	46.50	6.7355E+03
BI-212	2840.	727.18	1.7100E+02
PB-212	169654.	238.63	7.4076E+01

Minimum Detectable Activity Report (continued)

Page : 4

Sample ID : S00T505-SAM

Acquisition date : 14-MAR-2000 15:50:49

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
BI-214	36654.	609.31	7.7735E+01
PB-214	137950.	351.92	5.1883E+02
RA-224	167650.	240.99	8.2405E+02
AC-228	362.	911.21	1.8674E+01
TH-228	121486.	84.37	2.8091E+03
TH-229	123146.	88.47	1.3339E+02
U-232	111835.	57.78	4.9633E+04
PA-233	136945.	312.17	9.4008E+01
UTH-233	163535.	245.34	2.9426E+04
PA-234M	221.	1001.03	6.4786E+02
TH-234	112369.	63.29	1.8829E+03
NP-237	122455.	86.48	2.7542E+02
U-237	127310.	101.07	1.1045E+02
NP-238	233.	984.45	1.5641E+01
NP-239	129794.	106.12	1.1899E+02
PU-239	145661.	129.30	3.9073E+05
AM-241	111709.	59.54	2.4655E+02
AM-243	116703.	74.67	7.5472E+01

 * 222-S Laboratory Counting Room 14-MAR-2000 21:44:43.40 *

>>>>>>>> SAMPLE INFORMATION <<<<<<<<<

Worklist #: 32870
 Sample ID: S00T505-DUP
 Sample Size: 1.00000E-03 L
 Dilution Factor: 1.01000E+02

Removed by:

>>>>>>>> COUNT INFORMATION <<<<<<<<<

Detector ID: GEA2
 File Number: dka300:[spec.GEA2]2g2648.cnf
 Geometry: 42
 Count Time: 0 02:30:00.00 sec
 Real Time: 0 02:54:55.58 sec
 Dead Time: 14%

Verified by:

>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<

Sample Count Time: 14-MAR-2000 18:49:18.43
 Decayed to: 14-MAR-2000 18:49:18.43
 Standard Deviations: 2
 Analysis Library: ENVGEA
 Analyst: EMB
 Background Subtract: DKA300:[SPEC.GEA2]2GBACK

>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<

Date of last energy calibration: 3-MAY-1999 14:49:30.70
 Date of last efficiency calibration: 3-MAY-1999 14:49:59.73

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/L
0	27.53	15024	1.45	54.99	54	5	6.9			
0	36.96*	2095	2.23	73.85	71	7	65.0			
0	661.79*	5387792	1.54	1323.46	1315	17	0.1		CS-137	2.649E+05
0	1173.24	165	1.49	2346.49	2341	13	33.7		CO-60	11.0
0	1323.10	1298	2.11	2646.27	2637	19	6.9			
0	1332.80	197	2.14	2665.69	2659	19	21.4		CO-60	14.4

Summary of Nuclide Activity

Page : 2

Sample ID : S00T505-DUP

Acquisition date : 14-MAR-2000 18:49:18

Total number of lines in spectrum	6	
Number of unidentified lines	3	
Number of lines tentatively identified by NID	3	50.00%

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
CO-60	5.27Y	1.00	1.302E+01	1.302E+01	0.237E+01	18.20	
CS-137	30.00Y	1.00	2.649E+05	2.649E+05	0.002E+05	0.09	
Total Activity :			2.650E+05	2.650E+05			

Grand Total Activity :	2.650E+05	2.650E+05
------------------------	-----------	-----------

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Minimum Detectable Activity Report

Sample ID : S00T505-DUP

Page : 3

Acquisition date : 14-MAR-2000 18:49:18

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
BE-7	168618.	477.59	5.7792E+02
NA-24	18.	1368.55	1.8084E+00
K-40	317.	1460.75	6.3413E+01
AR-41	57.	1293.60	4.5269E+00
SC-46	217.	1120.55	4.5666E+00
CR-51	136901.	320.08	3.6815E+02
MN-54	474.	834.83	5.2866E+00
CO-56	502.	846.76	5.5012E+00
CO-58	624.	810.78	5.9387E+00
FE-59	217.	1099.25	7.9622E+00
ZN-65	217.	1115.55	8.9628E+00
SE-75	150763.	264.66	5.6404E+01
KR-85	85598.	514.00	1.0509E+04
SR-85	85590.	514.01	4.7537E+01
Y-88	9.	1836.06	1.6083E+00
Y-91	85.	1204.67	1.0314E+03
NB-94	421.	871.09	5.1648E+00
ZRNB-95	2974.	724.20	5.2497E+01
RU-103	104718.	497.08	5.3796E+01
RURH-106	35704.	621.93	7.0567E+02
AG-108m	3057.	722.94	1.2925E+01
CD-109	122738.	88.03	9.1874E+02
AG-110M	100923.	657.76	6.5229E+01
SN-113	148930.	391.69	7.2869E+01
TE-123m	147306.	159.00	2.9506E+01
SB-124	37009.	602.73	3.5464E+01
SB-125	173424.	427.89	1.8598E+02
TE-125m	130812.	109.27	9.2831E+03
I-129	111785.	39.60	9.6007E+03
I-131	140101.	364.48	5.2316E+01
XE-131m	147093.	163.93	1.2748E+03
BA-133	137779.	356.02	6.6073E+01
CS-134	36893.	604.70	3.5560E+01
CS-136	619.	818.51	5.9613E+00
CS-138	19.	1435.86	9.1616E+00
CE-139	147159.	165.85	3.1263E+01
BA-140	62559.	537.31	1.6709E+02
LA-140	16.	1596.21	1.9378E+00
CE-141	147299.	145.44	5.1203E+01
CE-144	145927.	133.51	2.2397E+02
CEPR-144	145928.	133.51	4.4754E+02
EU-152	141400.	121.78	8.9097E+01
EU-154	89.	1274.51	9.5896E+00
EU-155	122085.	86.54	1.0383E+02
HF-181	135869.	482.18	6.7320E+01
TA-182	113610.	67.75	1.4098E+02
HG-203	144652.	279.20	4.1500E+01
BI-207	41384.	569.70	3.5635E+01
TL-208	145632.	277.36	5.3413E+02
PB-210	111226.	46.50	6.7330E+03
BI-212	2868.	727.18	1.7183E+02

Minimum Detectable Activity Report (continued)

Page : 4

Sample ID : S00T505-DUP

Acquisition date : 14-MAR-2000 18:49:18

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
PB-212	169227.	238.63	7.3983E+01
BI-214	36660.	609.31	7.7741E+01
PB-214	137546.	351.92	5.1774E+02
RA-224	166404.	240.99	8.2098E+02
RA-226	189516.	186.10	8.4130E+02
AC-228	369.	911.21	1.8861E+01
TH-228	120764.	84.37	2.8007E+03
TH-229	123013.	88.47	1.3332E+02
U-232	110859.	57.78	4.9416E+04
PA-233	136739.	312.17	9.3937E+01
UTH-233	163198.	245.34	2.9395E+04
PA-234M	218.	1001.03	6.4440E+02
TH-234	111783.	63.29	1.8780E+03
U-235	187167.	185.71	5.0846E+01
NP-237	122096.	86.48	2.7501E+02
U-237	126348.	101.07	1.1003E+02
NP-238	232.	984.45	1.5608E+01
NP-239	128628.	106.12	1.1845E+02
PU-239	144701.	129.30	3.8944E+05
AM-241	111141.	59.54	2.4592E+02
AM-243	116097.	74.67	7.5276E+01

 * 222-S Laboratory Counting Room 15-MAR-2000 05:40:07.00 *

>>>>>>>> SAMPLE INFORMATION <<<<<<<<<

Worklist #: 32870
 Sample ID: S00T506-SAM
 Sample Size: 1.00000E-03 L
 Dilution Factor: 1.01000E+02

Removed by:

>>>>>>>> COUNT INFORMATION <<<<<<<<<

Detector ID: GEA2
 File Number: dka300:[spec.GEA2]2g2651.cnf
 Geometry: 42
 Count Time: 0 02:30:00.00 sec
 Real Time: 0 02:44:14.29 sec
 Dead Time: 8.7%

Verified by:

>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<

Sample Count Time: 15-MAR-2000 02:55:24.30
 Decayed to: 15-MAR-2000 02:55:24.30
 Standard Deviations: 2
 Analysis Library: ENVGEA
 Analyst: EMB
 Background Subtract: DKA300:[SPEC.GEA2]2GBACK

>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<

Date of last energy calibration: 3-MAY-1999 14:49:30.70
 Date of last efficiency calibration: 3-MAY-1999 14:49:59.73

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/L
0	661.76*	3087085	1.51	1323.41	1315	17	0.1		CS-137	1.518E+05
0	1173.42	139	1.96	2346.85	2341	12	27.0		CO-60	9.27
0	1274.65	65	1.85	2549.35	2543	12	41.7		EU-154	13.4
0	1323.09	472	2.13	2646.25	2639	17	10.4			
0	1332.45	120	1.91	2664.99	2657	14	23.5		CO-60	8.83
0	1460.98*	27	2.35	2922.11	2915	17154.6			K-40	20.1

Summary of Nuclide Activity

Page : 2

Sample ID : S00T506-SAM

Acquisition date : 15-MAR-2000 02:55:24

Total number of lines in spectrum 6
 Number of unidentified lines 1
 Number of lines tentatively identified by NID 5 83.33%

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
K-40	1.28E+09Y	1.00	2.007E+01	2.007E+01	3.104E+01	154.60	87R
CO-60	5.27Y	1.00	9.005E+00	9.006E+00	1.597E+00	17.73	
CS-137	30.00Y	1.00	1.518E+05	1.518E+05	0.002E+05	0.12	
EU-154	8.59Y	1.00	1.343E+01	1.343E+01	0.560E+01	41.73	87R
Total Activity :			1.518E+05	1.518E+05			16m100

Grand Total Activity : 1.518E+05 1.518E+05

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Minimum Detectable Activity Report

Sample ID : S00T506-SAM

Page : 3

Acquisition date : 15-MAR-2000 02:55:24

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
BE-7	95087.	477.59	4.3417E+02
NA-24	24.	1368.55	2.0515E+00
AR-41	37.	1293.60	3.6086E+00
SC-46	121.	1120.55	3.4458E+00
CR-51	76891.	320.08	2.7602E+02
MN-54	192.	834.83	3.4120E+00
CO-56	182.	846.76	3.3665E+00
CO-58	230.	810.78	3.6597E+00
FE-59	87.	1099.25	5.1627E+00
ZN-65	121.	1115.55	6.7746E+00
SE-75	86189.	264.66	4.2667E+01
KR-85	48386.	514.00	7.9060E+03
SR-85	48383.	514.01	3.5763E+01
Y-88	7.	1836.06	1.4424E+00
Y-91	57.	1204.67	8.5706E+02
NB-94	156.	871.09	3.1988E+00
ZRNB-95	997.	724.20	3.0631E+01
RU-103	58892.	497.08	4.0364E+01
RURH-106	20078.	621.93	5.2971E+02
AG-108m	977.	722.94	7.3654E+00
CD-109	69878.	88.03	6.9359E+02
AG-110M	58723.	657.76	4.9784E+01
SN-113	85264.	391.69	5.5161E+01
TE-123m	83357.	159.00	2.2207E+01
SB-124	20854.	602.73	2.6647E+01
SB-125	97717.	427.89	1.3967E+02
TE-125m	74815.	109.27	7.0240E+03
I-129	63933.	39.60	7.2647E+03
I-131	79722.	364.48	3.9472E+01
XE-131m	84061.	163.93	9.6393E+02
BA-133	78549.	356.02	4.9914E+01
CS-134	20555.	604.70	2.6570E+01
CS-136	220.	818.51	3.6077E+00
CS-138	22.	1435.86	9.1231E+00
CE-139	83807.	165.85	2.3604E+01
BA-140	35640.	537.31	1.2618E+02
LA-140	15.	1596.21	1.9003E+00
CE-141	83768.	145.44	3.8629E+01
CE-144	82837.	133.51	1.6883E+02
CEPR-144	82837.	133.51	3.3735E+02
EU-152	81747.	121.78	6.7778E+01
EU-155	69639.	86.54	7.8459E+01
HF-181	76635.	482.18	5.0582E+01
TA-182	64608.	67.75	1.0637E+02
HG-203	82146.	279.20	3.1288E+01
BI-207	23058.	569.70	2.6625E+01
TL-208	82081.	277.36	4.0119E+02
PB-210	63124.	46.50	5.0736E+03
BI-212	989.	727.18	1.0168E+02
PB-212	96325.	238.63	5.5843E+01
BI-214	20497.	609.31	5.8189E+01

Minimum Detectable Activity Report (continued)

Page : 4

Sample ID : S00T506-SAM

Acquisition date : 15-MAR-2000 02:55:24

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
PB-214	77987.	351.92	3.6750E+02
RA-224	94960.	240.99	6.2003E+02
RA-226	107974.	186.10	6.3530E+02
AC-228	178.	911.21	1.3261E+01
TH-228	68452.	84.37	2.1097E+03
TH-229	69737.	88.47	1.0043E+02
U-232	62921.	57.78	3.7250E+04
PA-233	77536.	312.17	7.0766E+01
UTH-233	92999.	245.34	2.2200E+04
PA-234M	95.	1001.03	4.3275E+02
TH-234	63803.	63.29	1.4196E+03
U-235	106901.	185.71	3.8444E+01
NP-237	69647.	86.48	2.0782E+02
U-237	72620.	101.07	8.3430E+01
NP-238	90.	984.45	9.9127E+00
NP-239	73539.	106.12	8.9514E+01
PU-239	82327.	129.30	2.9389E+05
AM-241	63329.	59.54	1.8574E+02
AM-243	65942.	74.67	5.6764E+01

 * 222-S Laboratory Counting Room 15-MAR-2000 08:56:59.14 *

>>>>>>>> SAMPLE INFORMATION <<<<<<<<<

Worklist #: 32870
 Sample ID: S00T506-DUP
 Sample Size: 1.00000E-03 L
 Dilution Factor: 1.01000E+02

Removed by:

>>>>>>>> COUNT INFORMATION <<<<<<<<<

Detector ID: GEA2
 File Number: dka300:[spec.GEA2]2g2652.cnf
 Geometry: 42
 Count Time: 0 02:30:00.00 sec
 Real Time: 0 02:44:24.07 sec
 Dead Time: 8.8%

Verified by:

>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<

Sample Count Time: 15-MAR-2000 06:12:04.68
 Decayed to: 15-MAR-2000 06:12:04.68
 Standard Deviations: 2
 Analysis Library: ENVGEA
 Analyst: SLH2
 Background Subtract: DKA300:[SPEC.GEA2]2GBACK

>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<

Date of last energy calibration: 3-MAY-1999 14:49:30.70
 Date of last efficiency calibration: 3-MAY-1999 14:49:59.73

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/L
0	661.75*	3117556	1.52	1323.38	1315	17	0.1		CS-137	1.533E+05
0	1173.16	129	1.50	2346.32	2339	15	31.6		CO-60	8.55
0	1274.46	43	1.45	2548.97	2543	11	58.0		EU-154	8.85
0	1323.17	475	1.94	2646.43	2637	18	11.1			
0	1332.72	113	1.40	2665.52	2660	12	23.1		CO-60	8.30
0	1460.85*	42	2.11	2921.86	2912	191	101.7		K-40	31.4

Summary of Nuclide Activity
Sample ID : S00T506-DUP

Page : 2
Acquisition date : 15-MAR-2000 06:12:04

Total number of lines in spectrum 6
Number of unidentified lines 1
Number of lines tentatively identified by NID 5 83.33%

Nuclide Type :

Nuclide	Hlife	Decay	Wtd Mean	Wtd Mean	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
			Uncorrected uCi/L	Decay Corr uCi/L			
K-40	1.28E+09Y	1.00	3.144E+01	3.144E+01	3.198E+01	101.73	070
CO-60	5.27Y	1.00	8.384E+00	8.384E+00	1.566E+00	18.68	
CS-137	30.00Y	1.00	1.533E+05	1.533E+05	0.002E+05	0.12	
EU-154	8.59Y	1.00	8.850E+00	8.850E+00	5.132E+00	57.99	070
Total Activity :			1.534E+05	1.534E+05			16 Mar 2000

Grand Total Activity : 1.534E+05 1.534E+05

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Minimum Detectable Activity Report
Sample ID : S00T506-DUP

Page : 3
Acquisition date : 15-MAR-2000 06:12:04

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
BE-7	96159.	477.59	4.3660E+02
NA-24	26.	1368.55	2.1112E+00
AR-41	22.	1293.60	2.8305E+00
SC-46	118.	1120.55	3.4126E+00
CR-51	77884.	320.08	2.7780E+02
MN-54	208.	834.83	3.5505E+00
CO-56	183.	846.76	3.3777E+00
CO-58	252.	810.78	3.8189E+00
FE-59	84.	1099.25	5.0606E+00
ZN-65	95.	1115.55	6.0393E+00
SE-75	87220.	264.66	4.2921E+01
KR-85	49082.	514.00	7.9626E+03
SR-85	49076.	514.01	3.6017E+01
Y-88	12.	1836.06	1.8412E+00
Y-91	54.	1204.67	8.3639E+02
NB-94	183.	871.09	3.4521E+00
ZRNB-95	1083.	724.20	3.1895E+01
RU-103	59459.	497.08	4.0557E+01
RURH-106	20485.	621.93	5.3504E+02
AG-108m	1091.	722.94	7.7761E+00
CD-109	69892.	88.03	6.9367E+02
AG-110M	60796.	657.76	5.0653E+01
SN-113	85693.	391.69	5.5300E+01
TE-123m	84471.	159.00	2.2354E+01
SB-124	20870.	602.73	2.6657E+01
SB-125	98870.	427.89	1.4049E+02
TE-125m	75124.	109.27	7.0384E+03
I-129	63946.	39.60	7.2654E+03
I-131	79718.	364.48	3.9471E+01
XE-131m	84399.	163.93	9.6587E+02
BA-133	79192.	356.02	5.0118E+01
CS-134	20811.	604.70	2.6735E+01
CS-136	184.	818.51	3.3090E+00
CS-138	16.	1435.86	8.0328E+00
CE-139	84390.	165.85	2.3686E+01
BA-140	35845.	537.31	1.2655E+02
LA-140	13.	1596.21	1.7856E+00
CE-141	84256.	145.44	3.8741E+01
CE-144	84093.	133.51	1.7010E+02
CEPR-144	84095.	133.51	3.3990E+02
EU-152	81858.	121.78	6.7824E+01
EU-155	70064.	86.54	7.8697E+01
HF-181	77338.	482.18	5.0813E+01
TA-182	64961.	67.75	1.0666E+02
HG-203	83463.	279.20	3.1537E+01
BI-207	23388.	569.70	2.6814E+01
TL-208	83825.	277.36	4.0543E+02
PB-210	63732.	46.50	5.0979E+03
BI-212	961.	727.18	1.0026E+02
PB-212	96786.	238.63	5.5976E+01
BI-214	20890.	609.31	5.8742E+01

Minimum Detectable Activity Report (continued)

Page : 4

Sample ID : S00T506-DUP

Acquisition date : 15-MAR-2000 06:12:04

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
PB-214	78773.	351.92	3.6969E+02
RA-224	95284.	240.99	6.2109E+02
RA-226	109029.	186.10	6.3838E+02
AC-228	174.	911.21	1.3105E+01
TH-228	69296.	84.37	2.1227E+03
TH-229	69805.	88.47	1.0048E+02
U-232	63691.	57.78	3.7477E+04
PA-233	78680.	312.17	7.1285E+01
UTH-233	93379.	245.34	2.2246E+04
PA-234M	110.	1001.03	4.6386E+02
TH-234	63937.	63.29	1.4211E+03
U-235	107769.	185.71	3.8599E+01
NP-237	70097.	86.48	2.0849E+02
U-237	73209.	101.07	8.3767E+01
NP-238	128.	984.45	1.1754E+01
NP-239	73812.	106.12	8.9681E+01
PU-239	83670.	129.30	2.9627E+05
AM-241	63943.	59.54	1.8664E+02
AM-243	66426.	74.67	5.6971E+01

 * 222-S Laboratory Counting Room 15-MAR-2000 11:52:14.76 *

>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<

Worklist #: 32870
 Sample ID: S00T507-SAM
 Sample Size: 1.00000E-03 L
 Dilution Factor: 1.01000E+02

Removed by:

Shankar

>>>>>>>> COUNT INFORMATION <<<<<<<<<<

Detector ID: GEA2
 File Number: dka300:[spec.GEA2]2g2653.cnf
 Geometry: 42
 Count Time: 0 02:30:00.00 sec
 Real Time: 0 02:53:41.81 sec
 Dead Time: 14%

Verified by:

John Rediger 16 Mar 2000

>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<

Sample Count Time: 15-MAR-2000 08:58:01.44
 Decayed to: 15-MAR-2000 08:58:01.44
 Standard Deviations: 2
 Analysis Library: ENVGEA
 Analyst: MB
 Background Subtract: DKA300:[SPEC.GEA2]2GBACK

>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<<

Date of last energy calibration: 3-MAY-1999 14:49:30.70
 Date of last efficiency calibration: 3-MAY-1999 14:49:59.73

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/L
0	661.78*	5114652	1.54	1323.43	1315	17	0.1		CS-137	2.515E+05
0	1173.62	181	1.59	2347.24	2341	14	27.6		CO-60	12.0
0	1323.07	1210	2.02	2646.22	2639	16	6.3			
0	1332.59	154	1.46	2665.27	2658	15	23.0		CO-60	11.3

Summary of Nuclide Activity
Sample ID : S00T507-SAM

Page : 2
Acquisition date : 15-MAR-2000 08:58:01

Total number of lines in spectrum 4
Number of unidentified lines 1
Number of lines tentatively identified by NID 3 75.00%

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
CO-60	5.27Y	1.00	1.158E+01	1.158E+01	0.205E+01	17.68	
CS-137	30.00Y	1.00	2.515E+05	2.515E+05	0.002E+05	0.09	
Total Activity :			2.515E+05	2.515E+05			

Grand Total Activity : 2.515E+05 2.515E+05

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Minimum Detectable Activity Report
Sample ID : S00T507-SAM

Page : 3
Acquisition date : 15-MAR-2000 08:58:01

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
BE-7	159774.	477.59	5.6257E+02
NA-24	19.	1368.55	1.8507E+00
K-40	303.	1460.75	6.2073E+01
AR-41	56.	1293.60	4.4561E+00
SC-46	202.	1120.55	4.4051E+00
CR-51	130131.	320.08	3.5894E+02
MN-54	499.	834.83	5.4197E+00
CO-56	492.	846.76	5.4483E+00
CO-58	565.	810.78	5.6564E+00
FE-59	187.	1099.25	7.4090E+00
ZN-65	181.	1115.55	8.2172E+00
SE-75	144883.	264.66	5.5295E+01
KR-85	81375.	514.00	1.0247E+04
SR-85	81366.	514.01	4.6351E+01
Y-88	9.	1836.06	1.6013E+00
Y-91	82.	1204.67	1.0133E+03
NB-94	389.	871.09	4.9685E+00
ZRNB-95	2667.	724.20	4.9742E+01
RU-103	99027.	497.08	5.2315E+01
RURH-106	33876.	621.93	6.8741E+02
AG-108m	2701.	722.94	1.2158E+01
CD-109	116679.	88.03	8.9582E+02
AG-110M	98213.	657.76	6.4349E+01
SN-113	141565.	391.69	7.1047E+01
TE-123m	140072.	159.00	2.8774E+01
SB-124	34921.	602.73	3.4452E+01
SB-125	163338.	427.89	1.8050E+02
TE-125m	124747.	109.27	9.0656E+03
I-129	106755.	39.60	9.3826E+03
I-131	132610.	364.48	5.0899E+01
XE-131m	141046.	163.93	1.2483E+03
BA-133	131229.	356.02	6.4486E+01
CS-134	34893.	604.70	3.4586E+01
CS-136	512.	818.51	5.4329E+00
CS-138	18.	1435.86	8.8579E+00
CE-139	141747.	165.85	3.0684E+01
BA-140	59413.	537.31	1.6284E+02
LA-140	12.	1596.21	1.7021E+00
CE-141	140515.	145.44	5.0011E+01
CE-144	139590.	133.51	2.1906E+02
CEPR-144	139592.	133.51	4.3773E+02
EU-152	135472.	121.78	8.7213E+01
EU-154	83.	1274.51	9.2876E+00
EU-155	116461.	86.54	1.0141E+02
HF-181	128841.	482.18	6.5558E+01
TA-182	106879.	67.75	1.3674E+02
HG-203	138009.	279.20	4.0537E+01
BI-207	38681.	569.70	3.4455E+01
TL-208	138914.	277.36	5.2168E+02
PB-210	106102.	46.50	6.5761E+03
BI-212	2461.	727.18	1.5930E+02

Minimum Detectable Activity Report (continued)

Page : 4

Sample ID : S00T507-SAM

Acquisition date : 15-MAR-2000 08:58:01

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
PB-212	161382.	238.63	7.2250E+01
BI-214	34655.	609.31	7.5592E+01
PB-214	130255.	351.92	5.0049E+02
RA-224	158843.	240.99	8.0207E+02
RA-226	180352.	186.10	8.2073E+02
AC-228	358.	911.21	1.8583E+01
TH-228	115370.	84.37	2.7376E+03
TH-229	116879.	88.47	1.2996E+02
U-232	106093.	57.78	4.8344E+04
PA-233	130115.	312.17	9.1636E+01
UTH-233	156096.	245.34	2.8750E+04
PA-234M	166.	1001.03	5.6556E+02
TH-234	106879.	63.29	1.8364E+03
U-235	178546.	185.71	4.9663E+01
NP-237	116466.	86.48	2.6861E+02
U-237	120713.	101.07	1.0755E+02
NP-238	233.	984.45	1.5651E+01
NP-239	122704.	106.12	1.1568E+02
PU-239	138558.	129.30	3.8109E+05
AM-241	105656.	59.54	2.3979E+02
AM-243	111083.	74.67	7.3635E+01

 * 222-S Laboratory Counting Room 15-MAR-2000 16:22:32.05

>>>>>>>> SAMPLE INFORMATION <<<<<<<<<

Worklist #: 32870
 Sample ID: S00T507-DUP
 Sample Size: 1.00000E-03 L
 Dilution Factor: 1.01000E+02

Removed by:

SL Hall

>>>>>>>> COUNT INFORMATION <<<<<<<<<

Detector ID: GEA2
 File Number: dka300:[spec.GEA2]2g2655.cnf
 Geometry: 42
 Count Time: 0 02:30:00.00 sec
 Real Time: 0 02:53:33.48 sec
 Dead Time: 14%

Verified by:

John Relyea 16 Mar 2000

>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<

Sample Count Time: 15-MAR-2000 13:28:26.77
 Decayed to: 15-MAR-2000 13:28:26.77
 Standard Deviations: 2
 Analysis Library: ENVGEA
 Analyst: SLH2
 Background Subtract: DKA300:[SPEC.GEA2]2GBACK

>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<

Date of last energy calibration: 3-MAY-1999 14:49:30.70
 Date of last efficiency calibration: 3-MAY-1999 14:49:59.73

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/L
0	661.76*	5094743	1.54	1323.40	1315	17	0.1		CS-137	2.505E+05
0	1173.30	159	1.26	2346.60	2341	12	30.3		CO-60	10.6
0	1323.07	1199	2.21	2646.23	2638	17	6.7			
0	1332.49	170	1.59	2665.07	2658	13	20.3		CO-60	12.5

Summary of Nuclide Activity

Page : 2

Sample ID : S00T507-DUP

Acquisition date : 15-MAR-2000 13:28:26

Total number of lines in spectrum	4	
Number of unidentified lines	1	
Number of lines tentatively identified by NID	3	75.00%

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
CO-60	5.27Y	1.00	1.175E+01	1.175E+01	0.199E+01	16.91	
CS-137	30.00Y	1.00	2.505E+05	2.505E+05	0.002E+05	0.09	
Total Activity :			2.505E+05	2.505E+05			

Grand Total Activity : 2.505E+05 2.505E+05

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Minimum Detectable Activity Report

Page : 3

Sample ID : S00T507-DUP

Acquisition date : 15-MAR-2000 13:28:26

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
BE-7	159359.	477.59	5.6184E+02
NA-24	18.	1368.55	1.7823E+00
K-40	300.	1460.75	6.1774E+01
AR-41	50.	1293.60	4.2192E+00
SC-46	218.	1120.55	4.5740E+00
CR-51	128677.	320.08	3.5693E+02
MN-54	440.	834.83	5.0951E+00
CO-56	428.	846.76	5.0891E+00
CO-58	540.	810.78	5.5340E+00
FE-59	184.	1099.25	7.3464E+00
ZN-65	180.	1115.55	8.1890E+00
SE-75	143348.	264.66	5.5001E+01
KR-85	80771.	514.00	1.0209E+04
SR-85	80763.	514.01	4.6179E+01
Y-88	10.	1836.06	1.7230E+00
Y-91	83.	1204.67	1.0215E+03
NB-94	390.	871.09	4.9775E+00
ZRNB-95	2600.	724.20	4.9122E+01
RU-103	98351.	497.08	5.2137E+01
RURH-106	33505.	621.93	6.8366E+02
AG-108m	2652.	722.94	1.2048E+01
CD-109	115697.	88.03	8.9205E+02
AG-110M	100045.	657.76	6.4945E+01
SN-113	141215.	391.69	7.0959E+01
TE-123m	139112.	159.00	2.8675E+01
SB-124	34366.	602.73	3.4178E+01
SB-125	162753.	427.89	1.8017E+02
TE-125m	123814.	109.27	9.0317E+03
I-129	106442.	39.60	9.3689E+03
I-131	131834.	364.48	5.0750E+01
XE-131m	139441.	163.93	1.2412E+03
BA-133	130613.	356.02	6.4335E+01
CS-134	34381.	604.70	3.4332E+01
CS-136	481.	818.51	5.2709E+00
CS-138	22.	1435.86	9.6146E+00
CE-139	139592.	165.85	3.0450E+01
BA-140	59199.	537.31	1.6254E+02
LA-140	15.	1596.21	1.8795E+00
CE-141	139124.	145.44	4.9763E+01
CE-144	137661.	133.51	2.1754E+02
CEPR-144	137661.	133.51	4.3469E+02
EU-152	133778.	121.78	8.6666E+01
EU-154	87.	1274.51	9.4754E+00
EU-155	115164.	86.54	1.0085E+02
HF-181	127887.	482.18	6.5315E+01
TA-182	107118.	67.75	1.3690E+02
HG-203	136816.	279.20	4.0362E+01
BI-207	38749.	569.70	3.4485E+01
TL-208	137671.	277.36	5.1934E+02
PB-210	104663.	46.50	6.5314E+03
BI-212	2501.	727.18	1.6059E+02

Minimum Detectable Activity Report (continued)

Page : 4

Sample ID : S00T507-DUP

Acquisition date : 15-MAR-2000 13:28:26

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
PB-212	159741.	238.63	7.1883E+01
BI-214	34312.	609.31	7.5219E+01
PB-214	129952.	351.92	4.9953E+02
RA-224	157706.	240.99	7.9919E+02
RA-226	179152.	186.10	8.1800E+02
AC-228	317.	911.21	1.7511E+01
TH-228	114115.	84.37	2.7227E+03
TH-229	116121.	88.47	1.2954E+02
U-232	105011.	57.78	4.8098E+04
PA-233	129496.	312.17	9.1418E+01
UTH-233	153833.	245.34	2.8541E+04
PA-234M	215.	1001.03	6.3925E+02
TH-234	105729.	63.29	1.8265E+03
U-235	177140.	185.71	4.9467E+01
NP-237	115137.	86.48	2.6707E+02
U-237	120146.	101.07	1.0730E+02
NP-238	210.	984.45	1.4896E+01
NP-239	121653.	106.12	1.1519E+02
PU-239	136694.	129.30	3.7853E+05
AM-241	104969.	59.54	2.3901E+02
AM-243	109716.	74.67	7.3182E+01

LABCORE Completed Worklist Report for Worklist# 33119

Analyst: scl

Instrument: GEA01

Book#: 60B57

Method: LA-548-121 Rev/Mod F.2

Worklist Comment: SY-102 GRAB 6 FOR @GEA-02 RTS

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD		0		GEA-02	CO60-02	SOLID	2.713e-03	2.635e-3	97.125 % Recovery
1	STD		0		GEA-02	CO60-02E	SOLID	1	4.20	4.200 % Ct Error
1	STD		0		GEA-02	CS13702	SOLID	6.132e-03	5.946e-3	96.967 % Recovery
1	STD		0		GEA-02	CS13702E	SOLID	1	3.19	3.190 % Ct Error
2	BLNK-PREP		0		GEA-02	CO60-02	SOLID	1	<5.41e-2	uCi/g
2	BLNK-PREP		0		GEA-02	SB12502	SOLID	1	<1.41e-1	uCi/g
2	BLNK-PREP		0		GEA-02	CS13702	SOLID	1	<6.03e-2	uCi/g
2	BLNK-PREP		0		GEA-02	EU15402	SOLID	1	<1.71e-1	uCi/g
2	BLNK-PREP		0		GEA-02	EU15502	SOLID	1	<8.47e-2	uCi/g
2	BLNK-PREP		0		GEA-02	AM24102	SOLID	1	<7.51e-2	uCi/g
3	SAMPLE	S00T000619	0	F	GEA-02	CO60-02	SOLID	N/A	< 5.659e-02	5.66e-002 uCi/g
3	SAMPLE	S00T000619	0	F	GEA-02	CO60-02E	SOLID	N/A	n/a	% Ct. Error
3	SAMPLE	S00T000619	0	F	GEA-02	SB12502	SOLID	N/A	< 5.469e-01	0.547 uCi/g
3	SAMPLE	S00T000619	0	F	GEA-02	SB12502E	SOLID	N/A	n/a	% Ct. Error
3	SAMPLE	S00T000619	0	F	GEA-02	CS13702	SOLID	N/A	1.348e+02	uCi/g
3	SAMPLE	S00T000619	0	F	GEA-02	CS13702E	SOLID	N/A	0.500	% Ct. Error
3	SAMPLE	S00T000619	0	F	GEA-02	EU15402	SOLID	N/A	7.013e-01	uCi/g
3	SAMPLE	S00T000619	0	F	GEA-02	EU15402E	SOLID	N/A	14.9	% Ct. Error
3	SAMPLE	S00T000619	0	F	GEA-02	EU15502	SOLID	N/A	3.092e-01	uCi/g
3	SAMPLE	S00T000619	0	F	GEA-02	EU15502E	SOLID	N/A	38.9	% Ct. Error
3	SAMPLE	S00T000619	0	F	GEA-02	AM24102	SOLID	N/A	6.766e-01	uCi/g
3	SAMPLE	S00T000619	0	F	GEA-02	AM24102E	SOLID	N/A	17.9	% Ct. Error
4	DUP	S00T000619	0	F	GEA-02	CO60-02	SOLID	<5.66e-2	<5.88e-2	RPD
4	DUP	S00T000619	0	F	GEA-02	CO60-02E	SOLID	1	n/a	% Ct Error
4	DUP	S00T000619	0	F	GEA-02	SB12502	SOLID	<5.47e-1	<5.47e-1	RPD
4	DUP	S00T000619	0	F	GEA-02	SB12502E	SOLID	1	n/a	% Ct Error
4	DUP	S00T000619	0	F	GEA-02	CS13702	SOLID	1.35e+02	1.31e+02	3.008 RPD
4	DUP	S00T000619	0	F	GEA-02	CS13702E	SOLID	1	0.500	0.500 % Ct Error
4	DUP	S00T000619	0	F	GEA-02	EU15402	SOLID	7.01e-01	6.53e-01	7.090 RPD
4	DUP	S00T000619	0	F	GEA-02	EU15402E	SOLID	1	14.5	14.500 % Ct Error
4	DUP	S00T000619	0	F	GEA-02	EU15502	SOLID	3.09e-01	<1.83e-1	RPD
4	DUP	S00T000619	0	F	GEA-02	EU15502E	SOLID	1	n/a	% Ct Error
4	DUP	S00T000619	0	F	GEA-02	AM24102	SOLID	6.77e-01	6.33e-01	6.718 RPD
4	DUP	S00T000619	0	F	GEA-02	AM24102E	SOLID	1	25.9	25.900 % Ct Error
5	SAMPLE	S00T000632	0	F	GEA-02	CO60-02	SOLID	N/A	< 5.553e-02	5.55e-002 uCi/g
5	SAMPLE	S00T000632	0	F	GEA-02	CO60-02E	SOLID	N/A	n/a	% Ct. Error
5	SAMPLE	S00T000632	0	F	GEA-02	SB12502	SOLID	N/A	< 5.455e-01	0.545 uCi/g
5	SAMPLE	S00T000632	0	F	GEA-02	SB12502E	SOLID	N/A	n/a	% Ct. Error
5	SAMPLE	S00T000632	0	F	GEA-02	CS13702	SOLID	N/A	1.349e+02	uCi/g
5	SAMPLE	S00T000632	0	F	GEA-02	CS13702E	SOLID	N/A	0.500	% Ct. Error
5	SAMPLE	S00T000632	0	F	GEA-02	EU15402	SOLID	N/A	7.582e-01	uCi/g

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

LABCORE Completed Worklist Report for Worklist# 33119

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
5 SAMPLE	S00T000632	0 F	@GEA-02	EU15402E	SOLID	N/A	13.3	% Ct. Error
5 SAMPLE	S00T000632	0 F	@GEA-02	EU15502	SOLID	N/A	4.017e-01	uCi/g
5 SAMPLE	S00T000632	0 F	@GEA-02	EU15502E	SOLID	N/A	31.3	% Ct. Error
5 SAMPLE	S00T000632	0 F	@GEA-02	AM24102	SOLID	N/A	8.025e-01	uCi/g
5 SAMPLE	S00T000632	0 F	@GEA-02	AM24102E	SOLID	N/A	20.8	% Ct. Error
6 DUP	S00T000632	0 F	@GEA-02	CO60-02	SOLID	<5.55e-2	<6.43e-2	RPD
6 DUP	S00T000632	0 F	@GEA-02	CO60-02E	SOLID	1	n/a	% Ct. Error
6 DUP	S00T000632	0 F	@GEA-02	SB12502	SOLID	<5.45e-1	<5.43e-1	RPD
6 DUP	S00T000632	0 F	@GEA-02	SB12502E	SOLID	1	n/a	% Ct. Error
6 DUP	S00T000632	0 F	@GEA-02	CS13702	SOLID	1.35e+02	1.31e+02	3.008 RPD
6 DUP	S00T000632	0 F	@GEA-02	CS13702E	SOLID	1	0.500	0.500 % Ct. Error
6 DUP	S00T000632	0 F	@GEA-02	EU15402	SOLID	7.58e-01	7.96e-01	4.891 RPD
6 DUP	S00T000632	0 F	@GEA-02	EU15402E	SOLID	1	12.6	12.600 % Ct. Error
6 DUP	S00T000632	0 F	@GEA-02	EU15502	SOLID	4.02e-01	4.17e-01	3.663 RPD
6 DUP	S00T000632	0 F	@GEA-02	EU15502E	SOLID	1	30.1	30.100 % Ct. Error
6 DUP	S00T000632	0 F	@GEA-02	AM24102	SOLID	8.02e-01	7.32e-01	9.126 RPD
6 DUP	S00T000632	0 F	@GEA-02	AM24102E	SOLID	1	18.5	18.500 % Ct. Error

Comments Section:

Comments for sample# S00T000619 and test @GEA-02 .
DL=0 => n/a.

Comments for sample# S00T000632 and test @GEA-02 .
DL=0 => n/a.

Final page for worklist# 33119

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Reviewer Signature _____ Date _____

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

LABCORE Data Entry Template for Worklist# 33119

Analyst: S.L Instrument: GEA00 1 Book# 60857Method: LA-548-121 Rev/Mod F-2

Worklist Comment: SY-102 GRAB 6 FOR @GEA-02 RTS

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	STD				@GEA-02	SOLID		
2	BLNK-PREP				@GEA-02	SOLID		
3	SAMPLE	S00T000619	0	F	@GEA-02	SOLID	20000085	SY-102 GRAB6
Analytes Requested: AM24102 , AM24102E, CO60-02 , CO60-02E, CS13702 , CS13702E, EU15402 , EU15402E, EU15502 , EU15502E, SB12502 , SB12502E								
4	DUP	S00T000619	0	F	@GEA-02	SOLID		
5	SAMPLE	S00T000632	0	F	@GEA-02	SOLID	20000085	SY-102 GRAB6
Analytes Requested: AM24102 , AM24102E, CO60-02 , CO60-02E, CS13702 , CS13702E, EU15402 , EU15402E, EU15502 , EU15502E, SB12502 , SB12502E								
6	DUP	S00T000632	0	F	@GEA-02	SOLID		

Final page for worklist # 33119

Sue Lai
Signature4-4-00
DateMVR
Signature4/8/00
Date

Data Entry Comments:

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

 * 222-S Laboratory Counting Room 5-APR-2000 13:29:39.89 *

>>>>>>>> SAMPLE INFORMATION <<<<<<<<<

Worklist #: 33119
 Sample ID: WL33119-STD
 Sample Size: 1.00000E-03 L
 Dilution Factor: 1.00000E+00

Removed by:

>>>>>>>> COUNT INFORMATION <<<<<<<<<

Detector ID: GEA1
 File Number: dka300:[spec.gea1]1g1192.cnf
 Geometry: 41
 Count Time: 0 00:50:00.00 sec
 Real Time: 0 00:50:11.17 sec
 Dead Time: 0.4%

Verified by:

>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<

Sample Count Time: 4-APR-2000 15:38:45.07
 Decayed to: 4-APR-2000 15:38:45.07
 Standard Deviations: 2
 Analysis Library: ENVGEA
 Analyst: JFR
 Background Subtract: DKA300:[SPEC.GEA1]1GBACK

>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<

Date of last energy calibration: 3-MAY-1999 13:09:39.34
 Date of last efficiency calibration: 3-MAY-1999 13:10:20.91

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw %Err	Fit	Nuclides	Activity uCi/L
0	31.95	862	0.98	64.10	60	10 15.2			
0	36.40	238	1.46	73.00	69	8 38.5			
0	661.76*	5053	1.36	1323.40	1315	16 3.2		CS-137	5.95
0	1173.23	1576	1.73	2346.46	2338	15 5.8		CO-60	2.65
0	1332.49	1411	1.84	2665.10	2657	18 6.1		CO-60	2.62
0	1460.75*	44	1.70	2921.72	2913	16124.7		K-40	0.825

Summary of Nuclide Activity

Page : 2

Sample ID : WL33119-STD

Acquisition date : 4-APR-2000 15:38:45

Total number of lines in spectrum	6	
Number of unidentified lines	2	
Number of lines tentatively identified by NID	4	66.67%

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
K-40	1.28E+09Y	1.00	8.253E-01	8.253E-01	10.29E-01	124.65	
CO-60	5.27Y	1.00	2.635E+00	2.635E+00	0.111E+00	4.20	
CS-137	30.00Y	1.00	5.946E+00	5.946E+00	0.190E+00	3.19	
Total Activity :			9.405E+00	9.405E+00			

Grand Total Activity :	9.405E+00	9.405E+00
------------------------	-----------	-----------

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Minimum Detectable Activity Report

Page : 3

Sample ID : WL33119-STD

Acquisition date : 4-APR-2000 15:38:45

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
BE-7	301.	477.59	5.9416E-01
NA-24	16.	1368.55	4.1654E-02
AR-41	38.	1293.60	6.6622E-02
SC-46	162.	1120.55	9.9977E-02
CR-51	389.	320.08	4.8128E-01
MN-54	148.	834.83	7.3899E-02
CO-56	138.	846.76	7.2426E-02
CO-58	125.	810.78	6.6721E-02
FE-59	124.	1099.25	1.5296E-01
ZN-65	117.	1115.55	1.6839E-01
SE-75	412.	264.66	7.2813E-02
KR-85	241.	514.00	1.3628E+01
SR-85	241.	514.01	6.1588E-02
Y-88	7.	1836.06	3.5783E-02
Y-91	84.	1204.67	2.5947E+01
NB-94	131.	871.09	7.2515E-02
ZRNB-95	132.	724.20	2.7758E-01
RU-103	242.	497.08	6.3169E-02
RURH-106	161.	621.93	1.1759E+00
AG-108m	127.	722.94	6.6174E-02
CD-109	527.	88.03	7.8835E-01
AG-110M	263.	657.76	8.2320E-02
SN-113	324.	391.69	8.2882E-02
TE-123m	606.	159.00	4.3524E-02
SB-124	165.	602.73	5.8606E-02
SB-125	357.	427.89	2.0491E-01
TE-125m	593.	109.27	1.1059E+01
I-129	361.	39.60	4.2278E-01
I-131	306.	364.48	5.9655E-02
XE-131m	603.	163.93	1.8940E+00
BA-133	351.	356.02	8.1610E-02
CS-134	184.	604.70	6.2062E-02
CS-136	148.	818.51	7.2819E-02
CS-138	18.	1435.86	9.4564E-02
CE-139	602.	165.85	4.6671E-02
BA-140	209.	537.31	2.3611E-01
LA-140	18.	1596.21	5.0770E-02
CE-141	613.	145.44	7.2999E-02
CE-144	652.	133.51	3.1484E-01
CEPR-144	652.	133.51	6.2912E-01
EU-152	624.	121.78	1.1628E-01
EU-154	43.	1274.51	1.7328E-01
EU-155	551.	86.54	8.8556E-02
HF-181	284.	482.18	7.4938E-02
TA-182	439.	67.75	6.4330E-02
HG-203	393.	279.20	5.3352E-02
BI-207	168.	569.70	5.6018E-02
TL-208	385.	277.36	6.7817E-01
PB-210	387.	46.50	7.1976E-01
BI-212	146.	727.18	9.6929E-01
PB-212	627.	238.63	1.1079E-01

Minimum Detectable Activity Report (continued)

Page : 4

Sample ID : WL33119-STD

Acquisition date : 4-APR-2000 15:38:45

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
BI-214	304.	609.31	1.7335E-01
PB-214	457.	351.92	2.8397E-01
RA-224	539.	240.99	1.1418E+00
RA-226	629.	186.10	1.1649E+00
AC-228	222.	911.21	3.6463E-01
TH-228	574.	84.37	2.3385E+00
TH-229	527.	88.47	1.1518E-01
U-232	491.	57.78	1.4649E+01
PA-233	396.	312.17	1.2413E-01
UTH-233	499.	245.34	4.0110E+01
PA-234M	143.	1001.03	1.3150E+01
TH-234	495.	63.29	7.5153E-01
U-235	624.	185.71	7.0523E-02
NP-237	556.	86.48	2.3536E-01
U-237	557.	101.07	1.1730E-01
NP-238	126.	984.45	2.8623E-01
NP-239	561.	106.12	1.3227E-01
PU-239	651.	129.30	5.3727E+02
AM-241	578.	59.54	8.7429E-02
AM-243	562.	74.67	4.9103E-02

 * 222-S Laboratory Counting Room 4-APR-2000 20:31:22.12 *

>>>>>>>> SAMPLE INFORMATION <<<<<<<<<

Worklist #: 33119
 Sample ID: WL33119-BLNK
 Sample Size: 2.50000E-04 L
 Dilution Factor: 1.00000E+00

Removed by:

SLH

>>>>>>>> COUNT INFORMATION <<<<<<<<<

Detector ID: GEA1
 File Number: dka300:[spec.GEA1]1g1193.cnf
 Geometry: 41
 Count Time: 0 02:30:00.00 sec
 Real Time: 0 02:30:25.81 sec
 Dead Time: 0.3%

Verified by:

John Relyea 5 Apr 00

>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<

Sample Count Time: 4-APR-2000 18:00:23.11
 Decayed to: 4-APR-2000 18:00:23.11
 Standard Deviations: 2
 Analysis Library: ENVGEA
 Analyst: SLH2
 Background Subtract: DKA300:[SPEC.GEA1]1GBACK

>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<

Date of last energy calibration: 3-MAY-1999 13:09:39.34
 Date of last efficiency calibration: 3-MAY-1999 13:10:20.91

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw %Err	Fit	Nuclides	Activity uCi/L
0	661.61*	78	1.31	1323.10	1317	12 91.2		CS-137	0.122

Summary of Nuclide Activity

Page : 2

Sample ID : WL33119-BLNK

Acquisition date : 4-APR-2000 18:00:23

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	1.00	1.223E-01	1.223E-01	1.116E-01	91.25	JJR
Total Activity :			1.223E-01	1.223E-01	Det Limit		

5 Apr 00

Grand Total Activity : 1.223E-01 1.223E-01

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Minimum Detectable Activity Report

Page : 3

Sample ID : WL33119-BLNK

Acquisition date : 4-APR-2000 18:00:23

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
BE-7	344.	477.59	8.4533E-01
NA-24	64.	1368.55	1.0685E-01
K-40	1743.	1460.75	4.8991E+00
AR-41	84.	1293.60	1.7084E-01
SC-46	238.	1120.55	1.6026E-01
CR-51	624.	320.08	8.0814E-01
MN-54	180.	834.83	1.0798E-01
CO-56	184.	846.76	1.1076E-01
CO-58	175.	810.78	1.0439E-01
FE-59	135.	1099.25	2.1278E-01
CO-60	80.	1332.50	1.0962E-01
ZN-65	131.	1115.55	2.3658E-01
SE-75	790.	264.66	1.3351E-01
KR-85	421.	514.00	2.3812E+01
SR-85	421.	514.01	1.0763E-01
Y-88	18.	1836.06	6.9668E-02
Y-91	147.	1204.67	4.5083E+01
NB-94	169.	871.09	1.0893E-01
ZRNB-95	229.	724.20	4.8092E-01
RU-103	317.	497.08	9.5958E-02
RURH-106	245.	621.93	1.9199E+00
AG-108m	198.	722.94	1.0896E-01
CD-109	1198.	88.03	1.5713E+00
AG-110M	214.	657.76	9.9293E-02
SN-113	413.	391.69	1.2426E-01
TE-123m	1277.	159.00	8.3664E-02
SB-124	245.	602.73	9.4471E-02
SB-125	392.	427.89	2.8594E-01
TE-125m	1294.	109.27	2.1615E+01
I-129	740.	39.60	7.9932E-01
I-131	491.	364.48	1.0029E-01
XE-131m	1290.	163.93	3.6731E+00
BA-133	525.	356.02	1.3226E-01
CS-134	231.	604.70	9.2294E-02
CS-136	200.	818.51	1.1225E-01
CS-138	54.	1435.86	4.2539E-01
CE-139	1301.	165.85	9.0804E-02
BA-140	291.	537.31	3.7044E-01
LA-140	45.	1596.21	1.0224E-01
CE-141	1378.	145.44	1.4488E-01
CE-144	1371.	133.51	6.0449E-01
CEPR-144	1371.	133.51	1.2080E+00
EU-152	1425.	121.78	2.3243E-01
EU-154	102.	1274.51	3.4551E-01
EU-155	1179.	86.54	1.7140E-01
HF-181	327.	482.18	1.0697E-01
TA-182	933.	67.75	1.2395E-01
HG-203	734.	279.20	9.6596E-02
BI-207	271.	569.70	9.4101E-02
TL-208	723.	277.36	1.2301E+00
PB-210	876.	46.50	1.4340E+00

Minimum Detectable Activity Report (continued)

Page : 4

Sample ID : WL33119-BLNK

Acquisition date : 4-APR-2000 18:00:23

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
BI-212	285.	727.18	1.7837E+00
PB-212	1269.	238.63	2.0869E-01
BI-214	627.	609.31	3.2878E-01
PB-214	769.	351.92	1.0859E+00
RA-224	1008.	240.99	2.0822E+00
RA-226	1281.	186.10	2.2012E+00
AC-228	349.	911.21	6.0488E-01
TH-228	1238.	84.37	4.5455E+00
TH-229	1174.	88.47	2.2741E-01
U-232	964.	57.78	2.7157E+01
PA-233	635.	312.17	2.0845E-01
UTH-233	872.	245.34	7.0225E+01
PA-234M	168.	1001.03	1.8937E+01
TH-234	1011.	63.29	1.4204E+00
U-235	1281.	185.71	1.3381E-01
NP-237	1189.	86.48	4.5542E-01
U-237	1201.	101.07	2.2866E-01
NP-238	161.	984.45	4.3496E-01
NP-239	1277.	106.12	2.6668E-01
PU-239	1378.	129.30	1.0351E+03
AM-241	996.	59.54	1.5212E-01
AM-243	1248.	74.67	9.6745E-02

 * 222-S Laboratory Counting Room 4-APR-2000 23:30:49.84 *

>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<

Worklist #: 33119
 Sample ID: S00T619-SAM
 Sample Size: 2.50000E-04 L
 Dilution Factor: 1.00000E+00

Removed by:

SLH

>>>>>>>> COUNT INFORMATION <<<<<<<<<<

Detector ID: GEA1
 File Number: dka300:[spec.GEA1]1g1194.cnf
 Geometry: 41
 Count Time: 0 02:30:00.00 sec
 Real Time: 0 02:31:09.11 sec
 Dead Time: 0.8%

Verified by:

John Relyea 5 Apr 00

>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<

Sample Count Time: 4-APR-2000 20:59:09.86
 Decayed to: 4-APR-2000 20:59:09.86
 Standard Deviations: 2
 Analysis Library: ENVGEA
 Analyst: SLH2
 Background Subtract: DKA300:[SPEC.GEA1]1GBACK

>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<<

Date of last energy calibration: 3-MAY-1999 13:09:39.34
 Date of last efficiency calibration: 3-MAY-1999 13:10:20.91

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/L
0	31.88	30311	0.98	63.96	60	8	1.7			
0	36.37	8381	1.10	72.95	69	10	5.1			
0	42.74	1065	1.20	85.68	83	7	25.8			
0	59.47	1344	0.90	119.13	116	6	17.9		AM-241	1.37
0	86.59*	563	0.84	173.35	170	8	54.0		NP-237	1.57
									EU-155	0.594
									CD-109	5.41
0	105.31	411	0.79	210.77	209	6	56.0		EU-155	0.670
0	123.02	1617	1.01	246.17	242	9	20.5		EU-154	1.49
0	661.73*	174067	1.41	1323.34	1315	16	0.5		CS-137	273.
0	722.99	162	1.34	1445.87	1439	12	45.1		ZRNB-95	1.07
									EU-154	1.18
0	1004.58	163	1.43	2009.10	2001	15	40.6		EU-154	1.78
0	1274.25	189	1.85	2548.56	2543	15	30.6		EU-154	1.31

Summary of Nuclide Activity

Page : 2

Sample ID : S00T619-SAM

Acquisition date : 4-APR-2000 20:59:09

Total number of lines in spectrum 11
 Number of unidentified lines 3
 Number of lines tentatively identified by NID 8 72.73%

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
ZRNB-95	64.02D	1.00	1.068E+00	1.069E+00	0.482E+00	45.10	1/28
CD-109	462.90D	1.00	5.406E+00	5.406E+00	2.920E+00	54.01	1/28
CS-137	30.00Y	1.00	2.731E+02	2.731E+02	0.014E+02	0.50	
EU-154	8.59Y	1.00	1.415E+00	1.415E+00	0.211E+00	14.91	
EU-155	4.68Y	1.00	6.265E-01	6.265E-01	2.440E-01	38.94	
NP-237	2.14E+06Y	1.00	1.572E+00	1.572E+00	0.849E+00	54.01	1/28
AM-241	432.20Y	1.00	1.368E+00	1.368E+00	0.245E+00	17.94	5 Apr 00
Total Activity :			2.845E+02	2.845E+02			

Grand Total Activity : 2.845E+02 2.845E+02

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Minimum Detectable Activity Report

Page : 3

Sample ID : S00T619-SAM

Acquisition date : 4-APR-2000 20:59:09

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
BE-7	5921.	477.59	3.4253E+00
NA-24	78.	1368.55	1.1713E-01
K-40	1722.	1460.75	4.8710E+00
AR-41	98.	1293.60	1.8479E-01
SC-46	290.	1120.55	1.7645E-01
CR-51	4915.	320.08	2.2355E+00
MN-54	172.	834.83	1.0561E-01
CO-56	191.	846.76	1.1285E-01
CO-58	204.	810.78	1.1227E-01
FE-59	150.	1099.25	2.2374E-01
CO-60	88.	1332.50	1.1459E-01
ZN-65	165.	1115.55	2.6416E-01
SE-75	5132.	264.66	3.3605E-01
KR-85	3168.	514.00	6.4149E+01
SR-85	3167.	514.01	2.9013E-01
Y-88	21.	1836.06	7.4987E-02
Y-91	161.	1204.67	4.7006E+01
NB-94	234.	871.09	1.2759E-01
RU-103	3705.	497.08	3.2066E-01
RURH-106	1062.	621.93	3.9214E+00
AG-108m	394.	722.94	1.5199E-01
AG-110M	5009.	657.76	4.6634E-01
SN-113	5425.	391.69	4.4151E-01
TE-123m	5278.	159.00	1.6869E-01
SB-124	1193.	602.73	2.0454E-01
SB-125	6134.	427.89	1.1073E+00
TE-125m	5261.	109.27	4.3243E+01
I-129	4802.	39.60	2.0106E+00
I-131	5092.	364.48	3.1743E-01
XE-131m	5234.	163.93	7.3387E+00
BA-133	4987.	356.02	4.0081E-01
CS-134	1217.	604.70	2.0751E-01
CS-136	168.	818.51	1.0311E-01
CS-138	50.	1435.86	4.1363E-01
CE-139	5338.	165.85	1.8248E-01
BA-140	2356.	537.31	1.0312E+00
LA-140	41.	1596.21	9.8217E-02
CE-141	5427.	145.44	2.8534E-01
CE-144	5387.	133.51	1.1890E+00
CEPR-144	5387.	133.51	2.3758E+00
EU-152	6469.	121.78	4.9122E-01
HF-181	4826.	482.18	4.0156E-01
TA-182	4648.	67.75	2.7386E-01
HG-203	5050.	279.20	2.5002E-01
BI-207	1401.	569.70	2.0972E-01
TL-208	4930.	277.36	3.1700E+00
PB-210	4718.	46.50	3.2924E+00
BI-212	285.	727.18	1.7846E+00
PB-212	5614.	238.63	4.3519E-01
BI-214	1517.	609.31	5.0741E-01
PB-214	5238.	351.92	2.8108E+00

Minimum Detectable Activity Report (continued)

Page : 4

Sample ID : S00T619-SAM

Acquisition date : 4-APR-2000 20:59:09

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
RA-224	5297.	240.99	4.7250E+00
RA-226	7103.	186.10	5.1348E+00
AC-228	396.	911.21	6.4298E-01
TH-228	5169.	84.37	9.2115E+00
TH-229	5001.	88.47	4.6542E-01
U-232	5014.	57.78	6.1300E+01
PA-233	4865.	312.17	5.6857E-01
UTH-233	5374.	245.34	1.7235E+02
PA-234M	185.	1001.03	1.9823E+01
TH-234	4607.	63.29	3.0035E+00
U-235	7003.	185.71	3.0996E-01
U-237	4840.	101.07	4.5528E-01
NP-238	157.	984.45	4.2968E-01
NP-239	5434.	106.12	5.4569E-01
PU-239	5466.	129.30	2.0455E+03
AM-243	5047.	74.67	1.9299E-01

 * 222-S Laboratory Counting Room 5-APR-2000 05:51:01.35 *

>>>>>>>> SAMPLE INFORMATION <<<<<<<<<

Worklist #: 33119
 Sample ID: S00T619-DUP
 Sample Size: 2.50000E-04 L
 Dilution Factor: 1.00000E+00

Removed by:

>>>>>>>> COUNT INFORMATION <<<<<<<<<

Detector ID: GEA1
 File Number: dka300:[spec.GEA1]1g1197.cnf
 Geometry: 41
 Count Time: 0 02:30:00.00 sec
 Real Time: 0 02:31:09.04 sec
 Dead Time: 0.8%

Verified by:

>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<

Sample Count Time: 5-APR-2000 03:19:19.39
 Decayed to: 5-APR-2000 03:19:19.39
 Standard Deviations: 2
 Analysis Library: ENVGEA
 Analyst: SLH2
 Background Subtract: DKA300:[SPEC.GEA1]1GBACK

>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<

Date of last energy calibration: 3-MAY-1999 13:09:39.34
 Date of last efficiency calibration: 3-MAY-1999 13:10:20.91

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/L
0	31.89	29332	0.96	63.99	60	9	1.9			
0	36.39	8078	1.06	72.99	69	9	4.9			
0	42.55	1098	1.08	85.30	82	7	25.0			
0	59.39	1270	0.95	118.97	115	9	25.9		AM-241	1.29
0	86.71*	686	0.81	173.59	170	8	43.7		NP-237	1.92
									CD-109	6.59
0	123.09	1395	0.95	246.30	243	8	21.8		EU-154	1.28
0	661.73*	170021	1.42	1323.35	1315	16	0.5		CS-137	267.
0	723.62	169	1.87	1447.12	1443	9	36.6		ZRNB-95	1.12
									EU-154	1.23
0	1004.72	135	1.85	2009.37	2004	14	46.8		EU-154	1.48
0	1274.60	210	2.06	2549.27	2543	14	26.3		EU-154	1.46

Summary of Nuclide Activity
Sample ID : S00T619-DUP

Page : 2
Acquisition date : 5-APR-2000 03:19:19

Total number of lines in spectrum 10
Number of unidentified lines 3
Number of lines tentatively identified by NID 7 70.00%

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
ZRNB-95	64.02D	1.00	1.116E+00	1.117E+00	0.409E+00	36.61	MR
CD-109	462.90D	1.00	6.585E+00	6.585E+00	2.877E+00	43.70	MR
CS-137	30.00Y	1.00	2.667E+02	2.667E+02	0.013E+02	0.50	
EU-154	8.59Y	1.00	1.334E+00	1.334E+00	0.194E+00	14.53	
NP-237	2.14E+06Y	1.00	1.915E+00	1.915E+00	0.837E+00	43.70	MR
AM-241	432.20Y*****		1.292E+00	1.292E+00	0.335E+00	25.91	5 Apr 00
Total Activity :			2.790E+02	2.790E+02			

Grand Total Activity : 2.790E+02 2.790E+02

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Minimum Detectable Activity Report
Sample ID : S00T619-DUP

Page : 3
Acquisition date : 5-APR-2000 03:19:19

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
BE-7	5884.	477.59	3.4146E+00
NA-24	79.	1368.55	1.1799E-01
K-40	1765.	1460.75	4.9294E+00
AR-41	85.	1293.60	1.7219E-01
SC-46	250.	1120.55	1.6410E-01
CR-51	4850.	320.08	2.2210E+00
MN-54	200.	834.83	1.1372E-01
CO-56	191.	846.76	1.1266E-01
CO-58	178.	810.78	1.0511E-01
FE-59	152.	1099.25	2.2525E-01
CO-60	96.	1332.50	1.1979E-01
ZN-65	148.	1115.55	2.5075E-01
SE-75	4980.	264.66	3.3108E-01
KR-85	3136.	514.00	6.3829E+01
SR-85	3134.	514.01	2.8867E-01
Y-88	23.	1836.06	7.8200E-02
Y-91	167.	1204.67	4.7888E+01
NB-94	235.	871.09	1.2778E-01
RU-103	3628.	497.08	3.1734E-01
RURH-106	1181.	621.93	4.1314E+00
AG-108m	444.	722.94	1.6110E-01
AG-110M	4911.	657.76	4.6178E-01
SN-113	5388.	391.69	4.4003E-01
TE-123m	5234.	159.00	1.6798E-01
SB-124	1119.	602.73	1.9821E-01
SB-125	6205.	427.89	1.1136E+00
TE-125m	5006.	109.27	4.2189E+01
I-129	4623.	39.60	1.9731E+00
I-131	5000.	364.48	3.1456E-01
XE-131m	5205.	163.93	7.3181E+00
BA-133	4958.	356.02	3.9966E-01
CS-134	1130.	604.70	2.0000E-01
CS-136	177.	818.51	1.0574E-01
CS-138	49.	1435.86	4.0972E-01
CE-139	5099.	165.85	1.7838E-01
BA-140	2135.	537.31	9.8219E-01
LA-140	59.	1596.21	1.1659E-01
CE-141	5200.	145.44	2.7937E-01
CE-144	5262.	133.51	1.1752E+00
CEPR-144	5262.	133.51	2.3483E+00
EU-152	6486.	121.78	4.9185E-01
EU-155	5695.	86.54	3.7335E-01
HF-181	4719.	482.18	3.9712E-01
TA-182	4488.	67.75	2.6913E-01
HG-203	4912.	279.20	2.4661E-01
BI-207	1356.	569.70	2.0640E-01
TL-208	4991.	277.36	3.1893E+00
PB-210	4619.	46.50	3.2577E+00
BI-212	275.	727.18	1.7523E+00
PB-212	5459.	238.63	4.2919E-01
BI-214	1496.	609.31	5.0389E-01

Minimum Detectable Activity Report (continued)

Page : 4

Sample ID : S00T619-DUP

Acquisition date : 5-APR-2000 03:19:19

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
PB-214	5079.	351.92	2.7682E+00
RA-224	5281.	240.99	4.7179E+00
RA-226	7042.	186.10	5.1130E+00
AC-228	378.	911.21	6.2892E-01
TH-228	5068.	84.37	9.1225E+00
TH-229	4917.	88.47	4.6150E-01
U-232	4999.	57.78	6.1212E+01
PA-233	4910.	312.17	5.7117E-01
UTH-233	5311.	245.34	1.7135E+02
PA-234M	200.	1001.03	2.0587E+01
TH-234	4677.	63.29	3.0260E+00
U-235	7011.	185.71	3.1014E-01
U-237	4920.	101.07	4.5900E-01
NP-238	171.	984.45	4.4794E-01
NP-239	5453.	106.12	5.4661E-01
PU-239	5319.	129.30	2.0182E+03
AM-243	5029.	74.67	1.9263E-01

 * 222-S Laboratory Counting Room 5-APR-2000 09:05:28.77 *

>>>>>>>> SAMPLE INFORMATION <<<<<<<<<

Worklist #: 33119
 Sample ID: S00T632-SAM
 Sample Size: 2.50000E-04 L
 Dilution Factor: 1.00000E+00

Removed by:

>>>>>>>> COUNT INFORMATION <<<<<<<<<

Detector ID: GEA1
 File Number: dka300:[spec.GEA1]1g1198.cnf
 Geometry: 41
 Count Time: 0 02:30:00.00 sec
 Real Time: 0 02:31:10.30 sec
 Dead Time: 0.8%

Verified by:

>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<

Sample Count Time: 5-APR-2000 06:33:48.14
 Decayed to: 5-APR-2000 06:33:48.14
 Standard Deviations: 2
 Analysis Library: ENVGEA
 Analyst: NEW
 Background Subtract: DKA300:[SPEC.GEA1]1GBACK

>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<

Date of last energy calibration: 3-MAY-1999 13:09:39.34
 Date of last efficiency calibration: 3-MAY-1999 13:10:20.91

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/L
0	31.87	30129	0.98	63.96	60	8	1.8			
0	36.36	8463	1.03	72.93	69	9	4.8			
0	42.53	1267	1.66	85.26	81	9	27.0			
0	59.44	1603	0.92	119.07	115	9	20.8		AM-241	1.63
0	86.17*	752	0.82	172.49	168	8	40.2		NP-237	2.10
									EU-155	0.794
0	105.34	524	0.90	210.83	208	7	50.1		EU-155	0.855
0	123.08	1349	0.99	246.29	243	8	22.7		EU-154	1.24
0	661.74*	174524	1.41	1323.36	1315	16	0.5		CS-137	274.
0	723.31	215	1.34	1446.51	1439	14	37.2		ZRNB-95	1.42
									EU-154	1.56
0	1005.77	174	2.13	2011.47	2000	23	52.5		EU-154	1.91
0	1274.36	285	1.79	2548.78	2541	14	18.5		EU-154	1.98

Summary of Nuclide Activity

Page : 2

Sample ID : S00T632-SAM

Acquisition date : 5-APR-2000 06:33:48

Total number of lines in spectrum 11
 Number of unidentified lines 3
 Number of lines tentatively identified by NID 8 72.73%

Nuclide Type :

Nuclide	Hlife	Decay	Wtd Mean	Wtd Mean	Decay Corr	2-Sigma Error	2-Sigma	Flags
			Uncorrected	Decay Corr				
			uCi/L	uCi/L			%Error	
ZRNB-95	64.02D	1.00	1.418E+00	1.419E+00	0.528E+00	37.19		870
CS-137	30.00Y	1.00	2.738E+02	2.738E+02	0.014E+02	0.50		
EU-154	8.59Y	1.00	1.538E+00	1.538E+00	0.204E+00	13.27		
EU-155	4.68Y	1.00	8.155E-01	8.155E-01	2.556E-01	31.34		
NP-237	2.14E+06Y	1.00	2.100E+00	2.100E+00	0.843E+00	40.16		870
AM-241	432.20Y*****		1.632E+00	1.632E+00	0.339E+00	20.80		5 Apr 00
Total Activity :			2.813E+02	2.813E+02				

Grand Total Activity : 2.813E+02 2.813E+02

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Minimum Detectable Activity Report

Page : 3

Sample ID : S00T632-SAM

Acquisition date : 5-APR-2000 06:33:48

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
BE-7	5918.	477.59	3.4243E+00
NA-24	72.	1368.55	1.1302E-01
K-40	1790.	1460.75	4.9648E+00
AR-41	99.	1293.60	1.8570E-01
SC-46	272.	1120.55	1.7101E-01
CR-51	4955.	320.08	2.2446E+00
MN-54	187.	834.83	1.1016E-01
CO-56	177.	846.76	1.0857E-01
CO-58	178.	810.78	1.0534E-01
FE-59	157.	1099.25	2.2836E-01
CO-60	85.	1332.50	1.1280E-01
ZN-65	139.	1115.55	2.4300E-01
SE-75	5133.	264.66	3.3609E-01
KR-85	3155.	514.00	6.4019E+01
SR-85	3153.	514.01	2.8951E-01
Y-88	18.	1836.06	7.0811E-02
Y-91	131.	1204.67	4.2570E+01
NB-94	258.	871.09	1.3372E-01
RU-103	3716.	497.08	3.2112E-01
RURH-106	1062.	621.93	3.9208E+00
AG-108m	441.	722.94	1.6056E-01
CD-109	5187.	88.03	3.2417E+00
AG-110M	5083.	657.76	4.6971E-01
SN-113	5428.	391.69	4.4165E-01
TE-123m	5315.	159.00	1.6926E-01
SB-124	1109.	602.73	1.9727E-01
SB-125	6143.	427.89	1.1081E+00
TE-125m	5120.	109.27	4.2665E+01
I-129	4782.	39.60	2.0064E+00
I-131	5069.	364.48	3.1672E-01
XE-131m	5335.	163.93	7.4084E+00
BA-133	5032.	356.02	4.0260E-01
CS-134	1163.	604.70	2.0287E-01
CS-136	171.	818.51	1.0420E-01
CS-138	62.	1435.86	4.5680E-01
CE-139	5210.	165.85	1.8029E-01
BA-140	2261.	537.31	1.0104E+00
LA-140	47.	1596.21	1.0436E-01
CE-141	5235.	145.44	2.8030E-01
CE-144	5466.	133.51	1.1976E+00
CEPR-144	5466.	133.51	2.3930E+00
EU-152	6540.	121.78	4.9391E-01
HF-181	4782.	482.18	3.9976E-01
TA-182	4595.	67.75	2.7229E-01
HG-203	4969.	279.20	2.4801E-01
BI-207	1390.	569.70	2.0891E-01
TL-208	5039.	277.36	3.2044E+00
PB-210	4739.	46.50	3.2995E+00
BI-212	248.	727.18	1.6690E+00
PB-212	5784.	238.63	4.4168E-01
BI-214	1545.	609.31	5.1191E-01

Minimum Detectable Activity Report (continued)

Page : 4

Sample ID : S00T632-SAM

Acquisition date : 5-APR-2000 06:33:48

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
PB-214	5367.	351.92	2.8454E+00
RA-224	5544.	240.99	4.8329E+00
RA-226	7185.	186.10	5.1642E+00
AC-228	362.	911.21	6.1572E-01
TH-228	5219.	84.37	9.2562E+00
TH-229	4924.	88.47	4.6184E-01
U-232	5091.	57.78	6.1770E+01
PA-233	5090.	312.17	5.8148E-01
UTH-233	5286.	245.34	1.7096E+02
PA-234M	186.	1001.03	1.9871E+01
TH-234	4757.	63.29	3.0517E+00
U-235	7106.	185.71	3.1222E-01
U-237	5125.	101.07	4.6840E-01
NP-238	154.	984.45	4.2482E-01
NP-239	5600.	106.12	5.5388E-01
PU-239	5359.	129.30	2.0257E+03
AM-243	5160.	74.67	1.9512E-01

 * 222-S Laboratory Counting Room 5-APR-2000 11:44:52.41 *

>>>>>>>> SAMPLE INFORMATION <<<<<<<<<

Worklist #: 33119
 Sample ID: S00T632-DUP
 Sample Size: 2.50000E-04 L
 Dilution Factor: 1.00000E+00

Removed by:

>>>>>>>> COUNT INFORMATION <<<<<<<<<

Detector ID: GEA1
 File Number: dka300:[spec.GEA1]1g1199.cnf
 Geometry: 41
 Count Time: 0 02:30:00.00 sec
 Real Time: 0 02:31:08.33 sec
 Dead Time: 0.8%

Verified by:

>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<

Sample Count Time: 5-APR-2000 09:13:13.18
 Decayed to: 5-APR-2000 09:13:13.18
 Standard Deviations: 2
 Analysis Library: ENVGEA
 Analyst: NEW
 Background Subtract: DKA300:[SPEC.GEA1]1GBACK

>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<

Date of last energy calibration: 3-MAY-1999 13:09:39.34
 Date of last efficiency calibration: 3-MAY-1999 13:10:20.91

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/L
0	31.86	29213	0.94	63.94	60	9	1.9			
0	36.36	8312	1.07	72.94	69	10	5.1			
0	42.66	1227	1.19	85.53	82	8	24.7			
0	59.47	1454	0.95	119.13	116	7	18.5		AM-241	1.48
0	86.83*	662	0.93	173.83	170	8	45.4		NP-237	1.85
									EU-155	0.699
									CD-109	6.36
0	105.29	672	0.83	210.72	208	7	38.5		EU-155	1.10
0	123.00	1829	1.01	246.14	242	9	18.0		EU-154	1.68
0	661.74*	168983	1.41	1323.37	1315	15	0.5		CS-137	265.
0	723.44	182	1.37	1446.76	1441	11	38.3		ZRNB-95	1.20
									EU-154	1.32
0	873.43	115	1.66	1746.76	1739	14	57.7		EU-154	1.65
0	996.70	60	0.84	1993.33	1986	13	103.8		EU-154	1.13
0	1004.56	188	2.14	2009.05	2000	17	37.2		EU-154	2.05
0	1274.56	229	1.98	2549.19	2543	14	25.3		EU-154	1.59

Summary of Nuclide Activity

Page : 2

Sample ID : S00T632-DUP

Acquisition date : 5-APR-2000 09:13:13

Total number of lines in spectrum 13
 Number of unidentified lines 3
 Number of lines tentatively identified by NID 10 76.92%

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
ZRNB-95	64.02D	1.00	1.197E+00	1.198E+00	0.459E+00	38.31	800
CD-109	462.90D	1.00	6.358E+00	6.359E+00	2.890E+00	45.44	800
CS-137	30.00Y	1.00	2.651E+02	2.651E+02	0.013E+02	0.50	
EU-154	8.59Y	1.00	1.610E+00	1.610E+00	0.202E+00	12.55	
EU-155	4.68Y	1.00	8.426E-01	8.426E-01	2.538E-01	30.12	
NP-237	2.14E+06Y	1.00	1.849E+00	1.849E+00	0.840E+00	45.44	800
AM-241	432.20Y*****		1.480E+00	1.480E+00	0.274E+00	18.51	5 Apr 00
Total Activity :			2.784E+02	2.784E+02			

Grand Total Activity : 2.784E+02 2.784E+02

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Minimum Detectable Activity Report

Sample ID : S00T632-DUP

Page : 3

Acquisition date : 5-APR-2000 09:13:13

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
BE-7	5749.	477.59	3.3756E+00
NA-24	61.	1368.55	1.0450E-01
K-40	1738.	1460.75	4.8924E+00
AR-41	89.	1293.60	1.7641E-01
SC-46	250.	1120.55	1.6414E-01
CR-51	4795.	320.08	2.2084E+00
MN-54	188.	834.83	1.1035E-01
CO-56	178.	846.76	1.0900E-01
CO-58	185.	810.78	1.0726E-01
FE-59	143.	1099.25	2.1883E-01
CO-60	115.	1332.50	1.3014E-01
ZN-65	146.	1115.55	2.4898E-01
SE-75	5078.	264.66	3.3431E-01
KR-85	3039.	514.00	6.2848E+01
SR-85	3038.	514.01	2.8422E-01
Y-88	30.	1836.06	8.8402E-02
Y-91	158.	1204.67	4.6582E+01
NB-94	253.	871.09	1.3245E-01
RU-103	3504.	497.08	3.1194E-01
RURH-106	1057.	621.93	3.9120E+00
AG-108m	422.	722.94	1.5724E-01
AG-110M	4746.	657.76	4.5402E-01
SN-113	5201.	391.69	4.3240E-01
TE-123m	5163.	159.00	1.6685E-01
SB-124	1163.	602.73	2.0197E-01
SB-125	6028.	427.89	1.0978E+00
TE-125m	5003.	109.27	4.2175E+01
I-129	4639.	39.60	1.9764E+00
I-131	4861.	364.48	3.1020E-01
XE-131m	5111.	163.93	7.2525E+00
BA-133	4784.	356.02	3.9265E-01
CS-134	1108.	604.70	1.9811E-01
CS-136	181.	818.51	1.0700E-01
CS-138	45.	1435.86	3.9390E-01
CE-139	5149.	165.85	1.7924E-01
BA-140	2201.	537.31	9.9695E-01
LA-140	51.	1596.21	1.0885E-01
CE-141	5194.	145.44	2.7920E-01
CE-144	5147.	133.51	1.1624E+00
CEPR-144	5148.	133.51	2.3228E+00
EU-152	6506.	121.78	4.9263E-01
HF-181	4605.	482.18	3.9233E-01
TA-182	4433.	67.75	2.6749E-01
HG-203	4945.	279.20	2.4743E-01
BI-207	1410.	569.70	2.1042E-01
TL-208	4878.	277.36	3.1535E+00
PB-210	4681.	46.50	3.2794E+00
BI-212	292.	727.18	1.8058E+00
PB-212	5543.	238.63	4.3248E-01
BI-214	1462.	609.31	4.9832E-01
PB-214	5185.	351.92	2.7966E+00

Minimum Detectable Activity Report (continued)

Page : 4

Sample ID : S00T632-DUP

Acquisition date : 5-APR-2000 09:13:13

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
RA-224	5318.	240.99	4.7340E+00
RA-226	7135.	186.10	5.1465E+00
AC-228	379.	911.21	6.2965E-01
TH-228	5127.	84.37	9.1742E+00
TH-229	4904.	88.47	4.6090E-01
U-232	4924.	57.78	6.0751E+01
PA-233	4807.	312.17	5.6520E-01
UTH-233	5312.	245.34	1.7137E+02
PA-234M	164.	1001.03	1.8692E+01
TH-234	4619.	63.29	3.0073E+00
U-235	7050.	185.71	3.1100E-01
U-237	4956.	101.07	4.6063E-01
NP-238	170.	984.45	4.4595E-01
NP-239	5466.	106.12	5.4724E-01
PU-239	5315.	129.30	2.0174E+03
AM-243	5143.	74.67	1.9480E-01

LABCORE Completed Worklist Report for Worklist# 33120

Analyst: scl

Instrument: GEA02

Book#: 60B57

Method: LA-548-121 Rev/Mod 8.2

Worklist Comment: SY-102 GRAB 6 FOR @GEA-03 RTS

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD	0	0	GEA-03 CO60-02	LIQUID	2.714e-03	2.81e-03	103.537	% Recovery
1 STD	0	0	GEA-03 CO60-02E	LIQUID	1	4.12	4.120	% Ct Error
1 STD	0	0	GEA-03 CS13702	LIQUID	6.133e-03	6.37e-03	103.864	% Recovery
1 STD	0	0	GEA-03 CS13702E	LIQUID	1	3.39	3.390	% Ct Error
2 BLNK	0	0	GEA-03 CO60-02	LIQUID	1	<1.86e-3		uCi/mL
2 BLNK	0	0	GEA-03 NB94-02	LIQUID	1	<1.72e-3		uCi/mL
2 BLNK	0	0	GEA-03 RU10602	LIQUID	1	<3.07e-2		uCi/mL
2 BLNK	0	0	GEA-03 CS13402	LIQUID	1	<1.77e-3		uCi/mL
2 BLNK	0	0	GEA-03 CS13702	LIQUID	1	<3.04e-3		uCi/mL
2 BLNK	0	0	GEA-03 CE14402	LIQUID	1	<1.79e-2		uCi/mL
2 BLNK	0	0	GEA-03 RU15402	LIQUID	1	<5.73e-3		uCi/mL
2 BLNK	0	0	GEA-03 RU15502	LIQUID	1	<3.84e-3		uCi/mL
2 BLNK	0	0	GEA-03 RA22602	LIQUID	1	<3.11e-2		uCi/mL
3 SAMPLE	S00T000513	0	GEA-03 CO60-02	LIQUID	N/A	1.120e-02		uCi/mL
3 SAMPLE	S00T000513	0	GEA-03 CO60-02E	LIQUID	N/A	19.3		% Ct. Error
3 SAMPLE	S00T000513	0	GEA-03 NB94-02	LIQUID	N/A	< 4.718e-03	4.72e-003	uCi/mL
3 SAMPLE	S00T000513	0	GEA-03 NB94-02E	LIQUID	N/A	n/a		% Ct. Error
3 SAMPLE	S00T000513	0	GEA-03 RU10602	LIQUID	N/A	< 6.775e-01	0.677	uCi/mL
3 SAMPLE	S00T000513	0	GEA-03 RU10602E	LIQUID	N/A	n/a		% Ct. Error
3 SAMPLE	S00T000513	0	GEA-03 CS13402	LIQUID	N/A	< 3.393e-02	3.39e-002	uCi/mL
3 SAMPLE	S00T000513	0	GEA-03 CS13402E	LIQUID	N/A	n/a		% Ct. Error
3 SAMPLE	S00T000513	0	GEA-03 CS13702	LIQUID	N/A	2.460e+02		uCi/mL
3 SAMPLE	S00T000513	0	GEA-03 CS13702E	LIQUID	N/A	0.0900		% Ct. Error
3 SAMPLE	S00T000513	0	GEA-03 CE14402	LIQUID	N/A	< 4.311e-01	0.431	uCi/mL
3 SAMPLE	S00T000513	0	GEA-03 CE14402E	LIQUID	N/A	n/a		% Ct. Error
3 SAMPLE	S00T000513	0	GEA-03 RU15402	LIQUID	N/A	< 8.041e-03	8.04e-003	uCi/mL
3 SAMPLE	S00T000513	0	GEA-03 RU15402E	LIQUID	N/A	n/a		% Ct. Error
3 SAMPLE	S00T000513	0	GEA-03 RU15502	LIQUID	N/A	< 9.976e-02	9.98e-002	uCi/mL
3 SAMPLE	S00T000513	0	GEA-03 RU15502E	LIQUID	N/A	n/a		% Ct. Error
3 SAMPLE	S00T000513	0	GEA-03 RA22602	LIQUID	N/A	< 8.087e-01	0.809	uCi/mL
3 SAMPLE	S00T000513	0	GEA-03 RA22602E	LIQUID	N/A	n/a		% Ct. Error
4 DUP	S00T000513	0	GEA-03 CO60-02	LIQUID	1.12e-02	1.05e-02	6.452	RPD
4 DUP	S00T000513	0	GEA-03 CO60-02E	LIQUID	1	24.6	24.600	% Ct Error
4 DUP	S00T000513	0	GEA-03 NB94-02	LIQUID	<4.72e-3	<5.32e-3		RPD
4 DUP	S00T000513	0	GEA-03 NB94-02E	LIQUID	1	n/a		% Ct Error
4 DUP	S00T000513	0	GEA-03 RU10602	LIQUID	<6.77e-1	<7.16e-1		RPD
4 DUP	S00T000513	0	GEA-03 RU10602E	LIQUID	1	n/a		% Ct Error
4 DUP	S00T000513	0	GEA-03 CS13402	LIQUID	<3.39e-2	<3.57e-2		RPD
4 DUP	S00T000513	0	GEA-03 CS13402E	LIQUID	1	n/a		% Ct Error
4 DUP	S00T000513	0	GEA-03 CS13702	LIQUID	2.46e+02	2.70e+02	9.302	RPD
4 DUP	S00T000513	0	GEA-03 CS13702E	LIQUID	1	0.0900	0.090	% Ct Error

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

LABCORE Completed Worklist Report for Worklist# 33120

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
4 DUP	800T000513	0	OGEA-03	CE14402	LIQUID	<4.31e-1	<4.52e-1	RPD
4 DUP	800T000513	0	OGEA-03	CE14402E	LIQUID	1	n/a	% Ct Error
4 DUP	800T000513	0	OGEA-03	FU15402	LIQUID	<8.04e-3	<8.86e-3	RPD
4 DUP	800T000513	0	OGEA-03	FU15402E	LIQUID	1	n/a	% Ct Error
4 DUP	800T000513	0	OGEA-03	FU15502	LIQUID	<9.98e-2	<1.05e-1	RPD
4 DUP	800T000513	0	OGEA-03	FU15502E	LIQUID	1	n/a	% Ct Error
4 DUP	800T000513	0	OGEA-03	RA22602	LIQUID	<8.09e-1	<8.47e-1	RPD
4 DUP	800T000513	0	OGEA-03	RA22602E	LIQUID	1	n/a	% Ct Error
5 SAMPLE	800T000612	0	OGEA-03	CO60-02	LIQUID	N/A	1.330e-02	uCi/mL
5 SAMPLE	800T000612	0	OGEA-03	CO60-02E	LIQUID	N/A	17.1	% Ct. Error
5 SAMPLE	800T000612	0	OGEA-03	NB94-02	LIQUID	N/A	4.868e-03	4.87e-003 uCi/mL
5 SAMPLE	800T000612	0	OGEA-03	NB94-02E	LIQUID	N/A	n/a	% Ct. Error
5 SAMPLE	800T000612	0	OGEA-03	FU10602	LIQUID	N/A	6.742e-01	0.674 uCi/mL
5 SAMPLE	800T000612	0	OGEA-03	FU10602E	LIQUID	N/A	n/a	% Ct. Error
5 SAMPLE	800T000612	0	OGEA-03	CS13402	LIQUID	N/A	3.392e-02	3.39e-002 uCi/mL
5 SAMPLE	800T000612	0	OGEA-03	CS13402E	LIQUID	N/A	n/a	% Ct. Error
5 SAMPLE	800T000612	0	OGEA-03	CS13702	LIQUID	N/A	2.450e+02	uCi/mL
5 SAMPLE	800T000612	0	OGEA-03	CS13702E	LIQUID	N/A	0.0900	% Ct. Error
5 SAMPLE	800T000612	0	OGEA-03	CE14402	LIQUID	N/A	4.293e-01	0.429 uCi/mL
5 SAMPLE	800T000612	0	OGEA-03	CE14402E	LIQUID	N/A	n/a	% Ct. Error
5 SAMPLE	800T000612	0	OGEA-03	FU15402	LIQUID	N/A	9.012e-03	9.01e-003 uCi/mL
5 SAMPLE	800T000612	0	OGEA-03	FU15402E	LIQUID	N/A	n/a	% Ct. Error
5 SAMPLE	800T000612	0	OGEA-03	FU15502	LIQUID	N/A	9.990e-02	9.99e-002 uCi/mL
5 SAMPLE	800T000612	0	OGEA-03	FU15502E	LIQUID	N/A	n/a	% Ct. Error
5 SAMPLE	800T000612	0	OGEA-03	RA22602	LIQUID	N/A	8.055e-01	0.805 uCi/mL
5 SAMPLE	800T000612	0	OGEA-03	RA22602E	LIQUID	N/A	n/a	% Ct. Error
6 DUP	800T000612	0	OGEA-03	CO60-02	LIQUID	1.33e-02	1.03e-02	25.424 RPD
6 DUP	800T000612	0	OGEA-03	CO60-02E	LIQUID	1	19.4	19.400 % Ct Error
6 DUP	800T000612	0	OGEA-03	NB94-02	LIQUID	<4.87e-3	<4.61e-3	RPD
6 DUP	800T000612	0	OGEA-03	NB94-02E	LIQUID	1	n/a	% Ct Error
6 DUP	800T000612	0	OGEA-03	FU10602	LIQUID	<6.74e-1	<6.65e-1	RPD
6 DUP	800T000612	0	OGEA-03	FU10602E	LIQUID	1	n/a	% Ct Error
6 DUP	800T000612	0	OGEA-03	CS13402	LIQUID	<3.39e-2	<3.33e-2	RPD
6 DUP	800T000612	0	OGEA-03	CS13402E	LIQUID	1	n/a	% Ct Error
6 DUP	800T000612	0	OGEA-03	CS13702	LIQUID	2.45e+02	2.35e+02	4.167 RPD
6 DUP	800T000612	0	OGEA-03	CS13702E	LIQUID	1	0.100	0.100 % Ct Error
6 DUP	800T000612	0	OGEA-03	CE14402	LIQUID	<4.29e-1	<4.20e-1	RPD
6 DUP	800T000612	0	OGEA-03	CE14402E	LIQUID	1	n/a	% Ct Error
6 DUP	800T000612	0	OGEA-03	FU15402	LIQUID	<9.01e-3	<9.19e-3	RPD
6 DUP	800T000612	0	OGEA-03	FU15402E	LIQUID	1	n/a	% Ct Error
6 DUP	800T000612	0	OGEA-03	FU15502	LIQUID	<9.99e-2	<9.76e-2	RPD
6 DUP	800T000612	0	OGEA-03	FU15502E	LIQUID	1	n/a	% Ct Error
6 DUP	800T000612	0	OGEA-03	RA22602	LIQUID	<8.05e-1	<7.92e-1	RPD
6 DUP	800T000612	0	OGEA-03	RA22602E	LIQUID	1	n/a	% Ct Error
7 SAMPLE	800T000628	0	OGEA-03	CO60-02	LIQUID	N/A	1.148e-02	1.15e-002 uCi/mL
7 SAMPLE	800T000628	0	OGEA-03	CO60-02E	LIQUID	N/A	n/a	% Ct. Error
7 SAMPLE	800T000628	0	OGEA-03	NB94-02	LIQUID	N/A	7.909e-03	7.91e-003 uCi/mL
7 SAMPLE	800T000628	0	OGEA-03	NB94-02E	LIQUID	N/A	n/a	% Ct. Error
7 SAMPLE	800T000628	0	OGEA-03	FU10602	LIQUID	N/A	1.312e+00	1.312 uCi/mL

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

LABCORE Completed Worklist Report for Worklist# 33120

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
7 SAMPLE	800T000628	0	OGRA-03 RU10602E	LIQUID	N/A	n/a		% Ct. Error
7 SAMPLE	800T000628	0	OGRA-03 CS13402	LIQUID	N/A	6.532e-02	6.53e-002	uCi/mL
7 SAMPLE	800T000628	0	OGRA-03 CS13402E	LIQUID	N/A	n/a		% Ct. Error
7 SAMPLE	800T000628	0	OGRA-03 CS13702	LIQUID	N/A	2.330e+02		uCi/mL
7 SAMPLE	800T000628	0	OGRA-03 CS13702E	LIQUID	N/A	0.180		% Ct. Error
7 SAMPLE	800T000628	0	OGRA-03 CE14402	LIQUID	N/A	9.745e-01	0.975	uCi/mL
7 SAMPLE	800T000628	0	OGRA-03 CE14402E	LIQUID	N/A	n/a		% Ct. Error
7 SAMPLE	800T000628	0	OGRA-03 EU15402	LIQUID	N/A	2.467e-02	2.47e-002	uCi/mL
7 SAMPLE	800T000628	0	OGRA-03 EU15402E	LIQUID	N/A	n/a		% Ct. Error
7 SAMPLE	800T000628	0	OGRA-03 EU15502	LIQUID	N/A	2.299e-01	0.230	uCi/mL
7 SAMPLE	800T000628	0	OGRA-03 EU15502E	LIQUID	N/A	n/a		% Ct. Error
7 SAMPLE	800T000628	0	OGRA-03 RA22602	LIQUID	N/A	1.770e+00	1.770	uCi/mL
7 SAMPLE	800T000628	0	OGRA-03 RA22602E	LIQUID	N/A	n/a		% Ct. Error
8 DUP	800T000628	0	OGRA-03 CO60-02	LIQUID	<1.15e-2	<1.21e-2		RPD
8 DUP	800T000628	0	OGRA-03 CO60-02E	LIQUID	1	n/a		% Ct. Error
8 DUP	800T000628	0	OGRA-03 NB94-02	LIQUID	<7.91e-3	<7.90e-3		RPD
8 DUP	800T000628	0	OGRA-03 NB94-02E	LIQUID	1	n/a		% Ct. Error
8 DUP	800T000628	0	OGRA-03 RU10602	LIQUID	<1.31e0	<1.38e0		RPD
8 DUP	800T000628	0	OGRA-03 RU10602E	LIQUID	1	n/a		% Ct. Error
8 DUP	800T000628	0	OGRA-03 CS13402	LIQUID	<6.53e-2	<6.94e-2		RPD
8 DUP	800T000628	0	OGRA-03 CS13402E	LIQUID	1	n/a		% Ct. Error
8 DUP	800T000628	0	OGRA-03 CS13702	LIQUID	2.33e+02	2.57e+02	9.796	RPD
8 DUP	800T000628	0	OGRA-03 CS13702E	LIQUID	1	0.170	0.170	% Ct. Error
8 DUP	800T000628	0	OGRA-03 CE14402	LIQUID	<9.75e-1	<1.03e0		RPD
8 DUP	800T000628	0	OGRA-03 CE14402E	LIQUID	1	n/a		% Ct. Error
8 DUP	800T000628	0	OGRA-03 EU15402	LIQUID	<2.47e-2	<2.41e-2		RPD
8 DUP	800T000628	0	OGRA-03 EU15402E	LIQUID	1	n/a		% Ct. Error
8 DUP	800T000628	0	OGRA-03 EU15502	LIQUID	<2.30e-1	<2.42e-1		RPD
8 DUP	800T000628	0	OGRA-03 EU15502E	LIQUID	1	n/a		% Ct. Error
8 DUP	800T000628	0	OGRA-03 RA22602	LIQUID	<1.77e0	<1.86e0		RPD
8 DUP	800T000628	0	OGRA-03 RA22602E	LIQUID	1	n/a		% Ct. Error
9 SAMPLE	800T000637	0	OGRA-03 CO60-02	LIQUID	N/A	1.160e-02		uCi/mL
9 SAMPLE	800T000637	0	OGRA-03 CO60-02E	LIQUID	N/A	17.9		% Ct. Error
9 SAMPLE	800T000637	0	OGRA-03 NB94-02	LIQUID	N/A	4.854e-03	4.85e-003	uCi/mL
9 SAMPLE	800T000637	0	OGRA-03 NB94-02E	LIQUID	N/A	n/a		% Ct. Error
9 SAMPLE	800T000637	0	OGRA-03 RU10602	LIQUID	N/A	6.701e-01	0.670	uCi/mL
9 SAMPLE	800T000637	0	OGRA-03 RU10602E	LIQUID	N/A	n/a		% Ct. Error
9 SAMPLE	800T000637	0	OGRA-03 CS13402	LIQUID	N/A	3.363e-02	3.36e-002	uCi/mL
9 SAMPLE	800T000637	0	OGRA-03 CS13402E	LIQUID	N/A	n/a		% Ct. Error
9 SAMPLE	800T000637	0	OGRA-03 CS13702	LIQUID	N/A	2.410e+02		uCi/mL
9 SAMPLE	800T000637	0	OGRA-03 CS13702E	LIQUID	N/A	0.0900		% Ct. Error
9 SAMPLE	800T000637	0	OGRA-03 CE14402	LIQUID	N/A	4.259e-01	0.426	uCi/mL
9 SAMPLE	800T000637	0	OGRA-03 CE14402E	LIQUID	N/A	n/a		% Ct. Error
9 SAMPLE	800T000637	0	OGRA-03 EU15402	LIQUID	N/A	8.448e-03	8.45e-003	uCi/mL
9 SAMPLE	800T000637	0	OGRA-03 EU15402E	LIQUID	N/A	n/a		% Ct. Error
9 SAMPLE	800T000637	0	OGRA-03 EU15502	LIQUID	N/A	9.869e-02	9.87e-002	uCi/mL
9 SAMPLE	800T000637	0	OGRA-03 EU15502E	LIQUID	N/A	n/a		% Ct. Error
9 SAMPLE	800T000637	0	OGRA-03 RA22602	LIQUID	N/A	7.971e-01	0.797	uCi/mL
9 SAMPLE	800T000637	0	OGRA-03 RA22602E	LIQUID	N/A	n/a		% Ct. Error

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

LABCORE Completed Worklist Report for Worklist# 33120

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
10 DUP	S00T000637	0	@GEA-03	CO60-02 LIQUID	1.16e-02	1.14e-02	1.739	RPD
10 DUP	S00T000637	0	@GEA-03	CO60-02E LIQUID	1	17.6	17.600	% Ct Error
10 DUP	S00T000637	0	@GEA-03	NB94-02 LIQUID	<4.85e-3	<4.65e-3		RPD
10 DUP	S00T000637	0	@GEA-03	NB94-02E LIQUID	1	n/a		% Ct Error
10 DUP	S00T000637	0	@GEA-03	RU10602 LIQUID	<6.70e-1	<6.61e-1		RPD
10 DUP	S00T000637	0	@GEA-03	RU10602E LIQUID	1	n/a		% Ct Error
10 DUP	S00T000637	0	@GEA-03	CS13402 LIQUID	<3.35e-2	<3.31e-2		RPD
10 DUP	S00T000637	0	@GEA-03	CS13402E LIQUID	1	n/a		% Ct Error
10 DUP	S00T000637	0	@GEA-03	CS13702 LIQUID	2.41e+02	2.34e+02	2.947	RPD
10 DUP	S00T000637	0	@GEA-03	CS13702E LIQUID	1	0.100	0.100	% Ct Error
10 DUP	S00T000637	0	@GEA-03	CE14402 LIQUID	<4.26e-1	<4.20e-1		RPD
10 DUP	S00T000637	0	@GEA-03	CE14402E LIQUID	1	n/a		% Ct Error
10 DUP	S00T000637	0	@GEA-03	RU15402 LIQUID	<8.45e-3	<8.43e-3		RPD
10 DUP	S00T000637	0	@GEA-03	RU15402E LIQUID	1	n/a		% Ct Error
10 DUP	S00T000637	0	@GEA-03	RU15502 LIQUID	<9.87e-2	<9.73e-2		RPD
10 DUP	S00T000637	0	@GEA-03	RU15502E LIQUID	1	n/a		% Ct Error
10 DUP	S00T000637	0	@GEA-03	RA22602 LIQUID	<7.97e-1	<7.90e-1		RPD
10 DUP	S00T000637	0	@GEA-03	RA22602E LIQUID	1	n/a		% Ct Error

Comments Section:

Comments for sample# S00T000513 and test @GEA-03 .
DL=0 => n/a.

Comments for sample# S00T000612 and test @GEA-03 .
DL=0 => n/a.

Comments for sample# S00T000628 and test @GEA-03 .
DL=0 => n/a.

Comments for sample# S00T000637 and test @GEA-03 .
DL=0 => n/a.

Final page for worklist# 33120

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

John Polya
Reviewer Signature _____ Date *5 Apr 2000*

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

03/30/00 16:05
ws2

Page: 1

LABCORE Data Entry Template for Worklist# 33120Analyst: S.L Instrument: GEA00 Book# 60857Method: LA-548-121 Rev/Mod F-2

Worklist Comment: SY-102 GRAB 6 FOR @GEA-03 RTS

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 STD			@GEA-03	LIQUID		
2 BLNK			@GEA-03	LIQUID		
3 SAMPLE	S00T000513 0		@GEA-03	LIQUID	20000085	SY-102 GRAB6
Analytes Requested: CE14402 , CE14402E, CO60-02 , CO60-02E, CS13402 , CS13402E, CS13702 , CS13702E, EU15402 , EU15402E, EU15502 , EU15502E, NB94-02 , NB94-02E, RA22602 , RA22602E, RU10602 , RU10602E						
4 DUP	S00T000513 0		@GEA-03	LIQUID		
5 SAMPLE	S00T000612 0		@GEA-03	LIQUID	20000085	SY-102 GRAB6
Analytes Requested: CE14402 , CE14402E, CO60-02 , CO60-02E, CS13402 , CS13402E, CS13702 , CS13702E, EU15402 , EU15402E, EU15502 , EU15502E, NB94-02 , NB94-02E, RA22602 , RA22602E, RU10602 , RU10602E						
6 DUP	S00T000612 0		@GEA-03	LIQUID		
7 SAMPLE	S00T000628 0		@GEA-03	LIQUID	20000085	SY-102 GRAB6
Analytes Requested: CE14402 , CE14402E, CO60-02 , CO60-02E, CS13402 , CS13402E, CS13702 , CS13702E, EU15402 , EU15402E, EU15502 , EU15502E, NB94-02 , NB94-02E, RA22602 , RA22602E, RU10602 , RU10602E						
8 DUP	S00T000628 0		@GEA-03	LIQUID		
9 SAMPLE	S00T000637 0		@GEA-03	LIQUID	20000085	SY-102 GRAB6
Analytes Requested: CE14402 , CE14402E, CO60-02 , CO60-02E, CS13402 , CS13402E, CS13702 , CS13702E, EU15402 , EU15402E, EU15502 , EU15502E, NB94-02 , NB94-02E, RA22602 , RA22602E, RU10602 , RU10602E						
10 DUP	S00T000637 0		@GEA-03	LIQUID		

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 33120

S Type	Sample#	R A Test	Matrix	Group#	Project
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Final page for worklist # 33120

Sue Lai 4-3-00
Signature Date

Day L. Platt 4/5/00
Signature Date

Data Entry Comments:

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

 * 222-S Laboratory Counting Room 3-APR-2000 11:58:11.33 *

>>>>>>>> SAMPLE INFORMATION <<<<<<<<<

Worklist #: 33120
 Sample ID: WL33120-STD
 Sample Size: 1.00000E-03 L
 Dilution Factor: 1.00000E+00

Removed by:

>>>>>>>> COUNT INFORMATION <<<<<<<<<

Detector ID: GEA2
 File Number: dka300:[spec.GEA2]2g2749.cnf
 Geometry: 42
 Count Time: 0 00:50:00.00 sec
 Real Time: 0 00:50:20.91 sec
 Dead Time: 0.7%

Verified by:

>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<

Sample Count Time: 3-APR-2000 11:07:15.37
 Decayed to: 3-APR-2000 11:07:15.37
 Standard Deviations: 2
 Analysis Library: ENVGEA
 Analyst: SZC
 Background Subtract: DKA300:[SPEC.GEA2]2GBACK

>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<

Date of last energy calibration: 3-MAY-1999 14:49:30.70
 Date of last efficiency calibration: 3-MAY-1999 14:49:59.73

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/L
0	661.70*	4358	1.50	1323.27	1315	16	3.4		CS-137	6.37
0	1173.24	1385	1.75	2346.49	2337	17	5.9		CO-60	2.73
0	1332.42	1330	1.94	2664.93	2655	20	5.8		CO-60	2.90

Summary of Nuclide Activity

Page : 2

Sample ID : WL33120-STD

Acquisition date : 3-APR-2000 11:07:15

Total number of lines in spectrum	3	
Number of unidentified lines	0	
Number of lines tentatively identified by NID	3	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
CO-60	5.27Y	1.00	2.814E+00	2.814E+00	0.116E+00	4.12	
CS-137	30.00Y	1.00	6.366E+00	6.366E+00	0.216E+00	3.39	

Total Activity :	9.180E+00	9.180E+00
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Grand Total Activity :	9.180E+00	9.180E+00
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Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Minimum Detectable Activity Report
Sample ID : WL33120-STD

Page : 3
Acquisition date : 3-APR-2000 11:07:15

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
BE-7	210.	477.59	6.2863E-01
NA-24	13.	1368.55	4.4237E-02
K-40	111.	1460.75	1.1411E+00
AR-41	15.	1293.60	5.1266E-02
SC-46	83.	1120.55	8.5639E-02
CR-51	203.	320.08	4.3673E-01
MN-54	95.	834.83	7.2633E-02
CO-56	89.	846.76	7.1172E-02
CO-58	62.	810.78	5.8316E-02
FE-59	83.	1099.25	1.4981E-01
ZN-65	74.	1115.55	1.5929E-01
SE-75	239.	264.66	6.9033E-02
KR-85	145.	514.00	1.3432E+01
SR-85	145.	514.01	6.0723E-02
Y-88	3.	1836.06	3.0853E-02
Y-91	26.	1204.67	1.7752E+01
NB-94	89.	871.09	7.2683E-02
ZRNB-95	71.	724.20	2.5528E-01
RU-103	162.	497.08	6.5483E-02
RURH-106	84.	621.93	1.0802E+00
AG-108m	74.	722.94	6.3223E-02
CD-109	231.	88.03	1.2281E+00
AG-110M	173.	657.76	8.3611E-02
SN-113	216.	391.69	8.5507E-02
TE-123m	262.	159.00	3.8204E-02
SB-124	87.	602.73	5.4001E-02
SB-125	221.	427.89	2.0476E-01
TE-125m	192.	109.27	1.0997E+01
I-129	177.	39.60	1.1824E+01
I-131	177.	364.48	5.7397E-02
XE-131m	267.	163.93	1.6631E+00
BA-133	204.	356.02	7.8498E-02
CS-134	100.	604.70	5.8110E-02
CS-136	88.	818.51	6.8965E-02
CS-138	4.	1435.86	6.1849E-02
CE-139	249.	165.85	3.9501E-02
BA-140	100.	537.31	2.0863E-01
LA-140	6.	1596.21	3.7786E-02
CE-141	245.	145.44	6.4188E-02
CE-144	241.	133.51	2.7990E-01
CEPR-144	241.	133.51	5.5934E-01
EU-152	228.	121.78	1.1022E-01
EU-154	11.	1274.51	1.0959E-01
EU-155	221.	86.54	1.3604E-01
HF-181	172.	482.18	7.4198E-02
TA-182	182.	67.75	1.7464E-01
HG-203	202.	279.20	4.7892E-02
BI-207	87.	569.70	5.1418E-02
TL-208	203.	277.36	6.1543E-01
PB-210	169.	46.50	8.0889E+00
BI-212	68.	727.18	8.3248E-01

Minimum Detectable Activity Report (continued)

Page : 4

Sample ID : WL33120-STD

Acquisition date : 3-APR-2000 11:07:15

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
PB-212	254.	238.63	8.8166E-02
BI-214	133.	609.31	1.4573E-01
PB-214	231.	351.92	2.5573E-01
RA-224	271.	240.99	1.0084E+00
RA-226	287.	186.10	1.0038E+00
AC-228	110.	911.21	3.1295E-01
TH-228	219.	84.37	3.6727E+00
TH-229	224.	88.47	1.7524E-01
U-232	191.	57.78	6.3365E+01
PA-233	195.	312.17	1.0947E-01
UTH-233	250.	245.34	3.5406E+01
PA-234M	79.	1001.03	1.1783E+01
TH-234	205.	63.29	2.4838E+00
U-235	287.	185.71	6.1072E-02
NP-237	219.	86.48	3.5904E-01
U-237	211.	101.07	1.3812E-01
NP-238	76.	984.45	2.6951E-01
NP-239	214.	106.12	1.4696E-01
PU-239	235.	129.30	4.8344E+02
AM-241	205.	59.54	3.2620E-01
AM-243	222.	74.67	1.0143E-01

 * 222-S Laboratory Counting Room 3-APR-2000 15:33:06.83 *

>>>>>>>> SAMPLE INFORMATION <<<<<<<<<

Worklist #: 33120
 Sample ID: WL33120-BLNK
 Sample Size: 1.00000E-03 L
 Dilution Factor: 1.01000E+02

Removed by:

>>>>>>>> COUNT INFORMATION <<<<<<<<<

Detector ID: GEA2
 File Number: dka300:[spec.GEA2]2g2750.cnf
 Geometry: 42
 Count Time: 0 02:30:00.00 sec
 Real Time: 0 02:30:31.44 sec
 Dead Time: 0.3%

Verified by:

>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<

Sample Count Time: 3-APR-2000 13:02:05.48
 Decayed to: 3-APR-2000 13:02:05.48
 Standard Deviations: 2
 Analysis Library: ENVGEA
 Analyst: MB
 Background Subtract: DKA300:[SPEC.GEA2]2GBACK

>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<

Date of last energy calibration: 3-MAY-1999 14:49:30.70
 Date of last efficiency calibration: 3-MAY-1999 14:49:59.73

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw %Err	Fit	Nuclides	Activity uCi/L
0	661.77*	62	1.32	1323.42	1318	11 80.7		CS-137	3.04
0	1460.92*	39	2.11	2922.00	2913	16116.4		K-40	28.7

Summary of Nuclide Activity
Sample ID : WL33120-BLNK

Page : 2
Acquisition date : 3-APR-2000 13:02:05

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
K-40	1.28E+09Y	1.00	2.869E+01	2.869E+01	3.339E+01	116.37	090
CS-137	30.00Y	1.00	3.039E+00	3.039E+00	2.454E+00	80.73	090

Total Activity : 3.173E+01 3.173E+01

Grand Total Activity : 3.173E+01 3.173E+01

use for detection
Limit JFR 5Apr2000

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Minimum Detectable Activity Report
Sample ID : WL33120-BLNK

Page : 3
Acquisition date : 3-APR-2000 13:02:05

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
BE-7	89.	477.59	1.4054E+01
NA-24	25.	1368.55	2.0636E+00
AR-41	29.	1293.60	3.0914E+00
SC-46	87.	1120.55	2.9592E+00
CR-51	149.	320.08	1.2697E+01
MN-54	42.	834.83	1.6658E+00
CO-56	53.	846.76	1.8767E+00
CO-58	38.	810.78	1.5581E+00
FE-59	58.	1099.25	4.2666E+00
CO-60	24.	1332.50	1.8567E+00
ZN-65	39.	1115.55	3.9928E+00
SE-75	176.	264.66	2.0093E+00
KR-85	96.	514.00	3.7220E+02
SR-85	96.	514.01	1.6814E+00
Y-88	11.	1836.06	1.7558E+00
Y-91	31.	1204.67	6.4962E+02
NB-94	42.	871.09	1.7201E+00
ZRNB-95	47.	724.20	7.1122E+00
RU-103	73.	497.08	1.5093E+00
RURH-106	59.	621.93	3.0664E+01
AG-108m	50.	722.94	1.7764E+00
CD-109	170.	88.03	3.5609E+01
AG-110M	55.	657.76	1.6405E+00
SN-113	119.	391.69	2.1622E+00
TE-123m	177.	159.00	1.0664E+00
SB-124	76.	602.73	1.7046E+00
SB-125	87.	427.89	4.4192E+00
TE-125m	195.	109.27	3.7238E+02
I-129	133.	39.60	3.4770E+02
I-131	135.	364.48	1.7037E+00
XE-131m	216.	163.93	5.0627E+01
BA-133	123.	356.02	2.0733E+00
CS-134	81.	604.70	1.7707E+00
CS-136	54.	818.51	1.8621E+00
CS-138	11.	1435.86	6.3428E+00
CE-139	211.	165.85	1.2293E+00
BA-140	68.	537.31	5.8814E+00
LA-140	18.	1596.21	2.0669E+00
CE-141	196.	145.44	1.9439E+00
CE-144	215.	133.51	8.9299E+00
CEPR-144	216.	133.51	1.7853E+01
EU-152	191.	121.78	3.4112E+00
EU-154	29.	1274.51	5.7311E+00
EU-155	153.	86.54	3.8381E+00
HF-181	98.	482.18	1.9084E+00
TA-182	163.	67.75	5.5678E+00
HG-203	149.	279.20	1.3929E+00
BI-207	66.	569.70	1.5193E+00
TL-208	155.	277.36	1.8216E+01
PB-210	142.	46.50	2.5188E+02
BI-212	58.	727.18	2.5916E+01

Minimum Detectable Activity Report (continued)

Page : 4

Sample ID : WL33120-BLNK

Acquisition date : 3-APR-2000 13:02:05

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
PB-212	217.	238.63	2.7512E+00
BI-214	149.	609.31	5.1737E+00
PB-214	176.	351.92	1.6763E+01
RA-224	187.	240.99	2.8623E+01
RA-226	241.	186.10	3.1054E+01
AC-228	81.	911.21	9.1389E+00
TH-228	181.	84.37	1.1299E+02
TH-229	174.	88.47	5.2242E+00
U-232	148.	57.78	1.8876E+03
PA-233	144.	312.17	3.1956E+00
UTH-233	175.	245.34	1.0027E+03
PA-234M	43.	1001.03	2.9812E+02
TH-234	167.	63.29	7.5770E+01
U-235	241.	185.71	1.8894E+00
NP-237	152.	86.48	1.0140E+01
U-237	189.	101.07	4.4293E+00
NP-238	33.	984.45	6.2430E+00
NP-239	176.	106.12	4.5594E+00
PU-239	201.	129.30	1.5088E+04
AM-241	164.	59.54	9.8599E+00
AM-243	166.	74.67	2.9664E+00

 * 222-S Laboratory Counting Room 3-APR-2000 19:10:03.28 *

>>>>>>>> SAMPLE INFORMATION <<<<<<<<<

Worklist #: 33120
 Sample ID: S00T000513-SAM
 Sample Size: 1.00000E-03 L
 Dilution Factor: 1.01000E+02

Removed by:

>>>>>>>> COUNT INFORMATION <<<<<<<<<

Detector ID: GEA2
 File Number: dka300:[spec.GEA2]2g2753.cnf
 Geometry: 42
 Count Time: 0 02:30:00.00 sec
 Real Time: 0 02:53:01.15 sec
 Dead Time: 13%

Verified by:

>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<

Sample Count Time: 3-APR-2000 16:16:28.04
 Decayed to: 3-APR-2000 16:16:28.04
 Standard Deviations: 2
 Analysis Library: ENVGEA
 Analyst: GL
 Background Subtract: DKA300:[SPEC.GEA2]2GBACK

>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<

Date of last energy calibration: 3-MAY-1999 14:49:30.70
 Date of last efficiency calibration: 3-MAY-1999 14:49:59.73

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/L
0	661.78*	5001867	1.54	1323.43	1315	17	0.1		CS-137	2.460E+05
0	1173.24	178	1.57	2346.49	2339	17	36.3		CO-60	11.8
0	1323.05	1188	1.84	2646.19	2638	18	7.1			
0	1332.66	150	2.14	2665.40	2659	15	22.7		CO-60	11.0

Summary of Nuclide Activity

Page : 2

Sample ID : S00T000513-SAM

Acquisition date : 3-APR-2000 16:16:28

Total number of lines in spectrum	4	
Number of unidentified lines	1	
Number of lines tentatively identified by NID	3	75.00%

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
CO-60	5.27Y	1.00	1.120E+01	1.120E+01	0.216E+01	19.29	
CS-137	30.00Y	1.00	2.460E+05	2.460E+05	0.002E+05	0.09	
Total Activity :			2.460E+05	2.460E+05			

Grand Total Activity : 2.460E+05 2.460E+05

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Minimum Detectable Activity Report
Sample ID : S00T000513-SAM

Page : 3
Acquisition date : 3-APR-2000 16:16:28

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
BE-7	155746.	477.59	5.5545E+02
NA-24	24.	1368.55	2.0272E+00
K-40	311.	1460.75	6.2900E+01
AR-41	47.	1293.60	4.1053E+00
SC-46	188.	1120.55	4.2639E+00
CR-51	126386.	320.08	3.5374E+02
MN-54	453.	834.83	5.1709E+00
CO-56	377.	846.76	4.7891E+00
CO-58	574.	810.78	5.7008E+00
FE-59	172.	1099.25	7.1106E+00
ZN-65	174.	1115.55	8.0656E+00
SE-75	140406.	264.66	5.4435E+01
KR-85	79314.	514.00	1.0116E+04
SR-85	79304.	514.01	4.5761E+01
Y-88	8.	1836.06	1.5717E+00
Y-91	78.	1204.67	9.8790E+02
NB-94	349.	871.09	4.7176E+00
ZRNB-95	2475.	724.20	4.7941E+01
RU-103	96512.	497.08	5.1648E+01
RURH-106	32907.	621.93	6.7754E+02
AG-108m	2589.	722.94	1.1904E+01
CD-109	113084.	88.03	8.8193E+02
AG-110M	95103.	657.76	6.3324E+01
SN-113	137862.	391.69	7.0113E+01
TE-123m	136703.	159.00	2.8426E+01
SB-124	33825.	602.73	3.3908E+01
SB-125	160331.	427.89	1.7883E+02
TE-125m	120661.	109.27	8.9162E+03
I-129	104146.	39.60	9.2675E+03
I-131	129728.	364.48	5.0343E+01
XE-131m	136161.	163.93	1.2265E+03
BA-133	128193.	356.02	6.3737E+01
CS-134	33586.	604.70	3.3934E+01
CS-136	463.	818.51	5.1709E+00
CS-138	27.	1435.86	1.0432E+01
CE-139	136471.	165.85	3.0108E+01
BA-140	57884.	537.31	1.6073E+02
LA-140	12.	1596.21	1.7326E+00
CE-141	136058.	145.44	4.9212E+01
CE-144	135404.	133.51	2.1575E+02
CEPR-144	135400.	133.51	4.3111E+02
EU-152	130702.	121.78	8.5666E+01
EU-154	61.	1274.51	8.0414E+00
EU-155	112683.	86.54	9.9756E+01
HF-181	126744.	482.18	6.5023E+01
TA-182	104743.	67.75	1.3537E+02
HG-203	134322.	279.20	3.9993E+01
BI-207	37835.	569.70	3.4077E+01
TL-208	134140.	277.36	5.1265E+02
PB-210	102666.	46.50	6.4689E+03
BI-212	2406.	727.18	1.5756E+02

Minimum Detectable Activity Report (continued)

Page : 4

Sample ID : S00T000513-SAM

Acquisition date : 3-APR-2000 16:16:28

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
PB-212	155713.	238.63	7.0972E+01
BI-214	33717.	609.31	7.4565E+01
PB-214	127010.	351.92	4.9240E+02
RA-224	154318.	240.99	7.9054E+02
RA-226	175091.	186.10	8.0869E+02
AC-228	371.	911.21	1.8898E+01
TH-228	111512.	84.37	2.6915E+03
TH-229	113075.	88.47	1.2783E+02
U-232	102157.	57.78	4.7441E+04
PA-233	127071.	312.17	9.0559E+01
UTH-233	151686.	245.34	2.8341E+04
PA-234M	201.	1001.03	6.1893E+02
TH-234	103886.	63.29	1.8105E+03
U-235	173234.	185.71	4.8920E+01
NP-237	112622.	86.48	2.6414E+02
U-237	116677.	101.07	1.0574E+02
NP-238	196.	984.45	1.4398E+01
NP-239	119659.	106.12	1.1423E+02
PU-239	134505.	129.30	3.7549E+05
AM-241	102555.	59.54	2.3625E+02
AM-243	107501.	74.67	7.2441E+01

 * 222-S Laboratory Counting Room 3-APR-2000 23:18:59.31 *

>>>>>>>> SAMPLE INFORMATION <<<<<<<<<

Worklist #: 33120
 Sample ID: S00T513-DUP
 Sample Size: 1.00000E-03 L
 Dilution Factor: 1.01000E+02

Removed by:

Em Baula

>>>>>>>> COUNT INFORMATION <<<<<<<<<

Detector ID: GEA2
 File Number: dka300:[spec.GEA2]2g2754.cnf
 Geometry: 42
 Count Time: 0 02:30:00.00 sec
 Real Time: 0 02:55:20.86 sec
 Dead Time: 14%

Verified by:

John Relyea 5 Apr 00

>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<

Sample Count Time: 3-APR-2000 20:23:07.22
 Decayed to: 3-APR-2000 20:23:07.22
 Standard Deviations: 2
 Analysis Library: ENVGEA
 Analyst: EMB
 Background Subtract: DKA300:[SPEC.GEA2]2GBACK

>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<

Date of last energy calibration: 3-MAY-1999 14:49:30.70
 Date of last efficiency calibration: 3-MAY-1999 14:49:59.73

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/L
0	661.81*	5490157	1.55	1323.50	1315	18	0.1		CS-137	2.700E+05
0	1174.06	175	1.85	2348.13	2338	20	45.0		CO-60	11.6
0	1323.07	1507	2.00	2646.22	2636	18	6.2			
0	1332.72	138	1.60	2665.53	2659	15	29.2		CO-60	10.1
0	1461.00*	38	1.81	2922.17	2914	18	117.4		K-40	28.4

Summary of Nuclide Activity
Sample ID : S00T513-DUP

Page : 2
Acquisition date : 3-APR-2000 20:23:07

Total number of lines in spectrum 5
Number of unidentified lines 1
Number of lines tentatively identified by NID 4 80.00%

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
K-40	1.28E+09Y	1.00	2.843E+01	2.843E+01	3.336E+01	117.35	872
CO-60	5.27Y	1.00	1.050E+01	1.050E+01	0.258E+01	24.56	54 spec
CS-137	30.00Y	1.00	2.700E+05	2.700E+05	0.002E+05	0.09	
Total Activity :			2.700E+05	2.700E+05			

Grand Total Activity : 2.700E+05 2.700E+05

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Minimum Detectable Activity Report
Sample ID : S00T513-DUP

Page : 3
Acquisition date : 3-APR-2000 20:23:07

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
BE-7	171499.	477.59	5.8283E+02
NA-24	28.	1368.55	2.1843E+00
AR-41	62.	1293.60	4.7056E+00
SC-46	235.	1120.55	4.7385E+00
CR-51	138273.	320.08	3.6999E+02
MN-54	506.	834.83	5.4586E+00
CO-56	529.	846.76	5.6452E+00
CO-58	673.	810.78	6.1593E+00
FE-59	216.	1099.25	7.9326E+00
ZN-65	215.	1115.55	8.9327E+00
SE-75	153964.	264.66	5.6999E+01
KR-85	87518.	514.00	1.0626E+04
SR-85	87508.	514.01	4.8065E+01
Y-88	13.	1836.06	1.8901E+00
Y-91	89.	1204.67	1.0504E+03
NB-94	447.	871.09	5.3150E+00
ZRNB-95	3003.	724.20	5.2748E+01
RU-103	105785.	497.08	5.4069E+01
RURH-106	36770.	621.93	7.1609E+02
AG-108m	3045.	722.94	1.2899E+01
CD-109	124193.	88.03	9.2416E+02
AG-110M	99611.	657.76	6.4804E+01
SN-113	151842.	391.69	7.3577E+01
TE-123m	149452.	159.00	2.9720E+01
SB-124	37276.	602.73	3.5591E+01
SB-125	175773.	427.89	1.8723E+02
TE-125m	133139.	109.27	9.3651E+03
I-129	114294.	39.60	9.7077E+03
I-131	142341.	364.48	5.2733E+01
XE-131m	149892.	163.93	1.2868E+03
BA-133	140372.	356.02	6.6691E+01
CS-134	37196.	604.70	3.5706E+01
CS-136	577.	818.51	5.7608E+00
CS-138	21.	1435.86	9.5691E+00
CE-139	150359.	165.85	3.1601E+01
BA-140	63947.	537.31	1.6893E+02
LA-140	18.	1596.21	2.0860E+00
CE-141	149945.	145.44	5.1660E+01
CE-144	148550.	133.51	2.2597E+02
CEPR-144	148544.	133.51	4.5152E+02
EU-152	144059.	121.78	8.9930E+01
EU-154	75.	1274.51	8.8618E+00
EU-155	123874.	86.54	1.0458E+02
HF-181	138457.	482.18	6.7957E+01
TA-182	115236.	67.75	1.4198E+02
HG-203	147413.	279.20	4.1894E+01
BI-207	41516.	569.70	3.5691E+01
TL-208	148126.	277.36	5.3867E+02
PB-210	112810.	46.50	6.7808E+03
BI-212	2897.	727.18	1.7271E+02
PB-212	170648.	238.63	7.4293E+01

Minimum Detectable Activity Report (continued)

Page : 4

Sample ID : S00T513-DUP

Acquisition date : 3-APR-2000 20:23:07

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
BI-214	37247.	609.31	7.8359E+01
PB-214	140785.	351.92	5.2499E+02
RA-224	169669.	240.99	8.2900E+02
RA-226	192056.	186.10	8.4691E+02
AC-228	356.	911.21	1.8518E+01
TH-228	123330.	84.37	2.8303E+03
TH-229	124483.	88.47	1.3411E+02
U-232	112834.	57.78	4.9854E+04
PA-233	138812.	312.17	9.4645E+01
UTH-233	166845.	245.34	2.9721E+04
PA-234M	239.	1001.03	6.7309E+02
TH-234	113643.	63.29	1.8935E+03
U-235	189883.	185.71	5.1213E+01
NP-237	123849.	86.48	2.7698E+02
U-237	128695.	101.07	1.1105E+02
NP-238	225.	984.45	1.5406E+01
NP-239	131530.	106.12	1.1978E+02
PU-239	147830.	129.30	3.9362E+05
AM-241	112889.	59.54	2.4784E+02
AM-243	118391.	74.67	7.6015E+01

 * 222-S Laboratory Counting Room 4-APR-2000 06:55:55.79

>>>>>>>> SAMPLE INFORMATION <<<<<<<<<

Worklist #: 33120
 Sample ID: S00T612-SAM
 Sample Size: 1.00000E-03 L
 Dilution Factor: 1.01000E+02

Removed by:

>>>>>>>> COUNT INFORMATION <<<<<<<<<

Detector ID: GEA2
 File Number: dka300:[spec.GEA2]2g2757.cnf
 Geometry: 42
 Count Time: 0 02:30:00.00 sec
 Real Time: 0 02:52:57.74 sec
 Dead Time: 13%

Verified by:

>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<

Sample Count Time: 4-APR-2000 04:02:27.63
 Decayed to: 4-APR-2000 04:02:27.63
 Standard Deviations: 2
 Analysis Library: ENVGEA
 Analyst: EMB
 Background Subtract: DKA300:[SPEC.GEA2]2GBACK

>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<

Date of last energy calibration: 3-MAY-1999 14:49:30.70
 Date of last efficiency calibration: 3-MAY-1999 14:49:59.73

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/L
0	661.83*	4990829	1.54	1323.53	1315	18	0.1		CS-137	2.454E+05
0	1172.92	159	2.06	2345.85	2338	20	45.4		CO-60	10.6
0	1323.11	1218	2.15	2646.29	2638	19	6.7			
0	1332.73	192	1.33	2665.54	2658	16	18.4		CO-60	14.1

Summary of Nuclide Activity

Page : 2

Sample ID : S00T612-SAM

Acquisition date : 4-APR-2000 04:02:27

Total number of lines in spectrum	4	
Number of unidentified lines	1	
Number of lines tentatively identified by NID	3	75.00%

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
CO-60	5.27Y	1.00	1.328E+01	1.328E+01	0.228E+01	17.14	
CS-137	30.00Y	1.00	2.454E+05	2.454E+05	0.002E+05	0.09	
Total Activity :			2.454E+05	2.454E+05			

Grand Total Activity : 2.454E+05 2.454E+05

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Minimum Detectable Activity Report

Sample ID : S00T612-SAM

Page : 3

Acquisition date : 4-APR-2000 04:02:27

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
BE-7	156562.	477.59	5.5690E+02
NA-24	21.	1368.55	1.9243E+00
K-40	309.	1460.75	6.2695E+01
AR-41	43.	1293.60	3.9595E+00
SC-46	216.	1120.55	4.5523E+00
CR-51	125992.	320.08	3.5319E+02
MN-54	425.	834.83	5.0145E+00
CO-56	417.	846.76	5.0253E+00
CO-58	509.	810.78	5.3732E+00
FE-59	172.	1099.25	7.1256E+00
ZN-65	148.	1115.55	7.4656E+00
SE-75	140399.	264.66	5.4433E+01
KR-85	79628.	514.00	1.0136E+04
SR-85	79617.	514.01	4.5851E+01
Y-88	8.	1836.06	1.5281E+00
Y-91	71.	1204.67	9.4954E+02
NB-94	373.	871.09	4.8683E+00
ZRNB-95	2463.	724.20	4.7817E+01
RU-103	96535.	497.08	5.1654E+01
RURH-106	32584.	621.93	6.7422E+02
AG-108m	2521.	722.94	1.1750E+01
CD-109	113257.	88.03	8.8260E+02
AG-110M	88324.	657.76	6.1029E+01
SN-113	138055.	391.69	7.0162E+01
TE-123m	135904.	159.00	2.8343E+01
SB-124	33646.	602.73	3.3819E+01
SB-125	159667.	427.89	1.7846E+02
TE-125m	121183.	109.27	8.9354E+03
I-129	103913.	39.60	9.2571E+03
I-131	129088.	364.48	5.0218E+01
XE-131m	135904.	163.93	1.2253E+03
BA-133	127956.	356.02	6.3678E+01
CS-134	33554.	604.70	3.3918E+01
CS-136	469.	818.51	5.2029E+00
CS-138	17.	1435.86	8.5690E+00
CE-139	135437.	165.85	2.9994E+01
BA-140	57813.	537.31	1.6063E+02
LA-140	17.	1596.21	1.9876E+00
CE-141	135327.	145.44	4.9080E+01
CE-144	134276.	133.51	2.1485E+02
CEPR-144	134274.	133.51	4.2932E+02
EU-152	130219.	121.78	8.5508E+01
EU-154	78.	1274.51	9.0123E+00
EU-155	113002.	86.54	9.9897E+01
HF-181	125409.	482.18	6.4680E+01
TA-182	104397.	67.75	1.3515E+02
HG-203	133291.	279.20	3.9839E+01
BI-207	37754.	569.70	3.4040E+01
TL-208	134225.	277.36	5.1281E+02
PB-210	101548.	46.50	6.4336E+03
BI-212	2436.	727.18	1.5852E+02

Minimum Detectable Activity Report (continued)

Page : 4

Sample ID : S00T612-SAM

Acquisition date : 4-APR-2000 04:02:27

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
PB-212	155170.	238.63	7.0848E+01
BI-214	33756.	609.31	7.4609E+01
PB-214	127355.	351.92	4.9291E+02
RA-224	153544.	240.99	7.8856E+02
RA-226	173701.	186.10	8.0548E+02
AC-228	336.	911.21	1.8025E+01
TH-228	111156.	84.37	2.6872E+03
TH-229	113305.	88.47	1.2796E+02
U-232	102400.	57.78	4.7497E+04
PA-233	126466.	312.17	9.0343E+01
UTH-233	150790.	245.34	2.8257E+04
PA-234M	177.	1001.03	5.8277E+02
TH-234	103656.	63.29	1.8085E+03
U-235	171737.	185.71	4.8708E+01
NP-237	112953.	86.48	2.6453E+02
U-237	116688.	101.07	1.0574E+02
NP-238	175.	984.45	1.3627E+01
NP-239	118192.	106.12	1.1353E+02
PU-239	133825.	129.30	3.7454E+05
AM-241	102585.	59.54	2.3628E+02
AM-243	107155.	74.67	7.2324E+01

 * 222-S Laboratory Counting Room 4-APR-2000 10:28:22.60 *

>>>>>>>> SAMPLE INFORMATION <<<<<<<<<

Worklist #: 33120
 Sample ID: S00T612-DUP
 Sample Size: 1.00000E-03 L
 Dilution Factor: 1.01000E+02

Removed by:

>>>>>>>> COUNT INFORMATION <<<<<<<<<

Detector ID: GEA2
 File Number: dka300:[spec.GEA2]2g2758.cnf
 Geometry: 42
 Count Time: 0 02:30:00.00 sec
 Real Time: 0 02:51:57.25 sec
 Dead Time: 13%

Verified by:

>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<

Sample Count Time: 4-APR-2000 07:35:55.26
 Decayed to: 4-APR-2000 07:35:55.26
 Standard Deviations: 2
 Analysis Library: ENVGEA
 Analyst: MB
 Background Subtract: DKA300:[SPEC.GEA2]2GBACK

>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<

Date of last energy calibration: 3-MAY-1999 14:49:30.70
 Date of last efficiency calibration: 3-MAY-1999 14:49:59.73

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uci/L
0	661.81*	4774507	1.54	1323.50	1315	18	0.1		CS-137	2.348E+05
0	1173.29	140	1.75	2346.59	2341	12	35.2		CO-60	9.30
0	1323.07	1130	2.05	2646.23	2636	17	6.6			
0	1332.62	147	2.20	2665.32	2657	15	23.1		CO-60	10.8
0	1461.19*	60	2.04	2922.53	2914	19	80.9		K-40	44.5

Summary of Nuclide Activity
Sample ID : S00T612-DUP

Page : 2
Acquisition date : 4-APR-2000 07:35:55

Total number of lines in spectrum 5
Number of unidentified lines 1
Number of lines tentatively identified by NID 4 80.00%

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
K-40	1.28E+09Y	1.00	4.448E+01	4.448E+01	3.601E+01	80.95	JFR
CO-60	5.27Y	1.00	1.026E+01	1.026E+01	0.199E+01	19.38	50proo
CS-137	30.00Y	1.00	2.348E+05	2.348E+05	0.002E+05	0.10	
Total Activity :			2.348E+05	2.348E+05			

Grand Total Activity : 2.348E+05 2.348E+05

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Minimum Detectable Activity Report
Sample ID : S00T612-DUP

Page : 3
Acquisition date : 4-APR-2000 07:35:55

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
BE-7	148609.	477.59	5.4259E+02
NA-24	21.	1368.55	1.9325E+00
AR-41	56.	1293.60	4.4548E+00
SC-46	209.	1120.55	4.4781E+00
CR-51	119788.	320.08	3.4440E+02
MN-54	424.	834.83	5.0074E+00
CO-56	408.	846.76	4.9729E+00
CO-58	489.	810.78	5.2737E+00
FE-59	148.	1099.25	6.6281E+00
ZN-65	162.	1115.55	7.7900E+00
SE-75	133820.	264.66	5.3145E+01
KR-85	75232.	514.00	9.8531E+03
SR-85	75221.	514.01	4.4570E+01
Y-88	12.	1836.06	1.8244E+00
Y-91	60.	1204.67	8.7407E+02
NB-94	333.	871.09	4.6083E+00
ZRNB-95	2303.	724.20	4.6265E+01
RU-103	92033.	497.08	5.0437E+01
RURH-106	31738.	621.93	6.6543E+02
AG-108m	2370.	722.94	1.1397E+01
CD-109	108675.	88.03	8.6460E+02
AG-110M	85415.	657.76	6.0018E+01
SN-113	132158.	391.69	6.8649E+01
TE-123m	129864.	159.00	2.7707E+01
SB-124	32312.	602.73	3.3144E+01
SB-125	151578.	427.89	1.7389E+02
TE-125m	114809.	109.27	8.6976E+03
I-129	98635.	39.60	9.0194E+03
I-131	123345.	364.48	4.9089E+01
XE-131m	130159.	163.93	1.1992E+03
BA-133	122703.	356.02	6.2359E+01
CS-134	32327.	604.70	3.3294E+01
CS-136	439.	818.51	5.0401E+00
CS-138	26.	1435.86	1.0280E+01
CE-139	130559.	165.85	2.9450E+01
BA-140	55195.	537.31	1.5696E+02
LA-140	9.	1596.21	1.5164E+00
CE-141	129928.	145.44	4.8092E+01
CE-144	128658.	133.51	2.1032E+02
CEPR-144	128656.	133.51	4.2026E+02
EU-152	125080.	121.78	8.3806E+01
EU-154	81.	1274.51	9.1913E+00
EU-155	107784.	86.54	9.7567E+01
HF-181	119818.	482.18	6.3224E+01
TA-182	99914.	67.75	1.3222E+02
HG-203	128101.	279.20	3.9057E+01
BI-207	36091.	569.70	3.3284E+01
TL-208	128565.	277.36	5.0190E+02
PB-210	97757.	46.50	6.3124E+03
BI-212	2196.	727.18	1.5060E+02
PB-212	148890.	238.63	6.9402E+01

Minimum Detectable Activity Report (continued)

Page : 4

Sample ID : S00T612-DUP

Acquisition date : 4-APR-2000 07:35:55

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
BI-214	32090.	609.31	7.2750E+01
PB-214	121596.	351.92	4.7900E+02
RA-224	147753.	240.99	7.7352E+02
RA-226	167723.	186.10	7.9152E+02
AC-228	301.	911.21	1.7071E+01
TH-228	106091.	84.37	2.6254E+03
TH-229	108753.	88.47	1.2537E+02
U-232	98192.	57.78	4.6513E+04
PA-233	120600.	312.17	8.8226E+01
UTH-233	144391.	245.34	2.7652E+04
PA-234M	196.	1001.03	6.1206E+02
TH-234	98939.	63.29	1.7670E+03
U-235	165814.	185.71	4.7862E+01
NP-237	107726.	86.48	2.5835E+02
U-237	111939.	101.07	1.0357E+02
NP-238	195.	984.45	1.4356E+01
NP-239	113026.	106.12	1.1102E+02
PU-239	127691.	129.30	3.6587E+05
AM-241	97769.	59.54	2.3068E+02
AM-243	102667.	74.67	7.0796E+01

 * 222-S Laboratory Counting Room 4-APR-2000 13:25:30.35 *

>>>>>>>> SAMPLE INFORMATION <<<<<<<<<

Worklist #: 33120
 Sample ID: SOOT000628-SAM
 Sample Size: 1.00000E-03 L
 Dilution Factor: 1.01000E+02

Removed by:

Nea Light

>>>>>>>> COUNT INFORMATION <<<<<<<<<

Detector ID: GEA2
 File Number: dka300:[spec.GEA2]2g2759.cnf
 Geometry: 43
 Count Time: 0 02:30:00.00 sec
 Real Time: 0 02:36:33.98 sec
 Dead Time: 4.2%

Verified by:

John Relyea 5 Apr 00

>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<

Sample Count Time: 4-APR-2000 10:48:25.08
 Decayed to: 4-APR-2000 10:48:25.08
 Standard Deviations: 2
 Analysis Library: ENVGEA
 Analyst: GL
 Background Subtract: DKA300:[SPEC.GEA2]2GBACK

>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<

Date of last energy calibration: 3-MAY-1999 14:49:30.70
 Date of last efficiency calibration: 3-MAY-1999 14:52:33.45

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/L
0	661.73*	1278077	1.48	1323.34	1315	16	0.2		CS-137	2.332E+05
0	1323.30	61	1.88	2646.67	2639	18	59.5			

Summary of Nuclide Activity

Page : 2

Sample ID : SOOT000628-SAM

Acquisition date : 4-APR-2000 10:48:25

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	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	1.00	2.332E+05	2.332E+05	0.004E+05	0.18	
Total Activity :			2.332E+05	2.332E+05			

Grand Total Activity :	2.332E+05	2.332E+05
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Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Minimum Detectable Activity Report

Page : 3

Sample ID : SOOT000628-SAM

Acquisition date : 4-APR-2000 10:48:25

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
BE-7	39551.	477.59	1.0579E+03
NA-24	16.	1368.55	6.2208E+00
K-40	324.	1460.75	2.3381E+02
AR-41	24.	1293.60	1.0483E+01
SC-46	75.	1120.55	1.0069E+01
CR-51	35562.	320.08	7.2874E+02
MN-54	73.	834.83	7.9098E+00
CO-56	78.	846.76	8.2864E+00
CO-58	72.	810.78	7.7589E+00
FE-59	41.	1099.25	1.3218E+01
CO-60	75.	1332.50	1.1483E+01
ZN-65	50.	1115.55	1.6365E+01
SE-75	39450.	264.66	1.1375E+02
KR-85	20121.	514.00	1.9187E+04
SR-85	20119.	514.01	8.6789E+01
Y-88	11.	1836.06	6.5129E+00
Y-91	35.	1204.67	2.4886E+03
NB-94	68.	871.09	7.9089E+00
ZRNB-95	242.	724.20	5.6852E+01
RU-103	24530.	497.08	9.8212E+01
RURH-106	8867.	621.93	1.3124E+03
AG-108m	245.	722.94	1.3865E+01
CD-109	31081.	88.03	2.0244E+03
AG-110M	24644.	657.76	1.1983E+02
SN-113	36654.	391.69	1.3840E+02
TE-123m	39346.	159.00	6.2904E+01
SB-124	9014.	602.73	6.5413E+01
SB-125	41410.	427.89	3.4586E+02
TE-125m	34747.	109.27	2.0482E+04
I-129	27458.	39.60	2.2743E+04
I-131	35161.	364.48	1.0079E+02
XE-131m	39920.	163.93	2.7305E+03
BA-133	35019.	356.02	1.2839E+02
CS-134	8913.	604.70	6.5323E+01
CS-136	70.	818.51	7.6848E+00
CS-138	21.	1435.86	3.1331E+01
CE-139	39795.	165.85	6.6795E+01
BA-140	14732.	537.31	3.0460E+02
LA-140	12.	1596.21	6.1931E+00
CE-141	39535.	145.44	1.1035E+02
CE-144	39314.	133.51	4.8771E+02
CEPR-144	39313.	133.51	9.7455E+02
EU-152	37821.	121.78	1.9511E+02
EU-154	42.	1274.51	2.4669E+01
EU-155	31103.	86.54	2.2988E+02
HF-181	31837.	482.18	1.2311E+02
TA-182	28343.	67.75	3.1709E+02
HG-203	38282.	279.20	8.3805E+01
BI-207	9784.	569.70	6.4944E+01
TL-208	38405.	277.36	1.0774E+03
PB-210	27676.	46.50	1.5757E+04

Minimum Detectable Activity Report (continued)

Page : 4

Sample ID : SOOT000628-SAM

Acquisition date : 4-APR-2000 10:48:25

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
BI-212	225.	727.18	1.8279E+02
PB-212	42254.	238.63	1.4702E+02
BI-214	8988.	609.31	1.4380E+02
PB-214	35042.	351.92	9.0830E+02
RA-224	42086.	240.99	1.6386E+03
RA-226	50761.	186.10	1.7696E+03
AC-228	82.	911.21	3.3678E+01
TH-228	30903.	84.37	6.2315E+03
TH-229	31076.	88.47	2.9326E+02
U-232	27318.	57.78	1.1241E+05
PA-233	35943.	312.17	1.8741E+02
UTH-233	41396.	245.34	5.8739E+04
PA-234M	54.	1001.03	1.2137E+03
TH-234	27819.	63.29	4.2504E+03
U-235	50152.	185.71	1.0700E+02
NP-237	31108.	86.48	6.0897E+02
U-237	32945.	101.07	2.4233E+02
NP-238	40.	984.45	2.4990E+01
NP-239	34113.	106.12	2.6145E+02
PU-239	39042.	129.30	8.5139E+05
AM-241	27693.	59.54	5.6068E+02
AM-243	29728.	74.67	1.6974E+02

 * 222-S Laboratory Counting Room 4-APR-2000 16:53:30.69 *

>>>>>>>> SAMPLE INFORMATION <<<<<<<<<

Worklist #: 33120
 Sample ID: S00T000628-DUP
 Sample Size: 1.00000E-03 L
 Dilution Factor: 1.01000E+02

Removed by:

SLHald

>>>>>>>> COUNT INFORMATION <<<<<<<<<

Detector ID: GEA2
 File Number: dka300:[spec.GEA2]2g2762.cnf
 Geometry: 43
 Count Time: 0 02:30:00.00 sec
 Real Time: 0 02:37:09.25 sec
 Dead Time: 4.6%

Verified by:

John Ralyea 5 Apr 00

>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<

Sample Count Time: 4-APR-2000 14:15:50.22
 Decayed to: 4-APR-2000 14:15:50.22
 Standard Deviations: 2
 Analysis Library: ENVGEA
 Analyst: GL
 Background Subtract: DKA300:[SPEC.GEA2]2GBACK

>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<

Date of last energy calibration: 3-MAY-1999 14:49:30.70
 Date of last efficiency calibration: 3-MAY-1999 14:52:33.45

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/L
0	661.74*	1407498	1.48	1323.36	1315	16	0.2		CS-137	2.568E+05
0	1323.08	92	2.13	2646.24	2639	19	35.0			
0	1460.99*	30	1.87	2922.14	2912	19145.0			K-40	81.8

Summary of Nuclide Activity
 Sample ID : S00T000628-DUP

Page : 2
 Acquisition date : 4-APR-2000 14:15:50

Total number of lines in spectrum 3
 Number of unidentified lines 1
 Number of lines tentatively identified by NID 2 66.67%

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
K-40	1.28E+09Y	1.00	8.176E+01	8.176E+01	11.85E+01	144.95	70
CS-137	30.00Y	1.00	2.568E+05	2.568E+05	0.004E+05	0.17	56000
Total Activity :			2.568E+05	2.568E+05			

Grand Total Activity : 2.568E+05 2.568E+05

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Minimum Detectable Activity Report

Page : 3

Sample ID : S00T000628-DUP

Acquisition date : 4-APR-2000 14:15:50

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
BE-7	42980.	477.59	1.1027E+03
NA-24	19.	1368.55	6.7325E+00
AR-41	31.	1293.60	1.1910E+01
SC-46	81.	1120.55	1.0433E+01
CR-51	39092.	320.08	7.6395E+02
MN-54	82.	834.83	8.3979E+00
CO-56	73.	846.76	8.0301E+00
CO-58	78.	810.78	8.0403E+00
FE-59	54.	1099.25	1.5003E+01
CO-60	83.	1332.50	1.2083E+01
ZN-65	50.	1115.55	1.6378E+01
SE-75	43225.	264.66	1.1906E+02
KR-85	22466.	514.00	2.0270E+04
SR-85	22463.	514.01	9.1685E+01
Y-88	8.	1836.06	5.5582E+00
Y-91	39.	1204.67	2.6138E+03
NB-94	67.	871.09	7.8985E+00
ZRNB-95	242.	724.20	5.6797E+01
RU-103	26939.	497.08	1.0290E+02
RURH-106	9770.	621.93	1.3772E+03
AG-108m	264.	722.94	1.4376E+01
CD-109	34479.	88.03	2.1318E+03
AG-110M	26878.	657.76	1.2513E+02
SN-113	40355.	391.69	1.4519E+02
TE-123m	43782.	159.00	6.6345E+01
SB-124	10045.	602.73	6.9029E+01
SB-125	45467.	427.89	3.6236E+02
TE-125m	37984.	109.27	2.1412E+04
I-129	30485.	39.60	2.3959E+04
I-131	38399.	364.48	1.0532E+02
XE-131m	43523.	163.93	2.8507E+03
BA-133	38581.	356.02	1.3474E+02
CS-134	10080.	604.70	6.9439E+01
CS-136	91.	818.51	8.7081E+00
CS-138	26.	1435.86	3.4199E+01
CE-139	43745.	165.85	7.0022E+01
BA-140	16473.	537.31	3.2201E+02
LA-140	14.	1596.21	6.8042E+00
CE-141	43980.	145.44	1.1637E+02
CE-144	43722.	133.51	5.1425E+02
CEPR-144	43724.	133.51	1.0276E+03
EU-152	41484.	121.78	2.0431E+02
EU-154	40.	1274.51	2.4124E+01
EU-155	34579.	86.54	2.4235E+02
HF-181	35289.	482.18	1.2960E+02
TA-182	31030.	67.75	3.3174E+02
HG-203	42326.	279.20	8.8109E+01
BI-207	10875.	569.70	6.8449E+01
TL-208	42142.	277.36	1.1284E+03
PB-210	29979.	46.50	1.6398E+04
BI-212	236.	727.18	1.8701E+02

Minimum Detectable Activity Report (continued)

Page : 4

Sample ID : S00T000628-DUP

Acquisition date : 4-APR-2000 14:15:50

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
PB-212	46570.	238.63	1.5432E+02
BI-214	9929.	609.31	1.5109E+02
PB-214	37896.	351.92	9.4774E+02
RA-224	46584.	240.99	1.7237E+03
RA-226	55800.	186.10	1.8552E+03
AC-228	91.	911.21	3.5433E+01
TH-228	34202.	84.37	6.5546E+03
TH-229	34468.	88.47	3.0880E+02
U-232	30148.	57.78	1.1807E+05
PA-233	39567.	312.17	1.9660E+02
UTH-233	46068.	245.34	6.1956E+04
PA-234M	58.	1001.03	1.2595E+03
TH-234	30786.	63.29	4.4706E+03
U-235	55080.	185.71	1.1212E+02
NP-237	34562.	86.48	6.4178E+02
U-237	36051.	101.07	2.5346E+02
NP-238	42.	984.45	2.5533E+01
NP-239	37230.	106.12	2.7312E+02
PU-239	42919.	129.30	8.9254E+05
AM-241	30272.	59.54	5.8613E+02
AM-243	32484.	74.67	1.7741E+02

 * 222-S Laboratory Counting Room 4-APR-2000 20:54:55.51 *

>>>>>>>> SAMPLE INFORMATION <<<<<<<<<<

Worklist #: 33120
 Sample ID: S00T637-SAM
 Sample Size: 1.00000E-03 L
 Dilution Factor: 1.01000E+02

Removed by:

SLH

>>>>>>>> COUNT INFORMATION <<<<<<<<<<

Detector ID: GEA2
 File Number: dka300:[spec.GEA2]2g2763.cnf
 Geometry: 42
 Count Time: 0 02:30:00.00 sec
 Real Time: 0 02:52:30.15 sec
 Dead Time: 13%

Verified by:

John Deluca 5 Apr 00

>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<<

Sample Count Time: 4-APR-2000 18:01:56.53
 Decayed to: 4-APR-2000 18:01:56.53
 Standard Deviations: 2
 Analysis Library: ENVGEA
 Analyst: SLH2
 Background Subtract: DKA300:[SPEC.GEA2]2GBACK

>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<<

Date of last energy calibration: 3-MAY-1999 14:49:30.70
 Date of last efficiency calibration: 3-MAY-1999 14:49:59.73

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/L
0	661.84*	4895105	1.54	1323.56	1315	18	0.1		CS-137	2.407E+05
0	1173.75	161	2.09	2347.52	2340	18	39.8		CO-60	10.7
0	1323.12	1080	2.14	2646.32	2637	18	7.2			
0	1332.80	161	1.66	2665.68	2658	16	20.0		CO-60	11.8

Summary of Nuclide Activity

Page : 2

Sample ID : S00T637-SAM

Acquisition date : 4-APR-2000 18:01:56

Total number of lines in spectrum	4	
Number of unidentified lines	1	
Number of lines tentatively identified by NID	3	75.00%

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
CO-60	5.27Y	1.00	1.156E+01	1.156E+01	0.207E+01	17.92	
CS-137	30.00Y	1.00	2.407E+05	2.407E+05	0.002E+05	0.09	
Total Activity :			2.407E+05	2.407E+05			

Grand Total Activity : 2.407E+05 2.407E+05

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Minimum Detectable Activity Report
Sample ID : S00T637-SAM

Page : 3
Acquisition date : 4-APR-2000 18:01:56

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
BE-7	152760.	477.59	5.5010E+02
NA-24	20.	1368.55	1.8663E+00
K-40	338.	1460.75	6.5477E+01
AR-41	55.	1293.60	4.4283E+00
SC-46	187.	1120.55	4.2492E+00
CR-51	122618.	320.08	3.4844E+02
MN-54	428.	834.83	5.0273E+00
CO-56	401.	846.76	4.9336E+00
CO-58	522.	810.78	5.4396E+00
FE-59	155.	1099.25	6.7818E+00
ZN-65	163.	1115.55	7.8099E+00
SE-75	136052.	264.66	5.3585E+01
KR-85	77839.	514.00	1.0022E+04
SR-85	77831.	514.01	4.5335E+01
Y-88	5.	1836.06	1.2879E+00
Y-91	82.	1204.67	1.0111E+03
NB-94	371.	871.09	4.8545E+00
ZRNB-95	2378.	724.20	4.7000E+01
RU-103	94843.	497.08	5.1200E+01
RURH-106	32187.	621.93	6.7011E+02
AG-108m	2418.	722.94	1.1510E+01
CD-109	110330.	88.03	8.7115E+02
AG-110M	83813.	657.76	5.9453E+01
SN-113	135050.	391.69	6.9395E+01
TE-123m	133301.	159.00	2.8071E+01
SB-124	33123.	602.73	3.3556E+01
SB-125	155942.	427.89	1.7637E+02
TE-125m	118925.	109.27	8.8519E+03
I-129	101719.	39.60	9.1590E+03
I-131	126509.	364.48	4.9714E+01
XE-131m	132957.	163.93	1.2120E+03
BA-133	124728.	356.02	6.2871E+01
CS-134	32976.	604.70	3.3625E+01
CS-136	474.	818.51	5.2304E+00
CS-138	28.	1435.86	1.0705E+01
CE-139	132892.	165.85	2.9712E+01
BA-140	56767.	537.31	1.5918E+02
LA-140	24.	1596.21	2.3520E+00
CE-141	133071.	145.44	4.8670E+01
CE-144	132169.	133.51	2.1316E+02
CEPR-144	132167.	133.51	4.2594E+02
EU-152	127691.	121.78	8.4675E+01
EU-154	68.	1274.51	8.4481E+00
EU-155	110282.	86.54	9.8690E+01
HF-181	122290.	482.18	6.3872E+01
TA-182	102230.	67.75	1.3374E+02
HG-203	131239.	279.20	3.9532E+01
BI-207	37198.	569.70	3.3790E+01
TL-208	131734.	277.36	5.0804E+02
PB-210	99615.	46.50	6.3721E+03
BI-212	2316.	727.18	1.5462E+02

Minimum Detectable Activity Report (continued)

Page : 4

Sample ID : S00T637-SAM

Acquisition date : 4-APR-2000 18:01:56

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
PB-212	152333.	238.63	7.0198E+01
BI-214	33104.	609.31	7.3886E+01
PB-214	124066.	351.92	4.8529E+02
RA-224	150859.	240.99	7.8162E+02
RA-226	170094.	186.10	7.9708E+02
AC-228	269.	911.21	1.6174E+01
TH-228	109466.	84.37	2.6667E+03
TH-229	110486.	88.47	1.2636E+02
U-232	100428.	57.78	4.7038E+04
PA-233	124310.	312.17	8.9571E+01
UTH-233	147527.	245.34	2.7950E+04
PA-234M	183.	1001.03	5.9152E+02
TH-234	101712.	63.29	1.7915E+03
U-235	168353.	185.71	4.8227E+01
NP-237	110273.	86.48	2.6138E+02
U-237	114563.	101.07	1.0477E+02
NP-238	234.	984.45	1.5684E+01
NP-239	116935.	106.12	1.1292E+02
PU-239	131558.	129.30	3.7136E+05
AM-241	100532.	59.54	2.3391E+02
AM-243	105473.	74.67	7.1756E+01

 * 222-S Laboratory Counting Room 4-APR-2000 23:53:30.06 *

>>>>>>>> SAMPLE INFORMATION <<<<<<<<<

Worklist #: 33120
 Sample ID: S00T637-DUP
 Sample Size: 1.00000E-03 L
 Dilution Factor: 1.01000E+02

Removed by:

SLH

>>>>>>>> COUNT INFORMATION <<<<<<<<<

Detector ID: GEA2
 File Number: dka300:[spec.GEA2]2g2764.cnf
 Geometry: 42
 Count Time: 0 02:30:00.00 sec
 Real Time: 0 02:51:55.34 sec
 Dead Time: 13%

Verified by:

John Relyea 5 Apr 00

>>>>>>>> ANALYSIS INFORMATION <<<<<<<<<

Sample Count Time: 4-APR-2000 21:01:03.22
 Decayed to: 4-APR-2000 21:01:03.22
 Standard Deviations: 2
 Analysis Library: ENVGEA
 Analyst: SLH2
 Background Subtract: DKA300:[SPEC.GEA2]2GBACK

>>>>>>>> CALIBRATION INFORMATION <<<<<<<<<

Date of last energy calibration: 3-MAY-1999 14:49:30.70
 Date of last efficiency calibration: 3-MAY-1999 14:49:59.73

Post-NID Peak Search Report

It	Energy	Area	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides	Activity uCi/L
0	661.85*	4767827	1.53	1323.58	1315	18	0.1		CS-137	2.345E+05
0	1173.31	191	1.51	2346.63	2339	17	26.9		CO-60	12.7
0	1323.23	1039	1.95	2646.54	2637	18	6.8			
0	1332.85	145	1.11	2665.79	2660	13	23.1		CO-60	10.7
0	1764.83*	14	2.06	3530.02	3523	121	104.6		BI-214	8.41

Summary of Nuclide Activity

Page : 2

Sample ID : S00T637-DUP

Acquisition date : 4-APR-2000 21:01:03

Total number of lines in spectrum 5
 Number of unidentified lines 1
 Number of lines tentatively identified by NID 4 80.00%

Nuclide Type :

Nuclide	Hlife	Decay	Wtd Mean	Wtd Mean	Decay Corr	2-Sigma	2-Sigma Error	%Error	Flags
			Uncorrected	Decay Corr					
			uCi/L	uCi/L					
CO-60	5.27Y	1.00	1.136E+01	1.136E+01		0.200E+01		17.62	
CS-137	30.00Y	1.00	2.345E+05	2.345E+05		0.002E+05		0.10	
BI-214	26700.00D	1.00	8.414E+00	8.414E+00		8.798E+00		104.56	
Total Activity :			2.345E+05	2.345E+05					

DA
Saproo

Grand Total Activity : 2.345E+05 2.345E+05

Flags: "K" = Keyline not found
 "E" = Manually edited

"M" = Manually accepted
 "A" = Nuclide specific abn. limit

Minimum Detectable Activity Report

Sample ID : S00T637-DUP

Page : 3

Acquisition date : 4-APR-2000 21:01:03

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
BE-7	148779.	477.59	5.4290E+02
NA-24	16.	1368.55	1.7166E+00
K-40	351.	1460.75	6.6667E+01
AR-41	55.	1293.60	4.4239E+00
SC-46	174.	1120.55	4.1007E+00
CR-51	119627.	320.08	3.4417E+02
MN-54	398.	834.83	4.8519E+00
CO-56	355.	846.76	4.6480E+00
CO-58	481.	810.78	5.2288E+00
FE-59	161.	1099.25	6.8942E+00
ZN-65	180.	1115.55	8.1976E+00
SE-75	133591.	264.66	5.3099E+01
KR-85	76103.	514.00	9.9099E+03
SR-85	76094.	514.01	4.4827E+01
Y-88	11.	1836.06	1.7547E+00
Y-91	82.	1204.67	1.0108E+03
NB-94	339.	871.09	4.6492E+00
ZRNB-95	2285.	724.20	4.6079E+01
RU-103	92040.	497.08	5.0439E+01
RURH-106	31360.	621.93	6.6148E+02
AG-108m	2284.	722.94	1.1191E+01
CD-109	108074.	88.03	8.6221E+02
AG-110M	80484.	657.76	5.8263E+01
SN-113	131708.	391.69	6.8532E+01
TE-123m	130079.	159.00	2.7730E+01
SB-124	31857.	602.73	3.2910E+01
SB-125	151926.	427.89	1.7409E+02
TE-125m	114346.	109.27	8.6801E+03
I-129	99054.	39.60	9.0385E+03
I-131	122924.	364.48	4.9005E+01
XE-131m	129902.	163.93	1.1980E+03
BA-133	121541.	356.02	6.2064E+01
CS-134	31962.	604.70	3.3106E+01
CS-136	426.	818.51	4.9654E+00
CS-138	23.	1435.86	9.7148E+00
CE-139	129387.	165.85	2.9318E+01
BA-140	54997.	537.31	1.5668E+02
LA-140	18.	1596.21	2.0597E+00
CE-141	130021.	145.44	4.8110E+01
CE-144	128625.	133.51	2.1029E+02
CEPR-144	128625.	133.51	4.2021E+02
EU-152	124903.	121.78	8.3747E+01
EU-154	68.	1274.51	8.4288E+00
EU-155	107253.	86.54	9.7327E+01
HF-181	119511.	482.18	6.3143E+01
TA-182	99842.	67.75	1.3217E+02
HG-203	127467.	279.20	3.8960E+01
BI-207	35832.	569.70	3.3165E+01
TL-208	127742.	277.36	5.0029E+02
PB-210	97725.	46.50	6.3114E+03
BI-212	2218.	727.18	1.5134E+02

Minimum Detectable Activity Report (continued)

Page : 4

Sample ID : S00T637-DUP

Acquisition date : 4-APR-2000 21:01:03

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/L)
PB-212	148207.	238.63	6.9243E+01
PB-214	121713.	351.92	4.7914E+02
RA-224	147399.	240.99	7.7259E+02
RA-226	166995.	186.10	7.8980E+02
AC-228	311.	911.21	1.7366E+01
TH-228	106180.	84.37	2.6265E+03
TH-229	108106.	88.47	1.2499E+02
U-232	97968.	57.78	4.6460E+04
PA-233	120442.	312.17	8.8168E+01
UTH-233	144166.	245.34	2.7631E+04
PA-234M	155.	1001.03	5.4769E+02
TH-234	98359.	63.29	1.7618E+03
U-235	165396.	185.71	4.7802E+01
NP-237	107226.	86.48	2.5775E+02
U-237	112491.	101.07	1.0382E+02
NP-238	171.	984.45	1.3477E+01
NP-239	113712.	106.12	1.1135E+02
PU-239	127666.	129.30	3.6583E+05
AM-241	97911.	59.54	2.3085E+02
AM-243	102951.	74.67	7.0894E+01

LABCORE Completed Worklist Report for Worklist# 32862

Analyst: scl Instrument: AB18 Book#: _____
Method: LA-220-101 Rev/Mod E-5
Worklist Comment: SY-102 FOR @SR90-01 RTS

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD		0		@SR90-01 SR90-01 LIQUID		6.20E-04	6.16E-4	99.355 % Recovery	
1	STD		0		@SR90-01 SR90-01C LIQUID		100	8.98E+01	89.800 % Recovery	
1	STD		0		@SR90-01 SR90-01E LIQUID		1.00	2.57E+00	2.570 % Ct. Error	
2	BLNK		0		@SR90-01 SR90-01 LIQUID		1	<1.79E-2		uCi/mL
2	BLNK		0		@SR90-01 SR90-01C LIQUID		100	8.85E+01	88.500 % Recovery	
2	BLNK		0		@SR90-01 SR90-01E LIQUID		1.00	5.00E+02	500.000	uCi/mL
3	BLNK/BKG		0		@SR90-01 SR90-01 LIQUID		1	1.00E+00	1.000	BLNK/BKG
4	SAMPLE	S00T000505	0		@SR90-01 SR90-01 LIQUID		N/A	3.11E+00	3.60E-002	uCi/mL
4	SAMPLE	S00T000505	0		@SR90-01 SR90-01C LIQUID		N/A	9.02E+01		% Recovery
4	SAMPLE	S00T000505	0		@SR90-01 SR90-01E LIQUID		N/A	3.69E+00		% Ct. Error
5	DUP	S00T000505	0		@SR90-01 SR90-01 LIQUID		3.11E+0	3.09E+0	0.645 RPD	
5	DUP	S00T000505	0		@SR90-01 SR90-01C LIQUID		100	8.89E+01	88.900 % Recovery	
5	DUP	S00T000505	0		@SR90-01 SR90-01E LIQUID		1.00	3.73E+00	3.730 % Cnt Err	
6	SAMPLE	S00T000506	0		@SR90-01 SR90-01 LIQUID		N/A	3.00E+00	3.71E-002	uCi/mL
6	SAMPLE	S00T000506	0		@SR90-01 SR90-01C LIQUID		N/A	8.74E+01		% Recovery
6	SAMPLE	S00T000506	0		@SR90-01 SR90-01E LIQUID		N/A	3.82E+00		% Ct. Error
7	DUP	S00T000506	0		@SR90-01 SR90-01 LIQUID		3.00E+0	3.23E+0	7.384 RPD	
7	DUP	S00T000506	0		@SR90-01 SR90-01C LIQUID		100	8.92E+01	89.200 % Recovery	
7	DUP	S00T000506	0		@SR90-01 SR90-01E LIQUID		1.00	3.63E+00	3.630 % Cnt Err	
8	SAMPLE	S00T000507	0		@SR90-01 SR90-01 LIQUID		N/A	2.98E+00	3.64E-002	uCi/mL
8	SAMPLE	S00T000507	0		@SR90-01 SR90-01C LIQUID		N/A	8.87E+01		% Recovery
8	SAMPLE	S00T000507	0		@SR90-01 SR90-01E LIQUID		N/A	3.80E+00		% Ct. Error
9	DUP	S00T000507	0		@SR90-01 SR90-01 LIQUID		2.98E+0	2.98E+0	0.000 RPD	
9	DUP	S00T000507	0		@SR90-01 SR90-01C LIQUID		100	8.73E+01	87.300 % Recovery	
9	DUP	S00T000507	0		@SR90-01 SR90-01E LIQUID		1.00	3.82E+00	3.820 % Cnt Err	

Final page for worklist# 32862

Analyst Signature	Date	Analyst Signature	Date

Reviewer Signature	Date		

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

03/08/00 10:23

ws2

Page: 1

LABCORE Data Entry Template for Worklist# 32862

Analyst: S.L Instrument: AB00 Book# 6. B57Method: LA-220-101 Rev/Mod E-5

Worklist Comment: SY-102 FOR @SR90-01 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	S00T000505 0			@SR90-01 LIQUID		20000085	SY-102 GRAB6
Analytes Requested: SR90-01 , SR90-01C, SR90-01E								
5	DUP	S00T000505 0			@SR90-01 LIQUID			
6	SAMPLE	S00T000506 0			@SR90-01 LIQUID		20000085	SY-102 GRAB6
Analytes Requested: SR90-01 , SR90-01C, SR90-01E								
7	DUP	S00T000506 0			@SR90-01 LIQUID			
8	SAMPLE	S00T000507 0			@SR90-01 LIQUID		20000085	SY-102 GRAB6
Analytes Requested: SR90-01 , SR90-01C, SR90-01E								
9	DUP	S00T000507 0			@SR90-01 LIQUID			

Final page for worklist # 32862

Sue Lai 3-15-00

Signature Date

Sharon L. Heide 3-15-00

Signature Date

Sylvia E. Moore 3/15/00

Data Entry Comments:

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

WORKBOOK PAGE: STD1

Sr-89/90 : LA-220-101 (E-5), 102 (INACTIVE), 104 (E-7) LIQUIDS

				STANDARD
	DETECTOR NUMBER	18	CARRIER ADDED in mL (CVA)	1.000
STD	TOTAL COUNTS (TC)	6029	GROSS WEIGHT (W2)	7.5310
	COUNT TIME in MINUTES (CT)	10	TARE WEIGHT (W1)	7.4412
32862	BACKGROUND in cpm (BKG)	7.7	NET WEIGHT (W3)	0.0898
	SAMPLE VOLUME in mL (SS)	1.000	DELTA TIME (HOURS) (DT)	19.97
@SR90-01	DILUTION FACTOR (DF)	1		
	DIGEST DILUTION FACTOR DDF	1		
LIQUID	SAMPLE COUNT RATE (Rs)	595.20	SR-90 EFFICIENCY FACTO (C1)	0.3931
	CRITICAL LEVEL (Lc)	1.67	Y-90 EFFICIENCY FACTOR (C2)	0.4709
20000937	TIME OF SEPARATION (ST)	15:00	Rmax	N/A
	DATE OF SEPARATION (SD)	03/14/2000	DETECTION LIMIT (Ld)	3.43
0	TIME OF COUNT (TOC)	10:58	Sr-89/90 CONC. in µCi/L	6.1633E-01
	DATE OF COUNT (DOC)	03/15/2000		
N/A	STANDARD BOOK #	60B57		
	STANDARD VALUE in µCi/mL	6.2046E-04		
WL32862-STD				
WB27809	Sample Count Rate (Rs) = (Total Counts (TC) / Count Time (CT)) - Background in cpm (BKG)			
	Sr-89/90 CONC in µCi/mL REPLACE RS WITH RMAX IF RS<=LcAND RS>=0 OR REPLACE RS WITH Lc IF RS<0			
SLH2	RS*DF*DDF*1000/((C1+C2*(1-e to the power of ((-natural log 2)/64.2*DT))) * SS*REC*2220000)			
	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)			
	Percent Carrier Recovery = (Net Weight / Expected weight) * 100			
SCL	NOTE: Expected weight = CVA * 0.1			
	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			
03/15/2000	Delta Time (hours) = ((DOC - SD) * 24) + (TOC - ST) / 100			
03/15/2000	Sr-89/90 CONCENTRATION	6.16E-04	µCi/mL	DETECTION LEVEL 3.56E-06 µCi/L
09:55 AM	RELATIVE COUNTING ERROR	2.6%		
SY-102 GRAB6	PERCENT CARRIER RECOVERY	89.8%		

Analyst:	SCL	Date:	15-Mar-2000
Signature of Chemist:	SAC	Date:	MAR 15 2000
STANDARD.WB1 REV 2.0		22010NML	

WORKBOOK PAGE: BLANK2

LA-220-101 / E-5 Sr-89/90 : LA-220-101 (E-5), 102 (INACTIVE), 104 (E-7)

LA-220-101 / E-5					Sr-89/90 : LA-220-101 (E-5), 104 (INACTIVE), 104 (E-7)		BLNK
	DETECTOR NUMBER		18	CARRIER ADDED in mL	(CVA)	1.000	
BLNK	TOTAL COUNTS	(TC)	77	GROSS WEIGHT	(W2)	7.5047	
	COUNT TIME in MINUTES	(CT)	10	TARE WEIGHT	(W1)	7.4162	
32862	BACKGROUND in cpm	(BKG)	7.7	NET WEIGHT	(W3)	0.0885	
	SAMPLE VOLUME in mL	(SS)	1.000	DELTA TIME (HOURS)	(DT)	20.15	
@SR90-01	DILUTION FACTOR	DF	10201				
	DIGEST DILUTION FACTOR	(DDF)	1				
LIQUID	SAMPLE COUNT RATE	(Rs)	0.00	SR-90 EFFICIENCY FACTOR	(C1)	0.3931	
	CRITICAL LEVEL	(Lc)	1.67	Y-90 EFFICIENCY FACTOR	(C2)	0.4709	
20000937	TIME OF SEPARATION	(ST)	15:00	Rmax		1.67	
	DATE OF SEPARATION	(SD)	03/14/2000	DETECTION LIMIT	(Ld)	3.43	
0	TIME OF COUNT	(TOC)	11:09	Sr-89/90 CONC in µCi/L		< 1.7892E+01	
	DATE OF COUNT	(DOC)	03/15/2000				
N/A							
WL32862-BLNK							
	Sample Count Rate (Rs) = (Total Counts (TC) / Count Time (CT)) - Background in cpm (BKG)						
WB27809	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						
	RS*DF*DDF/((C1+C2*(1-e to the power of ((-natural log 2)/64.2*DT)))*SS*REC*2220000)						
SLH2	NOTE: 64.2 = Half Life for Y-90 and Rec. = Fractional Carrier Recovery ((W2-W1) / (CVA * 0.1000))						
	Relative Counting Error = (The Square Root of (TC + BKG * CT) / (TC - BKG * CT))*1.96						
SAC	Percent Carrier Recovery = (Net Weight / Expected weight) * 100						
	NOTE: Expected weight = CVA * 0.1						
SCL	Detection Levels and Less Than Values are determined from Procedure LA-508-002.						
	Delta Time (hours) = ((DOC - SD) * 24) + (TOC - ST) / 100						
03/15/2000							
03/15/2000	Sr-89/90 CONCENTRATION		< 1.79E-02		µCi/mL		
	LESS THAN Value was Determined from Rmax.						
09:55 AM	RELATIVE COUNTING ERROR		500.0%				
SY-102 GRAB6	PERCENT CARRIER RECOVERY		88.5%				

DETECTION LEVEL	
	3.68E-02 µCi/mL

Analyst:	SCL	Date:	15-Mar-2000
Signature of Chemist:	SAC	Date:	MAR 16 2000

BLANK.WB1 REV 2.0

22010NML

820

WORKBOOK PAGE: SAM4

Sr-89/90 : LA-220-101 (E-5), 102 (INACTIVE), 104 (E-7)

Sr-89/90 : LA-220-101 (E-5), 102 (INACTIVE), 104 (E-7)						SAMPLE
	DETECTOR NUMBER		18	CARRIER ADDED In mL	(CVA)	1.000
SAMPLE	TOTAL COUNTS	(TC)	3041	GROSS WEIGHT	(W2)	7.5248
	COUNT TIME In MINUTES	(CT)	10	TARE WEIGHT	(W1)	7.4344
32862	BACKGROUND In cpm	(BKG)	7.7	NET WEIGHT	(W3)	0.0902
	SAMPLE VOLUME In mL	(SS)	1.000	DELTA TIME (HOURS)	(DT)	20.32
@SR90-01	DILUTION FACTOR	DF	10201			
	DIGEST DILUTION FACTOR	(DDF)	1			
LIQUID	SAMPLE COUNT RATE	(Rs)	296.40	SR-90 EFFICIENCY FACTOR	(C1)	0.3931
	CRITICAL LEVEL	(Lc)	1.67	Y-90 EFFICIENCY FACTOR	(C2)	0.4709
20000937	TIME OF SEPARATION	(ST)	15:00	Rmax		N/A
	DATE OF SEPARATION	(SD)	03/14/2000	DETECTION LIMIT	(Ld)	3.43
0	TIME OF COUNT	(TOC)	11:19	Sr-89/90 CONC In µCi/L 3.1078E+03		
	DATE OF COUNT	(DOC)	03/15/2000			
N/A						

Sample Count Rate (Rs) = (Total Counts (TC) / Count Time (CT)) - Background in cpm (BKG)

Sr-89/90 CONC in $\mu\text{Ci/L}$ **Replace RS with RMAX if $\text{RS} \leq \text{Lc}$ and $\text{RS} \geq 0$ or Replace RS with Lc if $\text{RS} < 0$**

$$RS*DF*DDF/((C1+C2*(1-e \text{ to the power of } ((-\text{natural log } 2)/64.2*DT))))*SS*REC*2220000)$$

NOTE: 64.2 = Half Life for Y-90 and Rec. = Fractional Carrier Recovery ((W2-W1) / (CVA * 0.1000))

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

Percent Carrier Recovery = (Net Weight / Expected weight) • 100

NOTE: Expected weight = CVA * 0.1

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

$$\text{Delta Time (hours)} = ((\text{DOC} - \text{SD}) * 24) + (\text{TOC} - \text{ST}) / 100$$

03/15/2000			DETECTION LEVEL 3.60E-02 μCi/mL
03/15/2000	Sr-89/90 CONCENTRATION	3.11E+00 μCi/mL	
09:55 AM	RELATIVE COUNTING ERROR	3.7%	
SY-102 GRAB6	PERCENT CARRIER RECOVERY	90.2%	

Analyst:	SCL	Date:	15-Mar-2000
Signature of Chemist:	SAC	Date:	MAR 15 2000

SAMPLE.WB1 REV 2.0

22010NML

821

WORKBOOK PAGE: DUP5

Sr-89/90 : LA-220-101 (E-5), 102 (INACTIVE), 104 (E-7)

					DUP
	DETECTOR NUMBER		18	CARRIER ADDED in mL	(CVA) 1.000
DUP	TOTAL COUNTS	(TC)	2982	GROSS WEIGHT	(W2) 7.5311
	COUNT TIME in MINUTES	(CT)	10	TARE WEIGHT	(W1) 7.4422
32862	BACKGROUND in cpm	(BKG)	7.7	NET WEIGHT	(W3) 0.0889
	SAMPLE VOLUME in mL	(SS)	1.000	DELTA TIME (HOURS)	(DT) 20.50
@SR90-01	DILUTION FACTOR	DF	10201		
	DIGEST DILUTION FACTOR	(DDF)	1		
LIQUID	SAMPLE COUNT RATE	(Rs)	290.50	SR-90 EFFICIENCY FACTOR	(C1) 0.3931
	CRITICAL LEVEL	(Lc)	1.67	Y-90 EFFICIENCY FACTOR	(C2) 0.4709
20000937	TIME OF SEPARATION	(ST)	15:00	Rmax	N/A
	DATE OF SEPARATION	(SD)	03/14/2000	DETECTION LIMIT	(Ld) 3.43
0	TIME OF COUNT	(TOC)	11:30	Sr-89/90 CONC in µCi/L	3.0858E+03
	DATE OF COUNT	(DOC)	03/15/2000		
N/A					
S00T000505					
	Sample Count Rate (Rs) = (Total Counts (TC) / Count Time (CT)) - Background in cpm (BKG)				
WB27809	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				
	RS*DF*DDF/((C1+C2*(1-e to the power of ((-natural log 2)/64.2*DT)))*SS*REC*2220000)				
SLH2	NOTE: 64.2 = Half Life for Y-90 and Rec. = Fractional Carrier Recovery ((W2-W1) / (CVA * 0.1000))				
	Relative Counting Error = (The Square Root of (TC + BKG * CT) / (TC - BKG * CT))*1.96				
SAC	Percent Carrier Recovery = (Net Weight / Expected weight) * 100				
	NOTE: Expected weight = CVA * 0.1				
SCL	Detection Levels and Less Than Values are determined from Procedure LA-508-002.				
	Delta Time (hours) = ((DOC - SD) * 24) + (TOC - ST) / 100				
03/15/2000					
03/15/2000	Sr-89/90 CONCENTRATION		3.09E+00	µCi/mL	DETECTION LEVEL 3.65E-02 µCi/mL
09:55 AM	RELATIVE COUNTING ERROR		3.7%		
SY-102 GRAB6	PERCENT CARRIER RECOVERY		88.9%		

Analyst:	SCL	Date:	15-Mar-2000
Signature of Chemist:	SAC	Date:	MAR 15 2000
SAMPLE.WB1 REV 2.0	22010NML		

WORKBOOK PAGE: SAM6

Sr-89/90 : LA-220-101 (E-5), 102 (INACTIVE), 104 (E-7)

Sr-89/90 : LA-220-101 (E-5), 102 (INACTIVE), 104 (E-7)						SAMPLE	
	DETECTOR NUMBER		18	CARRIER ADDED In mL	(CVA)	1.000	
SAMPLE	TOTAL COUNTS	(TC)	2859	GROSS WEIGHT	(W2)	7.5074	
	COUNT TIME In MINUTES	(CT)	10	TARE WEIGHT	(W1)	7.4200	
32862	BACKGROUND In cpm	(BKG)	7.7	NET WEIGHT	(W3)	0.0874	
	SAMPLE VOLUME In mL	(SS)	1.000	DELTA TIME (HOURS)	(DT)	20.58	
@SR90-01	DILUTION FACTOR	DF	10201				
	DIGEST DILUTION FACTOR	(DDF)	1				
LIQUID	SAMPLE COUNT RATE	(Rs)	278.20	SR-90 EFFICIENCY FACTOR	(C1)	0.3931	
	CRITICAL LEVEL	(Lc)	1.67	Y-90 EFFICIENCY FACTOR	(C2)	0.4709	
20000937	TIME OF SEPARATION	(ST)	15:05	Rmax		N/A	
	DATE OF SEPARATION	(SD)	03/14/2000	DETECTION LIMIT	(Ld)	3.43	
0	TIME OF COUNT	(TOC)	11:40	Sr-89/90 CONC In µCi/L 3.0037E+03			
	DATE OF COUNT	(DOC)	03/15/2000				
N/A							
S00T000506							
	Sample Count Rate (Rs) = (Total Counts (TC) / Count Time (CT)) - Background in cpm (BKG)						
WB27809	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						
	RS*DF*DDF/((C1+C2*(1-e to the power of ((-natural log 2)/64.2*DT)))*SS*REC*2220000)						
SLH2	NOTE: 64.2 = Half Life for Y-90 and Rec. = Fractional Carrier Recovery ((W2-W1) / (CVA * 0.1000))						
	Relative Counting Error = (The Square Root of (TC + BKG * CT) / (TC - BKG * CT))*1.96						
SAC	Percent Carrier Recovery = (Net Weight / Expected weight) * 100						
	NOTE: Expected weight = CVA * 0.1						
SCL	Detection Levels and Less Than Values are determined from Procedure LA-508-002.						
	Delta Time (hours) = ((DOC - SD) * 24) + (TOC - ST) / 100						
03/15/2000							
03/15/2000	Sr-89/90 CONCENTRATION		3.00E+00	µCi/mL	DETECTION LEVEL 3.71E-02 µCi/mL		
09:55 AM	RELATIVE COUNTING ERROR		3.8%				
SY-102 GRAB6	PERCENT CARRIER RECOVERY		87.4%				

Analyst:	SCL	Date:	15-Mar-2000
Signature of Chemist:	SAC	Date:	MAR 15 2000
SAMPLE.WB1 REV 2.0	22010NML		

WORKBOOK PAGE: DUP7

Sr-89/90 : LA-220-101 (E-5), 102 (INACTIVE), 104 (E-7)

					DUP
	DETECTOR NUMBER		18	CARRIER ADDED in mL	(CVA) 1.000
DUP	TOTAL COUNTS	(TC)	3131	GROSS WEIGHT	(W2) 7.5355
	COUNT TIME in MINUTES	(CT)	10	TARE WEIGHT	(W1) 7.4463
32862	BACKGROUND in cpm	(BKG)	7.7	NET WEIGHT	(W3) 0.0892
	SAMPLE VOLUME in mL	(SS)	1.000	DELTA TIME (HOURS)	(DT) 20.75
@SR90-01	DILUTION FACTOR	DF	10201		
	DIGEST DILUTION FACTOR	(DDF)	1		
LIQUID	SAMPLE COUNT RATE	(Rs)	305.40	SR-90 EFFICIENCY FACTOR	(C1) 0.3931
	CRITICAL LEVEL	(Lc)	1.67	Y-90 EFFICIENCY FACTOR	(C2) 0.4709
20000937	TIME OF SEPARATION	(ST)	15:05	Rmax	N/A
	DATE OF SEPARATION	(SD)	03/14/2000	DETECTION LIMIT	(Ld) 3.43
0	TIME OF COUNT	(TOC)	11:50	Sr-89/90 CONC in $\mu\text{Ci/L}$	3.2264E+03
	DATE OF COUNT	(DOC)	03/15/2000		
N/A					
S00T000506					
	Sample Count Rate (Rs) = (Total Counts (TC) / Count Time (CT)) - Background in cpm (BKG)				
WB27809	Sr-89/90 CONC in $\mu\text{Ci/L}$ Replace RS with RMAX if $RS \leq Lc$ and $RS \geq 0$ or Replace RS with Lc if $RS < 0$				
	$RS * DF * DDF / ((C1 + C2 * (1 - e \text{ to the power of } ((- \text{natural log } 2) / 64.2 * DT))) * SS * REC * 2220000)$				
SLH2	NOTE: 64.2 = Half Life for Y-90 and Rec. = Fractional Carrier Recovery $((W2 - W1) / (CVA * 0.1000))$				
	Relative Counting Error = (The Square Root of $(TC + BKG * CT) / (TC - BKG * CT)$) * 1.96				
SAC	Percent Carrier Recovery = (Net Weight / Expected weight) * 100				
	NOTE: Expected weight = $CVA * 0.1$				
SCL	Detection Levels and Less Than Values are determined from Procedure LA-508-002.				
	Delta Time (hours) = $((DOC - SD) * 24) + (TOC - ST) / 100$				
03/15/2000					
03/15/2000	Sr-89/90 CONCENTRATION		3.23E+00	$\mu\text{Ci/mL}$	DETECTION LEVEL 3.63E-02 $\mu\text{Ci/mL}$
09:55 AM	RELATIVE COUNTING ERROR		3.6%		
SY-102 GRAB6	PERCENT CARRIER RECOVERY		89.2%		

Analyst:	SCL	Date:	15-Mar-2000
Signature of Chemist:	SAC	Date:	MAR 15 2000
SAMPLE.WB1 REV 2.0 22010NML			

WORKBOOK PAGE: SAM8

Sr-89/90 : LA-220-101 (E-5), 102 (INACTIVE), 104 (E-7)

					SAMPLE
	DETECTOR NUMBER		18	CARRIER ADDED In mL	(CVA) 1.000
SAMPLE	TOTAL COUNTS	(TC)	2883	GROSS WEIGHT	(W2) 7.5111
	COUNT TIME In MINUTES	(CT)	10	TARE WEIGHT	(W1) 7.4224
32862	BACKGROUND In cpm	(BKG)	7.7	NET WEIGHT	(W3) 0.0887
	SAMPLE VOLUME In mL	(SS)	1.000	DELTA TIME (HOURS)	(DT) 20.93
@SR90-01	DILUTION FACTOR	DF	10201		
	DIGEST DILUTION FACTOR	(DDF)	1		
LIQUID	SAMPLE COUNT RATE	(Rs)	280.60	SR-90 EFFICIENCY FACTOR	(C1) 0.3931
	CRITICAL LEVEL	(Lc)	1.67	Y-90 EFFICIENCY FACTOR	(C2) 0.4709
20000937	TIME OF SEPARATION	(ST)	15:05	Rmax	N/A
	DATE OF SEPARATION	(SD)	03/14/2000	DETECTION LIMIT	(Ld) 3.43
0	TIME OF COUNT	(TOC)	12:01	Sr-89/90 CONC In $\mu\text{Ci/L}$ 2.9766E+03	
	DATE OF COUNT	(DOC)	03/15/2000		
N/A					
S00T000507					
	Sample Count Rate (Rs) = (Total Counts (TC) / Count Time (CT)) - Background in cpm (BKG)				
WB27809	Sr-89/90 CONC in $\mu\text{Ci/L}$ Replace RS with RMAX if RS<=Lc and RS>=0 or Replace RS with Lc if RS<0				
	$RS * DF * DDF / ((C1 + C2 * (1 - e \text{ to the power of } ((- \text{natural log } 2) / 64.2 * DT))) * SS * REC * 2220000)$				
SLH2	NOTE: 64.2 = Half Life for Y-90 and Rec. = Fractional Carrier Recovery $((W2 - W1) / (CVA * 0.1000))$				
	Relative Counting Error = (The Square Root of $(TC + BKG * CT) / (TC - BKG * CT)$) * 1.96				
SAC	Percent Carrier Recovery = (Net Weight / Expected weight) * 100				
	NOTE: Expected weight = CVA * 0.1				
SCL	Detection Levels and Less Than Values are determined from Procedure LA-508-002.				
	Delta Time (hours) = $((DOC - SD) * 24) + (TOC - ST) / 100$				
03/15/2000					
03/15/2000	Sr-89/90 CONCENTRATION		2.98E+00	$\mu\text{Ci/mL}$	DETECTION LEVEL 3.64E-02 $\mu\text{Ci/mL}$
09:55 AM	RELATIVE COUNTING ERROR		3.8%		
SY-102 GRAB6	PERCENT CARRIER RECOVERY		88.7%		

Analyst:	SCL	Date:	15-Mar-2000
Signature of Chemist:	SAC	Date:	MAR 15 2000

SAMPLE.WB1 REV 2.0

22010NML

WORKBOOK PAGE: DUP9

Sr-89/90 : LA-220-101 (E-5), 102 (INACTIVE), 104 (E-7)

					DUP
	DETECTOR NUMBER		18	CARRIER ADDED in mL	(CVA) 1.000
DUP	TOTAL COUNTS	(TC)	2849	GROSS WEIGHT	(W2) 7.5049
	COUNT TIME in MINUTES	(CT)	10	TARE WEIGHT	(W1) 7.4176
32862	BACKGROUND in cpm	(BKG)	7.7	NET WEIGHT	(W3) 0.0873
	SAMPLE VOLUME in mL	(SS)	1.000	DELTA TIME (HOURS)	(DT) 21.10
@SR90-01	DILUTION FACTOR	DF	10201		
	DIGEST DILUTION FACTOR	(DDF)	1		
LIQUID	SAMPLE COUNT RATE	(Rs)	277.20	SR-90 EFFICIENCY FACTOR	(C1) 0.3931
	CRITICAL LEVEL	(Lc)	1.67	Y-90 EFFICIENCY FACTOR	(C2) 0.4709
20000937	TIME OF SEPARATION	(ST)	15:05	Rmax	N/A
	DATE OF SEPARATION	(SD)	03/14/2000	DETECTION LIMIT	(Ld) 3.43
0	TIME OF COUNT	(TOC)	12:11	Sr-89/90 CONC in µCi/L	2.9835E+03
	DATE OF COUNT	(DOC)	03/15/2000		
N/A					
S00T000507					
	Sample Count Rate (Rs) = (Total Counts (TC) / Count Time (CT)) - Background in cpm (BKG)				
WB27809	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				
	RS * DF * DDF / ((C1 + C2 * (1 - e to the power of ((-natural log 2) / 64.2 * DT))) * SS * REC * 2220000)				
SLH2	NOTE: 64.2 = Half Life for Y-90 and Rec. = Fractional Carrier Recovery ((W2 - W1) / (CVA * 0.1000))				
	Relative Counting Error = (The Square Root of (TC + BKG * CT) / (TC - BKG * CT)) * 1.96				
SAC	Percent Carrier Recovery = (Net Weight / Expected weight) * 100				
	NOTE: Expected weight = CVA * 0.1				
SCL	Detection Levels and Less Than Values are determined from Procedure LA-508-002.				
	Delta Time (hours) = ((DOC - SD) * 24) + (TOC - ST) / 100				
03/15/2000					
03/15/2000	Sr-89/90 CONCENTRATION		2.98E+00	µCi/mL	DETECTION LEVEL 3.70E-02 µCi/mL
09:55 AM	RELATIVE COUNTING ERROR		3.8%		
SY-102 GRAB6	PERCENT CARRIER RECOVERY		87.3%		

Analyst:	SCL	Date:	15-Mar-2000
Signature of Chemist:	SAC	Date:	MAR 15 2000
SAMPLE.WB1 REV 2.0	22010NML		

LABCORE Completed Worklist Report for Worklist# 33123

Analyst: scl

Instrument: AB12

Book#: _____

Method: LA-220-101 Rev/Mod E-5

Worklist Comment: SY-102 GRAB 6 FOR @SR90-01 mcb

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD		0		@SR90-01 SR90-01 LIQUID		6.20E-04	5.83E-4	94.032 % Recovery	
1	STD		0		@SR90-01 SR90-01C LIQUID		100	9.06E+01	90.600 % Recovery	
1	STD		0		@SR90-01 SR90-01E LIQUID		1.00	2.68E+00	2.680 % Ct. Error	
2	BLNK		0		@SR90-01 SR90-01 LIQUID		1	<9.22E-3		uCi/mL
2	BLNK		0		@SR90-01 SR90-01C LIQUID		100	9.18E+01	91.800 % Recovery	
2	BLNK		0		@SR90-01 SR90-01E LIQUID		1.00	6.04E+02	604.000	uCi/mL
3	BLNK/BKG		0		@SR90-01 SR90-01 LIQUID		1	9.00E-01	0.900	BLNK/BKG
4	SAMPLE	S00T000513	0		@SR90-01 SR90-01 LIQUID		N/A	2.74E+00	1.97E-002	uCi/mL
4	SAMPLE	S00T000513	0		@SR90-01 SR90-01C LIQUID		N/A	9.01E+01		% Recovery
4	SAMPLE	S00T000513	0		@SR90-01 SR90-01E LIQUID		N/A	3.96E+00		% Ct. Error
5	DUP	S00T000513	0		@SR90-01 SR90-01 LIQUID		2.74E+0	2.74E+0	0.000	RPD
5	DUP	S00T000513	0		@SR90-01 SR90-01C LIQUID		100	9.20E+01	92.000 % Recovery	
5	DUP	S00T000513	0		@SR90-01 SR90-01E LIQUID		1.00	3.90E+00	3.900 % Ct. Err	
6	SAMPLE	S00T000612	0		@SR90-01 SR90-01 LIQUID		N/A	2.57E+00	1.90E-002	uCi/mL
6	SAMPLE	S00T000612	0		@SR90-01 SR90-01C LIQUID		N/A	9.12E+01		% Recovery
6	SAMPLE	S00T000612	0		@SR90-01 SR90-01E LIQUID		N/A	4.01E+00		% Ct. Error
7	DUP	S00T000612	0		@SR90-01 SR90-01 LIQUID		2.57E+0	2.39E+0	7.258	RPD
7	DUP	S00T000612	0		@SR90-01 SR90-01C LIQUID		100	8.94E+01	89.400 % Recovery	
7	DUP	S00T000612	0		@SR90-01 SR90-01E LIQUID		1.00	4.19E+00	4.190 % Ct. Err	
8	SAMPLE	S00T000628	0		@SR90-01 SR90-01 LIQUID		N/A	2.19E+00	1.91E-002	uCi/mL
8	SAMPLE	S00T000628	0		@SR90-01 SR90-01C LIQUID		N/A	9.03E+01		% Recovery
8	SAMPLE	S00T000628	0		@SR90-01 SR90-01E LIQUID		N/A	4.36E+00		% Ct. Error
9	DUP	S00T000628	0		@SR90-01 SR90-01 LIQUID		2.19E+0	2.29E+0	4.464	RPD
9	DUP	S00T000628	0		@SR90-01 SR90-01C LIQUID		100	9.21E+01	92.100 % Recovery	
9	DUP	S00T000628	0		@SR90-01 SR90-01E LIQUID		1.00	4.21E+00	4.210 % Ct. Err	
10	SAMPLE	S00T000637	0		@SR90-01 SR90-01 LIQUID		N/A	2.21E+00	1.93E-002	uCi/mL
10	SAMPLE	S00T000637	0		@SR90-01 SR90-01C LIQUID		N/A	8.91E+01		% Recovery
10	SAMPLE	S00T000637	0		@SR90-01 SR90-01E LIQUID		N/A	4.36E+00		% Ct. Error
11	DUP	S00T000637	0		@SR90-01 SR90-01 LIQUID		2.21E+0	2.40E+0	8.243	RPD
11	DUP	S00T000637	0		@SR90-01 SR90-01C LIQUID		100	8.91E+01	89.100 % Recovery	
11	DUP	S00T000637	0		@SR90-01 SR90-01E LIQUID		1.00	4.18E+00	4.180 % Ct. Err	

Final page for worklist# 33123

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Reviewer Signature _____ Date 5/5/00

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

LABCORE Data Entry Template for Worklist# 33123

Analyst: sci Instrument: AB00 12 Book# 60357Method: LA-220-101 Rev/Mod E-5

Worklist Comment: SY-102 GRAB 6 FOR @SR90-01 mcb

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	S00T000513 0			@SR90-01	LIQUID	20000085	SY-102 GRAB6
		Analytes Requested: SR90-01 , SR90-01C, SR90-01E						
5	DUP	S00T000513 0			@SR90-01	LIQUID		
6	SAMPLE	S00T000612 0			@SR90-01	LIQUID	20000085	SY-102 GRAB6
		Analytes Requested: SR90-01 , SR90-01C, SR90-01E						
7	DUP	S00T000612 0			@SR90-01	LIQUID		
8	SAMPLE	S00T000628 0			@SR90-01	LIQUID	20000085	SY-102 GRAB6
		Analytes Requested: SR90-01 , SR90-01C, SR90-01E						
9	DUP	S00T000628 0			@SR90-01	LIQUID		
10	SAMPLE	S00T000637 0			@SR90-01	LIQUID	20000085	SY-102 GRAB6
		Analytes Requested: SR90-01 , SR90-01C, SR90-01E						
11	DUP	S00T000637 0			@SR90-01	LIQUID		

Final page for worklist # 33123

Signature

Date

[Signature] 4/5/00
Signature Date
[Signature] Chen 4/5/00

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 33123

Analyst: SL Instrument: AB00 Book# 60857

Method: LA-220-101 Rev/Mod E-5

Worklist Comment: SY-102 GRAB 6 FOR @SR90-01 RTS

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	STD				@SR90-01 LIQUID			
2	BLNK/BKG				@SR90-01 LIQUID			
3	SAMPLE	S00T000513 0			@SR90-01 LIQUID		20000085	SY-102 GRAB6
		Analytes Requested: SR90-01 , SR90-01C, SR90-01E						
4	DUP	S00T000513 0			@SR90-01 LIQUID			
5	SAMPLE	S00T000612 0			@SR90-01 LIQUID		20000085	SY-102 GRAB6
		Analytes Requested: SR90-01 , SR90-01C, SR90-01E						
6	DUP	S00T000612 0			@SR90-01 LIQUID			
7	SAMPLE	S00T000628 0			@SR90-01 LIQUID		20000085	SY-102 GRAB6
		Analytes Requested: SR90-01 , SR90-01C, SR90-01E						
8	DUP	S00T000628 0			@SR90-01 LIQUID			
9	SAMPLE	S00T000637 0			@SR90-01 LIQUID		20000085	SY-102 GRAB6
		Analytes Requested: SR90-01 , SR90-01C, SR90-01E						
10	DUP	S00T000637 0			@SR90-01 LIQUID			

Final page for worklist # 33123

Sue Lai 4-4-00
Signature Date

MCB 4/5/00
Signature Date

Data Entry Comments:

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

WORKBOOK PAGE: STD1

Sr-89/90 : LA-220-101 (E-5), 102 (INACTIVE), 104 (E-7) LIQUIDS

	DETECTOR NUMBER	12	CARRIER ADDED in mL (CVA)	1.000	STANDARD
STD	TOTAL COUNTS (TC)	5421	GROSS WEIGHT (W2)	7.4917	
	COUNT TIME in MINUTES (CT)	10	TARE WEIGHT (W1)	7.4011	
33123	BACKGROUND in cpm (BKG)	2.0	NET WEIGHT (W3)	0.0906	
	SAMPLE VOLUME in mL (SS)	1.000	DELTA TIME (HOURS) (DT)	6.25	
@SR90-01	DILUTION FACTOR (DF)	1			
	DIGEST DILUTION FACTOR DDF	1			
LIQUID	SAMPLE COUNT RATE (Rs)	540.10	SR-90 EFFICIENCY FACTO (C1)	0.4292	
	CRITICAL LEVEL (Lc)	0.85	Y-90 EFFICIENCY FACTOR (C2)	0.4785	
20001204	TIME OF SEPARATION (ST)	08:25	Rmax	N/A	
	DATE OF SEPARATION (SD)	04/04/2000	DETECTION LIMIT (Ld)	1.79	
0	TIME OF COUNT (TOC)	14:40	Sr-89/90 CONC. in $\mu\text{Ci/L}$	5.8322E-01	
	DATE OF COUNT (DOC)	04/04/2000			
N/A	STANDARD BOOK #	60B57			
	STANDARD VALUE in $\mu\text{Ci/mL}$	6.1965E-04			
WL33123-STD					
WB27811	Sample Count Rate (Rs) = (Total Counts (TC) / Count Time (CT)) - Background in cpm (BKG)				
	Sr-89/90 CONC in $\mu\text{Ci/mL}$ REPLACE RS WITH RMAX IF $RS \leq Lc$ AND $RS > 0$ OR REPLACE RS WITH Lc IF $RS < 0$				
MCB	$RS * DF * DDF * 1000 / ((C1 + C2 * (1 - e \text{ to the power of } ((-\text{natural log } 2) / 64.2 * DT)))) * SS * REC * 2220000$				
	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 $((TC + BKG * CT) / (TC - BKG * CT) * 1.96)$				
	Percent Carrier Recovery = (Net Weight / Expected weight) * 100				
SCL	NOTE: Expected weight = $CVA * 0.1$				
	Detection Levels and Less Than Values are determined from Procedure LA-508-002.				
04/05/2000	Delta Time (hours) = $((DOC - SD) * 24) + (TOC - ST) / 100$				
04/04/2000	Sr-89/90 CONCENTRATION	5.83E-04	$\mu\text{Ci/mL}$		DETECTION LEVEL 1.94E-06 $\mu\text{Ci/L}$
11:18 AM	RELATIVE COUNTING ERROR	2.7%			
SY-102 GRAB 6	PERCENT CARRIER RECOVERY	90.6%			

Analyst:	SCL	Date:	05-Apr-2000
Signature of Chemist:	SAC	Date:	APR 5 2000

STANDARD.WB1 REV 2.0

22010NML

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WORKBOOK PAGE: BLANK2

LA-220-101 / E-5 Sr-89/90 : LA-220-101 (E-5), 102 (INACTIVE), 104 (E-7)

WORKSHEET PAGE: BLANK1						
LA-220-101 / E-5 Sr-89/90 : LA-220-101 (E-5), 102 (INACTIVE), 104 (E-7)						
BLNK						
	DETECTOR NUMBER		12	CARRIER ADDED In mL	(CVA) 1.000	
BLNK	TOTAL COUNTS	(TC)	18	GROSS WEIGHT	(W2) 7.5625	
	COUNT TIME In MINUTES	(CT)	10	TARE WEIGHT	(W1) 7.4707	
33123	BACKGROUND in cpm	(BKG)	2.0	NET WEIGHT	(W3) 0.0918	
	SAMPLE VOLUME in mL	(SS)	1.000	DELTA TIME (HOURS)	(DT) 6.67	
@SR90-01	DILUTION FACTOR	DF	10201			
	DIGEST DILUTION FACTOR	(DDF)	1			
LIQUID	SAMPLE COUNT RATE	(Rs)	-0.20	SR-90 EFFICIENCY FACTOR	(C1) 0.4292	
	CRITICAL LEVEL	(Lc)	0.85	Y-90 EFFICIENCY FACTOR	(C2) 0.4785	
20001204	TIME OF SEPARATION	(ST)	08:25	Rmax	N/A	
	DATE OF SEPARATION	(SD)	04/04/2000	DETECTION LIMIT	(Ld) 1.79	
0	TIME OF COUNT	(TOC)	15:05	Sr-89/90 CONC In µCi/L	< 9.2229E+00	
	DATE OF COUNT	(DOC)	04/04/2000			
N/A						
WL33123-BLNK						
	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					
	RS*DF*DDF/(((C1+C2*(1-e to the power of ((-natural log 2)/64.2*DT))))*SS*REC*2220000)					
MCB	NOTE: 64.2 = Half Life for Y-90 and Rec. = Fractional Carrier Recovery ((W2-W1) / (CVA * 0.1000))					
	Relative Counting Error = (The Square Root of (TC + BKG * CT) / (TC - BKG * CT))*1.96					
SAC	Percent Carrier Recovery = (Net Weight / Expected weight) * 100					
	NOTE: Expected weight = CVA * 0.1					
SCL	Detection Levels and Less Than Values are determined from Procedure LA-508-002.					
	Delta Time (hours) = ((DOC - SD) * 24) + (TOC - ST) / 100					
04/05/2000						
04/04/2000	Sr-89/90 CONCENTRATION	< 9.22E-03		µCi/mL	DETECTION LEVEL 1.94E-02 µCi/mL	
	LESS THAN Value was Determined from Lc.					
11:18 AM	RELATIVE COUNTING ERROR	604.1%				
SY-102 GRAB 6	PERCENT CARRIER RECOVERY	91.8%				

Analyst:	SCL	Date:	05-Apr-2000
Signature of Chemist:		Date:	APR. 5 2000

BLANK.WB1 REV 2.0

22010NML

WORKBOOK PAGE: SAM4

Sr-89/90 : LA-220-101 (E-5), 102 (INACTIVE), 104 (E-7)

					SAMPLE	
	DETECTOR NUMBER		12	CARRIER ADDED in mL	(CVA)	1.000
SAMPLE	TOTAL COUNTS	(TC)	2507	GROSS WEIGHT	(W2)	7.5782
	COUNT TIME in MINUTES	(CT)	10	TARE WEIGHT	(W1)	7.4881
33123	BACKGROUND in cpm	(BKG)	2.0	NET WEIGHT	(W3)	0.0901
	SAMPLE VOLUME in mL	(SS)	1.000	DELTA TIME (HOURS)	(DT)	6.88
@SR90-01	DILUTION FACTOR	DF	10201			
	DIGEST DILUTION FACTOR	(DDF)	1			
LIQUID	SAMPLE COUNT RATE	(Rs)	248.70	SR-90 EFFICIENCY FACTOR	(C1)	0.4292
	CRITICAL LEVEL	(Lc)	0.85	Y-90 EFFICIENCY FACTOR	(C2)	0.4785
20001204	TIME OF SEPARATION	(ST)	08:25	Rmax		N/A
	DATE OF SEPARATION	(SD)	04/04/2000	DETECTION LIMIT	(Ld)	1.79
0	TIME OF COUNT	(TOC)	15:18	Sr-89/90 CONC in $\mu\text{Ci/L}$ 2.7366E+03		
	DATE OF COUNT	(DOC)	04/04/2000			
N/A						
S00T000513						
WB27811	Sample Count Rate (Rs) = (Total Counts (TC) / Count Time (CT)) - Background in cpm (BKG)					
MCB	Sr-89/90 CONC in $\mu\text{Ci/L}$ Replace RS with RMAX if $RS \leq Lc$ and $RS > 0$ or Replace RS with Lc if $RS < 0$					
SAC	$RS * DF * DDF / ((C1 + C2 * (1 - e \text{ to the power of } ((- \text{natural log } 2) / 64.2 * DT))) * SS * REC * 2220000)$					
SCL	NOTE: 64.2 = Half Life for Y-90 and Rec. = Fractional Carrier Recovery $((W2 - W1) / (CVA * 0.1000))$					
04/05/2000	Relative Counting Error = (The Square Root of $(TC + BKG * CT) / (TC - BKG * CT)$) * 1.96					
04/04/2000	Percent Carrier Recovery = (Net Weight / Expected weight) * 100					
11:18 AM	NOTE: Expected weight = $CVA * 0.1$					
SY-102 GRAB 6	Detection Levels and Less Than Values are determined from Procedure LA-508-002.					
	Delta Time (hours) = $((DOC - SD) * 24) + (TOC - ST) / 100$					
	Sr-89/90 CONCENTRATION		2.74E+00	$\mu\text{Ci/mL}$	DETECTION LEVEL	
	RELATIVE COUNTING ERROR		4.0%		1.97E-02	
	PERCENT CARRIER RECOVERY		90.1%		$\mu\text{Ci/mL}$	

Analyst:	SCL	Date:	05-Apr-2000
Signature of Chemist:	SAC	Date:	APR 5 2000
SAMPLE.WB1 REV 2.0 22010NML			

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WORKBOOK PAGE: DUP5

Sr-89/90 : LA-220-101 (E-5), 102 (INACTIVE), 104 (E-7)

Sr-89/90 : LA-220-101 (E-5), 102 (INACTIVE), 104 (E-7)						DUP
	DETECTOR NUMBER		12	CARRIER ADDED in mL	(CVA)	1.000
DUP	TOTAL COUNTS	(TC)	2591	GROSS WEIGHT	(W2)	7.5745
	COUNT TIME in MINUTES	(CT)	10	TARE WEIGHT	(W1)	7.4825
33123	BACKGROUND in cpm	(BKG)	2.0	NET WEIGHT	(W3)	0.0920
	SAMPLE VOLUME in mL	(SS)	1.000	DELTA TIME (HOURS)	(DT)	7.92
@SR90-01	DILUTION FACTOR	DF	10201			
	DIGEST DILUTION FACTOR	(DDF)	1			
LIQUID	SAMPLE COUNT RATE	(Rs)	257.10	SR-90 EFFICIENCY FACTOR	(C1)	0.4292
	CRITICAL LEVEL	(Lc)	0.85	Y-90 EFFICIENCY FACTOR	(C2)	0.4785
20001204	TIME OF SEPARATION	(ST)	08:25	Rmax		N/A
	DATE OF SEPARATION	(SD)	04/04/2000	DETECTION LIMIT	(Ld)	1.79
0	TIME OF COUNT	(TOC)	16:20	Sr-89/90 CONC in µCi/L 2.7415E+03		
	DATE OF COUNT	(DOC)	04/04/2000			
N/A						
S00T000513						
	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					
	RS*DF*DDF/((C1+C2*(1-e to the power of ((-natural log 2)/64.2*DT)))*SS*REC*2220000)					
MCB	NOTE: 64.2 = Half Life for Y-90 and Rec. = Fractional Carrier Recovery ((W2-W1) / (CVA * 0.1000))					
	Relative Counting Error = (The Square Root of (TC + BKG * CT) / (TC - BKG * CT))*1.96					
SAC	Percent Carrier Recovery = (Net Weight / Expected weight) * 100					
	NOTE: Expected weight = CVA * 0.1					
SCL	Detection Levels and Less Than Values are determined from Procedure LA-508-002.					
	Delta Time (hours) = ((DOC - SD) * 24) + (TOC - ST) / 100					
04/05/2000						
04/04/2000	Sr-89/90 CONCENTRATION			2.74E+00	µCi/mL	
11:18 AM	RELATIVE COUNTING ERROR			3.9%		
SY-102 GRAB 6	PERCENT CARRIER RECOVERY			92.0%		

DETECTION LEVEL 1.91E-02 µCi/mL	

Analyst:	SCL	Date:	05-Apr-2000
Signature of Chemist:	<i>SA Cath</i>	Date:	APR 5 2000
SAMPLE.WB1 REV 2.0	22010NML		

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WORKBOOK PAGE: SAM6

Sr-89/90 : LA-220-101 (E-5), 102 (INACTIVE), 104 (E-7)

					SAMPLE	
	DETECTOR NUMBER		12	CARRIER ADDED in mL	(CVA)	1.000
SAMPLE	TOTAL COUNTS	(TC)	2452	GROSS WEIGHT	(W2)	7.5848
	COUNT TIME in MINUTES	(CT)	10	TARE WEIGHT	(W1)	7.4936
33123	BACKGROUND in cpm	(BKG)	2.0	NET WEIGHT	(W3)	0.0912
	SAMPLE VOLUME in mL	(SS)	1.000	DELTA TIME (HOURS)	(DT)	9.58
@SR90-01	DILUTION FACTOR	DF	10201			
	DIGEST DILUTION FACTOR	(DDF)	1			
LIQUID	SAMPLE COUNT RATE	(Rs)	243.20	SR-90 EFFICIENCY FACTOR	(C1)	0.4292
	CRITICAL LEVEL	(Lc)	0.85	Y-90 EFFICIENCY FACTOR	(C2)	0.4785
20001204	TIME OF SEPARATION	(ST)	08:32	Rmax		N/A
	DATE OF SEPARATION	(SD)	04/04/2000	DETECTION LIMIT	(Ld)	1.79
0	TIME OF COUNT	(TOC)	18:07	Sr-89/90 CONC in µCi/L 2.5730E+03		
	DATE OF COUNT	(DOC)	04/04/2000			
N/A						
S00T000612						
WB27811	Sample Count Rate (Rs) = (Total Counts (TC) / Count Time (CT)) - Background in cpm (BKG)					
MCB	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					
SAC	RS*DF*DDF/((C1+C2*(1-e to the power of ((-natural log 2)/64.2*DT)))*SS*REC*2220000)					
SCL	NOTE: 64.2 = Half Life for Y-90 and Rec. = Fractional Carrier Recovery ((W2-W1) / (CVA * 0.1000))					
04/05/2000	Relative Counting Error = (The Square Root of (TC + BKG * CT) / (TC - BKG * CT))*1.96					
04/04/2000	Percent Carrier Recovery = (Net Weight / Expected weight) * 100					
11:18 AM	NOTE: Expected weight = CVA * 0.1					
SY-102 GRAB 6	Detection Levels and Less Than Values are determined from Procedure LA-508-002.					
	Delta Time (hours) = ((DOC - SD) * 24) + (TOC - ST) / 100					
	Sr-89/90 CONCENTRATION					DETECTION LEVEL
	2.57E+00					1.90E-02
	µCi/mL					µCi/mL
	RELATIVE COUNTING ERROR					
	4.0%					
	PERCENT CARRIER RECOVERY					
	91.2%					

Analyst:	SCL	Date:	05-Apr-2000
Signature of Chemist:	SAC	Date:	APR 5 2000

SAMPLE.WB1 REV 2.0

22010NML

1834

WORKBOOK PAGE: DUP7

Sr-89/90 : LA-220-101 (E-5), 102 (INACTIVE), 104 (E-7)

Sr-89/90 : LA-220-101 (E-5), 102 (INACTIVE), 104 (E-7)						DUP				
	DETECTOR NUMBER		12	CARRIER ADDED in mL	(CVA)	1.000				
DUP	TOTAL COUNTS	(TC)	2246	GROSS WEIGHT	(W2)	7.5845				
	COUNT TIME in MINUTES	(CT)	10	TARE WEIGHT	(W1)	7.4951				
33123	BACKGROUND in cpm	(BKG)	2.0	NET WEIGHT	(W3)	0.0894				
	SAMPLE VOLUME in mL	(SS)	1.000	DELTA TIME (HOURS)	(DT)	9.97				
@SR90-01	DILUTION FACTOR	DF	10201							
	DIGEST DILUTION FACTOR	(DDF)	1							
LIQUID	SAMPLE COUNT RATE	(Rs)	222.60	SR-90 EFFICIENCY FACTOR	(C1)	0.4292				
	CRITICAL LEVEL	(Lc)	0.85	Y-90 EFFICIENCY FACTOR	(C2)	0.4785				
20001204	TIME OF SEPARATION	(ST)	08:32	Rmax		N/A				
	DATE OF SEPARATION	(SD)	04/04/2000	DETECTION LIMIT	(Ld)	1.79				
0	TIME OF COUNT	(TOC)	18:30	Sr-89/90 CONC in µCi/L 2.3935E+03						
	DATE OF COUNT	(DOC)	04/04/2000							
N/A										
S00T000612	<div>Sample Count Rate (Rs) = (Total Counts (TC) / Count Time (CT)) - Background in cpm (BKG)</div> <div>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</div> <div>RS*DF*DDF/((C1+C2*(1-e to the power of ((-natural log 2)/64.2*DT)))*SS*REC*2220000)</div> <div>NOTE: 64.2 = Half Life for Y-90 and Rec. = Fractional Carrier Recovery ((W2-W1) / (CVA * 0.1000))</div> <div>Relative Counting Error = (The Square Root of (TC + BKG * CT) / (TC - BKG * CT))*1.96</div> <div>Percent Carrier Recovery = (Net Weight / Expected weight) * 100</div> <div>NOTE: Expected weight = CVA * 0.1</div> <div>Detection Levels and Less Than Values are determined from Procedure LA-508-002.</div> <div>Delta Time (hours) = ((DOC - SD) * 24) + (TOC - ST) / 100</div>									
WB27811										
MCB										
SAC										
SCL										
04/05/2000										
04/04/2000							Sr-89/90 CONCENTRATION	2.39E+00	µCi/mL	DETECTION LEVEL 1.93E-02 µCi/mL
11:18 AM							RELATIVE COUNTING ERROR	4.2%		
SY-102 GRAB 6	PERCENT CARRIER RECOVERY	89.4%								

Analyst:	SCL	Date:	05-Apr-2000
Signature of Chemist:		SAC	Date: APR 5 2000
SAMPLE.WB1 REV 2.0		22010NML	

WORKBOOK PAGE: SAM8

Sr-89/90 : LA-220-101 (E-5), 102 (INACTIVE), 104 (E-7)

Sr-89/90 : LA-220-101 (E-5), 102 (INACTIVE), 104 (E-7)						SAMPLE
	DETECTOR NUMBER		12	CARRIER ADDED in mL	(CVA)	1.000
SAMPLE	TOTAL COUNTS	(TC)	2078	GROSS WEIGHT	(W2)	7.5651
	COUNT TIME in MINUTES	(CT)	10	TARE WEIGHT	(W1)	7.4748
33123	BACKGROUND in cpm	(BKG)	2.0	NET WEIGHT	(W3)	0.0903
	SAMPLE VOLUME in mL	(SS)	1.000	DELTA TIME (HOURS)	(DT)	10.22
@SR90-01	DILUTION FACTOR	DF	10201			
	DIGEST DILUTION FACTOR	(DDF)	1			
LIQUID	SAMPLE COUNT RATE	(Rs)	205.80	SR-90 EFFICIENCY FACTOR	(C1)	0.4292
	CRITICAL LEVEL	(Lc)	0.85	Y-90 EFFICIENCY FACTOR	(C2)	0.4785
20001204	TIME OF SEPARATION	(ST)	08:32	Rmax		N/A
	DATE OF SEPARATION	(SD)	04/04/2000	DETECTION LIMIT	(Ld)	1.79
0	TIME OF COUNT	(TOC)	18:45	Sr-89/90 CONC in µCi/L 2.1855E+03		
	DATE OF COUNT	(DOC)	04/04/2000			
N/A						
S00T000628						
WB27811	Sample Count Rate (Rs) = (Total Counts (TC) / Count Time (CT)) - Background in cpm (BKG)					
MCB	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					
SAC	RS*DF*DDF/((C1+C2*(1-e to the power of ((-natural log 2)/64.2*DT)))*SS*REC*2220000)					
SCL	NOTE: 64.2 = Half Life for Y-90 and Rec. = Fractional Carrier Recovery ((W2-W1) / (CVA * 0.1000))					
	Relative Counting Error = (The Square Root of (TC + BKG * CT) / (TC - BKG * CT))*1.96					
	Percent Carrier Recovery = (Net Weight / Expected weight) * 100					
	NOTE: Expected weight = CVA * 0.1					
	Detection Levels and Less Than Values are determined from Procedure LA-508-002.					
	Delta Time (hours) = ((DOC - SD) * 24) + (TOC - ST) / 100					
04/05/2000						
04/04/2000	Sr-89/90 CONCENTRATION			2.19E+00	µCi/mL	
11:18 AM	RELATIVE COUNTING ERROR			4.4%		
SY-102 GRAB 6	PERCENT CARRIER RECOVERY			90.3%		
					DETECTION LEVEL	
					1.91E-02 µCi/mL	

Analyst:	SCL	Date:	05-Apr-2000
Signature of Chemist:	SAC	Date:	APR 5 2000

SAMPLE.WB1 REV 2.0

22010NML

WORKBOOK PAGE: DUP9

Sr-89/90 : LA-220-101 (E-5), 102 (INACTIVE), 104 (E-7)

Sr-89/90 : LA-220-101 (E-5), 102 (INACTIVE), 104 (E-7)						DUP
	DETECTOR NUMBER		12	CARRIER ADDED in mL	(CVA)	1.000
DUP	TOTAL COUNTS	(TC)	2224	GROSS WEIGHT	(W2)	7.5559
	COUNT TIME in MINUTES	(CT)	10	TARE WEIGHT	(W1)	7.4638
33123	BACKGROUND in cpm	(BKG)	2.0	NET WEIGHT	(W3)	0.0921
	SAMPLE VOLUME in mL	(SS)	1.000	DELTA TIME (HOURS)	(DT)	10.40
@SR90-01	DILUTION FACTOR	DF	10201			
	DIGEST DILUTION FACTOR	(DDF)	1			
LIQUID	SAMPLE COUNT RATE	(Rs)	220.40	SR-90 EFFICIENCY FACTOR	(C1)	0.4292
	CRITICAL LEVEL	(Lc)	0.85	Y-90 EFFICIENCY FACTOR	(C2)	0.4785
20001204	TIME OF SEPARATION	(ST)	08:32	Rmax		N/A
	DATE OF SEPARATION	(SD)	04/04/2000	DETECTION LIMIT	(Ld)	1.79
0	TIME OF COUNT	(TOC)	18:56	Sr-89/90 CONC in µCi/L 2.2908E+03		
	DATE OF COUNT	(DOC)	04/04/2000			
N/A						
S00T000628						
	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					
	RS*DF*DDF/(((C1+C2*(1-e to the power of ((-natural log 2)/64.2*DT))))*SS*REC*2220000)					
MCB	NOTE: 64.2 = Half Life for Y-90 and Rec. = Fractional Carrier Recovery ((W2-W1) / (CVA * 0.1000))					
	Relative Counting Error = (The Square Root of (TC + BKG * CT) / (TC - BKG * CT))*1.96					
SAC	Percent Carrier Recovery = (Net Weight / Expected weight) * 100					
	NOTE: Expected weight = CVA * 0.1					
SCL	Detection Levels and Less Than Values are determined from Procedure LA-508-002.					
	Delta Time (hours) = ((DOC - SD) * 24) + (TOC - ST) / 100					
04/05/2000						DETECTION LEVEL 1.87E-02 µCi/mL
04/04/2000	Sr-89/90 CONCENTRATION		2.29E+00	µCi/mL		
11:18 AM	RELATIVE COUNTING ERROR		4.2%			
SY-102 GRAB 6	PERCENT CARRIER RECOVERY		92.1%			

Analyst:	SCL	Date:	05-Apr-2000
Signature of Chemist:	SAC	Date:	APR 5 2000
SAMPLE.WB1 REV 2.0 22010NML			

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WORKBOOK PAGE: SAM10

Sr-89/90 : LA-220-101 (E-5), 102 (INACTIVE), 104 (E-7)

					SAMPLE	
	DETECTOR NUMBER		12	CARRIER ADDED in mL	(CVA)	1.000
SAMPLE	TOTAL COUNTS	(TC)	2078	GROSS WEIGHT	(W2)	7.5695
	COUNT TIME in MINUTES	(CT)	10	TARE WEIGHT	(W1)	7.4804
33123	BACKGROUND in cpm	(BKG)	2.0	NET WEIGHT	(W3)	0.0891
	SAMPLE VOLUME in mL	(SS)	1.000	DELTA TIME (HOURS)	(DT)	10.47
@SR90-01	DILUTION FACTOR	DF	10201			
	DIGEST DILUTION FACTOR	(DDF)	1			
LIQUID	SAMPLE COUNT RATE	(Rs)	205.80	SR-90 EFFICIENCY FACTOR	(C1)	0.4292
	CRITICAL LEVEL	(Lc)	0.85	Y-90 EFFICIENCY FACTOR	(C2)	0.4785
20001204	TIME OF SEPARATION	(ST)	08:38	Rmax		N/A
	DATE OF SEPARATION	(SD)	04/04/2000	DETECTION LIMIT	(Ld)	1.79
0	TIME OF COUNT	(TOC)	19:06	Sr-89/90 CONC in $\mu\text{Ci/L}$ 2.2096E+03		
	DATE OF COUNT	(DOC)	04/04/2000			
N/A						
S00T000637						
WB27811	Sample Count Rate (Rs) = (Total Counts (TC) / Count Time (CT)) - Background in cpm (BKG)					
MCB	Sr-89/90 CONC in $\mu\text{Ci/L}$ Replace RS with RMAX if $RS \leq Lc$ and $RS \geq 0$ or Replace RS with Lc if $RS < 0$					
SAC	$RS * DF * DDF / ((C1 + C2 * (1 - e \text{ to the power of } ((-\text{natural log } 2) / 64.2 * DT))) * SS * REC * 2220000)$					
SCL	NOTE: 64.2 = Half Life for Y-90 and Rec. = Fractional Carrier Recovery $((W2 - W1) / (CVA * 0.1000))$					
04/05/2000	Relative Counting Error = $(\text{The Square Root of } (TC + BKG * CT) / (TC - BKG * CT)) * 1.96$					
04/04/2000	Percent Carrier Recovery = $(\text{Net Weight} / \text{Expected weight}) * 100$					
11:18 AM	NOTE: Expected weight = $CVA * 0.1$					
SY-102 GRAB 6	Detection Levels and Less Than Values are determined from Procedure LA-508-002.					
	Delta Time (hours) = $((DOC - SD) * 24) + (TOC - ST) / 100$					
	Sr-89/90 CONCENTRATION		2.21E+00	$\mu\text{Ci/mL}$	DETECTION LEVEL	
	RELATIVE COUNTING ERROR		4.4%		1.93E-02	
	PERCENT CARRIER RECOVERY		89.1%		$\mu\text{Ci/mL}$	

Analyst:	SCL	Date:	05-Apr-2000
Signature of Chemist:		Date:	APR 5 2000

SAMPLE.WB1 REV 2.0

22010NML

WORKBOOK PAGE: DUP11

Sr-89/90 : LA-220-101 (E-5), 102 (INACTIVE), 104 (E-7)

					DUP
	DETECTOR NUMBER		12	CARRIER ADDED in mL	(CVA) 1.000
DUP	TOTAL COUNTS	(TC)	2261	GROSS WEIGHT	(W2) 7.5363
	COUNT TIME in MINUTES	(CT)	10	TARE WEIGHT	(W1) 7.4472
33123	BACKGROUND in cpm	(BKG)	2.0	NET WEIGHT	(W3) 0.0891
	SAMPLE VOLUME in mL	(SS)	1.000	DELTA TIME (HOURS)	(DT) 10.70
@SR90-01	DILUTION FACTOR	DF	10201		
	DIGEST DILUTION FACTOR	(DDF)	1		
LIQUID	SAMPLE COUNT RATE	(Rs)	224.10	SR-90 EFFICIENCY FACTOR	(C1) 0.4292
	CRITICAL LEVEL	(Lc)	0.85	Y-90 EFFICIENCY FACTOR	(C2) 0.4785
20001204	TIME OF SEPARATION	(ST)	08:38	Rmax	N/A
	DATE OF SEPARATION	(SD)	04/04/2000	DETECTION LIMIT	(Ld) 1.79
0	TIME OF COUNT	(TOC)	19:20	Sr-89/90 CONC in $\mu\text{Ci/L}$	2.4007E+03
	DATE OF COUNT	(DOC)	04/04/2000		
N/A					
S00T000637					
WB27811	Sample Count Rate (Rs) = (Total Counts (TC) / Count Time (CT)) - Background in cpm (BKG)				
MCB	Sr-89/90 CONC in $\mu\text{Ci/L}$ Replace RS with RMAX if $RS \leq Lc$ and $RS \geq 0$ or Replace RS with Lc if $RS < 0$				
SAC	$RS * DF * DDF / ((C1 + C2 * (1 - e \text{ to the power of } ((-\text{natural log } 2) / 64.2 * DT))) * SS * REC * 2220000)$				
SCL	NOTE: 64.2 = Half Life for Y-90 and Rec. = Fractional Carrier Recovery $((W2 - W1) / (CVA * 0.1000))$				
04/05/2000	Relative Counting Error = (The Square Root of $(TC + BKG * CT) / (TC - BKG * CT) * 1.96$				
04/04/2000	Percent Carrier Recovery = (Net Weight / Expected weight) * 100				
11:18 AM	NOTE: Expected weight = $CVA * 0.1$				
SY-102 GRAB 6	Detection Levels and Less Than Values are determined from Procedure LA-508-002.				
	Delta Time (hours) = $((DOC - SD) * 24) + (TOC - ST) / 100$				
	Sr-89/90 CONCENTRATION		2.40E+00	$\mu\text{Ci/mL}$	DETECTION LEVEL 1.92E-02 $\mu\text{Ci/mL}$
	RELATIVE COUNTING ERROR		4.2%		
	PERCENT CARRIER RECOVERY		89.1%		

Analyst:	SCL	Date:	05-Apr-2000
Signature of Chemist:	SAC	Date:	APR 5 2000

SAMPLE.WB1 REV 2.0

22010NML

LABCORE Completed Worklist Report for Worklist# 33124

Analyst: scl

Instrument: AB12

Book#: _____

Method: LA-220-101 Rev/Mod E-5

Worklist Comment: SY-102 GRAB 6 FOR @SR90-01 RTS

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD		0		@SR90-01 SR90-01	SOLID	6.20E-04	5.78E-4	93.226 %	Recovery
1	STD		0		@SR90-01 SR90-01C	SOLID	100	9.25E+01	92.500 %	Recovery
1	STD		0		@SR90-01 SR90-01E	SOLID	1.00	2.68E+00	2.680 %	Ct. Error
2	BLNK-PREP		0		@SR90-01 SR90-01	SOLID	1	2.60E-2	0.026	uCi/g
2	BLNK-PREP		0		@SR90-01 SR90-01C	SOLID	100	9.15E+01	91.500 %	Recovery
2	BLNK-PREP		0		@SR90-01 SR90-01E	SOLID	1.00	1.11E+02	111.000	uCi/g
3	BLNK/BKG		0		@SR90-01 SR90-01	SOLID	1	1.79E+00	1.790	BLNK/BKG
4	SAMPLE	S00T000619	0	F	@SR90-01 SR90-01	SOLID	N/A	7.84E+01	3.56E-002	uCi/g
4	SAMPLE	S00T000619	0	F	@SR90-01 SR90-01C	SOLID	N/A	9.18E+01		% Recovery
4	SAMPLE	S00T000619	0	F	@SR90-01 SR90-01E	SOLID	N/A	1.07E+00		% Ct. Error
5	DUP	S00T000619	0	F	@SR90-01 SR90-01	SOLID	7.84E+1	8.40E+1	6.897	RFD
5	DUP	S00T000619	0	F	@SR90-01 SR90-01C	SOLID	100	9.15E+01	91.500 %	Recovery
5	DUP	S00T000619	0	F	@SR90-01 SR90-01E	SOLID	1.00	1.03E+00	1.030 %	Cnt. Err
6	SAMPLE	S00T000632	0	F	@SR90-01 SR90-01	SOLID	N/A	8.96E+01	3.53E-002	uCi/g
6	SAMPLE	S00T000632	0	F	@SR90-01 SR90-01C	SOLID	N/A	9.18E+01		% Recovery
6	SAMPLE	S00T000632	0	F	@SR90-01 SR90-01E	SOLID	N/A	1.00E+00		% Ct. Error
7	DUP	S00T000632	0	F	@SR90-01 SR90-01	SOLID	8.96E+1	8.54E+1	4.800	RFD
7	DUP	S00T000632	0	F	@SR90-01 SR90-01C	SOLID	100	9.25E+01	92.500 %	Recovery
7	DUP	S00T000632	0	F	@SR90-01 SR90-01E	SOLID	1.00	1.02E+00	1.020 %	Cnt. Err

Final page for worklist# 33124

Analyst Signature

Date

Analyst Signature

Date

Reviewer Signature Date

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

LABCORE Data Entry Template for Worklist# 33124

Analyst: S.L. Instrument: AB00 12 Book# 60357

Method: LA-220-101 Rev/Mod E-5

Worklist Comment: SY-102 GRAB 6 FOR @SR90-01 RTS

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	S00T000619 0 F	@SR90-01	SOLID		20000085	SY-102 GRAB6
Analytes Requested: SR90-01 , SR90-01C, SR90-01E						
5 DUP	S00T000619 0 F	@SR90-01	SOLID			
6 SAMPLE	S00T000632 0 F	@SR90-01	SOLID		20000085	SY-102 GRAB6
Analytes Requested: SR90-01 , SR90-01C, SR90-01E						
7 DUP	S00T000632 0 F	@SR90-01	SOLID			

Final page for worklist # 33124

Sue L. 4/5/00
Signature Date

[Signature] 4/6/00
Signature Date

Data Entry Comments:

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

WORKBOOK PAGE: STD1

Sr-89/90 : LA-220-101 (E-5), 102 (INACTIVE), 104 (E-7) LIQUIDS

	DETECTOR NUMBER	12	CARRIER ADDED In mL (CVA)	STANDARD
STD	TOTAL COUNTS (TC)	5377	GROSS WEIGHT (W2)	7.5698
	COUNT TIME In MINUTES (CT)	10	TARE WEIGHT (W1)	7.4773
33124	BACKGROUND In cpm (BKG)	1.4	NET WEIGHT (W3)	0.0925
	SAMPLE VOLUME In mL (SS)	1.000	DELTA TIME (HOURS) (DT)	4.48
@SR90-01	DILUTION FACTOR (DF)	1		
	DIGEST DILUTION FACTOR DDF	1		
LIQUID	SAMPLE COUNT RATE (Rs)	536.30	SR-90 EFFICIENCY FACTO (C1)	0.4292
	CRITICAL LEVEL (Lc)	0.71	Y-90 EFFICIENCY FACTOR (C2)	0.4785
20001205	TIME OF SEPARATION (ST)	09:30	Rmax	N/A
	DATE OF SEPARATION (SD)	04/05/2000	DETECTION LIMIT (Ld)	1.52
0	TIME OF COUNT (TOC)	13:59	Sr-89/90 CONC. In µCi/L	5.7804E-01
	DATE OF COUNT (DOC)	04/05/2000		
N/A	STANDARD BOOK #	60B57		
	STANDARD VALUE In µCi/mL	6.1961E-04		
WL33124				
WB27811	Sample Count Rate (Rs) = (Total Counts (TC) / Count Time (CT)) - Background in cpm (BKG)			
SZC	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			
SAC	RS*DF*DDF*1000/((C1+C2*(1-e to the power of ((-natural log 2)/64.2*DT)))*SS*REC*2220000)			
SCL	NOTE: 64.2 = Half Life for Y-90 and Rec. = Fractional Carrier Recovery ((W2-W1) / (CVA * 0.1000))			
	Relative Counting Error = The Square Root of ((TC + BKG * CT) / (TC - BKG * CT)*1.96)			
	Percent Carrier Recovery = (Net Weight / Expected weight) * 100			
	NOTE: Expected weight = CVA * 0.1			
	Detection Levels and Less Than Values are determined from Procedure LA-508-002.			
04/06/2000	Delta Time (hours) = ((DOC - SD) * 24) + (TOC - ST) / 100			
04/06/2000	Sr-89/90 CONCENTRATION	5.78E-04	µCi/mL	DETECTION LEVEL 1.63E-06 µCi/L
11:10 AM	RELATIVE COUNTING ERROR	2.7%		
SY-102 GRAB	PERCENT CARRIER RECOVERY	92.5%		

Analyst:	SCL	Date:	06-Apr-2000
Signature of Chemist:	SAC	Date:	APR 6 2000

STANDARD.WB1 REV 2.0

22010NML

WORKBOOK PAGE: BLANK2

LA-220-101 / E-5 Sr-89/90 : LA-220-101 (E-5), 102 (INACTIVE), 104 (E-7)

BLNK-PREP

	DETECTOR NUMBER		12	CARRIER ADDED in mL	(CVA)	1.000
BLNK-PREP	TOTAL COUNTS	(TC)	25	GROSS WEIGHT	(W2)	7.5149
	COUNT TIME in MINUTES	(CT)	10	TARE WEIGHT	(W1)	7.4234
33124	BACKGROUND in cpm	(BKG)	1.4	NET WEIGHT	(W3)	0.0915
	SAMPLE VOLUME in mL	(SS)	0.250	DELTA TIME (HOURS)	(DT)	4.68
@SR90-01	DILUTION FACTOR	DF	11			
	DIGEST FACTOR (g/L)	(D g/L)	2.0248			
SOLID	SAMPLE COUNT RATE	(Rs)	1.10	SR-90 EFFICIENCY FACTOR	(C1)	0.4292
	CRITICAL LEVEL	(Lc)	0.71	Y-90 EFFICIENCY FACTOR	(C2)	0.4785
20001205	TIME OF SEPARATION	(ST)	09:30	Rmax		N/A
	DATE OF SEPARATION	(SD)	04/05/2000	DETECTION LIMIT	(Ld)	1.52
0	TIME OF COUNT	(TOC)	14:11	Sr-89/90 CONC in $\mu\text{Ci/g}$		2.5989E-02
	DATE OF COUNT	(DOC)	04/05/2000			
N/A						
WL33124						
WB27811	Sample Count Rate (Rs) = (Total Counts (TC) / Count Time (CT)) - Background in cpm (BKG) Sr-89/90 CONC in $\mu\text{Ci/g}$ Replace RS with RMAX if RS $\leq$ Lc and RS $\geq$ 0 or Replace RS with Lc if RS < 0 $RS * 1000 * DF / ((C1 + C2 * (1 - e \text{ to the power of } ((-\text{natural log } 2) / 64.2 * DT))) * SS * (Dg/L) * REC * 2220000)$ NOTE: 64.2 = Half Life for Y-90 and Rec. = Fractional Carrier Recovery ((W2-W1) / (CVA * 0.1000)) Relative Counting Error = (The Square Root of (TC + BKG * CT) / (TC - BKG * CT)) * 1.96 Percent Carrier Recovery = (Net Weight / Expected weight) * 100 NOTE: Expected weight = CVA * 0.1 Detection Levels and Less Than Values are determined from Procedure LA-508-002. Delta Time (hours) = ((DOC - SD) * 24) + (TOC - ST) / 100					
04/08/2000						
04/05/2000	Sr-89/90 CONCENTRATION		2.60E-02	$\mu\text{Ci/g}$		
11:10 AM	RELATIVE COUNTING ERROR		111.3%			
SY-102 GRAB	PERCENT CARRIER RECOVERY		91.5%			

DETECTION
LEVEL3.58E-02
 $\mu\text{Ci/g}$

Analyst:	SCL	Date:	06-Apr-2000
Signature of Chemist:	SAC	Date:	APR 6 2000

BLANK.WB1 REV 2.0

22010NML

843

WORKBOOK PAGE: SAM4

Sr-89/90 : LA-220-101 (E-5), 102 (INACTIVE), 104 (E-7)

Sr-89/90 : LA-220-101 (E-5), 102 (INACTIVE), 104 (E-7)						SAMPLE
	DETECTOR NUMBER		12	CARRIER ADDED In mL	(CVA)	1.000
SAMPLE	TOTAL COUNTS	(TC)	33424	GROSS WEIGHT	(W2)	7.5862
	COUNT TIME In MINUTES	(CT)	10	TARE WEIGHT	(W1)	7.4744
33124	BACKGROUND In cpm	(BKG)	1.4	NET WEIGHT	(W3)	0.0918
	SAMPLE VOLUME In mL	(SS)	0.250	DELTA TIME (HOURS)	(DT)	4.97
@SR90-01	DILUTION FACTOR	DF	11			
	DIGEST FACTOR (g/L)	(D g/L)	2.0248			
SOLID	SAMPLE COUNT RATE	(Rs)	3341.00	SR-90 EFFICIENCY FACTOR	(C1)	0.4292
	CRITICAL LEVEL	(Lc)	0.71	Y-90 EFFICIENCY FACTOR	(C2)	0.4785
20001205	TIME OF SEPARATION	(ST)	09:30	Rmax		N/A
	DATE OF SEPARATION	(SD)	04/05/2000	DETECTION LIMIT	(Ld)	1.52
0	TIME OF COUNT	(TOC)	14:28	Sr-89/90 CONC In µCi/g 7.8437E+01		
	DATE OF COUNT	(DOC)	04/05/2000			
FUSION01						
S00T000619						
	Sample Count Rate (Rs) = (Total Counts (TC) / Count Time (CT)) - Background in cpm (BKG)					
WB27811	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					
	RS*1000*DF/(((C1+C2*(1-e to the power of ((-natural log 2)/64.2*DT))))*SS*(Dg/L)*REC*2220000)					
SZC	NOTE: 64.2 = Half Life for Y-90 and Rec. = Fractional Carrier Recovery ((W2-W1) / (CVA * 0.1000))					
	Relative Counting Error = (The Square Root of (TC + BKG * CT) / (TC - BKG * CT))*1.96					
SAC	Percent Carrier Recovery = (Net Weight / Expected weight) * 100					
	NOTE: Expected weight = CVA * 0.1					
SCL	Detection Levels and Less Than Values are determined from Procedure LA-508-002.					
	Delta Time (hours) = ((DOC - SD) * 24) + (TOC - ST) / 100					
04/06/2000						
04/05/2000	Sr-89/90 CONCENTRATION		7.84E+01	µCi/g	DETECTION LEVEL 3.56E-02 µCi/g	
11:10 AM	RELATIVE COUNTING ERROR		1.1%			
SY-102 GRAB	PERCENT CARRIER RECOVERY		91.8%			

Analyst:	SCL	Date:	06-Apr-2000
Signature of Chemist:		Date:	APR 6 2000

SAMPLE.WB1 REV 2.0

22010NML

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WORKBOOK PAGE: DUP5

Sr-89/90 : LA-220-101 (E-5), 102 (INACTIVE), 104 (E-7)

Sr-89/90 : LA-220-101 (E-5), 102 (INACTIVE), 104 (E-7)						DUP
	DETECTOR NUMBER		12	CARRIER ADDED In mL	(CVA)	1.000
DUP	TOTAL COUNTS	(TC)	35976	GROSS WEIGHT	(W2)	7.5033
	COUNT TIME In MINUTES	(CT)	10	TARE WEIGHT	(W1)	7.4118
33124	BACKGROUND In cpm	(BKG)	1.4	NET WEIGHT	(W3)	0.0915
	SAMPLE VOLUME In mL	(SS)	0.250	DELTA TIME (HOURS)	(DT)	5.17
@SR90-01	DILUTION FACTOR	DF	11			
	DIGEST FACTOR (g/L)	(D g/L	2.0372			
SOLID	SAMPLE COUNT RATE	(Rs)	3596.20	SR-90 EFFICIENCY FACTOR	(C1)	0.4292
	CRITICAL LEVEL	(Lc)	0.71	Y-90 EFFICIENCY FACTOR	(C2)	0.4785
20001205	TIME OF SEPARATION	(ST)	09:30	Rmax		N/A
	DATE OF SEPARATION	(SD)	04/05/2000	DETECTION LIMIT	(Ld)	1.52
0	TIME OF COUNT	(TOC)	14:40	Sr-89/90 CONC In µCi/g 8.4009E+01		
	DATE OF COUNT	(DOC)	04/05/2000			
FUSION01						
S00T000619						
	Sample Count Rate (Rs) = (Total Counts (TC) / Count Time (CT)) - Background in cpm (BKG)					
WB27811	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					
	RS*1000*DF/((C1+C2*(1-e to the power of ((-natural log 2)/64.2*DT)))*SS*(Dg/L)*REC*2220000)					
SZC	NOTE: 64.2 = Half Life for Y-90 and Rec. = Fractional Carrier Recovery ((W2-W1) / (CVA * 0.1000))					
	Relative Counting Error = (The Square Root of (TC + BKG * CT) / (TC - BKG * CT))*1.96					
SAC	Percent Carrier Recovery = (Net Weight / Expected weight) * 100					
	NOTE: Expected weight = CVA * 0.1					
SCL	Detection Levels and Less Than Values are determined from Procedure LA-508-002.					
	Delta Time (hours) = ((DOC - SD) * 24) + (TOC - ST) / 100					
04/06/2000						
04/05/2000	Sr-89/90 CONCENTRATION			8.40E+01	µCi/g	
11:10 AM	RELATIVE COUNTING ERROR			1.0%		
SY-102 GRAB	PERCENT CARRIER RECOVERY			91.5%		
						DETECTION LEVEL 3.54E-02 µCi/g

Analyst:	SCL	Date:	06-Apr-2000
Signature of Chemist:	SAC	Date:	APR 6 2000
SAMPLE.WB1 REV 2.0	22010NML		

WORKBOOK PAGE: SAM6

Sr-89/90 : LA-220-101 (E-5), 102 (INACTIVE), 104 (E-7)

Sr-89/90 : LA-220-101 (E-5), 102 (INACTIVE), 104 (E-7)						SAMPLE				
	DETECTOR NUMBER		12	CARRIER ADDED in mL	(CVA)	1.000				
SAMPLE	TOTAL COUNTS	(TC)	38451	GROSS WEIGHT	(W2)	7.5194				
	COUNT TIME in MINUTES	(CT)	10	TARE WEIGHT	(W1)	7.4276				
33124	BACKGROUND in cpm	(BKG)	1.4	NET WEIGHT	(W3)	0.0918				
	SAMPLE VOLUME in mL	(SS)	0.250	DELTA TIME (HOURS)	(DT)	5.37				
@SR90-01	DILUTION FACTOR	DF	11							
	DIGEST FACTOR (g/L)	(D g/L	2.0312							
SOLID	SAMPLE COUNT RATE	(Rs)	3843.70	SR-90 EFFICIENCY FACTOR	(C1)	0.4292				
	CRITICAL LEVEL	(Lc)	0.71	Y-90 EFFICIENCY FACTOR	(C2)	0.4785				
20001205	TIME OF SEPARATION	(ST)	09:35	Rmax		N/A				
	DATE OF SEPARATION	(SD)	04/05/2000	DETECTION LIMIT	(Ld)	1.52				
0	TIME OF COUNT	(TOC)	14:57	Sr-89/90 CONC in µCi/g						
	DATE OF COUNT	(DOC)	04/05/2000	8.9569E+01						
FUSION01										
S00T000632	<div>Sample Count Rate (Rs) = (Total Counts (TC) / Count Time (CT)) - Background in cpm (BKG)</div> <div>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</div> <div>RS*1000*DF/(((C1+C2*(1-e to the power of ((-natural log 2)/64.2*DT))))*SS*(Dg/L)*REC*2220000)</div> <div>NOTE: 64.2 = Half Life for Y-90 and Rec. = Fractional Carrier Recovery ((W2-W1) / (CVA * 0.1000))</div> <div>Relative Counting Error = (The Square Root of (TC + BKG * CT) / (TC - BKG * CT))*1.96</div> <div>Percent Carrier Recovery = (Net Weight / Expected weight) * 100</div> <div>NOTE: Expected weight = CVA * 0.1</div> <div>Detection Levels and Less Than Values are determined from Procedure LA-508-002.</div> <div>Delta Time (hours) = ((DOC - SD) * 24) + (TOC - ST) / 100</div>									
WB27811										
SZC										
SAC										
SCL										
04/06/2000										
04/05/2000							Sr-89/90 CONCENTRATION	8.96E+01	µCi/g	DETECTION LEVEL 3.53E-02 µCi/g
11:10 AM							RELATIVE COUNTING ERROR	1.0%		
SY-102 GRAB							PERCENT CARRIER RECOVERY	91.8%		

Analyst:	SCL	Date:	06-Apr-2000
Signature of Chemist:	SAC	Date:	APR 6 2000
SAMPLE.WB1 REV 2.0		22010NML	

WORKBOOK PAGE: DUP7

Sr-89/90 : LA-220-101 (E-5), 102 (INACTIVE), 104 (E-7)

					DUP
	DETECTOR NUMBER		12	CARRIER ADDED in mL	(CVA) 1.000
DUP	TOTAL COUNTS	(TC)	36894	GROSS WEIGHT	(W2) 7.5588
	COUNT TIME in MINUTES	(CT)	10	TARE WEIGHT	(W1) 7.4684
33124	BACKGROUND in cpm	(BKG)	1.4	NET WEIGHT	(W3) 0.0925
	SAMPLE VOLUME in mL	(SS)	0.250	DELTA TIME (HOURS)	(DT) 5.67
@SR90-01	DILUTION FACTOR	DF	11		
	DIGEST FACTOR (g/L)	(D g/L)	2.0224		
SOLID	SAMPLE COUNT RATE	(Rs)	3688.00	SR-90 EFFICIENCY FACTOR	(C1) 0.4292
	CRITICAL LEVEL	(Lc)	0.71	Y-90 EFFICIENCY FACTOR	(C2) 0.4785
20001205	TIME OF SEPARATION	(ST)	09:35	Rmax	N/A
	DATE OF SEPARATION	(SD)	04/05/2000	DETECTION LIMIT	(Ld) 1.52
0	TIME OF COUNT	(TOC)	15:15	Sr-89/90 CONC in $\mu\text{Ci/g}$	8.5388E+01
	DATE OF COUNT	(DOC)	04/05/2000		
FUSION01					
S00T000632					
WB27811	Sample Count Rate (Rs) = (Total Counts (TC) / Count Time (CT)) - Background in cpm (BKG)				
	Sr-89/90 CONC in $\mu\text{Ci/g}$ Replace RS with RMAX if RS $\leq$ Lc and RS $>$ 0 or Replace RS with Lc if RS $<$ 0				
SZC	$RS * 1000 * DF / ((C1 + C2 * (1 - e \text{ to the power of } ((- \text{natural log } 2) / 64.2 * DT))) * SS * (Dg/L) * REC * 2220000)$				
	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 $(TC + BKG * CT) / (TC - BKG * CT) * 1.96$				
	Percent Carrier Recovery = (Net Weight / Expected weight) * 100				
SCL	NOTE: Expected weight = CVA * 0.1				
	Detection Levels and Less Than Values are determined from Procedure LA-508-002.				
04/06/2000	Delta Time (hours) = $((DOC - SD) * 24) + (TOC - ST) / 100$				
04/05/2000	Sr-89/90 CONCENTRATION	8.54E+01		$\mu\text{Ci/g}$	DETECTION LEVEL 3.51E-02 $\mu\text{Ci/g}$
11:10 AM	RELATIVE COUNTING ERROR	1.0%			
SY-102 GRAB	PERCENT CARRIER RECOVERY	92.5%			

Analyst:	SCL	Date:	06-Apr-2000
Signature of Chemist:	SAC	Date:	APR 6 2000

SAMPLE.WB1 REV 2.0

22010NML

847

LABCORE Completed Worklist Report for Worklist# 32873

Analyst: ak1

Instrument: AB15

Book#: _____

Method: LA-953-104 Rev/Mod B-3

Worklist Comment: SY-102 FOR @AM24102 RTS

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD	0	0	AM24102	AM24101	LIQUID	1.07E-04	1.04E-4	97.196 % Recovery	
1	STD	0	0	AM24102	AM24101E	LIQUID	1.00	1.88E+00	1.880 % Ct Error	
1	STD	0	0	AM24102	AM24101T	LIQUID	100	8.77E+01	87.700 % Recovery	
2	BLNK	0	0	AM24102	AM24101	LIQUID	1	<3.50E-4	uCi/mL	
2	BLNK	0	0	AM24102	AM24101E	LIQUID	1.00	1.00E+02	100.000 % Ct Error	
2	BLNK	0	0	AM24102	AM24101T	LIQUID	100	8.57E+01	85.700 % Recovery	
2	BLNK	0	0	AM24102	CM24301	LIQUID	1	<3.50E-4	uCi/mL	
2	BLNK	0	0	AM24102	CM24301E	LIQUID	1.00	1.00E+02	100.000 uCi/mL	
3	SAMPLE	S00T000505	0	0	AM24102	AM24101	LIQUID	N/A	2.68E-03	5.04e-004 uCi/mL
3	SAMPLE	S00T000505	0	0	AM24102	AM24101E	LIQUID	N/A	3.31E+00	% Ct. Error
3	SAMPLE	S00T000505	0	0	AM24102	AM24101T	LIQUID	N/A	8.64E+01	% Recovery
3	SAMPLE	S00T000505	0	0	AM24102	CM24301	LIQUID	N/A	< 5.04E-04	5.04e-004 uCi/mL
3	SAMPLE	S00T000505	0	0	AM24102	CM24301E	LIQUID	N/A	1.46E+01	% Ct. Error
4	DUP	S00T000505	0	0	AM24102	AM24101	LIQUID	2.68E-3	2.82E-3	5.091 RPD
4	DUP	S00T000505	0	0	AM24102	AM24101E	LIQUID	1.00	3.21E+00	3.210 % Ct Error
4	DUP	S00T000505	0	0	AM24102	AM24101T	LIQUID	100	8.59E+01	85.900 % Recovery
4	DUP	S00T000505	0	0	AM24102	CM24301	LIQUID	<5.04E-4	<5.32E-4	RPD
4	DUP	S00T000505	0	0	AM24102	CM24301E	LIQUID	1.00	1.00E+02	100.000 % Ct. Error
5	SAMPLE	S00T000506	0	0	AM24102	AM24101	LIQUID	N/A	7.43E-03	7.54e-004 uCi/mL
5	SAMPLE	S00T000506	0	0	AM24102	AM24101E	LIQUID	N/A	2.40E+00	% Ct. Error
5	SAMPLE	S00T000506	0	0	AM24102	AM24101T	LIQUID	N/A	9.47E+01	% Recovery
5	SAMPLE	S00T000506	0	0	AM24102	CM24301	LIQUID	N/A	< 7.54E-04	7.54e-004 uCi/mL
5	SAMPLE	S00T000506	0	0	AM24102	CM24301E	LIQUID	N/A	7.86E+00	% Ct. Error
6	DUP	S00T000506	0	0	AM24102	AM24101	LIQUID	7.43E-3	7.18E-3	3.422 RPD
6	DUP	S00T000506	0	0	AM24102	AM24101E	LIQUID	1.00	2.40E+00	2.400 % Ct Error
6	DUP	S00T000506	0	0	AM24102	AM24101T	LIQUID	100	9.70E+01	97.000 % Recovery
6	DUP	S00T000506	0	0	AM24102	CM24301	LIQUID	<7.54E-4	<6.81E-4	RPD
6	DUP	S00T000506	0	0	AM24102	CM24301E	LIQUID	1.00	7.97E+00	7.970 % Ct. Error
7	SAMPLE	S00T000507	0	0	AM24102	AM24101	LIQUID	N/A	2.64E-03	4.85e-004 uCi/mL
7	SAMPLE	S00T000507	0	0	AM24102	AM24101E	LIQUID	N/A	3.25E+00	% Ct. Error
7	SAMPLE	S00T000507	0	0	AM24102	AM24101T	LIQUID	N/A	8.94E+01	% Recovery
7	SAMPLE	S00T000507	0	0	AM24102	CM24301	LIQUID	N/A	< 4.85E-04	4.85e-004 uCi/mL
7	SAMPLE	S00T000507	0	0	AM24102	CM24301E	LIQUID	N/A	1.41E+01	% Ct. Error
8	DUP	S00T000507	0	0	AM24102	AM24101	LIQUID	2.64E-3	2.88E-3	8.696 RPD
8	DUP	S00T000507	0	0	AM24102	AM24101E	LIQUID	1.00	3.17E+00	3.170 % Ct Error
8	DUP	S00T000507	0	0	AM24102	AM24101T	LIQUID	100	8.71E+01	87.100 % Recovery
8	DUP	S00T000507	0	0	AM24102	CM24301	LIQUID	<4.85E-4	<5.31E-4	RPD
8	DUP	S00T000507	0	0	AM24102	CM24301E	LIQUID	1.00	1.38E+01	13.800 % Ct. Error

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

LABCORE Completed Worklist Report for Worklist# 32873

Seq	Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
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Final page for worklist# 32873

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Reviewer Signature _____ Date 16 Mar 2000

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

LABCORE Data Entry Template for Worklist# 32873

Analyst: AKL Instrument: AM01 15 Book# 46B57

Method: LA-953-104 Rev/Mod 3-3

Worklist Comment: SY-102 FOR @AM24102 RTS

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	STD				@AM24102	LIQUID		
2	BLNK				@AM24102	LIQUID		
3	SAMPLE	S00T000505 0			@AM24102	LIQUID	20000085	SY-102 GRAB6
Analytes Requested: AM24101 , AM24101E, AM24101T, CM24301 , CM24301E								
4	DUP	S00T000505 0			@AM24102	LIQUID		
5	SAMPLE	S00T000506 0			@AM24102	LIQUID	20000085	SY-102 GRAB6
Analytes Requested: AM24101 , AM24101E, AM24101T, CM24301 , CM24301E								
6	DUP	S00T000506 0			@AM24102	LIQUID		
7	SAMPLE	S00T000507 0			@AM24102	LIQUID	20000085	SY-102 GRAB6
Analytes Requested: AM24101 , AM24101E, AM24101T, CM24301 , CM24301E								
8	DUP	S00T000507 0			@AM24102	LIQUID		

Final page for worklist # 32873

Alita Hudson 3/15/00
Signature Date

Shawn Carson 3/14/00
Signature Date
JP Brown 3/14/00

Data Entry Comments:

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

222-S Analytical Laboratory
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. 2.11

DATA REDUCTION REPORT

SAMPLE
WL32873-STD
File ID: 10a1090.CNF

Counted on: 3/15/ 0 @18:18
Detector: AEA10
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	1541.6	1541.6	300.314	300.314	14.000	5.833	7.000	3.006
2	1601.8	1601.8	254.289	254.285	12.000	4.514	6.000	2.272
3	22.9	22.9	178.147	178.131	98.000	1.000	49.000	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	0.462	5.479	5.474	0.0050.03	45.74	1.3	211.8	0.954E-04
	Pu238		5.487	5.474	0.013			276.6	0.125E-03
2	Am243	0.451	5.266	5.263	0.0030.02	44.63	1.3	196.3	0.884E-04
3	Pu242	0.018	4.891	4.912	-.0210.00	1.83	6.6	8.0	0.359E-05
Totals:		0.931	<--valid peaks only-->			92.20			

DETECTOR CALIBRATION

Energy (MEV) = 4.093 + (0.0046)*Channel
Energy range (MeV): 4.093 TO 6.448
Efficiency = 0.2297 CPM/DPM
(Data reduction compression factor: 1.)

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	47518.0	100.000
Smoothed	47518.0	100.000
Composite fit	44260.4	93.145
Residuals	3257.6	6.855

Analyzed by:

EMB

1 Legend: Raw = Modeled Peaks = 1,2,..., etc

Display Max.: 10649.3

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Raw Data Dump for AEA Spectrum: 10a1090.CNF

1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	1.	1.	2.	3.	2.	1.
21	5.	2.	2.	0.	1.	1.	3.	5.	3.	6.
31	4.	3.	2.	2.	2.	3.	1.	1.	0.	2.
41	1.	5.	3.	2.	1.	2.	1.	3.	4.	1.
51	6.	1.	2.	2.	3.	1.	3.	1.	4.	3.
61	2.	3.	1.	4.	3.	3.	1.	4.	0.	2.
71	5.	1.	5.	1.	2.	2.	2.	5.	4.	4.
81	4.	0.	4.	5.	3.	4.	5.	3.	5.	4.
91	2.	7.	7.	2.	6.	5.	3.	2.	3.	4.
101	10.	5.	5.	6.	4.	8.	5.	4.	2.	4.
111	8.	3.	5.	3.	6.	5.	6.	5.	5.	8.
121	2.	6.	6.	6.	5.	5.	5.	4.	6.	8.
131	4.	5.	3.	9.	7.	6.	3.	6.	6.	9.
141	7.	6.	7.	6.	8.	12.	10.	10.	10.	7.
151	8.	5.	15.	5.	9.	8.	10.	9.	7.	12.
161	11.	9.	10.	9.	16.	11.	16.	10.	14.	16.
171	17.	17.	11.	14.	17.	18.	20.	24.	15.	20.
181	17.	15.	16.	16.	22.	19.	20.	31.	19.	25.
191	20.	14.	25.	23.	35.	30.	28.	31.	29.	35.
201	38.	24.	24.	36.	31.	40.	28.	45.	55.	28.
211	41.	56.	45.	48.	58.	49.	50.	58.	54.	56.
221	63.	82.	78.	73.	73.	83.	91.	90.	104.	105.
231	120.	135.	144.	150.	164.	167.	167.	196.	218.	269.
241	350.	336.	408.	500.	525.	647.	730.	814.	940.	1132.
251	1302.	1505.	1718.	1843.	1895.	1701.	1188.	740.	359.	220.
261	182.	174.	172.	136.	149.	142.	146.	126.	109.	124.
271	98.	95.	87.	84.	90.	103.	119.	110.	127.	130.
281	147.	195.	174.	209.	244.	250.	286.	362.	403.	477.
291	557.	609.	694.	787.	890.	1083.	1256.	1409.	1669.	1815.
301	1762.	1610.	1165.	812.	533.	415.	344.	293.	245.	190.
311	159.	94.	77.	61.	24.	11.	3.	1.	1.	0.
321	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
331	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.
341	0.	0.	0.	0.	0.	1.	1.	0.	0.	0.
351	0.	0.	0.	1.	2.	0.	1.	0.	1.	0.
361	0.	0.	0.	1.	2.	0.	0.	1.	0.	0.
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.	1.	0.	1.	0.	0.	1.	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.	0.	0.	0.	0.	0.	0.	0.	0.	0.
491	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
511	0.	0.								

222-S Analytical Laboratory
 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. 2.11

DATA REDUCTION REPORT

SAMPLE
 WL32873-BLK
 File ID: 11a1150.CNF

Counted on: 3/15/ 0 @18:18
 Detector: AEA11
 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	906.2	906.2	257.441	257.441	10.000	3.234	5.000	2.227

PEAK RESULTS

Peak Error Limit: 30%

Peak ID	Isotope	AEA Frac	Exp.	Obs.	Diff.	FWHM	Count Rate c/m	%err @95	d/m	Activity uCi/ea
1	Am243	0.856	5.266	5.265	0.0010	10.01	20.07	2.0	86.1	0.388E-04
Totals:		0.856	<--valid peaks only-->				20.07			

DETECTOR CALIBRATION

Energy(MEV) = 4.081 + (0.0046)*Channel
 Energy range (MeV): 4.081 TO 6.436
 Efficiency = 0.2355 CPM/DPM
 (Data reduction compression factor: 1.)

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	11249.0	100.000
Smoothed	11249.0	100.000
Composite fit	9631.8	85.623
Residuals	1617.2	14.377

Analyzed by: _____

EMB

Spectrum 11a1150.CNF

1 Legend: Raw = Modeled Peaks = 1,2,..., etc

Display Max.: 4495.1

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Raw Data Dump for AEA Spectrum: 11a1150.CNF

HNF-1699 REV. 0

1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	1.	1.	1.
21	0.	1.	1.	0.	1.	0.	0.	0.	0.	0.
31	1.	1.	0.	1.	2.	0.	1.	0.	0.	2.
41	0.	0.	1.	0.	0.	0.	1.	1.	1.	1.
51	0.	0.	0.	0.	0.	0.	0.	1.	0.	1.
61	2.	2.	0.	2.	1.	0.	0.	0.	1.	1.
71	1.	0.	0.	1.	2.	2.	1.	0.	1.	2.
81	0.	2.	1.	1.	0.	0.	2.	0.	1.	0.
91	0.	3.	0.	0.	0.	0.	0.	2.	1.	0.
101	1.	1.	0.	2.	2.	1.	0.	0.	1.	1.
111	3.	2.	1.	1.	2.	2.	2.	1.	1.	2.
121	0.	2.	4.	1.	0.	3.	2.	0.	1.	1.
131	1.	3.	2.	1.	1.	1.	3.	7.	3.	3.
141	2.	5.	3.	1.	2.	4.	2.	0.	3.	5.
151	4.	4.	2.	4.	1.	2.	1.	3.	5.	4.
161	2.	3.	5.	4.	3.	0.	4.	2.	6.	3.
171	4.	5.	2.	3.	3.	5.	5.	1.	9.	3.
181	7.	2.	5.	3.	4.	4.	5.	6.	4.	11.
191	6.	4.	3.	6.	7.	7.	6.	6.	5.	8.
201	11.	6.	9.	7.	6.	7.	5.	8.	10.	9.
211	9.	10.	12.	15.	15.	12.	11.	13.	11.	25.
221	13.	20.	21.	28.	21.	23.	26.	21.	33.	35.
231	35.	38.	38.	42.	51.	58.	58.	69.	57.	58.
241	62.	77.	100.	120.	128.	161.	188.	213.	246.	289.
251	323.	346.	484.	562.	726.	966.	1043.	1211.	935.	597.
261	313.	144.	83.	72.	51.	69.	55.	46.	58.	57.
271	39.	34.	35.	9.	15.	10.	1.	1.	0.	0.
281	0.	1.	0.	0.	1.	0.	0.	2.	1.	1.
291	2.	2.	0.	0.	1.	1.	2.	2.	0.	1.
301	6.	5.	4.	6.	4.	2.	2.	0.	0.	2.
311	2.	1.	2.	1.	0.	1.	0.	0.	1.	0.
321	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
331	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.
341	0.	0.	0.	1.	0.	0.	0.	0.	0.	1.
351	0.	0.	0.	0.	0.	0.	0.	1.	1.	0.
361	1.	1.	0.	0.	1.	0.	0.	0.	0.	0.
371	0.	0.	1.	1.	0.	0.	0.	0.	0.	0.
381	1.	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.	0.	0.	0.	0.	0.	0.	0.
421	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
431	0.	0.	0.	0.	0.	0.	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.	0.	0.
471	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
481	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
491	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
511	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

222-S Analytical Laboratory
 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. 2.11

DATA REDUCTION REPORT

SAMPLE
 SS00T505-SAM
 File ID: 12a1216.CNF

Counted on: 3/15/ 0 @18:19
 Detector: AEA12
 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	16.1	16.1	368.877	368.877	10.000	2.856	5.000	1.563
2	432.1	432.1	300.430	300.430	10.000	4.899	5.000	3.224
3	893.3	893.3	254.717	254.717	10.000	3.494	5.000	2.121

PEAK RESULTS

Peak Error Limit: 30%

Peak ID	Isotope	AEA Frac	Peak Centroid Exp.	Obs.	Diff.	FWHM	Count Rate	%err c/m @95	d/m	Activity uCi/ea
1	Cm244	0.011	5.795	5.780	0.015	0.01	0.38	14.4	1.8	0.815E-06
	Cm243		5.779	5.780	-0.001				2.5	0.112E-05
2	Am241	0.307	5.479	5.465	0.014	0.02	11.09	2.7	55.6	0.250E-04
	Pu238		5.487	5.465	0.022				72.6	0.327E-04
3	Am243	0.590	5.266	5.255	0.011	0.02	21.33	1.9	101.5	0.457E-04
Totals:		0.908	<--valid peaks only-->				32.80			

DETECTOR CALIBRATION

Energy(MEV) = 4.083 + (0.0046)*Channel
 Energy range (MeV): 4.083 TO 6.438
 Efficiency = 0.2122 CPM/DPM
 (Data reduction compression factor: 1.)

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	17338.0	100.000
Smoothed	17338.0	100.000
Composite fit	15745.4	90.814
Residuals	1592.6	9.186

Analyzed by: _____

EMB

Spectrum 12a1216.CNF

1 Legend: Raw = Modeled Peaks = 1,2,..., etc

Display Max.: 5392.6

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Raw Data Dump for AEA Spectrum: 12a1216.CNF

1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	1.	0.	1.	0.
21	0.	0.	0.	1.	3.	0.	0.	0.	1.	1.
31	0.	1.	1.	0.	0.	1.	1.	0.	0.	0.
41	0.	0.	0.	1.	0.	1.	0.	1.	0.	0.
51	0.	0.	0.	0.	0.	1.	0.	0.	1.	0.
61	0.	1.	0.	0.	0.	0.	0.	0.	0.	1.
71	0.	1.	1.	0.	0.	2.	0.	1.	0.	1.
81	0.	1.	1.	0.	1.	0.	1.	1.	1.	1.
91	0.	2.	1.	0.	2.	0.	0.	1.	1.	0.
101	1.	1.	2.	0.	0.	2.	0.	0.	2.	2.
111	0.	3.	0.	0.	1.	0.	0.	2.	0.	1.
121	2.	0.	3.	1.	0.	2.	1.	1.	2.	4.
131	1.	1.	4.	1.	0.	0.	0.	2.	2.	2.
141	5.	1.	1.	0.	0.	1.	2.	4.	1.	2.
151	3.	2.	1.	1.	0.	3.	2.	1.	2.	2.
161	3.	0.	1.	2.	2.	6.	1.	1.	2.	0.
171	4.	1.	4.	2.	2.	4.	5.	2.	2.	4.
181	5.	4.	5.	7.	4.	2.	5.	5.	3.	4.
191	4.	6.	6.	4.	8.	7.	4.	6.	8.	10.
201	7.	5.	7.	9.	12.	9.	11.	9.	12.	10.
211	6.	11.	14.	20.	21.	15.	21.	20.	16.	22.
221	21.	26.	30.	32.	28.	32.	31.	38.	47.	36.
231	31.	48.	53.	46.	59.	57.	65.	73.	86.	114.
241	123.	141.	155.	194.	251.	270.	342.	341.	429.	494.
251	607.	669.	870.	998.	1113.	1038.	717.	378.	184.	97.
261	101.	76.	60.	60.	65.	58.	78.	51.	61.	28.
271	28.	19.	14.	14.	15.	23.	18.	21.	23.	26.
281	34.	24.	33.	33.	52.	56.	69.	72.	74.	94.
291	122.	120.	177.	192.	185.	234.	311.	387.	455.	510.
301	539.	459.	300.	193.	141.	111.	88.	77.	65.	59.
311	34.	40.	17.	10.	6.	6.	1.	1.	0.	0.
321	0.	1.	1.	0.	1.	0.	0.	1.	0.	0.
331	1.	0.	0.	1.	0.	0.	2.	0.	0.	0.
341	1.	3.	2.	0.	0.	0.	0.	1.	2.	2.
351	1.	2.	2.	8.	3.	0.	3.	1.	7.	3.
361	5.	4.	9.	9.	14.	15.	11.	18.	20.	20.
371	11.	11.	2.	0.	0.	0.	0.	1.	0.	0.
381	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.
391	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
401	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.
411	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.
421	0.	0.	0.	2.	1.	1.	2.	1.	1.	1.
431	1.	0.	2.	1.	2.	1.	2.	1.	2.	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.	0.	0.	0.	0.	0.	0.	0.	0.	0.
491	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
511	0.	0.								

222-S Analytical Laboratory
 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. 2.11

DATA REDUCTION REPORT

SAMPLE
 S00T505-DUP
 File ID: 13a1302.CNF

Counted on: 3/15/ 0 @18:19
 Detector: AEA13
 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	13.3	13.3	370.541	370.541	12.000	3.816	6.000	1.603
2	433.1	433.1	302.253	302.253	12.000	5.121	6.000	2.823
3	828.1	828.1	256.388	256.387	10.000	4.209	5.000	2.276

PEAK RESULTS

Peak Error Limit: 30%

Peak ID	Isotope	AEA Frac	Peak Centroid Exp.	Obs.	Diff.	FWHM	Count Rate c/m	%err @95	d/m	Activity uCi/ea
1		????		5.790			0.39	14.3		
2	Am241	0.308	5.479	5.476	0.003	0.02	12.03	2.6	51.7	0.233E-04
	Pu238		5.487	5.476	0.011				67.5	0.304E-04
3	Am243	0.562	5.266	5.265	0.001	0.02	21.92	1.9	89.5	0.403E-04
Totals:		0.870	<--valid peaks only-->				33.95			

DETECTOR CALIBRATION

Energy(MEV) = 4.085 + (0.0046)*Channel
 Energy range (MeV): 4.085 TO 6.441
 Efficiency = 0.2474 CPM/DPM
 (Data reduction compression factor: 1.)

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	18723.0	100.000
Smoothed	18723.0	100.000
Composite fit	16480.8	88.024
Residuals	2242.2	11.976

Analyzed by: _____

EMB

Spectrum 13a1302.CNF

1 Legend: Raw = Modeled Peaks = 1,2,..., etc

Display Max.: 4416.3

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Raw Data Dump for AEA Spectrum: 13a1302.CNF

1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	1.	1.	2.	0.	2.	2.
21	0.	0.	2.	2.	1.	0.	3.	2.	1.	0.
31	2.	2.	3.	0.	1.	0.	1.	1.	2.	0.
41	0.	1.	3.	1.	0.	0.	0.	2.	0.	1.
51	1.	1.	3.	0.	3.	0.	0.	1.	1.	1.
61	4.	1.	1.	1.	1.	0.	0.	1.	2.	1.
71	3.	3.	4.	1.	2.	3.	3.	1.	1.	1.
81	0.	6.	3.	0.	1.	1.	2.	3.	2.	1.
91	1.	2.	2.	0.	2.	2.	1.	2.	2.	3.
101	7.	3.	3.	5.	4.	3.	1.	4.	3.	2.
111	3.	4.	1.	2.	3.	1.	2.	1.	0.	4.
121	3.	2.	7.	3.	2.	2.	3.	3.	2.	3.
131	1.	2.	4.	6.	1.	0.	0.	3.	3.	5.
141	3.	3.	3.	1.	2.	5.	3.	4.	4.	6.
151	5.	2.	3.	8.	5.	5.	2.	3.	6.	10.
161	3.	5.	4.	5.	8.	7.	7.	7.	14.	5.
171	7.	11.	9.	5.	1.	5.	7.	9.	6.	10.
181	7.	8.	10.	6.	14.	11.	11.	10.	10.	5.
191	12.	11.	12.	11.	9.	10.	10.	13.	11.	18.
201	14.	15.	22.	20.	22.	11.	17.	16.	24.	17.
211	18.	25.	27.	20.	27.	35.	26.	23.	25.	24.
221	28.	27.	36.	30.	42.	37.	54.	43.	43.	48.
231	58.	58.	51.	67.	67.	80.	83.	94.	90.	107.
241	113.	131.	121.	191.	203.	219.	251.	288.	336.	412.
251	423.	549.	599.	732.	874.	987.	1006.	876.	614.	366.
261	200.	130.	98.	75.	69.	54.	63.	67.	62.	66.
271	47.	52.	40.	44.	27.	26.	33.	34.	34.	40.
281	36.	47.	48.	35.	54.	42.	55.	62.	72.	90.
291	104.	134.	150.	177.	172.	214.	213.	235.	327.	415.
301	449.	526.	526.	407.	315.	194.	145.	84.	96.	73.
311	69.	53.	37.	26.	30.	10.	2.	2.	4.	0.
321	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
331	0.	0.	0.	0.	0.	1.	1.	0.	2.	0.
341	1.	1.	1.	1.	2.	0.	0.	2.	4.	1.
351	2.	1.	3.	2.	2.	3.	0.	2.	4.	6.
361	8.	7.	6.	8.	9.	9.	6.	11.	12.	18.
371	15.	12.	11.	10.	3.	2.	0.	0.	0.	0.
381	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.
391	0.	0.	0.	0.	0.	0.	0.	0.	1.	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.	1.	0.	0.	1.	1.	1.	0.	2.	0.
431	1.	1.	1.	3.	2.	2.	1.	1.	0.	1.
441	1.	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.	1.	0.	0.	0.	0.	0.	0.
481	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
491	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
511	0.	0.								

222-S Analytical Laboratory
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. 2.11

DATA REDUCTION REPORT

SAMPLE
S00T506-SAM
File ID: 14a1487.CNF

Counted on: 3/15/ 0 @18:20
Detector: AEA14
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	51.3	51.3	369.227	369.227	10.000	2.565	5.000	1.099
2	1112.4	1112.4	300.583	300.583	12.000	5.661	6.000	2.680
3	797.9	797.9	254.526	254.517	10.000	4.698	5.000	2.162
4	29.8	29.8	213.723	213.110	30.000	93.458	15.000	9.944

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	Cm244	0.021	5.795	5.792	0.003	30.01	1.37	7.6	5.9	0.266E-05
	Cm243		5.779	5.792	-.013					8.1
2	Am241	0.520	5.479	5.476	0.003	30.03	33.91	1.5	155.7	0.701E-04
	Pu238		5.487	5.476	0.011					203.3
3	Am243	0.360	5.266	5.264	0.002	20.02	23.44	1.9	102.2	0.460E-04
4	Pu239	0.059	5.147	5.074	0.073	30.43	3.84	12.2	16.6	0.747E-05
	Pu240		5.144	5.074	0.070					16.6
Totals:			0.960	<--valid peaks only-->			62.56			

DETECTOR CALIBRATION

Energy (MEV) = 4.093 + (0.0046)*Channel
Energy range (MeV): 4.093 TO 6.449
Efficiency = 0.2317 CPM/DPM
(Data reduction compression factor: 1.)

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	31284.0	100.000
Smoothed	31284.0	100.000
Composite fit	30028.9	95.988
Residuals	1255.1	4.012

Analyzed by: _____

863

EMB

Spectrum 14a1487.CNF

1 Legend: Raw = Modeled Peaks = 1,2,..., etc

Display Max.: 7626.7

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Raw Data Dump for AEA Spectrum: 14a1487.CNF

1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	4.	2.	3.	2.	2.
21	1.	3.	2.	3.	0.	1.	2.	4.	1.	1.
31	2.	2.	2.	1.	3.	3.	3.	2.	3.	2.
41	1.	1.	2.	0.	2.	3.	2.	0.	1.	2.
51	1.	4.	4.	3.	2.	6.	0.	1.	3.	1.
61	1.	6.	0.	0.	3.	0.	8.	5.	5.	2.
71	3.	5.	2.	5.	0.	3.	2.	3.	3.	4.
81	4.	0.	3.	2.	5.	5.	1.	4.	4.	1.
91	3.	1.	5.	2.	6.	3.	5.	2.	5.	6.
101	3.	1.	2.	3.	5.	3.	5.	5.	9.	5.
111	5.	4.	8.	5.	7.	7.	1.	9.	4.	5.
121	7.	2.	4.	4.	4.	7.	5.	8.	5.	5.
131	5.	7.	5.	2.	3.	5.	6.	6.	4.	4.
141	5.	9.	5.	7.	9.	6.	3.	9.	2.	6.
151	6.	11.	6.	5.	8.	6.	9.	14.	11.	10.
161	8.	9.	10.	9.	9.	12.	11.	12.	3.	11.
171	11.	6.	17.	8.	9.	11.	10.	17.	19.	13.
181	11.	13.	8.	22.	14.	17.	13.	18.	12.	19.
191	15.	15.	17.	14.	21.	22.	17.	18.	19.	29.
201	28.	17.	21.	31.	17.	25.	21.	32.	29.	27.
211	31.	31.	40.	34.	38.	25.	31.	35.	30.	36.
221	41.	47.	54.	45.	59.	67.	61.	56.	60.	69.
231	74.	93.	97.	94.	103.	129.	115.	127.	122.	154.
241	160.	184.	195.	251.	308.	355.	366.	420.	514.	552.
251	606.	708.	830.	917.	918.	895.	682.	395.	225.	140.
261	123.	103.	96.	104.	96.	97.	86.	102.	98.	81.
271	75.	75.	95.	69.	60.	93.	77.	90.	112.	98.
281	122.	155.	129.	154.	192.	189.	217.	279.	304.	337.
291	400.	473.	535.	577.	697.	830.	899.	944.	1125.	1250.
301	1287.	1239.	936.	597.	411.	301.	256.	180.	186.	134.
311	130.	92.	61.	37.	11.	8.	5.	0.	2.	1.
321	1.	1.	2.	1.	1.	0.	3.	0.	1.	1.
331	1.	0.	5.	1.	1.	3.	3.	3.	2.	2.
341	3.	2.	7.	8.	7.	2.	3.	3.	5.	4.
351	9.	8.	7.	9.	11.	12.	13.	20.	19.	18.
361	32.	30.	31.	19.	30.	35.	43.	35.	75.	56.
371	47.	30.	11.	5.	0.	0.	0.	1.	0.	0.
381	0.	0.	1.	0.	0.	1.	0.	1.	0.	0.
391	0.	0.	0.	0.	2.	1.	0.	0.	0.	0.
401	0.	1.	0.	1.	0.	0.	0.	0.	0.	0.
411	0.	0.	2.	0.	1.	1.	3.	2.	1.	3.
421	1.	1.	2.	2.	2.	3.	4.	4.	3.	4.
431	5.	6.	6.	5.	6.	6.	7.	11.	7.	4.
441	2.	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.	1.	0.	0.	0.	0.
481	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
491	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
511	0.	0.								

222-S Analytical Laboratory
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. 2.11

DATA REDUCTION REPORT

SAMPLE
S00T506-DUP
File ID: 15a1544.CNF

Counted on: 3/15/ 0 @18:21
Detector: AEA15
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	41.3	41.3	369.057	369.057	10.000	4.653	5.000	1.774
2	1017.8	1017.8	300.320	300.320	12.000	6.582	6.000	2.923
3	756.3	756.3	254.103	254.089	12.000	5.343	6.000	2.277

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	Cm244	0.022	5.795	5.790	0.0050.02	1.33	7.7	5.6	0.252E-05
	Cm243		5.779	5.790	-.011			7.7	0.346E-05
2	Am241	0.543	5.479	5.474	0.0050.03	33.28	1.6	148.7	0.670E-04
	Pu238		5.487	5.474	0.013			194.2	0.875E-04
3	Am243	0.389	5.266	5.262	0.0040.02	23.84	1.8	101.1	0.456E-04
Totals:		0.954	<--valid peaks only-->			58.46			

DETECTOR CALIBRATION

Energy(MEV) = 4.093 + (0.0046)*Channel
Energy range (MeV): 4.093 TO 6.448
Efficiency = 0.2381 CPM/DPM
(Data reduction compression factor: 1.)

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	29401.0	100.000
Smoothed	29401.0	100.000
Composite fit	28060.8	95.441
Residuals	1340.2	4.558

Analyzed by:

EMB

Spectrum 15a1544.CNF

1 Legend: Raw = Modeled Peaks = 1,2,..., etc

Display Max.: 7153.6

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Raw Data Dump for AEA Spectrum: 15a1544.CNF

1	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.
11	0.	0.	0.	0.	1.	1.	1.	0.	1.	0.
21	0.	1.	0.	1.	0.	0.	0.	1.	0.	0.
31	0.	0.	1.	0.	0.	0.	0.	1.	1.	0.
41	0.	0.	0.	0.	2.	0.	0.	0.	0.	0.
51	0.	0.	1.	1.	0.	1.	0.	2.	0.	0.
61	1.	0.	1.	1.	1.	0.	1.	0.	0.	0.
71	0.	1.	1.	2.	1.	0.	0.	1.	1.	1.
81	2.	0.	0.	1.	1.	2.	2.	0.	1.	1.
91	0.	1.	2.	1.	1.	0.	1.	0.	0.	3.
101	0.	1.	3.	1.	2.	2.	0.	4.	3.	1.
111	0.	0.	1.	3.	0.	4.	2.	4.	3.	1.
121	3.	1.	1.	0.	1.	2.	1.	1.	1.	0.
131	1.	2.	3.	2.	2.	0.	2.	2.	3.	4.
141	1.	3.	3.	3.	1.	3.	4.	2.	5.	4.
151	1.	7.	2.	2.	2.	4.	1.	1.	3.	1.
161	3.	4.	2.	6.	1.	3.	4.	2.	2.	2.
171	5.	1.	6.	8.	7.	5.	5.	4.	6.	3.
181	5.	5.	4.	3.	6.	8.	2.	7.	5.	9.
191	6.	10.	7.	12.	5.	7.	14.	5.	7.	13.
201	10.	12.	11.	7.	10.	6.	16.	15.	9.	16.
211	9.	9.	17.	14.	25.	19.	22.	26.	22.	27.
221	25.	31.	35.	35.	39.	36.	45.	51.	53.	44.
231	58.	78.	75.	71.	80.	89.	116.	129.	146.	186.
241	181.	204.	259.	289.	330.	394.	443.	455.	535.	649.
251	666.	755.	783.	855.	858.	752.	598.	396.	218.	123.
261	102.	92.	97.	72.	87.	65.	69.	69.	54.	74.
271	65.	61.	62.	63.	54.	73.	72.	93.	94.	117.
281	113.	127.	154.	171.	188.	221.	224.	260.	330.	367.
291	430.	508.	577.	614.	713.	768.	891.	937.	1096.	1117.
301	1174.	1072.	786.	626.	409.	301.	241.	180.	159.	134.
311	119.	83.	73.	41.	36.	10.	4.	2.	0.	0.
321	0.	0.	0.	0.	1.	2.	1.	0.	1.	2.
331	2.	1.	1.	1.	3.	0.	0.	1.	0.	1.
341	4.	5.	4.	6.	4.	3.	5.	4.	5.	3.
351	6.	4.	13.	8.	12.	6.	20.	18.	14.	22.
361	24.	18.	20.	35.	39.	37.	44.	44.	41.	47.
371	43.	33.	23.	8.	7.	1.	1.	0.	0.	0.
381	0.	0.	0.	0.	1.	1.	0.	0.	0.	0.
391	0.	0.	0.	0.	1.	0.	0.	1.	0.	1.
401	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.
411	1.	0.	0.	0.	1.	0.	2.	1.	2.	1.
421	4.	2.	1.	0.	3.	4.	1.	4.	5.	1.
431	7.	2.	6.	7.	7.	4.	5.	8.	2.	5.
441	7.	0.	2.	0.	0.	0.	0.	0.	0.	0.
451	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
461	0.	0.	0.	0.	1.	0.	1.	0.	0.	0.
471	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
481	0.	0.	0.	2.	1.	0.	0.	0.	0.	0.
491	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
511	0.	0.								

222-S Analytical Laboratory
 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. 2.11

DATA REDUCTION REPORT

SAMPLE
 S00T507-SAM
 File ID: 16a1644.CNF

Counted on: 3/15/ 0 @18:21
 Detector: AEA16
 Geometry number: 1
 Count time: 28804. Sec

PEAK ANALYSIS

Peak ID	Peak height		Peak center		FWHM		Tau	
	Initial	Final	Initial	Final	Initial	Final	Initial	Final
1	13.9	13.9	370.069	370.069	10.000	2.808	5.000	1.071
2	376.3	376.3	301.134	301.134	14.000	5.835	7.000	2.803
3	769.0	769.0	255.286	255.283	12.000	4.409	6.000	1.997

PEAK RESULTS

Peak Error Limit: 30%

Peak ID	Isotope	AEA Frac	Peak Centroid Exp. Obs. Diff.	FWHM	Count Rate	%err c/m @95	d/m	Activity uCi/ea
1	Cm244	0.011	5.795 5.786 0.009	0.01	0.41	14.0	1.7	0.780E-06
	Cm243		5.779 5.786 -0.007				2.4	0.107E-05
2	Am241	0.304	5.479 5.469 0.010	0.03	11.50	2.6	52.2	0.235E-04
	Pu238		5.487 5.469 0.018				68.1	0.307E-04
3	Am243	0.593	5.266 5.258 0.008	0.02	22.40	1.9	96.5	0.435E-04
Totals:		0.908	<--valid peaks only-->		34.31			

DETECTOR CALIBRATION

Energy (MEV) = 4.084 + (0.0046)*Channel
 Energy range (MeV): 4.084 TO 6.439
 Efficiency = 0.2344 CPM/DPM
 (Data reduction compression factor: 1.)

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	18138.0	100.000
Smoothed	18138.0	100.000
Composite fit	16469.0	90.798
Residuals	1669.0	9.202

Analyzed by: _____

EMB

Spectrum 16a1644.CNF

1 Legend: Raw = Modeled Peaks = 1,2,..., etc

Display Max.: 4832.6

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Raw Data Dump for AEA Spectrum: 16a1644.CNF

1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	1.	0.	1.	0.	1.
21	1.	3.	1.	0.	2.	1.	0.	1.	1.	2.
31	0.	2.	1.	3.	3.	2.	0.	0.	0.	0.
41	0.	1.	0.	1.	0.	1.	1.	0.	1.	1.
51	0.	1.	1.	0.	1.	1.	0.	1.	0.	0.
61	1.	0.	1.	0.	0.	2.	0.	0.	0.	1.
71	0.	2.	0.	0.	3.	2.	0.	1.	2.	1.
81	3.	1.	1.	2.	1.	0.	4.	1.	1.	2.
91	4.	1.	1.	3.	2.	2.	0.	3.	3.	2.
101	2.	2.	1.	2.	1.	2.	3.	3.	1.	0.
111	1.	1.	2.	1.	2.	4.	1.	2.	0.	3.
121	0.	1.	2.	5.	2.	3.	5.	2.	2.	3.
131	2.	8.	1.	3.	1.	1.	4.	2.	0.	3.
141	2.	1.	2.	4.	3.	5.	2.	8.	3.	3.
151	0.	2.	7.	4.	2.	1.	3.	2.	5.	5.
161	7.	6.	5.	7.	4.	5.	7.	2.	4.	6.
171	9.	6.	10.	9.	6.	10.	6.	6.	4.	9.
181	4.	8.	12.	10.	6.	4.	7.	13.	6.	13.
191	7.	13.	6.	16.	10.	19.	13.	13.	13.	12.
201	17.	18.	15.	16.	16.	16.	12.	9.	22.	17.
211	18.	16.	23.	20.	30.	34.	23.	26.	14.	32.
221	41.	34.	33.	46.	43.	52.	48.	38.	57.	62.
231	52.	59.	70.	103.	86.	96.	85.	99.	121.	105.
241	148.	151.	203.	208.	279.	311.	351.	403.	422.	431.
251	540.	654.	740.	777.	891.	905.	792.	601.	350.	166.
261	97.	86.	64.	68.	59.	67.	53.	58.	43.	50.
271	38.	41.	24.	33.	25.	25.	32.	30.	33.	31.
281	49.	37.	40.	67.	61.	50.	67.	71.	89.	112.
291	116.	145.	159.	197.	237.	233.	271.	345.	338.	397.
301	446.	422.	363.	267.	204.	134.	90.	57.	67.	53.
311	45.	35.	32.	20.	14.	6.	4.	0.	0.	0.
321	0.	0.	0.	0.	1.	1.	1.	1.	0.	1.
331	0.	0.	3.	1.	1.	0.	1.	0.	1.	0.
341	1.	1.	1.	0.	1.	1.	2.	2.	2.	2.
351	3.	1.	2.	2.	2.	4.	9.	4.	8.	5.
361	5.	5.	9.	8.	4.	9.	14.	12.	13.	17.
371	17.	12.	10.	1.	1.	0.	0.	0.	1.	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.	1.	0.	0.
411	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.
421	0.	0.	0.	0.	0.	0.	1.	1.	2.	0.
431	0.	0.	2.	2.	2.	1.	0.	0.	5.	0.
441	2.	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.	0.	0.	0.	0.	0.	0.	0.	0.	0.
491	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
511	0.	0.								

222-S Analytical Laboratory
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. 2.11

DATA REDUCTION REPORT

SAMPLE
S00T507-DUP
File ID: 17a1784.CNF

Counted on: 3/15/ 0 @18:22
Detector: AEA17
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	17.5	17.5	372.008	372.008	10.000	2.360	5.000	1.111
2	489.9	489.9	302.589	302.589	12.000	4.788	6.000	3.188
3	949.1	949.1	256.480	256.480	10.000	3.642	5.000	2.407

PEAK RESULTS

Peak Error Limit: 30%

Peak ID	Isotope	AEA Frac	Peak Centroid	Count	%err	Activity
			Exp. Obs. Diff. FWHM	Rate c/m	@95	uCi/ea
1	Cm243	0.011	5.779 5.803 -0.024	0.43	13.6	0.109E-05
	Cm244		5.795 5.803 -0.008			0.796E-06
2	Am241	0.312	5.479 5.484 -0.005	12.43	2.5	0.242E-04
	Pu238		5.487 5.484 0.003			0.316E-04
3	Am243	0.556	5.266 5.272 -0.006	22.14	1.9	0.410E-04
Totals:		0.879	<--valid peaks only-->		35.00	

DETECTOR CALIBRATION

Energy(MEV) = 4.092 + (0.0046)*Channel
Energy range (MeV): 4.092 TO 6.447
Efficiency = 0.2459 CPM/DPM
(Data reduction compression factor: 1.)

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	19109.0	100.000
Smoothed	19110.1	100.006
Composite fit	16802.7	87.931
Residuals	2306.3	12.069

Analyzed by: _____

EMB

Spectrum 17a1784.CNF

1 Legend: Raw = Modeled Peaks = 1,2,..., etc

Display Max.: 4635.7

1
1
1

Raw Data Dump for AEA Spectrum: 17a1784.CNF

1	0.	0.	1.	0.	2.	1.	3.	1.	1.	1.
11	3.	1.	0.	0.	3.	3.	1.	1.	0.	0.
21	0.	0.	3.	1.	3.	0.	1.	0.	0.	1.
31	1.	1.	0.	0.	1.	0.	1.	1.	0.	2.
41	1.	0.	2.	1.	1.	0.	2.	2.	0.	1.
51	1.	0.	1.	2.	0.	3.	4.	3.	0.	1.
61	5.	3.	4.	0.	4.	2.	2.	0.	1.	2.
71	3.	0.	0.	3.	1.	1.	3.	0.	1.	4.
81	3.	1.	1.	3.	1.	3.	0.	1.	2.	1.
91	5.	3.	4.	3.	1.	3.	0.	1.	3.	3.
101	1.	3.	1.	1.	0.	4.	2.	1.	2.	3.
111	2.	3.	2.	2.	2.	2.	0.	2.	3.	2.
121	2.	3.	0.	1.	3.	5.	1.	6.	3.	0.
131	1.	7.	4.	3.	1.	1.	5.	8.	4.	3.
141	2.	5.	6.	4.	2.	3.	3.	5.	2.	7.
151	7.	2.	5.	3.	3.	5.	6.	1.	4.	10.
161	4.	6.	2.	4.	5.	3.	6.	5.	8.	4.
171	5.	6.	5.	9.	3.	9.	7.	5.	7.	6.
181	5.	7.	8.	5.	8.	2.	11.	6.	8.	11.
191	9.	10.	9.	9.	8.	8.	14.	17.	12.	17.
201	12.	8.	9.	6.	11.	13.	14.	17.	17.	14.
211	11.	17.	13.	12.	12.	14.	23.	29.	18.	27.
221	30.	19.	31.	25.	26.	31.	34.	31.	26.	31.
231	45.	37.	48.	51.	46.	54.	66.	63.	83.	73.
241	82.	103.	105.	142.	164.	185.	230.	301.	321.	375.
251	400.	552.	638.	775.	1014.	1104.	1192.	1036.	685.	354.
261	190.	99.	105.	79.	78.	81.	76.	72.	64.	67.
271	51.	49.	38.	28.	28.	15.	25.	24.	22.	31.
281	30.	31.	28.	32.	42.	41.	53.	67.	78.	77.
291	87.	121.	140.	147.	128.	189.	207.	256.	298.	420.
301	536.	593.	574.	574.	381.	213.	151.	137.	104.	91.
311	80.	67.	40.	28.	32.	18.	8.	2.	0.	2.
321	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.
331	0.	1.	1.	0.	2.	1.	1.	0.	0.	0.
341	0.	1.	2.	0.	1.	1.	1.	0.	3.	1.
351	0.	1.	3.	4.	2.	3.	6.	3.	3.	6.
361	5.	5.	9.	7.	8.	4.	8.	11.	11.	18.
371	17.	22.	21.	18.	7.	0.	0.	0.	1.	0.
381	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
391	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.
401	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.
411	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.
421	0.	0.	0.	0.	0.	0.	1.	2.	3.	1.
431	0.	1.	2.	2.	1.	1.	0.	4.	4.	5.
441	2.	3.	0.	0.	0.	0.	0.	0.	0.	0.
451	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.
461	0.	0.	0.	0.	0.	0.	0.	0.	0.	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.	0.	0.	0.
511	0.	0.								

WORKBOOK PAGE: STD1

Am 241 and Cm 243/244: LA-953-103 (VOID) or LA-953-104(B-0) ³ *had* *liquid* LIQUID

				STD
	Date Counted	MAR-15-2000	Am 241 AEA Frac. (C241)	0.482
STD	Sample Volume in mL (SS)	1.000	Am 243 AEA Frac. (C243)	0.451
	Sample D.F. (DF)	1	Cm 243/244 AEA Frac. (Cm)	0
32873	Tracer Volume in mL (SPKV)	0.200	Total AT Counts	3823
	Digest D.F. (DDF)	1000	AT Count Time (min) (TC)	30
@AM24102	Tracer Book No.	10B59	Background in cpm (Bkg)	0.23
	Am-243 Tracer Value (dpm/mL)	1130	Am 241 cpm	45.74
LIQUID	Detector Number	15	Am 243 cpm	44.63
	Detector Efficiency (DetEff)	0.2894	Cm 243/244 cpm	0
20000925	Standard Book No	46B57	AEA Count Time (min)	480
	Standard Value in $\mu\text{Ci/mL}$	1.070E-04	Am 241 $\mu\text{Ci/L}$ =	1.0428E-01
0			Cm 243/244 $\mu\text{Ci/L}$ =	< 1.2867E-02

N/A

Am-241 $\mu\text{Ci/L}$ = (C241 * Am-243 Tracer Value * SPKV * DF * DDF * (1000mL/L)) / (C243 * SS * (2220000dpm/ μCi))Cm-243/244 $\mu\text{Ci/L}$ = (Cm * Am-243 Tracer Value * SPKV * DF * DDF * (1000mL/L)) / (C243 * SS * (2220000dpm/ μCi))

Relative Counting Error = Square Root of [(1/(Am-243 cpm * min)) + (1 / (Am-241 or Cm-243/244 cpm * min))] * 1.96 * 100

Am 243 Tracer Recovery = (Total AT Counts / TC - Bkg) * (1/DetEff) * C243 * 100 / Am-243 Tracer Value * SPKV

SZC

JFR

Am 241 $\mu\text{Ci/mL}$ = 1.04E-04

Relative Counting Error = 1.9%

AKL

NOTE: Cm-243/244 Result is a LESS THAN Value.

Cm 243/244 $\mu\text{Ci/mL}$ < 1.29E-05

Relative Counting Error = 100.0%

Am 243 Tracer Recovery = 87.7%

DETECTION
LEVELS
In $\mu\text{Ci/mL}$

Am 241

1.29E-05

Cm 243/244

1.29E-05

11:00 AM

SY-102

Analyst:

AKL

Date: 03/16/2000

Signature of Chemist:

JFR

Date: 16 Mar 2002

STANDARD.WB1 REV 1.2

953703ML

WORKBOOK PAGE: BLANK2

Am 241 and Cm 243/244: LA-953-103 (VOID) or LA-953-104(B-0) ³ ₁₀ ₁₀ LIQUID / SO

				BLNK
	Date Counted	MAR-15-2000	Am 241 AEA Frac. (C241)	0
BLNK	Sample Volume In mL (SS)	1.000	Am 243 AEA Frac. (C243)	0.856
	Sample D.F. (DF)	101	Cm 243/244 AEA Frac. (Cm)	0
32873	Tracer Volume In mL (SPKV)	0.100	Total AT Counts	989
	Digest D.F. (DDF)	1000	AT Count Time (min) (TC)	30
@AM24102	Tracer Book No.	10B59	Background in cpm (Bkg)	0.23
	Am-243 Tracer Value (dpm/mL)	1130	Am 241 cpm	0
LIQUID	Detector Number	18	Am 243 cpm	20.07
	Detector Efficiency (DetEff)	0.2894	Cm 243/244 cpm	0
20000925			AEA Count Time (min)	480
0			Am 241 $\mu\text{Ci/L}$ =	< 3.5044E-01
N/A			Cm 243/244 $\mu\text{Ci/L}$ =	< 3.5044E-01

$$\text{Am-241 } \mu\text{Ci/L} = (\text{C241} * \text{Am-243 Tracer Value} * \text{SPKV} * \text{DF} * \text{DDF} * (1000\text{mL/L})) / (\text{C243} * \text{SS} * (2220000\text{dpm}/\mu\text{Ci}))$$

$$\text{Cm-243/244 } \mu\text{Ci/L} = (\text{Cm} * \text{Am-243 Tracer Value} * \text{SPKV} * \text{DF} * \text{DDF} * (1000\text{mL/L})) / (\text{C243} * \text{SS} * (2220000\text{dpm}/\mu\text{Ci}))$$

$$\text{Relative Counting Error} = \text{Square Root of } [(1/(\text{Am-243 cpm} * \text{min})) + (1/(\text{Am-241 or Cm-243/244 cpm} * \text{min}))] * 1.96 * 100$$

$$\text{Am 243 Tracer Recovery} = (\text{Total AT Counts} / \text{TC} - \text{Bkg}) * (1/\text{DetEff}) * \text{C243} * 100 / \text{Am-243 Tracer Value} * \text{SPKV}$$

NOTE: Am-241 Result is a LESS THAN Value.

$$\text{Am 241 } \mu\text{Ci/mL} = < 3.50\text{E-04}$$

$$\text{Relative Counting Error} = 100.0\%$$

DETECTION
LEVELS
In $\mu\text{Ci/mL}$

NOTE: Cm-243/244 Result is a LESS THAN Value.

$$\text{Cm 243/244 } \mu\text{Ci/mL} = < 3.50\text{E-04}$$

$$\text{Relative Counting Error} = 100.0\%$$

$$\text{Am 243 Tracer Recovery} = 85.7\%$$

Am 241
3.50E-04
Cm 243/244
3.50E-04

Analyst:	AKL	Date:	03/16/2000
Signature of Chemist:	JFR	Date:	16 Mar 2000
BLANK.WB1 REV 1.2	953103ML		

WORKBOOK PAGE: SAM3

Am 241 and Cm 243/244: LA-953-103 (VOID) or LA-953-104(B-0) ³ ₁₀₀

LIQUID / SO

SAMPLE

	Date Counted	MAR-16-2000	Am 241 AEA Frac. (C241)	0.307
SAMPLE	Sample Volume in mL (SS)	1.000	Am 243 AEA Frac. (C243)	0.59
	Sample D.F. (DF)	101	Cm 243/244 AEA Frac. (Cm)	0.011
32873	Tracer Volume in mL (SPKV)	0.100	Total AT Counts	1443
	Digest D.F. (DDF)		AT Count Time (min) (TC)	30
AM24102	Tracer Book No.	10B59	Background in cpm (Bkg)	0.23
	Am-243 Tracer Value (dpm/mL)	1130	Am 241 cpm	11.09
LIQUID	Detector Number	15	Am 243 cpm	21.33
	Detector Efficiency (DetEff)	0.2894	Cm 243/244 cpm	0.38
20000925			AEA Count Time (min)	480
0			Am 241 $\mu\text{Ci/L}$ =	2.6751E+00
N/A			Cm 243/244 $\mu\text{Ci/L}$ =	< 5.0446E-01

$$\text{Am-241 } \mu\text{Ci/L} = (\text{C241} * \text{Am-243 Tracer Value} * \text{SPKV} * \text{DF} * \text{DDF} * (1000\text{mL/L})) / (\text{C243} * \text{SS} * (2220000\text{dpm}/\mu\text{Ci}))$$

$$\text{Cm-243/244 } \mu\text{Ci/L} = (\text{Cm} * \text{Am-243 Tracer Value} * \text{SPKV} * \text{DF} * \text{DDF} * (1000\text{mL/L})) / (\text{C243} * \text{SS} * (2220000\text{dpm}/\mu\text{Ci}))$$

$$\text{Relative Counting Error} = \text{Square Root of } [(1/(\text{Am-243 cpm} * \text{min})) + (1/(\text{Am-241 or Cm-243/244 cpm} * \text{min}))] * 1.96 * 100$$

$$\text{Am 243 Tracer Recovery} = (\text{Total AT Counts} / \text{TC} - \text{Bkg}) * (1/\text{DetEff}) * \text{C243} * 100 / \text{Am-243 Tracer Value} * \text{SPKV}$$

Am 241 $\mu\text{Ci/mL}$ =	2.68E-03	DETECTION LEVELS in $\mu\text{Ci/mL}$
Relative Counting Error =	3.3%	
NOTE: Cm-243/244 Result is a LESS THAN Value.		Am 241
Cm 243/244 $\mu\text{Ci/mL}$	< 5.04E-04	5.04E-04
Relative Counting Error =	14.6%	Cm 243/244
Am 243 Tracer Recovery =	86.4%	5.04E-04

Analyst:	AKL	Date:	03/16/2000
Signature of Chemist:	<i>John Relyea</i>	Date:	16 Mar 2000
SAMPLE.WB1 REV 1.2	953103ML		

877

03/16/2000

WORKBOOK PAGE: DUP4

Am 241 and Cm 243/244: LA-953-103 (VOID) or LA-953-104(B-0) ⁵ *W.D. 10/10* LIQUID / SO

				DUP
	Date Counted	MAR-15-2000	Am 241 AEA Frac. (C241)	0.308
DUP	Sample Volume in mL (SS)	1.000	Am 243 AEA Frac. (C243)	0.562
	Sample D.F. (DF)	101	Cm 243/244 AEA Frac. (Cm)	0
32873	Tracer Volume in mL (SPKV)	0.100	Total AT Counts	1507
	Digest D.F. (DDF)	1.000	AT Count Time (min) (TC)	30
@AM24102	Tracer Book No.	10B59	Background in cpm (Bkg)	0.23
	Am-243 Tracer Value (dpm/mL)	1130	Am 241 cpm	12.03
LIQUID	Detector Number	15	Am 243 cpm	21.92
	Detector Efficiency (DetEff)	0.2894	Cm 243/244 cpm	0
20000925			AEA Count Time (min)	480
0			Am 241 $\mu\text{Ci/L}$ =	2.8175E+00
			Cm 243/244 $\mu\text{Ci/L}$ =	< 5.3226E-01

Am-241 $\mu\text{Ci/L}$ = (C241 * Am-243 Tracer Value * SPKV * DF * DDF * (1000mL/L)) / (C243 * SS * (2220000dpm/ μCi))Cm-243/244 $\mu\text{Ci/L}$ = (Cm * Am-243 Tracer Value * SPKV * DF * DDF * (1000mL/L)) / (C243 * SS * (2220000dpm/ μCi))

Relative Counting Error = Square Root of [(1/(Am-243 cpm * min)) + (1 / (Am-241 or Cm-243/244 cpm * min))] * 1.96 * 100

Am 243 Tracer Recovery = (Total AT Counts / TC - Bkg) * (1/DetEff) * C243 * 100 / Am-243 Tracer Value * SPKV

Am 241 $\mu\text{Ci/mL}$ =	2.82E-03	DETECTION LEVELS in $\mu\text{Ci/mL}$
Relative Counting Error =	3.2%	
NOTE: Cm-243/244 Result is a LESS THAN Value.		Am 241
Cm 243/244 $\mu\text{Ci/mL}$	< 5.32E-04	5.32E-04
Relative Counting Error =	100.0%	Cm 243/244
Am 243 Tracer Recovery =	85.9%	5.32E-04

Analyst:	AKL	Date:	03/16/2000
Signature of Chemist:	<i>John Ralston</i>	Date:	16 Mar 2000

SAMPLE.WB1 REV 1.2

953103ML

WORKBOOK PAGE: SAM5

Am 241 and Cm 243/244: LA-953-103 (VOID) or LA-953-104(B-0) ³ *WJ* LIQUID / SO

WORKBOOK PAGE: 3AM5

Am 241 and Cm 243/244 (B-0) or LA-953-103 (VOID) or LA-953-104(B-0) LIQUID / SO				SAMPLE
	Date Counted	MAR-15-2000	Am 241 AEA Frac. (C241)	0.52
SAMPLE	Sample Volume in mL (SS)	1.000	Am 243 AEA Frac. (C243)	0.36
	Sample D.F. (DF)	101	Cm 243/244 AEA Frac. (Cm)	0.021
32873	Tracer Volume in mL (SPKV)	0.100	Total AT Counts	2588
	Digest D.F. (DDF)	1.000	AT Count Time (min) (TC)	30
AM24102	Tracer Book No.	10B59	Background in cpm (Bkg)	0.23
	Am-243 Tracer Value (dpm/mL)	1130	Am 241 cpm	33.91
LIQUID	Detector Number	15	Am 243 cpm	23.44
	Detector Efficiency (DetEff)	0.2894	Cm 243/244 cpm	1.37
20000925			AEA Count Time (min)	480
0			Am 241 $\mu\text{Ci/L}$ =	7.4259E+00
			Cm 243/244 $\mu\text{Ci/L}$ =	< 7.5389E-01

$$\text{Am-241 } \mu\text{Ci/L} = (\text{C241} * \text{Am-243 Tracer Value} * \text{SPKV} * \text{DF} * \text{DDF} * (1000\text{mL/L})) / (\text{C243} * \text{SS} * (2220000\text{dpm}/\mu\text{Ci}))$$

$$\text{Cm-243/244 } \mu\text{Ci/L} = (\text{Cm} * \text{Am-243 Tracer Value} * \text{SPKV} * \text{DF} * \text{DDF} * (1000\text{mL/L})) / (\text{C243} * \text{SS} * (2220000\text{dpm}/\mu\text{Ci}))$$

$$\text{Relative Counting Error} = \text{Square Root of } [(1/(\text{Am-243 cpm} * \text{min})) + (1/(\text{Am-241 or Cm-243/244 cpm} * \text{min}))] * 1.96 * 100$$

$$\text{Am 243 Tracer Recovery} = (\text{Total AT Counts} / \text{TC} - \text{Bkg}) * (1/\text{DetEff}) * \text{C243} * 100 / \text{Am-243 Tracer Value} * \text{SPKV}$$

Am 241 $\mu\text{Ci/mL}$ = 7.43E-03
 Relative Counting Error = 2.4%

DETECTION
LEVELS
in $\mu\text{Ci/mL}$

NOTE: Cm-243/244 Result is a LESS THAN Value.

Cm 243/244 $\mu\text{Ci/mL}$ < 7.54E-04

Relative Counting Error = 7.9%

Am 243 Tracer Recovery = 94.7%

Am 241
7.54E-04
Cm 243/244
7.54E-04

Analyst:	AKL	Date:	03/16/2000
Signature of Chemist:	<i>John Ralyea</i>	Date:	16 Mar 2000
SAMPLE.WB1 REV 1.2	953103M		

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WORKBOOK PAGE: DUP8

Am 241 and Cm 243/244: LA-953-103 (VOID) or LA-953-104(B-0) ³ ₁₀₀₀ LIQUID / SO				DUP
	Date Counted	MAR-15-2000	Am 241 AEA Frac. (C241)	0.543
DUP	Sample Volume in mL (SS)	1.000	Am 243 AEA Frac. (C243)	0.389
	Sample D.F. (DF)	101	Cm 243/244 AEA Frac. (Cm)	0.022
32873	Tracer Volume in mL (SPKV)	0.100	Total AT Counts	2453
	Digest D.F. (DDF)	1000	AT Count Time (min) (TC)	30
@AM24102	Tracer Book No.	10B59	Background in cpm (Bkg)	0.23
	Am-243 Tracer Value (dpm/mL)	1130	Am 241 cpm	33.28
LIQUID	Detector Number	15	Am 243 cpm	23.84
	Detector Efficiency (DetEff)	0.2894	Cm 243/244 cpm	1.33
20000925			AEA Count Time (min)	480
0			Am 241 $\mu\text{Ci/L}$ =	7.1762E+00
			Cm 243/244 $\mu\text{Ci/L}$ =	< 6.8131E-01

$$\text{Am-241 } \mu\text{Ci/L} = (\text{C241} * \text{Am-243 Tracer Value} * \text{SPKV} * \text{DF} * \text{DDF} * (1000\text{mL/L})) / (\text{C243} * \text{SS} * (2220000\text{dpm}/\mu\text{Ci}))$$

$$\text{Cm-243/244 } \mu\text{Ci/L} = (\text{Cm} * \text{Am-243 Tracer Value} * \text{SPKV} * \text{DF} * \text{DDF} * (1000\text{mL/L})) / (\text{C243} * \text{SS} * (2220000\text{dpm}/\mu\text{Ci}))$$

$$\text{Relative Counting Error} = \text{Square Root of } [(1/(\text{Am-243 cpm} * \text{min})) + (1/(\text{Am-241 or Cm-243/244 cpm} * \text{min}))] * 1.96 * 100$$

$$\text{Am 243 Tracer Recovery} = (\text{Total AT Counts} / \text{TC} - \text{Bkg}) * (1/\text{DetEff}) * \text{C243} * 100 / \text{Am-243 Tracer Value} * \text{SPKV}$$

Am 241 $\mu\text{Ci/mL}$ =	7.18E-03	DETECTION LEVELS in $\mu\text{Ci/mL}$
Relative Counting Error =	2.4%	
NOTE: Cm-243/244 Result is a LESS THAN Value.		Am 241
Cm 243/244 $\mu\text{Ci/mL}$	< 6.81E-04	6.81E-04
Relative Counting Error =	8.0%	Cm 243/244
Am 243 Tracer Recovery =	97.0%	6.81E-04

Analyst:	AKL	Date:	03/16/2000
Signature of Chemist:	<i>John Relyea</i>	Date:	16 Mar 2000
SAMPLE.WB1 REV 1.2	953103ML		

1880

WORKBOOK PAGE: SAM7

Am 241 and Cm 243/244: LA-953-103 (VOID) or LA-953-104(B-0) ^{3rd} LIQUID / SO

				SAMPLE
	Date Counted	MAR-15-2000	Am 241 AEA Frac. (C241)	0.304
SAMPLE	Sample Volume in mL (SS)	1.000	Am 243 AEA Frac. (C243)	0.593
	Sample D.F. (DF)	101	Cm 243/244 AEA Frac. (Cm)	0.011
32873	Tracer Volume in mL (SPKV)	0.100	Total AT Counts	1486
	Digest D.F. (DDF)	1.000	AT Count Time (min) (TC)	30
@AM24102	Tracer Book No.	10B59	Background in cpm (Bkg)	0.23
	Am-243 Tracer Value (dpm/mL)	1130	Am 241 cpm	11.5
LIQUID	Detector Number	15	Am 243 cpm	22.4
	Detector Efficiency (DetEff)	0.2894	Cm 243/244 cpm	0.41
20000925			AEA Count Time (min)	480
0			Am 241 $\mu\text{Ci/L}$ =	2.6355E+00
			Cm 243/244 $\mu\text{Ci/L}$ =	< 4.8485E-01

N/A

S00T000507

Am-241 $\mu\text{Ci/L}$ = (C241 * Am-243 Tracer Value * SPKV * DF * DDF * (1000mL/L)) / (C243 * SS * (2220000dpm/ μCi))Cm-243/244 $\mu\text{Ci/L}$ = (Cm * Am-243 Tracer Value * SPKV * DF * DDF * (1000mL/L)) / (C243 * SS * (2220000dpm/ μCi))

Relative Counting Error = Square Root of [(1/(Am-243 cpm * min)) + (1 / (Am-241 or Cm-243/244 cpm * min))] * 1.96 * 100

Am 243 Tracer Recovery = (Total AT Counts / TC - Bkg) * (1/DetEff) * C243 * 100 / Am-243 Tracer Value * SPKV

Am 241 $\mu\text{Ci/mL}$ =	2.64E-03	DETECTION LEVELS in $\mu\text{Ci/mL}$
Relative Counting Error =	3.2%	
NOTE: Cm-243/244 Result is a LESS THAN Value.		Am 241
Cm 243/244 $\mu\text{Ci/mL}$	< 4.85E-04	4.85E-04
Relative Counting Error =	14.1%	Cm 243/244
Am 243 Tracer Recovery =	89.4%	4.85E-04

Analyst:

AKL

Date: 03/16/2000

Signature of Chemist:

JFR

Date: 16 Mar 2000

SAMPLE.WB1 REV 1.2

953103ML

WORKBOOK PAGE: DUP8

Am 241 and Cm 243/244: LA-953-103 (VOID) or LA-953-104(B-0) ³ LIQUID / SO				DUP
	Date Counted	MAR-15-2000	Am 241 AEA Frac. (C241)	0.312
DUP	Sample Volume in mL (SS)	1.000	Am 243 AEA Frac. (C243)	0.556
	Sample D.F. (DF)	101	Cm 243/244 AEA Frac. (Cm)	0.011
32873	Tracer Volume in mL (SPKV)	0.100	Total AT Counts	1543
	Digest D.F. (DDF)	1.000	AT Count Time (min) (TC)	30
AM24102	Tracer Book No.	10B59	Background in cpm (Bkg)	0.23
	Am-243 Tracer Value (dpm/mL)	1130	Am 241 cpm	12.43
LIQUID	Detector Number	15	Am 243 cpm	22.14
	Detector Efficiency (DetEff)	0.2894	Cm 243/244 cpm	0.43
20000925			AEA Count Time (min)	480
0			Am 241 $\mu\text{Ci/L}$ =	2.8849E+00
			Cm 243/244 $\mu\text{Ci/L}$ =	< 5.3106E-01
N/A				
S00T000507	$\text{Am-241 } \mu\text{Ci/L} = (\text{C241} * \text{Am-243 Tracer Value} * \text{SPKV} * \text{DF} * \text{DDF} * (1000\text{mL/L})) / (\text{C243} * \text{SS} * (2220000\text{dpm}/\mu\text{Ci}))$ $\text{Cm-243/244 } \mu\text{Ci/L} = (\text{Cm} * \text{Am-243 Tracer Value} * \text{SPKV} * \text{DF} * \text{DDF} * (1000\text{mL/L})) / (\text{C243} * \text{SS} * (2220000\text{dpm}/\mu\text{Ci}))$			

Relative Counting Error = Square Root of $[(1/(\text{Am-243 cpm} * \text{min})) + (1/(\text{Am-241 or Cm-243/244 cpm} * \text{min}))] * 1.96 * 100$

Am 243 Tracer Recovery = $(\text{Total AT Counts} / \text{TC} - \text{Bkg}) * (1/\text{DetEff}) * \text{C243} * 100 / \text{Am-243 Tracer Value} * \text{SPKV}$

Am 241 $\mu\text{Ci/mL}$ =	2.88E-03	DETECTION LEVELS in $\mu\text{Ci/mL}$
Relative Counting Error =	3.2%	
NOTE: Cm-243/244 Result is a LESS THAN Value.		Am 241
Cm 243/244 $\mu\text{Ci/mL}$	< 5.31E-04	5.31E-04
Relative Counting Error =	13.8%	Cm 243/244
Am 243 Tracer Recovery =	87.1%	5.31E-04

Analyst:	AKL	Date:	03/16/2000
Signature of Chemist:	JFR	Date:	16 Mar 2000
SAMPLE.WB1 REV 1.2	953108ML		

LABCORE Completed Worklist Report for Worklist# 33117

Analyst: crj

Instrument: AB16

Book#: _____

Method: LA-953-104 Rev/Mod B-3

Worklist Comment: SY-102 GRAB 6 FOR @AM24101 RTS

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD	0	0	@AM24102 AM24101 LIQUID		1.07E-04	1.07E-04	100.000	% Recovery
1 STD	0	0	@AM24102 AM24101E LIQUID		1.00	1.84E+00	1.840	% Ct Error
1 STD	0	0	@AM24102 AM24101T LIQUID		100	9.87E+01	98.700	% Recovery
2 BLNK	0	0	@AM24102 AM24101 LIQUID		1	<2.55E-5		uCi/mL
2 BLNK	0	0	@AM24102 AM24101E LIQUID		1.00	1.00E+02	100.000	% Ct Error
2 BLNK	0	0	@AM24102 AM24101T LIQUID		100	1.03E+02	103.000	% Recovery
2 BLNK	0	0	@AM24102 CM24301 LIQUID		1	<2.55E-5		uCi/mL
2 BLNK	0	0	@AM24102 CM24301E LIQUID		1.00	1.00E+02	100.000	uCi/mL
3 SAMPLE	S00T000513	0	@AM24102 AM24101 LIQUID		N/A	1.76E-03	1.22E-004	uCi/mL
3 SAMPLE	S00T000513	0	@AM24102 AM24101E LIQUID		N/A	2.01E+00		% Ct. Error
3 SAMPLE	S00T000513	0	@AM24102 AM24101T LIQUID		N/A	9.78E+01		% Recovery
3 SAMPLE	S00T000513	0	@AM24102 CM24301 LIQUID		N/A	<1.22E-4	1.22E-004	uCi/mL
3 SAMPLE	S00T000513	0	@AM24102 CM24301E LIQUID		N/A	5.33E+00		% Ct. Error
4 DUP	S00T000513	0	@AM24102 AM24101 LIQUID		1.76E-3	1.91E-3	8.174	RPD
4 DUP	S00T000513	0	@AM24102 AM24101E LIQUID		1.00	2.08E+00	2.080	% Ct Error
4 DUP	S00T000513	0	@AM24102 AM24101T LIQUID		100	9.92E+01	99.200	% Recovery
4 DUP	S00T000513	0	@AM24102 CM24301 LIQUID		<1.22E-4	<1.24E-4		RPD
4 DUP	S00T000513	0	@AM24102 CM24301E LIQUID		1.00	5.29E+00	5.290	% Ct. Error
5 SAMPLE	S00T000612	0	@AM24102 AM24101 LIQUID		N/A	2.10E-03	1.37E-004	uCi/mL
5 SAMPLE	S00T000612	0	@AM24102 AM24101E LIQUID		N/A	2.27E+00		% Ct. Error
5 SAMPLE	S00T000612	0	@AM24102 AM24101T LIQUID		N/A	1.02E+02		% Recovery
5 SAMPLE	S00T000612	0	@AM24102 CM24301 LIQUID		N/A	<1.37E-4	1.37E-004	uCi/mL
5 SAMPLE	S00T000612	0	@AM24102 CM24301E LIQUID		N/A	5.51E+00		% Ct. Error
6 DUP	S00T000612	0	@AM24102 AM24101 LIQUID		2.10E-3	2.20E-3	4.651	RPD
6 DUP	S00T000612	0	@AM24102 AM24101E LIQUID		1.00	2.01E+00	2.010	% Ct Error
6 DUP	S00T000612	0	@AM24102 AM24101T LIQUID		100	1.00E+02	100.000	% Recovery
6 DUP	S00T000612	0	@AM24102 CM24301 LIQUID		<1.37E-4	<1.41E-4		RPD
6 DUP	S00T000612	0	@AM24102 CM24301E LIQUID		1.00	4.88E+00	4.880	% Ct. Error
7 SAMPLE	S00T000628	0	@AM24102 AM24101 LIQUID		N/A	1.39E-03	1.02E-004	uCi/mL
7 SAMPLE	S00T000628	0	@AM24102 AM24101E LIQUID		N/A	1.99E+00		% Ct. Error
7 SAMPLE	S00T000628	0	@AM24102 AM24101T LIQUID		N/A	1.02E+02		% Recovery
7 SAMPLE	S00T000628	0	@AM24102 CM24301 LIQUID		N/A	<1.02E-4	1.02E-004	uCi/mL
7 SAMPLE	S00T000628	0	@AM24102 CM24301E LIQUID		N/A	5.64E+00		% Ct. Error
8 DUP	S00T000628	0	@AM24102 AM24101 LIQUID		1.39E-3	1.59E-3	13.423	RPD
8 DUP	S00T000628	0	@AM24102 AM24101E LIQUID		1.00	2.07E+00	2.070	% Ct Error
8 DUP	S00T000628	0	@AM24102 AM24101T LIQUID		100	9.51E+01	95.100	% Recovery
8 DUP	S00T000628	0	@AM24102 CM24301 LIQUID		<1.02E-4	<1.14E-4		RPD
8 DUP	S00T000628	0	@AM24102 CM24301E LIQUID		1.00	5.67E+00	5.670	% Ct. Error
9 SAMPLE	S00T000637	0	@AM24102 AM24101 LIQUID		N/A	1.39E-03	9.80E-005	uCi/mL
9 SAMPLE	S00T000637	0	@AM24102 AM24101E LIQUID		N/A	2.01E+00		% Ct. Error
9 SAMPLE	S00T000637	0	@AM24102 AM24101T LIQUID		N/A	1.05E+02		% Recovery

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

LABCORE Completed Worklist Report for Worklist# 33117

Seq Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
9 SAMPLE	S00T000637	0		0AM24102 CM24301	LIQUID	N/A <	9.90E-05	9.90e-005	uCi/mL
9 SAMPLE	S00T000637	0		0AM24102 CM24301E	LIQUID	N/A	5.82E+00		% Ct. Error
10 DUP	S00T000637	0		0AM24102 AM24101	LIQUID	1.39E-3	1.52E-3	8.935	RPD
10 DUP	S00T000637	0		0AM24102 AM24101E	LIQUID	1.00	2.07E+00	2.070	% Ct Error
10 DUP	S00T000637	0		0AM24102 AM24101T	LIQUID	100	9.99E+01	99.900	% Recovery
10 DUP	S00T000637	0		0AM24102 CM24301	LIQUID	<9.90E-5	<1.05E-4		RPD
10 DUP	S00T000637	0		0AM24102 CM24301E	LIQUID	1.00	5.77E+00	5.770	% Ct. Error

Final page for worklist# 33117

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Reviewer Signature _____ Date _____

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

LABCORE Data Entry Template for Worklist# 33117

Analyst:

CRT

Instrument: AM01

16

Book#

46 B57

Method: LA-953-104

Rev/Mod

B-3

Worklist Comment: SY-102 GRAB 6 FOR @AM24101 RTS

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 STD			@AM24102	LIQUID		
2 BLNK			@AM24102	LIQUID		
3 SAMPLE	S00T000513 0		@AM24102	LIQUID	20000085	SY-102 GRAB6
	Analytes Requested: AM24101 , AM24101E, AM24101T, CM24301 , CM24301E					
4 DUP	S00T000513 0		@AM24102	LIQUID		
5 SAMPLE	S00T000612 0		@AM24102	LIQUID	20000085	SY-102 GRAB6
	Analytes Requested: AM24101 , AM24101E, AM24101T, CM24301 , CM24301E					
6 DUP	S00T000612 0		@AM24102	LIQUID		
7 SAMPLE	S00T000628 0		@AM24102	LIQUID	20000085	SY-102 GRAB6
	Analytes Requested: AM24101 , AM24101E, AM24101T, CM24301 , CM24301E					
8 DUP	S00T000628 0		@AM24102	LIQUID		
9 SAMPLE	S00T000637 0		@AM24102	LIQUID	20000085	SY-102 GRAB6
	Analytes Requested: AM24101 , AM24101E, AM24101T, CM24301 , CM24301E					
10 DUP	S00T000637 0		@AM24102	LIQUID		

Final page for worklist # 33117

4/5/00
Signature Date
Alita Jensen 4/5/00

4/6/00
Signature Date
MCB 4/6/00

Data Entry Comments:

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

222-S Analytical Laboratory
 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. 2.11

DATA REDUCTION REPORT

SAMPLE
 WL33117-STD-AM
 File ID: 8a8790.CNF

Counted on: 4/ 5/ 0 @16:30
 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	1586.8	1586.8	301.065	301.065	12.000	5.942	6.000	2.920
2	1593.9	1593.9	255.090	255.085	12.000	4.449	6.000	2.054

PEAK RESULTS

Peak Error Limit: 30%

Peak ID	Isotope	AEA Frac	Peak Centroid			Count	%err	Activity		
			Exp.	Obs.	Diff.	FWHM	Rate c/m	@95	d/m	uCi/ea
1	Am241	0.485	5.479	5.474	0.0050	0.03	48.27	1.3	234.4	0.106E-03
	Pu238		5.487	5.474	0.013				306.0	0.138E-03
2	Am243	0.463	5.266	5.263	0.0030	0.02	46.10	1.3	212.5	0.957E-04
Totals:		0.948	<--valid peaks only-->				94.37			

DETECTOR CALIBRATION

Energy(MEV) = 4.089 + (0.0046)*Channel
 Energy range (MeV): 4.089 TO 6.445
 Efficiency = 0.2191 CPM/DPM
 (Data reduction compression factor: 1.)

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	47787.0	100.000
Smoothed	47787.0	100.000
Composite fit	45301.5	94.799
Residuals	2485.5	5.201

Analyzed by: _____

NEW

Spectrum 8a8790.CNF

1 Legend: Raw = Modeled Peaks = 1,2,..., etc

Display Max.: 10984.8

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2
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Raw Data Dump for AEA Spectrum: 8a8790.CNF

1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	2.	2.	1.
21	1.	0.	2.	0.	0.	4.	2.	1.	1.	0.
31	0.	0.	4.	2.	0.	1.	0.	3.	1.	1.
41	4.	2.	2.	0.	1.	1.	2.	1.	1.	1.
51	0.	1.	2.	1.	3.	0.	1.	1.	1.	3.
61	1.	0.	1.	1.	0.	1.	2.	1.	0.	4.
71	2.	2.	2.	1.	2.	2.	2.	1.	5.	1.
81	3.	4.	0.	1.	3.	4.	1.	2.	2.	2.
91	4.	2.	1.	2.	1.	1.	3.	3.	3.	1.
101	0.	3.	3.	4.	3.	0.	5.	5.	3.	2.
111	3.	4.	1.	1.	1.	6.	3.	4.	3.	1.
121	3.	3.	2.	4.	6.	2.	4.	4.	6.	2.
131	4.	5.	7.	2.	7.	2.	5.	5.	7.	3.
141	2.	4.	1.	8.	6.	2.	5.	3.	6.	3.
151	8.	2.	1.	5.	6.	4.	3.	7.	4.	8.
161	8.	3.	10.	4.	8.	12.	8.	4.	7.	7.
171	3.	8.	5.	5.	7.	11.	11.	11.	11.	7.
181	9.	7.	7.	8.	10.	17.	11.	15.	15.	12.
191	15.	15.	20.	11.	13.	12.	17.	12.	19.	21.
201	14.	16.	23.	21.	19.	23.	16.	23.	21.	33.
211	19.	21.	25.	32.	31.	32.	29.	27.	35.	38.
221	29.	34.	46.	60.	37.	45.	67.	64.	71.	102.
231	86.	95.	107.	100.	141.	140.	158.	206.	240.	205.
241	325.	336.	410.	494.	571.	649.	772.	850.	942.	1060.
251	1190.	1380.	1510.	1673.	1855.	1795.	1645.	1090.	594.	324.
261	208.	170.	159.	140.	138.	137.	129.	124.	119.	109.
271	100.	73.	74.	84.	73.	59.	80.	93.	95.	116.
281	139.	153.	153.	186.	195.	229.	319.	329.	391.	472.
291	552.	623.	784.	870.	940.	1043.	1177.	1380.	1526.	1686.
301	1820.	1821.	1548.	1107.	738.	513.	360.	331.	277.	246.
311	215.	145.	89.	96.	54.	37.	17.	10.	2.	2.
321	4.	1.	3.	0.	5.	3.	2.	3.	1.	1.
331	2.	2.	5.	0.	4.	2.	1.	4.	5.	1.
341	1.	1.	1.	1.	2.	0.	0.	3.	2.	1.
351	3.	3.	3.	2.	0.	3.	3.	2.	2.	2.
361	3.	2.	2.	1.	2.	0.	0.	0.	0.	0.
371	3.	0.	1.	1.	0.	1.	0.	0.	0.	0.
381	0.	1.	1.	0.	0.	1.	1.	1.	0.	1.
391	1.	0.	0.	0.	0.	1.	1.	0.	0.	0.
401	1.	1.	2.	0.	0.	1.	1.	1.	1.	1.
411	2.	0.	1.	0.	1.	3.	1.	3.	2.	0.
421	1.	2.	2.	0.	0.	2.	0.	1.	0.	0.
431	1.	1.	1.	0.	0.	2.	0.	2.	0.	2.
441	0.	1.	3.	0.	0.	0.	0.	0.	0.	2.
451	0.	0.	0.	2.	0.	1.	1.	1.	1.	1.
461	0.	0.	1.	0.	0.	1.	0.	0.	0.	0.
471	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.
481	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
491	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
511	0.	0.								

222-S Analytical Laboratory
 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. 2.11

DATA REDUCTION REPORT

SAMPLE
 WL33117-BLK-AM
 File ID: 9a9459.CNF

Counted on: 4/ 5/ 0 @16:32
 Detector: AEA9
 Geometry number: 1
 Count time: 28804. Sec

PEAK ANALYSIS

Peak ID	Peak height		Peak center		FWHM		Tau	
	Initial	Final	Initial	Final	Initial	Final	Initial	Final
1	551.2	551.2	251.051	251.051	14.000	6.022	7.000	1.880

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	Am243	1.000	5.266	5.257	0.0090	0.03	21.11	1.9	93.4	0.420E-04
Totals:		1.000	<--valid peaks only-->			21.11				

DETECTOR CALIBRATION

Energy (MEV) = 4.102 + (0.0046)*Channel
 Energy range (MeV): 4.102 TO 6.457
 Efficiency = 0.2284 CPM/DPM
 (Data reduction compression factor: 1.)

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	10137.0	100.000
Smoothed	10137.0	100.000
Composite fit	10133.2	99.963
Residuals	3.8	0.037

Analyzed by: _____

NEW

1 Legend: Raw = Modeled Peaks = 1,2,..., etc

Display Max.:

3731.0

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1
. 1
.. 1
..... 1
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.....1.....
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.....1.....1
.....1.
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Raw Data Dump for AEA Spectrum: 9a9459.CNF

1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.
21	0.	0.	0.	0.	0.	0.	1.	0.	0.	1.
31	0.	1.	0.	0.	0.	0.	0.	0.	1.	0.
41	1.	0.	0.	0.	0.	0.	0.	0.	0.	2.
51	0.	1.	0.	0.	0.	0.	0.	1.	0.	0.
61	1.	1.	0.	1.	2.	0.	0.	0.	2.	0.
71	1.	0.	0.	1.	1.	0.	1.	1.	0.	0.
81	0.	0.	1.	1.	0.	1.	0.	1.	1.	1.
91	1.	2.	0.	1.	0.	0.	0.	0.	1.	0.
101	1.	0.	1.	0.	0.	0.	0.	0.	0.	0.
111	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.
121	0.	0.	0.	0.	0.	0.	0.	0.	2.	2.
131	1.	0.	0.	0.	1.	0.	1.	1.	2.	0.
141	1.	1.	0.	0.	1.	4.	2.	0.	0.	2.
151	0.	0.	0.	0.	1.	1.	1.	2.	0.	0.
161	0.	0.	0.	0.	1.	0.	1.	2.	2.	0.
171	0.	1.	0.	0.	0.	0.	1.	1.	3.	2.
181	0.	1.	0.	1.	1.	0.	0.	0.	3.	0.
191	3.	1.	1.	3.	3.	1.	1.	0.	2.	1.
201	2.	4.	0.	1.	5.	2.	7.	6.	4.	9.
211	4.	5.	10.	8.	8.	7.	15.	16.	14.	15.
221	25.	21.	26.	42.	32.	22.	47.	68.	68.	98.
231	67.	106.	108.	129.	152.	212.	185.	191.	264.	286.
241	305.	314.	392.	412.	411.	457.	477.	534.	529.	561.
251	593.	613.	541.	465.	318.	184.	115.	66.	61.	47.
261	39.	42.	27.	30.	30.	45.	17.	15.	13.	7.
271	5.	0.	0.	0.	0.	1.	1.	0.	1.	1.
281	1.	2.	1.	2.	2.	1.	1.	3.	3.	3.
291	1.	0.	3.	3.	4.	4.	6.	3.	8.	1.
301	4.	1.	0.	2.	0.	1.	0.	0.	0.	0.
311	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.
321	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
331	0.	0.	0.	1.	1.	0.	0.	1.	0.	0.
341	0.	1.	0.	0.	0.	0.	0.	0.	1.	1.
351	0.	0.	0.	0.	1.	1.	1.	1.	1.	1.
361	1.	0.	0.	1.	0.	0.	0.	1.	0.	1.
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.	0.	0.	0.
431	0.	0.	0.	1.	0.	0.	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.	0.	0.
471	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
481	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.
491	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
511	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

222-S Analytical Laboratory
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. 2.11

DATA REDUCTION REPORT

SAMPLE
SOOT513-SAM-AM
File ID: 10a1003.CNF

Counted on: 4/ 5/ 0 @16:33
Detector: AEA10
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	92.2	92.2	369.085	369.085	12.000	4.066	6.000	1.333
2	2621.0	2621.0	299.890	299.889	14.000	6.941	7.000	2.966
3	786.5	786.5	253.691	253.643	12.000	5.300	6.000	2.121

PEAK RESULTS

Peak Error Limit: 30%

Peak ID	Isotope	AEA Frac	Peak Centroid	Count	%err	Activity		
			Exp. Obs. Diff. FWHM	Rate c/m	@95	uCi/ea		
1	Cm244	0.027	5.795 5.787 0.008	0.02	3.17	5.0	14.3	0.646E-05
	Cm243		5.779 5.787 -.008				19.6	0.885E-05
2	Am241	0.742	5.479 5.469 0.010	0.03	88.46	1.0	425.5	0.192E-03
	Pu238		5.487 5.469 0.018				555.5	0.250E-03
3	Am243	0.214	5.266 5.256 0.010	0.02	25.53	1.8	116.6	0.525E-04
Totals:		0.982	<--valid peaks only-->		117.17			

DETECTOR CALIBRATION

Energy(MEV) = 4.090 + (0.0046)*Channel
Energy range (MeV): 4.090 TO 6.445
Efficiency = 0.2212 CPM/DPM
(Data reduction compression factor: 1.)

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	57265.0	100.000
Smoothed	57265.0	100.000
Composite fit	56254.0	98.234
Residuals	1011.0	1.766

Analyzed by: _____

NEW

1 Legend: Raw = Modeled Peaks = 1,2,..., etc

Display Max.: 18436.0

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Raw Data Dump for AEA Spectrum: 10a1003.CNF

1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	2.	0.	0.	1.
21	2.	0.	1.	1.	0.	1.	2.	1.	2.	1.
31	2.	0.	1.	0.	2.	1.	2.	2.	3.	0.
41	2.	3.	0.	1.	0.	3.	2.	1.	2.	0.
51	1.	0.	2.	2.	2.	2.	2.	1.	1.	1.
61	1.	3.	2.	3.	0.	0.	0.	3.	3.	1.
71	0.	4.	4.	5.	1.	2.	2.	2.	1.	1.
81	0.	0.	2.	1.	1.	2.	2.	0.	1.	2.
91	1.	2.	2.	3.	2.	5.	1.	2.	3.	3.
101	5.	0.	0.	1.	3.	2.	3.	2.	2.	2.
111	2.	1.	2.	3.	3.	3.	1.	3.	2.	2.
121	3.	1.	1.	2.	5.	3.	4.	0.	1.	4.
131	4.	3.	4.	2.	3.	3.	2.	3.	4.	3.
141	2.	5.	1.	3.	2.	3.	0.	4.	3.	8.
151	2.	2.	5.	5.	5.	1.	2.	2.	3.	5.
161	1.	5.	4.	5.	7.	2.	0.	3.	3.	3.
171	2.	6.	3.	7.	2.	4.	5.	3.	4.	4.
181	3.	3.	6.	1.	5.	5.	9.	8.	6.	3.
191	8.	11.	9.	5.	4.	6.	3.	7.	6.	6.
201	8.	9.	5.	6.	9.	10.	6.	10.	7.	15.
211	7.	11.	14.	16.	19.	13.	24.	18.	18.	20.
221	15.	24.	21.	35.	21.	39.	36.	43.	54.	47.
231	54.	88.	68.	82.	91.	112.	131.	155.	179.	189.
241	235.	276.	320.	362.	407.	451.	528.	584.	584.	666.
251	752.	793.	904.	894.	835.	781.	563.	351.	199.	145.
261	116.	83.	88.	90.	97.	70.	92.	92.	101.	73.
271	85.	79.	100.	110.	138.	154.	189.	177.	233.	267.
281	315.	364.	366.	488.	549.	646.	690.	850.	1025.	1136.
291	1284.	1446.	1629.	1803.	1902.	2223.	2440.	2691.	2756.	2871.
301	2933.	2510.	1987.	1375.	923.	712.	578.	462.	380.	314.
311	239.	181.	147.	87.	52.	23.	7.	2.	0.	1.
321	0.	0.	0.	0.	1.	1.	1.	1.	5.	0.
331	0.	3.	0.	1.	2.	2.	4.	1.	2.	2.
341	5.	2.	2.	4.	7.	6.	9.	9.	14.	14.
351	16.	16.	20.	18.	27.	34.	35.	41.	56.	54.
361	52.	69.	74.	72.	87.	88.	78.	98.	98.	105.
371	98.	66.	40.	19.	4.	1.	0.	1.	0.	0.
381	0.	1.	0.	1.	0.	0.	0.	0.	1.	0.
391	0.	0.	0.	0.	1.	0.	0.	1.	0.	0.
401	1.	1.	0.	1.	1.	0.	1.	0.	0.	0.
411	0.	0.	0.	3.	1.	0.	0.	1.	1.	4.
421	4.	2.	4.	2.	6.	1.	2.	8.	7.	5.
431	5.	6.	8.	10.	13.	9.	12.	7.	4.	4.
441	3.	0.	0.	0.	0.	0.	0.	1.	0.	0.
451	0.	1.	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.	1.	0.	0.
481	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
491	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
511	0.	0.								

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Rev. 2.11

DATA REDUCTION REPORT

SAMPLE
SOOT531-DUP-AM
File ID: 11a1161.CNF

Counted on: 4/ 5/ 0 @16:34
Detector: AEA11
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	80.2	80.2	370.485	370.485	10.000	3.947	5.000	1.001
2	2250.7	2250.7	301.568	301.568	12.000	7.279	6.000	2.384
3	638.2	638.2	255.488	255.353	10.000	4.563	5.000	1.401

PEAK RESULTS

Peak Error Limit: 30%

Peak ID	Isotope	AEA Frac	Peak Centroid			Count	%err		Activity	
			Exp.	Obs.	Diff.	FWHM	Rate c/m	@95	d/m	uCi/ea
1	Cm244	0.029	5.795	5.789	0.006	0.02	3.26	5.0	13.9	0.625E-05
	Cm243		5.779	5.789	-0.010				19.0	0.856E-05
2	Am241	0.775	5.479	5.472	0.007	0.03	87.53	1.0	395.9	0.178E-03
	Pu238		5.487	5.472	0.015				516.9	0.233E-03
3	Am243	0.207	5.266	5.259	0.007	0.02	23.39	2.0	100.4	0.452E-04
Totals:		1.011	<--valid peaks only-->				114.18			

DETECTOR CALIBRATION

Energy(MEV) = 4.085 + (0.0046)*Channel
Energy range (MeV): 4.085 TO 6.440
Efficiency = 0.2352 CPM/DPM
(Data reduction compression factor: 1.)

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	54222.0	100.000
Smoothed	54222.0	100.000
Composite fit	54808.6	101.082
Residuals	-586.6	-1.082

Analyzed by: _____

NEW

Spectrum 11a1161.CNF

1 Legend: Raw = Modeled Peaks = 1,2,..., etc

Display Max.: 16440.7

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Raw Data Dump for AEA Spectrum: 11a1161.CNF

1	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	1.	0.	1.
21	0.	0.	1.	0.	0.	0.	0.	1.	0.
31	1.	2.	1.	0.	0.	0.	0.	0.	2.
41	0.	0.	2.	1.	2.	0.	0.	0.	1.
51	1.	0.	2.	2.	0.	0.	0.	1.	2.
61	1.	0.	0.	3.	1.	1.	2.	2.	2.
71	0.	0.	1.	2.	0.	2.	0.	0.	3.
81	3.	4.	2.	0.	3.	3.	1.	2.	1.
91	0.	1.	2.	2.	4.	2.	0.	1.	3.
101	2.	1.	2.	2.	3.	1.	1.	2.	1.
111	1.	1.	3.	1.	1.	4.	0.	0.	1.
121	3.	0.	1.	2.	2.	1.	3.	2.	3.
131	4.	0.	4.	2.	0.	1.	3.	1.	0.
141	3.	1.	1.	6.	2.	3.	3.	0.	1.
151	5.	2.	4.	1.	1.	1.	3.	1.	1.
161	1.	0.	1.	1.	3.	7.	7.	3.	1.
171	2.	1.	3.	3.	3.	3.	5.	0.	2.
181	2.	3.	1.	4.	0.	2.	3.	4.	5.
191	2.	2.	2.	6.	2.	6.	5.	2.	3.
201	5.	3.	3.	3.	3.	2.	5.	2.	3.
211	9.	5.	6.	5.	6.	7.	11.	20.	10.
221	14.	25.	22.	31.	15.	17.	32.	30.	47.
231	47.	57.	73.	76.	95.	91.	145.	134.	157.
241	212.	255.	291.	345.	343.	363.	370.	485.	477.
251	580.	621.	609.	695.	714.	770.	681.	640.	489.
261	154.	104.	89.	92.	91.	69.	77.	82.	82.
271	93.	93.	105.	99.	137.	149.	169.	175.	228.
281	306.	366.	407.	475.	542.	613.	650.	832.	920.
291	1132.	1317.	1402.	1583.	1687.	1832.	1939.	2012.	2150.
301	2391.	2475.	2400.	2088.	1568.	1126.	761.	580.	463.
311	327.	254.	213.	141.	116.	75.	44.	9.	4.
321	1.	1.	1.	0.	0.	0.	1.	1.	1.
331	1.	0.	0.	1.	0.	3.	1.	5.	3.
341	4.	3.	4.	4.	2.	7.	8.	7.	7.
351	9.	13.	19.	21.	36.	30.	27.	41.	36.
361	69.	49.	73.	76.	54.	72.	77.	70.	80.
371	85.	93.	75.	44.	19.	5.	1.	0.	1.
381	1.	1.	1.	0.	0.	0.	1.	1.	0.
391	1.	0.	0.	0.	0.	1.	0.	0.	0.
401	1.	1.	1.	0.	0.	0.	0.	1.	1.
411	2.	1.	1.	2.	2.	3.	1.	1.	1.
421	4.	4.	3.	1.	5.	3.	5.	3.	6.
431	7.	7.	9.	5.	4.	11.	7.	8.	9.
441	3.	1.	1.	0.	0.	0.	0.	0.	0.
451	0.	0.	0.	0.	0.	0.	0.	0.	0.
461	0.	0.	0.	0.	0.	0.	0.	0.	0.
471	0.	0.	0.	0.	0.	0.	0.	0.	0.
481	0.	0.	0.	0.	0.	1.	0.	0.	0.
491	0.	0.	0.	0.	0.	0.	0.	0.	0.
511	0.	0.							

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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. 2.11

DATA REDUCTION REPORT

SAMPLE
SOOT612-SAM-AM
File ID: 12a1227.CNF

Counted on: 4/ 5/ 0 @16:35
Detector: AEA12
Geometry number: 1
Count time: 28809. Sec

PEAK ANALYSIS

Peak ID	Peak height		Peak center		FWHM		Tau	
	Initial	Final	Initial	Final	Initial	Final	Initial	Final
1?	10.9	10.9	433.090	433.090	16.000	6.118	8.000	4.075
2	94.6	94.6	367.222	367.222	10.000	4.455	5.000	1.677
3	2544.2	2544.2	299.136	299.136	14.000	6.535	7.000	3.177
4	666.4	666.4	253.283	253.259	12.000	4.724	6.000	2.244

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		????		6.080		0.30	16.3		
2	Cm244	0.029	5.795	5.777	0.0180.02	3.05	5.1	14.0	0.631E-05
	Cm243			5.779	5.777 0.002			19.2	0.864E-05
3	Am241	0.769	5.479	5.463	0.0160.03	79.93	1.0	390.4	0.176E-03
	Pu238			5.487	5.463 0.024			509.7	0.230E-03
4	Am243	0.186	5.266	5.252	0.0140.02	19.30	2.1	89.5	0.403E-04
Totals:		0.984	<--valid peaks only-->			102.28			

DETECTOR CALIBRATION

Energy(MEV) = 4.087 + (0.0046)*Channel
Energy range (MeV): 4.087 TO 6.443
Efficiency = 0.2178 CPM/DPM
(Data reduction compression factor: 1.)

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	49887.0	100.000
Smoothed	49887.0	100.000
Composite fit	49254.6	98.732
Residuals	632.4	1.268

Analyzed by:

NEW

Spectrum 12a1227.CNF

1 Legend: Raw = Modeled Peaks = 1,2,..., etc

Display Max.: 17032.3

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Raw Data Dump for AEA Spectrum: 12a1227.CNF

1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21	1.	1.	1.	1.	0.	1.	3.	0.	0.	1.
31	2.	1.	2.	1.	1.	1.	1.	0.	1.	0.
41	1.	0.	0.	1.	1.	0.	0.	0.	1.	1.
51	0.	0.	0.	0.	1.	0.	2.	2.	1.	0.
61	2.	1.	0.	0.	0.	0.	0.	1.	2.	0.
71	1.	0.	1.	0.	2.	0.	2.	1.	3.	1.
81	0.	2.	1.	1.	0.	1.	1.	1.	0.	0.
91	3.	4.	1.	2.	0.	2.	0.	1.	0.	2.
101	0.	1.	1.	1.	1.	2.	0.	1.	0.	0.
111	4.	1.	5.	1.	0.	1.	1.	1.	1.	0.
121	6.	0.	2.	1.	1.	2.	4.	2.	1.	2.
131	1.	0.	2.	0.	1.	2.	2.	3.	0.	1.
141	1.	4.	2.	1.	1.	6.	4.	1.	2.	2.
151	2.	2.	1.	1.	0.	2.	3.	1.	2.	1.
161	3.	3.	4.	3.	2.	0.	3.	1.	3.	4.
171	3.	1.	5.	2.	3.	4.	0.	3.	1.	1.
181	3.	4.	2.	3.	2.	2.	1.	3.	1.	4.
191	1.	1.	2.	2.	5.	2.	4.	7.	4.	1.
201	3.	3.	2.	4.	0.	8.	3.	7.	3.	2.
211	7.	3.	6.	6.	9.	9.	3.	8.	4.	14.
221	13.	11.	13.	15.	16.	19.	21.	21.	25.	37.
231	28.	40.	53.	40.	64.	76.	73.	99.	114.	121.
241	164.	189.	221.	294.	290.	366.	401.	480.	496.	601.
251	635.	701.	773.	743.	714.	556.	335.	174.	110.	84.
261	67.	75.	65.	64.	48.	59.	72.	70.	62.	60.
271	60.	60.	63.	94.	96.	100.	125.	148.	183.	229.
281	240.	264.	314.	399.	467.	539.	716.	844.	945.	1115.
291	1246.	1437.	1571.	1742.	1972.	2234.	2476.	2695.	2891.	2864.
301	2502.	2004.	1382.	916.	687.	550.	439.	398.	324.	254.
311	202.	146.	82.	41.	26.	12.	1.	0.	0.	0.
321	0.	0.	1.	0.	1.	1.	1.	1.	1.	2.
331	2.	0.	2.	2.	1.	1.	1.	1.	3.	3.
341	5.	1.	2.	5.	2.	6.	0.	10.	7.	10.
351	9.	28.	24.	22.	33.	27.	40.	56.	54.	73.
361	64.	87.	73.	75.	100.	98.	85.	114.	92.	87.
371	50.	28.	9.	1.	1.	0.	0.	0.	0.	0.
381	0.	0.	0.	0.	0.	0.	0.	2.	0.	0.
391	1.	0.	0.	0.	1.	0.	0.	0.	0.	0.
401	0.	1.	2.	0.	0.	1.	1.	0.	0.	0.
411	0.	1.	0.	0.	2.	0.	1.	1.	2.	2.
421	0.	4.	3.	2.	4.	4.	5.	8.	7.	7.
431	8.	15.	14.	11.	8.	9.	11.	9.	2.	1.
441	1.	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.	1.	0.	0.	0.
471	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
481	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
491	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
511	0.	0.								

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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. 2.11

DATA REDUCTION REPORT

SAMPLE
SOOT612-DUP-AM
File ID: 13a1314.CNF

Counted on: 4/ 5/ 0 @16:36
Detector: AEA13
Geometry number: 1
Count time: 28810. Sec

PEAK ANALYSIS

Peak ID	Peak height		Peak center		FWHM		Tau	
	Initial	Final	Initial	Final	Initial	Final	Initial	Final
1?	12.2	12.2	436.801	436.801	10.000	2.986	5.000	1.030
2	95.2	95.2	369.224	369.223	14.000	5.041	7.000	1.340
3	2703.3	2703.3	300.188	300.187	16.000	8.790	8.000	3.107
4	667.0	667.0	254.568	254.398	14.000	5.530	7.000	1.803

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		????		6.094		0.39	14.4			
2	Cm244	0.029	5.795	5.783	0.012	0.02	3.90	4.5	16.0	0.721E-05
	Cm243		5.779	5.783	-0.004				21.9	0.988E-05
3	Pu238	0.784	5.487	5.465	0.022	0.04	106.06	0.9	605.0	0.273E-03
	Am241		5.479	5.465	0.014				463.4	0.209E-03
4	Am243	0.181	5.266	5.255	0.011	0.03	24.47	1.9	101.5	0.457E-04
Totals:		0.994	<--valid peaks only-->				134.43			

DETECTOR CALIBRATION

Energy(MEV) = 4.084 + (0.0046)*Channel
Energy range (MeV): 4.084 TO 6.440
Efficiency = 0.2435 CPM/DPM
(Data reduction compression factor: 1.)

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	64968.0	100.000
Smoothed	64968.0	100.000
Composite fit	64734.0	99.640
Residuals	234.0	0.360

Analyzed by: _____

NEW

Spectrum 13a1314.CNF

1 Legend: Raw = Modeled Peaks = 1,2,..., etc

Display Max.: 20000.8

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3.....4.
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1
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Raw Data Dump for AEA Spectrum: 13a1314.CNF

1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	2.	1.	2.
21	1.	0.	0.	0.	0.	1.	0.	1.	0.	0.
31	0.	1.	0.	1.	0.	0.	1.	0.	2.	0.
41	0.	1.	0.	0.	1.	0.	1.	1.	0.	1.
51	0.	2.	0.	0.	0.	1.	0.	0.	1.	0.
61	0.	2.	0.	0.	0.	1.	2.	0.	2.	2.
71	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.
81	0.	0.	0.	0.	0.	1.	0.	1.	0.	0.
91	0.	1.	0.	0.	1.	1.	0.	1.	0.	1.
101	2.	2.	1.	0.	0.	3.	0.	0.	1.	0.
111	2.	3.	1.	1.	0.	0.	1.	0.	0.	0.
121	0.	2.	0.	1.	0.	3.	1.	2.	3.	1.
131	0.	0.	2.	0.	0.	1.	1.	0.	0.	3.
141	3.	1.	1.	2.	0.	0.	0.	0.	0.	0.
151	2.	2.	2.	0.	0.	1.	4.	1.	2.	0.
161	1.	0.	2.	2.	2.	1.	3.	1.	3.	1.
171	1.	4.	1.	1.	1.	1.	1.	1.	1.	2.
181	2.	4.	1.	2.	2.	1.	4.	1.	4.	4.
191	2.	3.	3.	4.	1.	4.	3.	4.	2.	1.
201	5.	2.	3.	4.	10.	6.	7.	6.	6.	8.
211	9.	7.	9.	12.	11.	10.	10.	16.	22.	27.
221	22.	17.	20.	28.	30.	34.	53.	56.	58.	54.
231	60.	76.	93.	126.	108.	131.	149.	169.	230.	225.
241	235.	274.	289.	343.	382.	454.	439.	516.	526.	588.
251	675.	697.	720.	769.	740.	744.	684.	552.	387.	226.
261	124.	111.	109.	104.	104.	116.	115.	142.	120.	111.
271	151.	155.	136.	161.	198.	250.	264.	300.	316.	403.
281	449.	517.	517.	655.	730.	836.	960.	1084.	1215.	1346.
291	1584.	1724.	1857.	2153.	2261.	2381.	2538.	2680.	2898.	2900.
301	2878.	2708.	2513.	1998.	1421.	977.	714.	618.	498.	475.
311	334.	263.	195.	144.	80.	47.	22.	6.	1.	1.
321	0.	1.	1.	0.	1.	0.	1.	1.	1.	0.
331	2.	1.	2.	2.	2.	2.	3.	3.	2.	5.
341	3.	7.	4.	7.	8.	13.	11.	11.	19.	18.
351	18.	29.	25.	41.	44.	48.	49.	50.	47.	79.
361	81.	90.	85.	90.	81.	76.	102.	88.	102.	104.
371	97.	87.	70.	37.	6.	2.	0.	1.	1.	1.
381	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.
391	0.	0.	0.	0.	0.	0.	0.	1.	0.	1.
401	0.	3.	1.	0.	0.	1.	0.	0.	1.	2.
411	1.	3.	1.	2.	4.	5.	3.	1.	3.	0.
421	4.	4.	2.	3.	4.	5.	6.	8.	3.	9.
431	7.	8.	14.	10.	9.	10.	17.	12.	10.	7.
441	3.	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.	0.	0.	0.	0.	0.	0.	0.	0.	0.
491	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
511	0.	0.								

222-S Analytical Laboratory
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. 2.11

DATA REDUCTION REPORT

SAMPLE
SOOT628-SAM-AM
File ID: 14a1497.CNF

Counted on: 4/ 5/ 0 @16:37
Detector: AEA14
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	89.3	89.3	368.066	368.066	12.000	4.215	6.000	1.661
2	2337.9	2337.9	299.756	299.756	12.000	6.722	6.000	3.158
3	870.6	870.6	253.553	253.529	12.000	5.787	6.000	2.570

PEAK RESULTS

Peak Error Limit: 30%

Peak ID	Isotope	AEA Frac	Exp.	Obs.	Diff.	FWHM	Count Rate	%err @95	d/m	Activity uCi/ea
1	Cm244	0.025	5.795	5.786	0.009	0.02	2.77	5.4	12.0	0.541E-05
	Cm243		5.779	5.786	-.007				16.5	0.741E-05
2	Am241	0.682	5.479	5.471	0.008	0.03	75.12	1.0	346.0	0.156E-03
	Pu238		5.487	5.471	0.016				451.7	0.203E-03
3	Am243	0.249	5.266	5.259	0.007	0.03	27.47	1.7	120.1	0.541E-04
Totals:		0.957	<--valid peaks only-->				105.37			

DETECTOR CALIBRATION

Energy(MEV) = 4.093 + (0.0046)*Channel
Energy range (MeV): 4.093 TO 6.448
Efficiency = 0.2310 CPM/DPM
(Data reduction compression factor: 1.)

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	52863.0	100.000
Smoothed	52863.0	100.000
Composite fit	50581.5	95.684
Residuals	2281.5	4.316

Analyzed by: _____

NEW

Spectrum 14a1497.CNF

1 Legend: Raw = Modeled Peaks = 1,2,..., etc

Display Max.: 16236.8

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1
1
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1

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Raw Data Dump for AEA Spectrum: 14a1497.CNF

1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	1.	0.	0.	0.	1.	0.
21	2.	2.	1.	3.	2.	3.	0.	2.	1.	3.
31	1.	0.	0.	0.	2.	1.	0.	1.	0.	1.
41	2.	0.	2.	2.	2.	2.	3.	0.	1.	0.
51	0.	1.	1.	1.	0.	1.	2.	0.	1.	2.
61	2.	1.	2.	2.	1.	3.	3.	4.	1.	0.
71	1.	5.	4.	1.	4.	2.	2.	1.	2.	3.
81	2.	0.	3.	3.	0.	3.	2.	2.	2.	3.
91	5.	1.	1.	4.	1.	2.	2.	4.	1.	2.
101	2.	1.	4.	5.	5.	0.	2.	6.	1.	2.
111	4.	3.	3.	2.	2.	3.	0.	0.	4.	2.
121	3.	2.	3.	2.	1.	2.	5.	5.	2.	2.
131	3.	5.	3.	3.	2.	3.	8.	5.	3.	4.
141	10.	4.	3.	1.	3.	8.	5.	4.	3.	5.
151	2.	6.	6.	3.	6.	6.	6.	2.	7.	1.
161	5.	5.	5.	9.	4.	3.	6.	6.	3.	11.
171	6.	11.	6.	10.	9.	8.	7.	10.	4.	16.
181	7.	10.	8.	8.	8.	12.	6.	8.	11.	11.
191	11.	11.	9.	13.	17.	10.	14.	11.	17.	9.
201	15.	17.	20.	15.	23.	20.	20.	21.	25.	19.
211	26.	17.	24.	27.	26.	26.	38.	31.	33.	34.
221	29.	39.	51.	38.	42.	56.	60.	63.	69.	57.
231	62.	77.	95.	82.	121.	128.	140.	148.	169.	214.
241	225.	237.	314.	325.	374.	463.	507.	621.	668.	812.
251	823.	911.	945.	976.	950.	813.	546.	341.	215.	157.
261	140.	122.	125.	124.	128.	103.	109.	124.	87.	115.
271	124.	117.	113.	116.	123.	155.	163.	175.	224.	222.
281	250.	284.	317.	375.	402.	497.	584.	690.	824.	876.
291	1044.	1198.	1291.	1506.	1645.	1933.	2108.	2413.	2610.	2592.
301	2607.	2130.	1684.	1115.	791.	609.	506.	422.	338.	318.
311	219.	170.	98.	60.	32.	20.	5.	3.	0.	2.
321	1.	0.	1.	1.	1.	1.	0.	0.	1.	0.
331	0.	1.	4.	3.	2.	4.	4.	2.	5.	4.
341	5.	2.	5.	4.	7.	6.	4.	14.	10.	14.
351	18.	16.	19.	19.	21.	39.	37.	44.	43.	49.
361	37.	50.	64.	64.	86.	83.	87.	108.	99.	77.
371	76.	42.	26.	5.	1.	1.	0.	0.	1.	1.
381	0.	0.	0.	0.	1.	0.	0.	0.	1.	1.
391	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.
401	0.	1.	0.	0.	0.	1.	1.	0.	0.	2.
411	0.	3.	0.	1.	1.	2.	2.	0.	3.	4.
421	2.	2.	4.	1.	4.	7.	4.	8.	2.	7.
431	7.	2.	7.	7.	14.	3.	12.	5.	2.	2.
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.	0.	0.	0.	0.	0.	0.	0.	0.	0.
491	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
511	0.	0.								

222-S Analytical Laboratory
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. 2.11

DATA REDUCTION REPORT

SAMPLE
SOOT628-DUP-AM
File ID: 15a1554.CNF

Counted on: 4/ 5/ 0 @16:38
Detector: AEA15
Geometry number: 1
Count time: 28808. Sec

PEAK ANALYSIS

Peak ID	Peak height		Peak center		FWHM		Tau	
	Initial	Final	Initial	Final	Initial	Final	Initial	Final
1	67.4	67.4	368.229	368.229	12.000	5.767	6.000	1.585
2	1944.3	1944.3	299.338	299.338	14.000	8.427	7.000	2.855
3	650.4	650.4	252.919	252.762	14.000	6.232	7.000	2.015

PEAK RESULTS

Peak Error Limit: 30%

Peak ID	Isotope	AEA Frac	Exp.	Obs.	Diff.	FWHM	Count Rate	%err @95	d/m	Activity uCi/ea
1	Cm244	0.026	5.795	5.786	0.009	0.03	2.77	5.4	11.4	0.514E-05
	Cm243		5.779	5.786	-.007				15.6	0.704E-05
2	Pu238	0.735	5.487	5.469	0.018	0.04	77.02	1.0	441.1	0.199E-03
	Am241		5.479	5.469	0.010				337.9	0.152E-03
3	Am243	0.235	5.266	5.255	0.011	0.03	24.59	1.9	102.4	0.461E-04
Totals:		0.996	<--valid peaks only-->				104.37			

DETECTOR CALIBRATION

Energy(MEV) = 4.092 + (0.0046)*Channel
Energy range (MeV): 4.092 TO 6.447
Efficiency = 0.2425 CPM/DPM
(Data reduction compression factor: 1.)

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	50294.0	100.000
Smoothed	50294.0	100.000
Composite fit	50113.6	99.641
Residuals	180.4	0.359

Analyzed by: _____

NEW

Spectrum 15a1554.CNF

1 Legend: Raw = Modeled Peaks = 1,2,..., etc

Display Max.: 13836.2

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3
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1
1
1
.1
1

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Raw Data Dump for AEA Spectrum: 15a1554.CNF

1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	1.	2.	1.	0.	0.	0.
21	1.	0.	0.	1.	0.	0.	0.	0.	0.	1.
31	1.	1.	2.	2.	2.	1.	0.	0.	0.	2.
41	1.	1.	1.	1.	1.	1.	0.	2.	0.	0.
51	0.	2.	0.	2.	1.	1.	0.	0.	0.	1.
61	0.	1.	0.	1.	0.	1.	1.	0.	0.	1.
71	0.	0.	1.	1.	0.	1.	2.	0.	0.	0.
81	1.	2.	0.	1.	1.	2.	1.	0.	0.	0.
91	1.	3.	3.	1.	0.	1.	1.	1.	1.	1.
101	0.	2.	2.	1.	0.	1.	1.	1.	3.	1.
111	3.	3.	1.	1.	3.	1.	5.	3.	1.	3.
121	1.	0.	3.	1.	2.	2.	1.	3.	1.	0.
131	4.	0.	1.	3.	2.	0.	2.	1.	1.	1.
141	1.	2.	0.	0.	3.	3.	3.	2.	2.	3.
151	0.	1.	0.	1.	1.	0.	1.	1.	0.	0.
161	2.	1.	2.	1.	1.	4.	1.	2.	1.	0.
171	2.	2.	1.	1.	5.	3.	3.	5.	1.	2.
181	4.	4.	1.	0.	1.	3.	3.	1.	5.	3.
191	5.	3.	2.	6.	3.	3.	3.	2.	4.	1.
201	6.	5.	7.	6.	7.	4.	4.	6.	13.	15.
211	11.	11.	17.	12.	13.	18.	18.	13.	23.	22.
221	18.	24.	38.	46.	42.	48.	62.	63.	67.	78.
231	78.	92.	105.	133.	132.	142.	218.	223.	212.	269.
241	300.	317.	382.	384.	459.	486.	530.	578.	586.	662.
251	686.	702.	741.	713.	672.	564.	461.	314.	189.	115.
261	119.	99.	102.	86.	98.	78.	93.	86.	79.	87.
271	97.	102.	123.	159.	146.	166.	215.	254.	260.	324.
281	344.	448.	472.	524.	632.	680.	828.	935.	1024.	1080.
291	1351.	1356.	1459.	1590.	1716.	1789.	1920.	2016.	2023.	2135.
301	1979.	1798.	1412.	1038.	734.	561.	430.	361.	286.	235.
311	200.	140.	113.	60.	42.	20.	10.	4.	1.	0.
321	0.	2.	1.	0.	0.	0.	1.	0.	2.	0.
331	3.	0.	2.	0.	2.	2.	3.	4.	2.	2.
341	4.	4.	6.	7.	5.	6.	6.	11.	11.	13.
351	12.	23.	16.	31.	31.	28.	40.	56.	50.	41.
361	58.	62.	59.	56.	63.	72.	70.	67.	69.	74.
371	63.	52.	23.	16.	6.	5.	0.	0.	2.	0.
381	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.
391	0.	0.	1.	0.	0.	0.	0.	0.	1.	0.
401	0.	0.	0.	0.	0.	0.	0.	0.	1.	3.
411	1.	0.	2.	1.	2.	1.	0.	3.	2.	2.
421	3.	4.	4.	2.	3.	3.	6.	7.	6.	3.
431	8.	7.	4.	7.	10.	1.	5.	7.	2.	4.
441	1.	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.	1.
481	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
491	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
511	0.	0.								

222-S Analytical Laboratory
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. 2.11

DATA REDUCTION REPORT

SAMPLE
SOOT637-SAM-AM
File ID: 16a1654.CNF

Counted on: 4/ 5/ 0 @16:39
Detector: AEA16
Geometry number: 1
Count time: 28810. Sec

PEAK ANALYSIS

Peak ID	Peak height		Peak center		FWHM		Tau	
	Initial	Final	Initial	Final	Initial	Final	Initial	Final
1	78.2	78.2	367.936	367.936	12.000	4.645	6.000	1.691
2	2158.8	2158.8	299.819	299.818	14.000	7.074	7.000	2.951
3	819.0	819.0	253.977	253.926	12.000	5.309	6.000	2.036

PEAK RESULTS

Peak Error Limit: 30%

Peak ID	Isotope	AEA Frac	Peak Centroid				Count	%err		Activity	
			Exp.	Obs.	Diff.	FWHM	Rate	c/m	@95	d/m	uCi/ea
1	Cm244	0.025	5.795	5.781	0.014	0.02	2.59	5.6		11.3	0.511E-05
	Cm243		5.779	5.781	-.002					15.5	0.700E-05
2	Am241	0.701	5.479	5.467	0.012	0.03	74.03	1.0		344.4	0.155E-03
	Pu238		5.487	5.467	0.020					449.6	0.203E-03
3	Am243	0.257	5.266	5.256	0.010	0.02	27.20	1.8		120.1	0.541E-04
Totals:			0.982	<--valid peaks only-->				103.82			

DETECTOR CALIBRATION

Energy(MEV) = 4.088 + (0.0046)*Channel
Energy range (MeV): 4.088 TO 6.444
Efficiency = 0.2287 CPM/DPM
(Data reduction compression factor: 1.)

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	50739.0	100.000
Smoothed	50739.0	100.000
Composite fit	49850.7	98.249
Residuals	888.3	1.751

Analyzed by: _____

NEW

Spectrum 16a1654.CNF

1 Legend: Raw = Modeled Peaks = 1,2,..., etc

Display Max.: 15179.5

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1
1
.1
1

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Raw Data Dump for AEA Spectrum: 16a1654.CNF

1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	1.	1.	2.	0.	0.
21	0.	0.	0.	0.	0.	0.	0.	0.	2.	1.
31	0.	0.	0.	1.	1.	1.	2.	0.	1.	0.
41	1.	0.	3.	3.	1.	0.	0.	1.	0.	0.
51	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
61	4.	0.	1.	2.	1.	0.	2.	0.	1.	0.
71	2.	0.	0.	0.	1.	1.	1.	0.	0.	1.
81	1.	1.	1.	1.	1.	1.	0.	0.	3.	1.
91	3.	1.	1.	1.	0.	1.	1.	1.	0.	0.
101	0.	1.	2.	0.	2.	0.	2.	2.	2.	1.
111	1.	1.	3.	1.	1.	0.	3.	1.	2.	1.
121	0.	0.	2.	1.	1.	1.	2.	2.	1.	2.
131	3.	1.	1.	0.	2.	1.	0.	3.	3.	2.
141	4.	0.	1.	2.	0.	4.	2.	1.	0.	3.
151	3.	1.	3.	0.	2.	3.	0.	4.	3.	3.
161	4.	4.	0.	4.	2.	2.	4.	3.	6.	2.
171	6.	3.	1.	5.	2.	2.	3.	4.	7.	1.
181	3.	4.	1.	5.	0.	2.	6.	6.	8.	10.
191	4.	5.	7.	5.	12.	9.	5.	5.	8.	8.
201	4.	11.	10.	3.	6.	11.	8.	14.	6.	15.
211	18.	11.	17.	13.	16.	17.	21.	17.	23.	30.
221	32.	24.	24.	38.	32.	25.	40.	43.	61.	56.
231	59.	75.	71.	93.	91.	120.	142.	167.	163.	215.
241	236.	268.	331.	374.	462.	510.	535.	580.	649.	699.
251	774.	809.	869.	921.	916.	822.	651.	379.	239.	130.
261	130.	118.	117.	103.	92.	103.	99.	97.	78.	110.
271	95.	94.	108.	108.	122.	137.	162.	170.	225.	236.
281	273.	304.	358.	397.	429.	555.	638.	738.	825.	932.
291	1009.	1257.	1404.	1501.	1738.	1764.	2037.	2195.	2291.	2382.
301	2348.	2095.	1577.	1134.	749.	590.	475.	375.	336.	269.
311	204.	153.	105.	71.	37.	16.	4.	2.	1.	0.
321	2.	1.	0.	2.	3.	1.	0.	1.	2.	1.
331	0.	2.	1.	0.	4.	1.	3.	6.	2.	6.
341	4.	4.	4.	3.	4.	6.	7.	13.	7.	15.
351	15.	13.	22.	23.	34.	28.	25.	43.	44.	50.
361	50.	52.	59.	47.	65.	77.	88.	93.	79.	77.
371	59.	43.	21.	8.	2.	1.	1.	0.	0.	0.
381	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.
391	0.	0.	0.	1.	0.	0.	0.	0.	1.	0.
401	0.	1.	1.	1.	0.	0.	0.	0.	0.	0.
411	0.	0.	0.	1.	2.	1.	2.	2.	2.	0.
421	1.	0.	3.	5.	2.	1.	5.	3.	9.	5.
431	5.	9.	4.	11.	7.	3.	9.	6.	4.	1.
441	1.	1.	0.	0.	0.	0.	0.	0.	0.	0.
451	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.
461	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.
471	0.	0.	0.	0.	0.	0.	0.	1.	1.	0.
481	0.	2.	0.	0.	1.	0.	0.	0.	0.	0.
491	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
511	0.	0.								

222-S Analytical Laboratory
 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. 2.11

DATA REDUCTION REPORT

SAMPLE
 SOOT637-DUP-AM
 File ID: 17a1793.CNF

Counted on: 4/ 5/ 0 @16:40
 Detector: AEA17
 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	65.2	65.2	369.200	369.200	14.000	5.685	7.000	1.571
2	1829.8	1829.8	300.528	300.527	14.000	7.701	7.000	2.391
3	622.1	622.1	254.268	254.114	12.000	5.601	6.000	1.585

PEAK RESULTS

Peak Error Limit: 30%

Peak ID	Isotope	AEA Frac	Peak Centroid			Count	%err	Activity		
			Exp.	Obs.	Diff.	FWHM	Rate c/m	%95	d/m	uCi/ea
1	Cm244	0.026	5.795	5.793	0.0020	0.03	2.66	5.5	11.1	0.501E-05
	Cm243		5.779	5.793	-0.014				15.2	0.686E-05
2	Am241	0.724	5.479	5.477	0.0020	0.04	74.20	1.0	329.9	0.149E-03
	Pu238		5.487	5.477	0.010				430.6	0.194E-03
3	Am243	0.243	5.266	5.263	0.0030	0.03	24.92	1.9	105.2	0.474E-04
Totals:		0.993	<--valid peaks only-->				101.78			

DETECTOR CALIBRATION

Energy(MEV) = 4.094 + (0.0046)*Channel
 Energy range (MeV): 4.094 TO 6.449
 Efficiency = 0.2393 CPM/DPM
 (Data reduction compression factor: 1.)

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	49188.0	100.000
Smoothed	49187.5	99.999
Composite fit	48858.5	99.330
Residuals	329.5	0.670

Analyzed by: _____

NEW

1 Legend: Raw = Modeled Peaks = 1,2,..., etc

Display Max.: 13470.7

3
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2.....3...
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.....2.
.....2
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1
1
.1
1

Raw Data Dump for AEA Spectrum: 17a1793.CNF

1	0.	0.	0.	0.	0.	1.	0.	1.	1.	1.
11	0.	0.	0.	1.	2.	0.	0.	2.	2.	0.
21	0.	0.	0.	0.	0.	0.	2.	0.	1.	0.
31	1.	2.	0.	1.	1.	0.	1.	1.	1.	2.
41	1.	0.	1.	1.	1.	0.	0.	0.	2.	1.
51	1.	0.	0.	1.	0.	1.	2.	0.	1.	1.
61	1.	1.	1.	3.	2.	2.	1.	2.	3.	1.
71	1.	0.	0.	2.	2.	1.	0.	3.	1.	3.
81	3.	3.	2.	0.	0.	0.	2.	0.	1.	1.
91	2.	1.	2.	3.	1.	1.	0.	1.	0.	1.
101	0.	1.	0.	1.	2.	0.	0.	0.	1.	0.
111	0.	1.	3.	2.	2.	1.	1.	1.	1.	1.
121	2.	2.	0.	0.	2.	1.	2.	1.	0.	0.
131	2.	1.	2.	0.	2.	1.	1.	5.	1.	2.
141	2.	1.	4.	1.	0.	1.	3.	1.	2.	1.
151	4.	3.	3.	3.	0.	4.	0.	2.	1.	2.
161	1.	2.	0.	1.	0.	1.	4.	2.	3.	1.
171	2.	3.	4.	1.	1.	4.	4.	5.	4.	1.
181	10.	4.	5.	7.	3.	9.	6.	8.	2.	6.
191	3.	7.	10.	3.	8.	10.	0.	5.	8.	8.
201	7.	10.	14.	9.	10.	20.	10.	14.	12.	8.
211	20.	18.	13.	22.	18.	17.	19.	25.	34.	27.
221	38.	30.	33.	51.	42.	62.	58.	62.	68.	71.
231	78.	107.	123.	124.	175.	169.	171.	212.	223.	260.
241	241.	270.	341.	345.	442.	409.	454.	521.	538.	602.
251	570.	654.	724.	694.	713.	680.	627.	472.	306.	196.
261	123.	104.	103.	97.	113.	98.	124.	133.	117.	124.
271	117.	137.	158.	154.	167.	180.	198.	223.	257.	325.
281	373.	384.	450.	460.	578.	621.	713.	799.	853.	1000.
291	1086.	1197.	1228.	1350.	1451.	1551.	1653.	1773.	1884.	1972.
301	1956.	1922.	1761.	1385.	939.	682.	489.	379.	314.	263.
311	199.	148.	137.	87.	65.	36.	15.	6.	3.	0.
321	2.	0.	0.	0.	2.	1.	1.	1.	3.	3.
331	3.	0.	2.	1.	5.	7.	4.	2.	2.	0.
341	3.	5.	2.	7.	6.	5.	8.	13.	7.	11.
351	10.	23.	17.	21.	28.	32.	23.	35.	46.	57.
361	50.	61.	53.	53.	66.	67.	47.	71.	74.	65.
371	61.	66.	44.	33.	14.	2.	2.	0.	0.	0.
381	0.	1.	1.	0.	0.	1.	0.	0.	0.	2.
391	0.	1.	0.	1.	0.	0.	1.	0.	1.	0.
401	1.	0.	0.	0.	0.	0.	0.	0.	1.	0.
411	0.	0.	0.	1.	3.	1.	1.	4.	3.	4.
421	3.	2.	2.	3.	3.	5.	4.	2.	9.	5.
431	8.	4.	3.	2.	5.	6.	3.	5.	10.	3.
441	4.	2.	0.	0.	0.	0.	0.	0.	0.	0.
451	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
461	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.
471	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.
481	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
491	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
511	0.	0.								

WORKBOOK PAGE: STD1

Am 241 and Cm 243/244: LA-953-103 (VOID) or LA-953-104(B-0) ³ LIQUID

				STD
	Date Counted	APR-06-2000	Am 241 AEA Frac. (C241)	0.486
STD	Sample Volume in mL (SS)	1.000	Am 243 AEA Frac. (C243)	0.463
	Sample D.F. (DF)	1	Cm 243/244 AEA Frac. (Cm)	0
33117	Tracer Volume in mL (SPKV)	0.200	Total AT Counts	3928
	Digest D.F. (DDF)	1.000	AT Count Time (min) (TC)	30
@AM24102	Tracer Book No.	10B59	Background in cpm (Bkg)	0.07
	Am-243 Tracer Value (dpm/mL)	1130	Am 241 cpm	48.27
LIQUID	Detector Number	18	Am 243 cpm	46.1
	Detector Efficiency (DetEff)	0.2717	Cm 243/244 cpm	0
20001197	Standard Book No	46B57	AEA Count Time (min)	490
	Standard Value in $\mu\text{Ci/mL}$	1.070E-04	Am 241 $\mu\text{Ci/L}$ =	1.0664E-01
0			Cm 243/244 $\mu\text{Ci/L}$ =	< 1.1141E-02

N/A

Am-241 $\mu\text{Ci/L}$ = (C241 * Am-243 Tracer Value * SPKV * DF * DDF * (1000mL/L)) / (C243 * SS * (2220000dpm/ μCi))

WL33117

Cm-243/244 $\mu\text{Ci/L}$ = (Cm * Am-243 Tracer Value * SPKV * DF * DDF * (1000mL/L)) / (C243 * SS * (2220000dpm/ μCi))

WB27806

Relative Counting Error = Square Root of [(1/(Am-243 cpm * min)) + (1 / (Am-241 or Cm-243/244 cpm * min))] * 1.96 * 100

Am 243 Tracer Recovery = (Total AT Counts / TC - Bkg) * (1/DetEff) * C243 * 100 / Am-243 Tracer Value * SPKV

SZC

JFR

Am 241 $\mu\text{Ci/mL}$ = 1.07E-04

Relative Counting Error = 1.8%

CRJ

NOTE: Cm-243/244 Result is a LESS THAN Value.

04/06/2000

Cm 243/244 $\mu\text{Ci/mL}$ < 1.11E-05

Relative Counting Error = 100.0%

04/05/2000

Am 243 Tracer Recovery = 98.7%

10:05 AM

SY-102 GRAB6

Analyst:	CRJ	Date:	04/06/2000
Signature of Chemist:	JFR	Date:	6/2/2000

STANDARD.WB1 REV 1.2

983103ML

WORKBOOK PAGE: BLANK2

Am 241 and Cm 243/244: LA-953-103 (VOID) or LA-953-104(B-9)

LIQUID / SO

BLNK

	Date Counted	APR-05-2000	Am 241 AEA Frac. (C241)	0
BLNK	Sample Volume In mL (SS)	0.100	Am 243 AEA Frac. (C243)	1
	Sample D.F. (DF)	1	Cm 243/244 AEA Frac. (Cm)	0
33117	Tracer Volume In mL (SPKV)	0.100	Total AT Counts	963
	Digest D.F. (DDF)	1000	AT Count Time (min) (TC)	30
@AM24102	Tracer Book No.	10B59	Background In cpm (Bkg)	0.07
	Am-243 Tracer Value (dpm/mL)	1130	Am 241 cpm	0
LIQUID	Detector Number	18	Am 243 cpm	21.11
	Detector Efficiency (DetEff)	0.2717	Cm 243/244 cpm	0
20001197			AEA Count Time (min)	480
0			Am 241 $\mu\text{Ci/L}$ =	< 2.5450E-02
N/A			Cm 243/244 $\mu\text{Ci/L}$ =	< 2.5450E-02

Am-241 $\mu\text{Ci/L}$ = (C241 * Am-243 Tracer Value * SPKV * DF * DDF * (1000mL/L)) / (C243 * SS * (2220000dpm/ μCi))Cm-243/244 $\mu\text{Ci/L}$ = (Cm * Am-243 Tracer Value * SPKV * DF * DDF * (1000mL/L)) / (C243 * SS * (2220000dpm/ μCi))

Relative Counting Error = Square Root of [(1/(Am-243 cpm * min)) + (1 / (Am-241 or Cm-243/244 cpm * min))] * 1.96 * 100

Am 243 Tracer Recovery = (Total AT Counts / TC - Bkg) * (1/DetEff) * C243 * 100 / Am-243 Tracer Value * SPKV

NOTE: Am-241 Result is a LESS THAN Value.

Am 241 $\mu\text{Ci/mL}$	=	< 2.55E-05
Relative Counting Error	=	100.0%

DETECTION LEVELS in $\mu\text{Ci/mL}$

NOTE: Cm-243/244 Result is a LESS THAN Value.

Cm 243/244 $\mu\text{Ci/mL}$	=	< 2.55E-05
Relative Counting Error	=	100.0%
Am 243 Tracer Recovery	=	103.2%

Am 241 2.55E-05
Cm 243/244 2.55E-05

Analyst:	CRJ	Date:	04/08/2000
Signature of Chemist:	JFR	Date:	6 Apr 2000

BLANK.WB1 REV 1.2

953103ML

WORKBOOK PAGE: SAM3

Am 241 and Cm 243/244: LA-953-103 (VOID) or LA-953-104(B-0) ³ *WJL*

LIQUID / SO

SAMPLE

	Date Counted	APR-05-2000	Am 241 AEA Frac. (C241)	0.742
SAMPLE	Sample Volume in mL (SS)	0.100	Am 243 AEA Frac. (C243)	0.214
	Sample D.F. (DF)	1	Cm 243/244 AEA Frac. (Cm)	0.027
33117	Tracer Volume in mL (SPKV)	0.100	Total AT Counts	4213
	Digest D.F. (DDF)	1.000	AT Count Time (min) (TC)	30
@AM24102	Tracer Book No.	10B59	Background in cpm (Bkg)	0.07
	Am-243 Tracer Value (dpm/mL)	1130	Am 241 cpm	88.48
LIQUID	Detector Number	16	Am 243 cpm	25.53
	Detector Efficiency (DetEff)	0.2717	Cm 243/244 cpm	3.17
20001197			AEA Count Time (min)	480
			Am 241 $\mu\text{Ci/L}$ =	1.7649E+00
0			Cm 243/244 $\mu\text{Ci/L}$ =	< 1.2156E-01

N/A

S00T000513

Am-241 $\mu\text{Ci/L}$ = (C241 * Am-243 Tracer Value * SPKV * DF * DDF * (1000mL/L)) / (C243 * SS * (2220000dpm/ μCi))Cm-243/244 $\mu\text{Ci/L}$ = (Cm * Am-243 Tracer Value * SPKV * DF * DDF * (1000mL/L)) / (C243 * SS * (2220000dpm/ μCi))

WB27700

Relative Counting Error = Square Root of [(1/(Am-243 cpm * min)) + (1 / (Am-241 or Cm-243/244 cpm * min))] * 1.96 * 100

Am 243 Tracer Recovery = (Total AT Counts / TC - Bkg) * (1/DetEff) * C243 * 100 / Am-243 Tracer Value * SPKV

BZC

JFR

Am 241 $\mu\text{Ci/mL}$ = 1.76E-03
 Relative Counting Error = 2.0%

DETECTION
LEVELS
in $\mu\text{Ci/mL}$

GRJ

NOTE: Cm-243/244 Result is a LESS THAN Value.

04/06/2000

Cm 243/244 $\mu\text{Ci/mL}$ < 1.22E-04Am 241
1.22E-04

04/06/2000

Relative Counting Error = 5.3%

Cm 243/244

10:06 AM

Am 243 Tracer Recovery = 97.8%

1.22E-04

SY-102 GRAB6

Analyst:

CRJ

Date:

04/06/2000

Signature of Chemist:

JFR

Date:

6/4/2000

SAMPLE.WB1 REV 1.2

953103MI

WORKBOOK PAGE: DUP4

Am 241 and Cm 243/244: LA-953-103 (VOID) or LA-953-104(B-8) ³ *11/10*

LIQUID / SO

DUP

	Date Counted	APR-05-2000	Am 241 AEA Frac. (C241)	0.775
DUP	Sample Volume in mL (SS)	0.100	Am 243 AEA Frac. (C243)	0.207
	Sample D.F. (DF)	1	Cm 243/244 AEA Frac. (Cm)	0.029
33117	Tracer Volume in mL (SPKV)	0.100	Total AT Counts	4416
	Digest D.F. (DDF)	1.000	AT Count Time (min) (TC)	30
@AM24102	Tracer Book No.	10B59	Background in cpm (Bkg)	0.07
	Am-243 Tracer Value (dpm/mL)	1130	Am 241 cpm	87.53
LIQUID	Detector Number	16	Am 243 cpm	23.39
	Detector Efficiency (DetEff)	0.2717	Cm 243/244 cpm	3.26
20001197			AEA Count Time (min)	480
			Am 241 $\mu\text{Ci/L}$ =	1.9057E+00
0			Cm 243/244 $\mu\text{Ci/L}$ =	< 1.2394E-01
N/A				

Am-241 $\mu\text{Ci/L}$ = (C241 * Am-243 Tracer Value * SPKV * DF * DDF * (1000mL/L)) / (C243 * SS * (2220000dpm/ μCi))Cm-243/244 $\mu\text{Ci/L}$ = (Cm * Am-243 Tracer Value * SPKV * DF * DDF * (1000mL/L)) / (C243 * SS * (2220000dpm/ μCi))

Relative Counting Error = Square Root of [(1/(Am-243 cpm * min)) + (1 / (Am-241 or Cm-243/244 cpm * min))] * 1.96 * 100

Am 243 Tracer Recovery = (Total AT Counts / TC - Bkg) * (1/DetEff) * C243 * 100 / Am-243 Tracer Value * SPKV

Am 241 $\mu\text{Ci/mL}$ =	1.91E-03	DETECTION LEVELS in $\mu\text{Ci/mL}$
Relative Counting Error =	2.1%	
NOTE: Cm-243/244 Result is a LESS THAN Value.		Am 241
Cm 243/244 $\mu\text{Ci/mL}$	< 1.24E-04	1.24E-04
Relative Counting Error =	5.3%	Cm 243/244
Am 243 Tracer Recovery =	99.2%	1.24E-04

Analyst:	CRJ	Date:	04/06/2000
Signature of Chemist:	<i>John Ralyea</i>	Date:	6 Apr 2000
SAMPLE.WB1 REV 1.2	953103ML		

WORKBOOK PAGE: SAM5

Am 241 and Cm 243/244: LA-953-103 (VOID) or LA-953-104(B-0) ³ ₁₀₀

LIQUID / SO				SAMPLE
	Date Counted	APR-05-2000	Am 241 AEA Frac. (C241)	0.769
SAMPLE	Sample Volume in mL (SS)	0.100	Am 243 AEA Frac. (C243)	0.186
	Sample D.F. (DF)	1	Cm 243/244 AEA Frac. (Cm)	0.029
33117	Tracer Volume in mL (SPKV)	0.100	Total AT Counts	6030
	Digest D.F. (DDF)	1.000	AT Count Time (min) (TC)	30
AM24102	Tracer Book No.	10B59	Background in cpm (Bkg)	0.07
	Am-243 Tracer Value (dpm/mL)	1130	Am 241 cpm	79.93
LIQUID	Detector Number	18	Am 243 cpm	19.3
	Detector Efficiency (DetEff)	0.2717	Cm 243/244 cpm	3.05
20001197			AEA Count Time (min)	480
0			Am 241 $\mu\text{Ci/L}$ =	2.1045E+00
N/A			Cm 243/244 $\mu\text{Ci/L}$ =	< 1.3683E-01

Am-241 $\mu\text{Ci/L}$ = (C241 * Am-243 Tracer Value * SPKV * DF * DDF * (1000mL/L)) / (C243 * SS * (2220000dpm/ μCi))Cm-243/244 $\mu\text{Ci/L}$ = (Cm * Am-243 Tracer Value * SPKV * DF * DDF * (1000mL/L)) / (C243 * SS * (2220000dpm/ μCi))

Relative Counting Error = Square Root of [(1/(Am-243 cpm * min)) + (1 / (Am-241 or Cm-243/244 cpm * min))] * 1.96 * 100

Am 243 Tracer Recovery = (Total AT Counts / TC - Bkg) * (1/DetEff) * C243 * 100 / Am-243 Tracer Value * SPKV

Am 241 $\mu\text{Ci/mL}$ =	2.10E-03	DETECTION LEVELS in $\mu\text{Ci/mL}$
Relative Counting Error =	2.3%	
NOTE: Cm-243/244 Result is a LESS THAN Value.		Am 241
Cm 243/244 $\mu\text{Ci/mL}$	< 1.37E-04	1.37E-04
Relative Counting Error =	5.5%	Cm 243/244
Am 243 Tracer Recovery =	101.5%	1.37E-04

Analyst:	CRJ	Date:	04/06/2000
Signature of Chemist:	JFR	Date:	6 Apr 2000
SAMPLE.WB1 REV 1.2	953103M		

WORKBOOK PAGE: DUP8

Am 241 and Cm 243/244: LA-953-103 (VOID) or LA-953-104(B-0) ⁵ *MD* *6/1/00* LIQUID / SO DUP

	Date Counted	APR-05-2000	Am 241 AEA Frac. (C241)	0.784
DUP	Sample Volume in mL (SS)	0.100	Am 243 AEA Frac. (C243)	0.181
	Sample D.F. (DF)	1	Cm 243/244 AEA Frac. (Cm)	0.029
33117	Tracer Volume in mL (SPKV)	0.100	Total AT Counts	5102
	Digest D.F. (DDF)	1.000	AT Count Time (min) (TC)	30
AM24102	Tracer Book No.	10B59	Background in cpm (Bkg)	0.07
	Am-243 Tracer Value (dpm/mL)	1130	Am 241 cpm	106.06
LIQUID	Detector Number	16	Am 243 cpm	24.47
	Detector Efficiency (DetEff)	0.2717	Cm 243/244 cpm	3.9
20001197			AEA Count Time (min)	480
0			Am 241 $\mu\text{Ci/L}$ =	2.2048E+00
			Cm 243/244 $\mu\text{Ci/L}$ =	< 1.4061E-01

N/A

S00T000612

Am-241 $\mu\text{Ci/L}$ = (C241 * Am-243 Tracer Value * SPKV * DF * DDF * (1000mL/L)) / (C243 * SS * (2220000dpm/ μCi))Cm-243/244 $\mu\text{Ci/L}$ = (Cm * Am-243 Tracer Value * SPKV * DF * DDF * (1000mL/L)) / (C243 * SS * (2220000dpm/ μCi))

Relative Counting Error = Square Root of [(1/(Am-243 cpm * min)) + (1 / (Am-241 or Cm-243/244 cpm * min))] * 1.96 * 100

Am 243 Tracer Recovery = (Total AT Counts / TC - Bkg) * (1/DetEff) * C243 * 100 / Am-243 Tracer Value * SPKV

Am 241 $\mu\text{Ci/mL}$ = 2.20E-03
 Relative Counting Error = 2.0%

DETECTION
LEVELS
in $\mu\text{Ci/mL}$

NOTE: Cm-243/244 Result is a LESS THAN Value.

Cm 243/244 $\mu\text{Ci/mL}$ < 1.41E-04
 Relative Counting Error = 4.9%
 Am 243 Tracer Recovery = 100.2%

Am 241
1.41E-04
Cm 243/244
1.41E-04

Analyst:

CRJ

Date: 04/06/2000

Signature of Chemist:

JFR

Date: 6 Apr 2000

SAMPLE.WB1 REV 1.2

953103ML

WORKBOOK PAGE: SAM7

Am 241 and Cm 243/244: LA-953-103 (VOID) or LA-953-104(B-0) ³ ₁₀₀ LIQUID / SO

				SAMPLE
	Date Counted	APR-06-2000	Am 241 AEA Frac. (C241)	0.682
SAMPLE	Sample Volume in mL (SS)	0.100	Am 243 AEA Frac. (C243)	0.249
	Sample D.F. (DF)	1	Cm 243/244 AEA Frac. (Cm)	0.025
33117	Tracer Volume in mL (SPKV)	0.100	Total AT Counts	3785
	Digest D.F. (DDF)	1.000	AT Count Time (min) (TC)	30
AM24102	Tracer Book No.	10B59	Background in cpm (Bkg)	0.07
	Am-243 Tracer Value (dpm/mL)	1130	Am 241 cpm	75.12
LIQUID	Detector Number	16	Am 243 cpm	27.47
	Detector Efficiency (DetEff)	0.2717	Cm 243/244 cpm	2.77
20001197			AEA Count Time (min)	480
0			Am 241 $\mu\text{Ci/L}$ =	1.3942E+00
N/A			Cm 243/244 $\mu\text{Ci/L}$ =	< 1.0221E-01

$$\text{Am-241 } \mu\text{Ci/L} = (\text{C241} * \text{Am-243 Tracer Value} * \text{SPKV} * \text{DF} * \text{DDF} * (1000\text{mL/L})) / (\text{C243} * \text{SS} * (2220000\text{dpm}/\mu\text{Ci}))$$

$$\text{Cm-243/244 } \mu\text{Ci/L} = (\text{Cm} * \text{Am-243 Tracer Value} * \text{SPKV} * \text{DF} * \text{DDF} * (1000\text{mL/L})) / (\text{C243} * \text{SS} * (2220000\text{dpm}/\mu\text{Ci}))$$

$$\text{Relative Counting Error} = \text{Square Root of } [(1/(\text{Am-243 cpm} * \text{min})) + (1/(\text{Am-241 or Cm-243/244 cpm} * \text{min}))] * 1.96 * 100$$

$$\text{Am 243 Tracer Recovery} = (\text{Total AT Counts} / \text{TC} - \text{Bkg}) * (1/\text{DetEff}) * \text{C243} * 100 / \text{Am-243 Tracer Value} * \text{SPKV}$$

Am 241 $\mu\text{Ci/mL}$	=	1.39E-03
Relative Counting Error	=	2.0%

DETECTION LEVELS in $\mu\text{Ci/mL}$

NOTE: Cm-243/244 Result is a LESS THAN Value.

Cm 243/244 $\mu\text{Ci/mL}$	=	< 1.02E-04
------------------------------	---	------------

Relative Counting Error	=	5.6%
-------------------------	---	------

Am 243 Tracer Recovery	=	102.3%
------------------------	---	--------

Am 241
1.02E-04
Cm 243/244
1.02E-04

Analyst:

CRJ

Date: 04/06/2000

Signature of Chemist:

JFR

Date:

SAMPLE.WB1 REV 1.2

953103ML

WORKBOOK PAGE: DUP8

Am 241 and Cm 243/244: LA-953-103 (VOID) or LA-953-104(B-³~~P~~) ^{MD} ~~W~~ ¹⁰⁰ LIQUID / SO

				DUP
	Date Counted	APR-05-2000	Am 241 AEA Frac. (C241)	0.735
DUP	Sample Volume in mL (SS)	0.100	Am 243 AEA Frac. (C243)	0.235
	Sample D.F. (DF)	1	Cm 243/244 AEA Frac. (Cm)	0.026
33117	Tracer Volume in mL (SPKV)	0.100	Total AT Counts	3730
	Digest D.F. (DDF)	1.000	AT Count Time (min) (TC)	30
@AM24102	Tracer Book No.	10B59	Background In cpm (Bkg)	0.07
	Am-243 Tracer Value (dpm/mL)	1130	Am 241 cpm	77.02
LIQUID	Detector Number	16	Am 243 cpm	24.59
	Detector Efficiency (DetEff)	0.2717	Cm 243/244 cpm	2.77
20001197			AEA Count Time (min)	480
0			Am 241 $\mu\text{Ci/L}$ =	1.5920E+00
N/A			Cm 243/244 $\mu\text{Ci/L}$ =	< 1.1386E-01

$$\text{Am-241 } \mu\text{Ci/L} = (\text{C241} * \text{Am-243 Tracer Value} * \text{SPKV} * \text{DF} * \text{DDF} * (1000\text{mL/L})) / (\text{C243} * \text{SS} * (2220000\text{dpm}/\mu\text{Ci}))$$

$$\text{Cm-243/244 } \mu\text{Ci/L} = (\text{Cm} * \text{Am-243 Tracer Value} * \text{SPKV} * \text{DF} * \text{DDF} * (1000\text{mL/L})) / (\text{C243} * \text{SS} * (2220000\text{dpm}/\mu\text{Ci}))$$

$$\text{Relative Counting Error} = \text{Square Root of } [(1/(\text{Am-243 cpm} * \text{min})) + (1/(\text{Am-241 or Cm-243/244 cpm} * \text{min}))] * 1.96 * 100$$

$$\text{Am 243 Tracer Recovery} = (\text{Total AT Counts} / \text{TC} - \text{Bkg}) * (1/\text{DetEff}) * \text{C243} * 100 / \text{Am-243 Tracer Value} * \text{SPKV}$$

Am 241 $\mu\text{Ci/mL}$ =	1.59E-03	DETECTION LEVELS In $\mu\text{Ci/mL}$
Relative Counting Error =	2.1%	
NOTE: Cm-243/244 Result is a LESS THAN Value.		Am 241
Cm 243/244 $\mu\text{Ci/mL}$ =	< 1.14E-04	1.14E-04
Relative Counting Error =	5.7%	Cm 243/244
Am 243 Tracer Recovery =	95.1%	1.14E-04

Analyst:	CRJ	Date:	04/06/2000
Signature of Chemist:	JFR	Date:	6 Apr 2000
SAMPLE.WB1 REV 1.2	953103ML		

WORKBOOK PAGE: SAM9

Am 241 and Cm 243/244: LA-953-103 (VOID) or LA-953-104(B-0) ³ ₁₀₀ LIQUID / SO

		APR-05-2000		LIQUID / SO		SAMPLE
SAMPLE	Date Counted	APR-05-2000		Am 241 AEA Frac. (C241)		0.701
	Sample Volume in mL (SS)	0.100		Am 243 AEA Frac. (C243)		0.257
	Sample D.F. (DF)	1		Cm 243/244 AEA Frac. (Cm)		0.025
33117	Tracer Volume in mL (SPKV)	0.100		Total AT Counts		3769
	Digest D.F. (DDF)	1.000		AT Count Time (min) (TC)		30
@AM24102	Tracer Book No.	10B59		Background in cpm (Bkg)		0.07
	Am-243 Tracer Value (dpm/mL)	1130		Am 241 cpm		74.03
LIQUID	Detector Number	16		Am 243 cpm		27.2
	Detector Efficiency (DetEff)	0.2717		Cm 243/244 cpm		2.59
20001197				AEA Count Time (min)		480
0				Am 241 μ CI/L =		1.3884E+00
N/A				Cm 243/244 μ CI/L =	<	9.9029E-02

S00T000637

Am-241 μ CI/L = (C241 * Am-243 Tracer Value * SPKV * DF * DDF * (1000mL/L)) / (C243 * SS * (2220000dpm/ μ CI))Cm-243/244 μ CI/L = (Cm * Am-243 Tracer Value * SPKV * DF * DDF * (1000mL/L)) / (C243 * SS * (2220000dpm/ μ CI))

Relative Counting Error = Square Root of [(1/(Am-243 cpm * min)) + (1 / (Am-241 or Cm-243/244 cpm * min))] * 1.96 * 100

Am 243 Tracer Recovery = (Total AT Counts / TC - Bkg) * (1/DetEff) * C243 * 100 / Am-243 Tracer Value * SPKV

Am 241 μ CI/mL =	1.39E-03	DETECTION LEVELS in μ CI/mL
Relative Counting Error =	2.0%	
NOTE: Cm-243/244 Result is a LESS THAN Value.		Am 241
Cm 243/244 μ CI/mL	< 9.90E-05	9.90E-05
Relative Counting Error =	5.8%	Cm 243/244
Am 243 Tracer Recovery =	105.1%	9.90E-05

Analyst:	CRJ	Date:	04/06/2000
Signature of Chemist:	JFR	Date:	6 Apr 2000
SAMPLE.WB1 REV 1.2	953103ML		

WORKBOOK PAGE: DUP10

Am 241 and Cm 243/244: LA-953-103 (VOID) or LA-953-104(B-3) ³ *void* LIQUID / SO

				DUP
	Date Counted	APR-05-2000	Am 241 AEA Frac. (C241)	0.724
DUP	Sample Volume In mL (SS)	0.100	Am 243 AEA Frac. (C243)	0.243
	Sample D.F. (DF)	1	Cm 243/244 AEA Frac. (Cm)	0.026
33117	Tracer Volume In mL (SPKV)	0.100	Total AT Counts	3788
	Digest D.F. (DDF)		AT Count Time (min) (TC)	30
@AM24102	Tracer Book No.	10B59	Background in cpm (Bkg)	0.07
	Am-243 Tracer Value (dpm/mL)	1130	Am 241 cpm	74.2
LIQUID	Detector Number	16	Am 243 cpm	24.92
	Detector Efficiency (DetEff)	0.2717	Cm 243/244 cpm	2.66
20001197			AEA Count Time (min)	480
0			Am 241 $\mu\text{Ci/L}$ =	1.5166E+00
N/A			Cm 243/244 $\mu\text{Ci/L}$ =	< 1.0486E-01

$$\text{Am-241 } \mu\text{Ci/L} = (\text{C241} * \text{Am-243 Tracer Value} * \text{SPKV} * \text{DF} * \text{DDF} * (1000\text{mL/L})) / (\text{C243} * \text{SS} * (2220000\text{dpm}/\mu\text{Ci}))$$

$$\text{Cm-243/244 } \mu\text{Ci/L} = (\text{Cm} * \text{Am-243 Tracer Value} * \text{SPKV} * \text{DF} * \text{DDF} * (1000\text{mL/L})) / (\text{C243} * \text{SS} * (2220000\text{dpm}/\mu\text{Ci}))$$

$$\text{Relative Counting Error} = \text{Square Root of } [(1/(\text{Am-243 cpm} * \text{min})) + (1/(\text{Am-241 or Cm-243/244 cpm} * \text{min}))] * 1.96 * 100$$

$$\text{Am 243 Tracer Recovery} = (\text{Total AT Counts} / \text{TC} - \text{Bkg}) * (1/\text{DetEff}) * \text{C243} * 100 / \text{Am-243 Tracer Value} * \text{SPKV}$$

Am 241 $\mu\text{Ci/mL}$ =	1.52E-03	DETECTION LEVELS In $\mu\text{Ci/mL}$
Relative Counting Error =	2.1%	
NOTE: Cm-243/244 Result is a LESS THAN Value.		Am 241
Cm 243/244 $\mu\text{Ci/mL}$	< 1.05E-04	1.05E-04
Relative Counting Error =	5.8%	Cm 243/244
Am 243 Tracer Recovery =	99.9%	1.05E-04

Analyst:	CRJ	Date:	04/06/2000
Signature of Chemist:	<i>John Relyea</i>	Date:	<i>6 Apr 2000</i>
SAMPLE.WB1 REV 1.2	953103ML		

LABCORE Completed Worklist Report for Worklist# 33118

Analyst: crj Instrument: AB14 Book#: _____

Method: LA-953-104 Rev/Mod B-3

Worklist Comment: SY-102 GRAB 6 FOR @AM24101 RTS

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD	0			@AM24102 AM24101 SOLID		1.07E-04	1.07E-4	100.000	% Recovery
1	STD	0			@AM24102 AM24101E SOLID		1.00	1.79E+00	1.790	% Ct Error
1	STD	0			@AM24102 AM24101T SOLID		100	9.68E+01	96.800	% Recovery
2	BLNK-PREP	0			@AM24102 AM24101 SOLID		1	<1.33E-3		uCi/g
2	BLNK-PREP	0			@AM24102 AM24101E SOLID		1.00	1.00E+02	100.000	% Ct Error
2	BLNK-PREP	0			@AM24102 AM24101T SOLID		100	9.70E+01	97.000	% Recovery
2	BLNK-PREP	0			@AM24102 CM24301 SOLID		1	<1.33E-3		uCi/g
2	BLNK-PREP	0			@AM24102 CM24301E SOLID		1.00	1.00E+02	100.000	uCi/g
3	SAMPLE	S00T000619	0	F	@AM24102 AM24101 SOLID		N/A	1.32E-01	8.43E-003	uCi/g
3	SAMPLE	S00T000619	0	F	@AM24102 AM24101E SOLID		N/A	2.02E+00		% Ct. Error
3	SAMPLE	S00T000619	0	F	@AM24102 AM24101T SOLID		N/A	9.62E+01		% Recovery
3	SAMPLE	S00T000619	0	F	@AM24102 CM24301 SOLID		N/A	<8.43E-03	8.43E-003	uCi/g
3	SAMPLE	S00T000619	0	F	@AM24102 CM24301E SOLID		N/A	4.68E+00		% Ct. Error
4	DUP	S00T000619	0	F	@AM24102 AM24101 SOLID		1.32E-1	1.19E-1	10.359	RPD
4	DUP	S00T000619	0	F	@AM24102 AM24101E SOLID		1.00	1.94E+00	1.940	% Ct Error
4	DUP	S00T000619	0	F	@AM24102 AM24101T SOLID		100	1.03E+02	103.000	% Recovery
4	DUP	S00T000619	0	F	@AM24102 CM24301 SOLID		<8.43E-3	<7.62E-3		RPD
4	DUP	S00T000619	0	F	@AM24102 CM24301E SOLID		1.00	4.66E+00	4.660	% Ct. Error
5	SAMPLE	S00T000632	0	F	@AM24102 AM24101 SOLID		N/A	1.78E-01	1.07E-002	uCi/g
5	SAMPLE	S00T000632	0	F	@AM24102 AM24101E SOLID		N/A	1.85E+00		% Ct. Error
5	SAMPLE	S00T000632	0	F	@AM24102 AM24101T SOLID		N/A	1.09E+02		% Recovery
5	SAMPLE	S00T000632	0	F	@AM24102 CM24301 SOLID		N/A	<1.07E-02	1.07E-002	uCi/g
5	SAMPLE	S00T000632	0	F	@AM24102 CM24301E SOLID		N/A	3.92E+00		% Ct. Error
6	DUP	S00T000632	0	F	@AM24102 AM24101 SOLID		1.78E-1	1.75E-1	1.700	RPD
6	DUP	S00T000632	0	F	@AM24102 AM24101E SOLID		1.00	1.78E+00	1.780	% Ct Error
6	DUP	S00T000632	0	F	@AM24102 AM24101T SOLID		100	1.10E+02	110.000	% Recovery
6	DUP	S00T000632	0	F	@AM24102 CM24301 SOLID		<1.07E-2	<1.08E-2		RPD
6	DUP	S00T000632	0	F	@AM24102 CM24301E SOLID		1.00	3.80E+00	3.800	% Ct. Error

Final page for worklist# 33118

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

John Relyea 6 Apr 00
Reviewer Signature _____ Date _____

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

03/30/00 16:04
ws2

Page: 1

LABCORE Data Entry Template for Worklist# 33118

Analyst: CRJ Instrument: AM01 14 Book# 46857Method: LA-953-104 Rev/Mod B-3

Worklist Comment: SY-102 GRAB 6 FOR @AM24101 RTS

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	STD				@AM24102	SOLID		
2	BLNK-PREP				@AM24102	SOLID		
3	SAMPLE	S00T000619	0	F	@AM24102	SOLID	20000085	SY-102 GRAB6
Analytes Requested: AM24101 , AM24101E, AM24101T, CM24301 , CM24301E								
4	DUP	S00T000619	0	F	@AM24102	SOLID		
5	SAMPLE	S00T000632	0	F	@AM24102	SOLID	20000085	SY-102 GRAB6
Analytes Requested: AM24101 , AM24101E, AM24101T, CM24301 , CM24301E								
6	DUP	S00T000632	0	F	@AM24102	SOLID		

Final page for worklist # 33118

Signature [Signature] Date 4/5/00
 Signature Alita Hudson Date 4/5/00

Signature [Signature] Date 4/6/00
 Signature Spina Z Date 4/6/00

Data Entry Comments:

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

222-S Analytical Laboratory
 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. 2.11

DATA REDUCTION REPORT

SAMPLE
 WL33118-STD-AM
 File ID: 2a2086.CNF

Counted on: 4/ 5/ 0 @14:32
 Detector: AEA2
 Geometry number: 1
 Count time: 28808. Sec

PEAK ANALYSIS

Peak ID	Peak height		Peak center		FWHM		Tau	
	Initial	Final	Initial	Final	Initial	Final	Initial	Final
1	1511.1	1511.1	300.466	300.466	12.000	6.584	6.000	2.695
2	1529.6	1529.6	254.623	254.608	10.000	4.702	5.000	1.832

PEAK RESULTS

Peak Error Limit: 30%

Peak ID	Isotope	AEA Frac	Peak Centroid Exp.	Obs.	Diff.	FWHM	Count Rate c/m	%err @95	d/m	Activity uCi/ea
1	Am241	0.492	5.479	5.472	0.007	0.03	51.26	1.2	249.0	0.112E-03
	Pu238		5.487	5.472	0.015				325.1	0.146E-03
2	Am243	0.470	5.266	5.261	0.005	0.02	48.99	1.3	225.9	0.102E-03
Totals:		0.961	<--valid peaks only-->				100.25			

DETECTOR CALIBRATION

Energy(MEV) = 4.089 + (0.0046)*Channel
 Energy range (MeV): 4.089 TO 6.445
 Efficiency = 0.2190 CPM/DPM
 (Data reduction compression factor: 1.)

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	50069.0	100.000
Smoothed	50069.0	100.000
Composite fit	48134.0	96.135
Residuals	1935.0	3.865

Analyzed by: _____

NEW

1 Legend: Raw = Modeled Peaks = 1,2,..., etc

Display Max.: 10722.1

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1.....2.
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Raw Data Dump for AEA Spectrum: 2a2086.CNF

1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	1.	1.	1.
21	0.	0.	1.	1.	0.	1.	0.	2.	2.	1.
31	1.	0.	1.	0.	1.	0.	2.	0.	0.	1.
41	0.	3.	1.	1.	0.	0.	0.	0.	1.	2.
51	0.	2.	2.	1.	1.	1.	2.	0.	2.	0.
61	0.	1.	0.	0.	1.	1.	0.	2.	0.	2.
71	0.	0.	1.	1.	2.	0.	1.	1.	1.	3.
81	3.	0.	2.	2.	2.	2.	2.	2.	2.	1.
91	2.	4.	0.	1.	0.	4.	2.	5.	0.	3.
101	3.	0.	2.	0.	4.	1.	2.	1.	3.	0.
111	1.	2.	2.	2.	2.	3.	2.	3.	2.	4.
121	4.	2.	4.	2.	2.	5.	1.	0.	3.	1.
131	3.	4.	4.	6.	7.	2.	3.	1.	2.	3.
141	2.	2.	4.	5.	4.	6.	2.	8.	4.	4.
151	0.	5.	5.	5.	5.	8.	5.	8.	2.	5.
161	6.	4.	6.	6.	4.	5.	3.	7.	3.	10.
171	8.	8.	11.	4.	10.	7.	9.	7.	13.	9.
181	6.	13.	11.	8.	13.	7.	12.	9.	10.	14.
191	12.	12.	22.	20.	19.	17.	11.	16.	15.	22.
201	17.	14.	28.	17.	21.	24.	24.	31.	32.	22.
211	28.	25.	33.	36.	37.	38.	30.	42.	48.	38.
221	53.	55.	72.	74.	71.	86.	65.	88.	112.	108.
231	124.	169.	139.	182.	212.	211.	240.	264.	298.	348.
241	354.	441.	535.	608.	668.	766.	907.	984.	1048.	1116.
251	1319.	1388.	1546.	1626.	1745.	1706.	1397.	933.	468.	271.
261	190.	205.	157.	130.	146.	131.	135.	135.	121.	96.
271	101.	88.	101.	106.	108.	110.	103.	118.	158.	167.
281	169.	227.	228.	256.	287.	368.	396.	444.	544.	591.
291	721.	753.	847.	932.	1126.	1217.	1280.	1431.	1548.	1660.
301	1679.	1654.	1276.	998.	587.	427.	352.	320.	232.	211.
311	161.	117.	99.	69.	37.	20.	16.	5.	1.	1.
321	1.	1.	1.	6.	1.	3.	0.	1.	1.	0.
331	1.	2.	1.	1.	0.	0.	1.	0.	3.	2.
341	2.	1.	0.	1.	0.	1.	1.	2.	0.	1.
351	2.	3.	2.	1.	1.	2.	0.	0.	1.	0.
361	1.	1.	2.	1.	2.	1.	0.	0.	1.	0.
371	1.	1.	0.	1.	0.	0.	0.	0.	3.	0.
381	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.
391	3.	0.	1.	1.	0.	0.	0.	1.	0.	0.
401	2.	3.	0.	0.	0.	0.	1.	1.	0.	0.
411	0.	2.	0.	0.	1.	0.	3.	0.	1.	1.
421	1.	2.	0.	1.	1.	0.	0.	0.	0.	1.
431	2.	0.	1.	0.	0.	1.	0.	1.	0.	0.
441	2.	2.	1.	0.	0.	1.	0.	0.	1.	0.
451	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.
461	0.	0.	0.	0.	0.	1.	1.	0.	1.	0.
471	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
481	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
491	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
511	0.	0.								

222-S Analytical Laboratory
 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. 2.11

DATA REDUCTION REPORT

SAMPLE
 WL33118-BLK-AM
 File ID: 3a3030.CNF

Counted on: 4/ 5/ 0 @14:33
 Detector: AEA3
 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	735.5	735.5	254.424	254.424	12.000	6.143	6.000	2.444

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	Am243	0.975	5.266	5.255	0.011	0.03	24.84	1.8	109.2	0.492E-04
Totals:		0.975	<--valid peaks only-->			24.84				

DETECTOR CALIBRATION

Energy(MEV) = 4.085 + (0.0046)*Channel
 Energy range (MeV): 4.085 TO 6.440
 Efficiency = 0.2297 CPM/DPM
 (Data reduction compression factor: 1.)

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	12235.0	100.000
Smoothed	12235.0	100.000
Composite fit	11925.8	97.473
Residuals	309.2	2.527

Analyzed by: _____

NEW

Spectrum 3a3030.CNF

1 Legend: Raw = Modeled Peaks = 1,2,..., etc

Display Max.: 5230.7

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1....

Raw Data Dump for AEA Spectrum: 3a3030.CNF

1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.
21	0.	0.	0.	0.	0.	0.	0.	1.	0.	1.
31	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
41	1.	1.	0.	0.	0.	0.	0.	0.	1.	0.
51	0.	1.	1.	0.	0.	0.	0.	0.	0.	1.
61	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.
71	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.
81	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.
91	0.	2.	0.	2.	1.	0.	0.	0.	0.	0.
101	0.	1.	1.	0.	0.	0.	0.	0.	0.	0.
111	1.	0.	0.	0.	1.	1.	0.	0.	0.	0.
121	1.	0.	0.	1.	1.	1.	0.	0.	0.	0.
131	0.	0.	1.	0.	1.	1.	1.	0.	0.	3.
141	1.	1.	1.	2.	1.	1.	1.	1.	0.	2.
151	0.	0.	1.	0.	1.	1.	1.	0.	1.	0.
161	0.	2.	1.	2.	0.	0.	1.	0.	0.	1.
171	0.	0.	2.	0.	0.	0.	0.	1.	1.	1.
181	0.	3.	1.	1.	2.	0.	2.	3.	3.	3.
191	2.	2.	1.	3.	3.	2.	3.	3.	4.	4.
201	2.	3.	3.	2.	7.	5.	4.	2.	5.	4.
211	4.	4.	4.	6.	4.	8.	7.	6.	8.	15.
221	12.	12.	20.	15.	14.	16.	27.	19.	34.	47.
231	46.	49.	59.	73.	87.	83.	111.	110.	132.	144.
241	199.	220.	245.	345.	360.	438.	467.	484.	595.	623.
251	658.	685.	771.	789.	819.	757.	677.	495.	344.	188.
261	104.	83.	57.	55.	49.	59.	46.	40.	30.	25.
271	21.	13.	12.	5.	5.	3.	0.	0.	1.	1.
281	1.	1.	3.	2.	4.	1.	0.	2.	3.	3.
291	2.	5.	0.	5.	8.	4.	6.	7.	3.	5.
301	13.	11.	9.	7.	4.	2.	1.	1.	0.	0.
311	1.	0.	0.	1.	1.	0.	0.	0.	0.	0.
321	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.
331	0.	0.	0.	1.	0.	1.	0.	0.	0.	0.
341	0.	0.	1.	0.	1.	0.	0.	0.	0.	0.
351	1.	3.	0.	0.	0.	0.	2.	1.	2.	1.
361	0.	1.	2.	3.	0.	0.	1.	0.	0.	0.
371	0.	0.	0.	1.	1.	1.	0.	0.	1.	0.
381	0.	0.	0.	0.	0.	0.	2.	0.	1.	0.
391	1.	0.	0.	0.	0.	0.	0.	1.	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.	0.	0.	0.
431	0.	0.	0.	0.	0.	0.	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.	0.	0.
471	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
481	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.
491	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
511	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

222-S Analytical Laboratory
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. 2.11

DATA REDUCTION REPORT

SAMPLE
S00T619-SAM-AM
File ID: 4a4128.CNF

Counted on: 4/ 5/ 0 @14:33
Detector: AEA4
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?	11.6	11.6	432.584	432.584	16.000	5.558	8.000	1.555
2	113.8	113.8	365.294	365.292	12.000	6.177	6.000	1.967
3	3199.7	3199.7	297.483	297.483	14.000	7.949	7.000	2.756
4	649.4	649.4	251.868	251.673	12.000	4.622	6.000	1.458

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		????		6.078		0.47	13.1		
2	Pu238 ^{MR} Cm243	0.029	5.755	5.769	-0.014	4.33	4.3	20.0 26.8	0.900E-05 0.121E-04
3	Pu238 Am241	0.815	5.487	5.457	0.030	123.46	0.8	774.8 593.5	0.349E-03 0.267E-03
4	Am243	0.155	5.266	5.246	0.020	23.45	2.0	107.0	0.482E-04
Totals:		0.998	<--valid peaks only-->			151.24			

DETECTOR CALIBRATION

Energy(MEV) = 4.088 + (0.0046)*Channel
Energy range (MeV): 4.088 TO 6.444
Efficiency = 0.2213 CPM/DPM
(Data reduction compression factor: 1.)

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	72732.0	100.000
Smoothed	72732.0	100.000
Composite fit	72833.6	100.140
Residuals	-101.6	-0.140

Analyzed by: _____

NEW

1 Legend: Raw = Modeled Peaks = 1,2,..., etc

Display Max.: 19804.5

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Raw Data Dump for AEA Spectrum: 4a4128.CNF

1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	1.	0.	2.	2.
21	1.	1.	1.	0.	0.	1.	0.	0.	1.	0.
31	0.	0.	1.	0.	0.	0.	0.	0.	0.	1.
41	3.	0.	1.	0.	1.	1.	1.	0.	0.	1.
51	0.	0.	2.	1.	1.	0.	0.	1.	1.	0.
61	1.	1.	3.	1.	1.	0.	2.	1.	0.	0.
71	2.	2.	0.	1.	0.	0.	0.	0.	0.	1.
81	0.	0.	0.	0.	2.	0.	0.	0.	0.	5.
91	2.	0.	2.	2.	0.	0.	1.	0.	2.	0.
101	0.	1.	0.	0.	1.	0.	1.	0.	0.	2.
111	0.	2.	0.	0.	2.	2.	0.	0.	0.	1.
121	1.	0.	0.	0.	1.	1.	1.	1.	3.	2.
131	0.	0.	0.	1.	2.	2.	4.	1.	1.	3.
141	1.	2.	0.	4.	2.	0.	0.	2.	0.	1.
151	3.	2.	0.	4.	2.	1.	1.	1.	1.	2.
161	2.	2.	1.	3.	0.	0.	0.	1.	1.	1.
171	2.	4.	4.	2.	2.	2.	4.	2.	1.	1.
181	2.	2.	3.	2.	1.	2.	3.	2.	0.	3.
191	2.	3.	2.	6.	2.	4.	1.	3.	2.	3.
201	0.	9.	7.	6.	6.	8.	4.	11.	4.	5.
211	5.	13.	11.	8.	8.	12.	15.	8.	24.	19.
221	22.	25.	27.	32.	35.	56.	45.	64.	60.	83.
231	89.	102.	121.	140.	174.	210.	205.	240.	241.	335.
241	332.	384.	435.	455.	510.	502.	587.	589.	613.	691.
251	732.	798.	691.	704.	568.	350.	228.	138.	102.	114.
261	96.	95.	101.	130.	126.	144.	134.	134.	156.	165.
271	174.	197.	241.	284.	348.	356.	409.	479.	509.	633.
281	715.	852.	951.	1160.	1281.	1476.	1582.	1742.	2020.	2216.
291	2444.	2542.	2674.	2972.	3139.	3218.	3381.	3528.	3271.	2993.
301	2402.	1789.	1142.	850.	657.	584.	454.	376.	302.	207.
311	139.	114.	75.	33.	11.	4.	2.	2.	7.	2.
321	4.	8.	4.	2.	4.	0.	4.	1.	3.	5.
331	6.	4.	9.	5.	2.	2.	10.	5.	6.	7.
341	11.	3.	11.	12.	26.	26.	16.	26.	26.	24.
351	35.	46.	42.	43.	55.	69.	69.	83.	109.	106.
361	111.	103.	123.	119.	101.	122.	121.	108.	86.	69.
371	29.	8.	4.	3.	1.	1.	3.	1.	2.	0.
381	2.	2.	1.	2.	2.	2.	0.	3.	3.	0.
391	2.	1.	2.	1.	2.	1.	2.	1.	2.	1.
401	2.	2.	0.	0.	0.	4.	1.	1.	2.	1.
411	2.	1.	6.	1.	7.	6.	3.	3.	9.	3.
421	3.	5.	4.	5.	11.	10.	6.	8.	13.	7.
431	17.	10.	10.	11.	15.	6.	7.	2.	3.	0.
441	1.	0.	1.	0.	0.	0.	2.	1.	0.	1.
451	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.
461	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
471	1.	0.	0.	0.	0.	0.	1.	0.	1.	1.
481	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
491	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
511	0.	0.								

222-S Analytical Laboratory
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. 2.11

DATA REDUCTION REPORT

SAMPLE
S00T619-DUP-AM
File ID: 5a5647.CNF

Counted on: 4/ 5/ 0 @14:34
Detector: AEA5
Geometry number: 1
Count time: 28804. Sec

PEAK ANALYSIS

Peak ID	Peak height		Peak center		FWHM		Tau	
	Initial	Final	Initial	Final	Initial	Final	Initial	Final
1?	15.4	15.4	435.705	435.705	10.000	3.289	5.000	1.024
2	155.5	155.5	368.325	368.324	10.000	3.779	5.000	1.759
3	4194.7	4194.7	300.474	300.474	12.000	6.259	6.000	3.464
4	927.8	927.8	254.759	254.742	12.000	4.860	6.000	2.566

PEAK RESULTS

Peak Error Limit: 30%

Peak ID	Isotope	AEA Frac	Peak Centroid Exp.	Obs.	Diff.	FWHM	Count Rate c/m	%err @95	d/m	Activity uCi/ea
1		????		6.083			0.53	12.3		
2	Pu238 → Cm243	0.027	5.755	5.773	-.0180.02		4.30	4.3	18.0	0.813E-05
			5.779	5.773	0.006				24.2	0.109E-04
3	Am241	0.784	5.479	5.461	0.0180.03		123.85	0.8	541.3	0.244E-03
	Pu238		5.487	5.461	0.026				706.7	0.318E-03
4	Am243	0.164	5.266	5.250	0.0160.02		25.83	1.8	107.2	0.483E-04
Totals:		0.975	<--valid peaks only-->				153.98			

DETECTOR CALIBRATION

Energy(MEV) = 4.079 + (0.0046)*Channel
Energy range (MeV): 4.079 TO 6.434
Efficiency = 0.2434 CPM/DPM
(Data reduction compression factor: 1.)

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	75799.0	100.000
Smoothed	75799.0	100.000
Composite fit	74176.2	97.859
Residuals	1622.8	2.141

Analyzed by: _____

NEW

Spectrum 5a5647.CNF

1 Legend: Raw = Modeled Peaks = 1,2,..., etc

Display Max.: 29347.7

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Raw Data Dump for AEA Spectrum: 5a5647.CNF

1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	3.	1.	1.
21	1.	0.	1.	0.	0.	0.	0.	0.	0.	1.
31	2.	1.	2.	0.	0.	2.	0.	1.	1.	1.
41	0.	0.	0.	1.	0.	0.	1.	1.	0.	3.
51	0.	1.	0.	0.	0.	0.	4.	1.	1.	2.
61	0.	2.	2.	4.	2.	1.	1.	1.	0.	1.
71	2.	0.	2.	1.	2.	0.	0.	0.	0.	1.
81	1.	0.	1.	1.	1.	1.	1.	1.	3.	0.
91	1.	1.	2.	0.	2.	0.	1.	3.	1.	0.
101	4.	1.	0.	0.	0.	2.	0.	1.	0.	0.
111	0.	1.	0.	1.	3.	1.	1.	1.	0.	1.
121	2.	2.	2.	1.	3.	6.	1.	2.	1.	0.
131	1.	0.	3.	0.	1.	0.	0.	1.	4.	1.
141	1.	3.	1.	6.	3.	0.	1.	2.	1.	2.
151	1.	1.	3.	1.	1.	0.	0.	2.	3.	3.
161	1.	2.	1.	0.	1.	4.	1.	2.	5.	8.
171	2.	6.	3.	2.	6.	2.	1.	3.	5.	5.
181	0.	2.	3.	5.	4.	5.	4.	3.	4.	3.
191	7.	2.	4.	6.	3.	2.	4.	4.	3.	4.
201	9.	2.	6.	6.	5.	5.	4.	6.	10.	3.
211	5.	9.	6.	6.	6.	7.	11.	11.	9.	16.
221	8.	13.	12.	22.	16.	16.	25.	27.	32.	33.
231	47.	47.	48.	57.	61.	68.	81.	98.	113.	128.
241	141.	158.	187.	250.	305.	363.	396.	512.	588.	653.
251	708.	825.	938.	1013.	1109.	980.	872.	616.	332.	198.
261	137.	104.	98.	108.	99.	96.	99.	84.	84.	73.
271	75.	101.	89.	115.	111.	111.	165.	166.	185.	221.
281	242.	305.	359.	422.	515.	577.	693.	877.	1046.	1219.
291	1541.	1663.	2051.	2246.	2713.	2980.	3478.	4099.	4322.	4734.
301	4824.	4398.	3656.	2503.	1618.	1179.	905.	834.	698.	518.
311	424.	344.	244.	155.	99.	49.	27.	7.	7.	3.
321	6.	1.	5.	5.	1.	4.	3.	5.	1.	4.
331	0.	4.	4.	6.	4.	3.	6.	3.	6.	4.
341	2.	5.	4.	6.	7.	12.	8.	3.	12.	15.
351	12.	22.	14.	19.	31.	31.	58.	55.	49.	72.
361	96.	83.	103.	116.	140.	141.	140.	178.	196.	151.
371	119.	70.	33.	15.	3.	1.	2.	2.	0.	2.
381	2.	2.	2.	0.	2.	2.	0.	0.	0.	1.
391	0.	3.	0.	0.	0.	2.	1.	1.	0.	2.
401	2.	0.	2.	2.	0.	1.	2.	2.	1.	2.
411	2.	1.	2.	2.	0.	4.	3.	1.	8.	8.
421	2.	2.	5.	6.	8.	12.	8.	12.	7.	11.
431	16.	8.	6.	14.	16.	21.	16.	13.	4.	5.
441	1.	1.	2.	1.	0.	0.	1.	1.	1.	1.
451	1.	1.	0.	2.	0.	0.	1.	0.	0.	0.
461	0.	0.	1.	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.	0.	0.	0.
491	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
511	0.	0.								

222-S Analytical Laboratory
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. 2.11

DATA REDUCTION REPORT

SAMPLE
S00T632-SAM-AM
File ID: 6a6636.CNF

Counted on: 4/ 5/ 0 @14:35
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?	19.2	19.2	434.210	434.210	18.000	7.561	9.000	2.956
2	200.7	200.7	368.045	368.045	14.000	6.407	7.000	2.876
3	5777.7	5777.7	299.320	299.319	16.000	8.542	8.000	4.778
4	805.4	805.4	253.174	253.141	14.000	7.896	7.000	3.951
5?	11.3	11.3	192.855	192.782	62.000	277.077	31.000	28.337

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		????		6.089		0.69	10.8		
2	Cm244	0.028	5.795	5.784	0.011	6.48	3.5	29.9	
	Cm243		5.779	5.784	-0.005			40.9	
3	Pu238	0.830	5.487	5.468	0.019	188.97	0.7	1208.9	
	Am241		5.479	5.468	0.011			926.0	
4	Am243	0.117	5.266	5.256	0.010	26.56	1.8	123.6	
5		????		4.978		2.08	31.4		
Totals:		0.975	<--valid peaks only-->			222.01			

DETECTOR CALIBRATION

Energy (MEV) = 4.091 + (0.0046)*Channel
 Energy range (MeV): 4.091 TO 6.446
 Efficiency = 0.2171 CPM/DPM
 (Data reduction compression factor: 1.)

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	109299.0	100.000
Smoothed	109299.0	100.000
Composite fit	107919.3	98.738
Residuals	1379.7	1.262

Raw Data Dump for AEA Spectrum: 6a6636.CNF

1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	2.	1.	1.	0.
21	1.	4.	2.	1.	0.	2.	1.	0.	2.	2.
31	2.	1.	1.	1.	1.	1.	2.	0.	2.	1.
41	2.	2.	3.	1.	1.	2.	1.	1.	2.	2.
51	3.	1.	1.	0.	1.	0.	0.	0.	0.	1.
61	1.	1.	5.	2.	0.	1.	1.	2.	1.	1.
71	6.	1.	4.	1.	5.	2.	3.	1.	2.	1.
81	3.	2.	3.	3.	4.	5.	1.	3.	0.	3.
91	3.	1.	4.	0.	2.	1.	1.	1.	2.	3.
101	4.	2.	1.	3.	1.	0.	3.	1.	0.	2.
111	3.	6.	3.	2.	3.	2.	1.	1.	0.	1.
121	3.	1.	4.	5.	4.	8.	3.	3.	2.	0.
131	0.	3.	4.	1.	6.	3.	1.	5.	4.	5.
141	2.	2.	2.	6.	6.	5.	4.	2.	8.	5.
151	5.	6.	6.	8.	2.	1.	8.	3.	3.	3.
161	3.	6.	3.	3.	2.	8.	0.	4.	4.	1.
171	7.	2.	3.	7.	5.	7.	3.	5.	13.	8.
181	9.	9.	9.	4.	5.	4.	8.	8.	4.	13.
191	12.	7.	15.	15.	5.	10.	6.	12.	8.	11.
201	14.	10.	17.	16.	16.	18.	20.	18.	16.	13.
211	19.	9.	26.	22.	19.	14.	26.	34.	33.	31.
221	25.	26.	34.	37.	41.	41.	44.	39.	55.	50.
231	70.	60.	66.	84.	83.	111.	98.	112.	147.	182.
241	215.	264.	292.	328.	383.	437.	498.	572.	649.	733.
251	810.	847.	929.	900.	760.	703.	525.	414.	298.	231.
261	175.	136.	162.	151.	166.	158.	127.	146.	162.	149.
271	160.	203.	194.	249.	216.	252.	302.	350.	413.	432.
281	482.	595.	698.	811.	940.	1113.	1412.	1543.	1851.	2169.
291	2514.	3042.	3338.	3950.	4584.	5224.	5889.	6316.	6429.	6368.
301	5860.	5007.	4188.	3246.	2484.	1849.	1472.	1154.	971.	766.
311	601.	476.	322.	219.	128.	97.	47.	28.	21.	11.
321	14.	2.	9.	8.	3.	7.	10.	4.	5.	7.
331	5.	8.	4.	8.	6.	8.	7.	4.	7.	6.
341	7.	8.	10.	11.	9.	15.	8.	9.	22.	23.
351	23.	34.	26.	39.	49.	64.	68.	81.	99.	105.
361	118.	120.	178.	184.	160.	220.	223.	216.	214.	204.
371	174.	152.	83.	51.	27.	7.	13.	8.	4.	1.
381	2.	2.	1.	1.	6.	1.	2.	3.	1.	1.
391	3.	3.	1.	2.	2.	1.	2.	1.	2.	3.
401	0.	1.	0.	2.	1.	2.	1.	3.	0.	1.
411	2.	0.	4.	1.	5.	2.	1.	3.	5.	3.
421	4.	5.	9.	10.	12.	17.	11.	13.	12.	10.
431	18.	22.	23.	21.	19.	20.	19.	15.	13.	5.
441	6.	2.	1.	1.	1.	0.	0.	1.	2.	1.
451	1.	2.	3.	3.	1.	0.	1.	1.	1.	1.
461	2.	0.	1.	2.	0.	0.	0.	2.	0.	1.
471	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.
481	0.	0.	0.	1.	0.	0.	1.	0.	1.	1.
491	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.
511	0.	0.								

222-S Analytical Laboratory
 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. 2.11

DATA REDUCTION REPORT

SAMPLE
 S00T632-DUP-AM
 File ID: 7a7699.CNF

Counted on: 4/ 5/ 0 @14:35
 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?	22.8	22.8	437.636	437.636	10.000	3.540	5.000	1.342
2	226.1	226.1	369.306	369.306	10.000	4.586	5.000	1.952
3	6667.0	6667.0	300.809	300.809	12.000	6.137	6.000	3.176
4	942.2	942.2	254.697	254.661	12.000	5.658	6.000	2.632
5?	10.9	10.9	163.904	163.902	148.000	1.000	74.000	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		????		6.108		0.70	10.7		
2	Cm244	0.028	5.795	5.794	0.0010.02	6.87	3.4	27.7	
	Cm243		5.779	5.794	-.015			38.0	
3	Am241	0.814	5.479	5.479	0.0000.03	200.58	0.6	862.2	
	Pu238		5.487	5.479	0.008			1125.6	
4	Am243	0.117	5.266	5.266	0.0000.03	28.94	1.7	118.1	
5		????		4.849		0.87	9.6		
Totals:		0.959	<--valid peaks only-->			236.39			

DETECTOR CALIBRATION

Energy(MEV) = 4.095 + (0.0046)*Channel
 Energy range (MeV): 4.095 TO 6.450
 Efficiency = 0.2475 CPM/DPM
 (Data reduction compression factor: 1.)

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	118354.0	100.000
Smoothed	118354.0	100.000
Composite fit	114228.1	96.514
Residuals	4125.9	3.486

Spectrum 7a7699.CNF

1 Legend: Raw = Modeled Peaks = 1,2,..., etc

Display Max.: 46566.5

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2

1
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1
1

Raw Data Dump for AEA Spectrum: 7a7699.CNF

1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	2.	1.	1.	0.
21	0.	2.	0.	0.	2.	1.	2.	2.	1.	1.
31	3.	2.	1.	5.	3.	3.	2.	4.	0.	2.
41	3.	1.	4.	2.	3.	1.	1.	0.	2.	1.
51	1.	0.	1.	1.	2.	6.	1.	1.	5.	4.
61	2.	1.	0.	7.	2.	3.	1.	0.	1.	2.
71	4.	0.	1.	1.	5.	4.	4.	3.	0.	4.
81	1.	3.	0.	4.	2.	4.	2.	3.	3.	2.
91	5.	0.	0.	3.	9.	2.	1.	3.	2.	3.
101	5.	3.	4.	1.	5.	6.	4.	6.	0.	4.
111	4.	3.	4.	3.	4.	6.	5.	5.	2.	3.
121	2.	5.	3.	1.	4.	3.	7.	1.	5.	3.
131	8.	3.	9.	5.	9.	8.	6.	5.	7.	8.
141	5.	9.	1.	2.	6.	10.	4.	7.	9.	7.
151	4.	3.	11.	7.	10.	13.	10.	9.	6.	8.
161	8.	9.	15.	9.	14.	7.	12.	8.	7.	9.
171	11.	7.	7.	7.	14.	12.	11.	7.	14.	16.
181	11.	13.	9.	10.	11.	16.	17.	9.	19.	12.
191	15.	19.	15.	10.	19.	18.	10.	20.	25.	15.
201	15.	18.	24.	27.	28.	23.	29.	28.	29.	27.
211	28.	28.	26.	28.	34.	33.	38.	45.	41.	48.
221	44.	47.	44.	51.	60.	51.	56.	63.	61.	73.
231	60.	94.	108.	86.	105.	107.	122.	121.	150.	171.
241	198.	242.	251.	289.	345.	389.	491.	516.	625.	677.
251	733.	876.	988.	990.	1113.	1034.	873.	610.	318.	240.
261	227.	166.	176.	203.	175.	201.	195.	187.	199.	216.
271	211.	259.	247.	261.	262.	314.	334.	380.	414.	506.
281	541.	612.	673.	756.	866.	1037.	1192.	1452.	1671.	1921.
291	2263.	2655.	3003.	3474.	3932.	4577.	5444.	6109.	6636.	7381.
301	7547.	7435.	6225.	4399.	2924.	2019.	1575.	1327.	1177.	944.
311	809.	621.	441.	293.	200.	101.	52.	22.	13.	14.
321	7.	10.	9.	9.	7.	15.	13.	14.	7.	7.
331	5.	3.	7.	9.	8.	8.	6.	6.	6.	14.
341	9.	9.	12.	11.	17.	11.	17.	12.	22.	22.
351	22.	41.	42.	40.	42.	54.	50.	75.	65.	105.
361	115.	135.	133.	160.	194.	168.	201.	279.	242.	251.
371	233.	207.	141.	67.	27.	4.	5.	2.	2.	4.
381	4.	3.	3.	0.	4.	1.	3.	4.	1.	2.
391	0.	0.	4.	2.	0.	3.	1.	0.	2.	2.
401	0.	3.	1.	2.	2.	0.	1.	4.	2.	0.
411	4.	2.	1.	2.	1.	2.	2.	4.	1.	3.
421	6.	7.	3.	7.	5.	6.	15.	7.	11.	11.
431	16.	19.	13.	23.	15.	15.	27.	30.	25.	13.
441	16.	2.	3.	2.	1.	1.	2.	1.	0.	3.
451	1.	0.	0.	2.	3.	0.	0.	1.	0.	0.
461	1.	2.	1.	1.	0.	1.	2.	2.	0.	1.
471	0.	0.	0.	2.	0.	0.	0.	0.	1.	1.
481	0.	1.	0.	2.	0.	0.	0.	0.	0.	0.
491	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.
511	0.	0.								

WORKBOOK PAGE: STD1

Am 241 and Cm 243/244: LA-953-103 (VOID) or LA-953-104(B-0) ³ ^{LD} ^{LD} LIQUID

				STD
	Date Counted	APR-06-2000	Am 241 AEA Frac. (C241)	0.492
STD	Sample Volume in mL (SS)	1.000	Am 243 AEA Frac. (C243)	0.47
	Sample D.F. (DF)	1	Cm 243/244 AEA Frac. (Cm)	0
33118	Tracer Volume in mL (SPKV)	0.200	Total AT Counts	3890
	Digest D.F. (DDF)	1.000	AT Count Time (min) (TC)	30
AM24102	Tracer Book No.	10B59	Background in cpm (Bkg)	0.17
	Am-243 Tracer Value (dpm/mL)	1130	Am 241 cpm	51.28
LIQUID	Detector Number	14	Am 243 cpm	48.99
	Detector Efficiency (DetEff)	0.2781	Cm 243/244 cpm	0
20001198	Standard Book No	46B57	AEA Count Time (min)	480
	Standard Value in $\mu\text{Ci/mL}$	1.070E-04	Am 241 $\mu\text{Ci/L}$ =	1.0657E-01
0			Cm 243/244 $\mu\text{Ci/L}$ =	< 1.1184E-02

N/A

Am-241 $\mu\text{Ci/L}$ = (C241 * Am-243 Tracer Value * SPKV * DF * DDF * (1000mL/L)) / (C243 * SS * (2220000dpm/ μCi))

WL33118-STD

Cm-243/244 $\mu\text{Ci/L}$ = (Cm * Am-243 Tracer Value * SPKV * DF * DDF * (1000mL/L)) / (C243 * SS * (2220000dpm/ μCi))

WB27807

Relative Counting Error = Square Root of [(1/(Am-243 cpm * min)) + (1 / (Am-241 or Cm-243/244 cpm * min))] * 1.96 * 100

Am 243 Tracer Recovery = (Total AT Counts / TC - Bkg) * (1/DetEff) * C243 * 100 / Am-243 Tracer Value * SPKV

NEW

JFR

Am 241 $\mu\text{Ci/mL}$ = 1.07E-04

Relative Counting Error = 1.8%

DETECTION

LEVELS

in $\mu\text{Ci/mL}$

CRJ

NOTE: Cm-243/244 Result is a LESS THAN Value.

Am 241

04/06/2000

Cm 243/244 $\mu\text{Ci/mL}$ < 1.12E-05

1.12E-05

Relative Counting Error = 100.0%

Cm 243/244

04/06/2000

Am 243 Tracer Recovery = 96.8%

1.12E-05

10:35 AM

SY-102 GRAB6

Analyst:

CRJ

Date:

04/06/2000

Signature of Chemist:

JFR

Date:

6 Apr 2000

STANDARD.WB1 REV 1.2

953103\ML

WORKBOOK PAGE: BLANK2

Am 241 and Cm 243/244: LA-953-103 (VOID) or LA-953-104(B-0) ³ *u/k/ld* LIQUID / SO

BLNK-PREP	Date Counted	APR-06-2000	Am 241 AEA Frac. (C241)	0
	Sample Volume in mL (SS)	1.000	Am 243 AEA Frac. (C243)	0.975
	Sample D.F. (DF)	1	Cm 243/244 AEA Frac. (Cm)	0
33118	Tracer Volume in mL (SPKV)	0.100	Total AT Counts	943
	Digest Grams of Solids/L (Dg/L)	2.025	AT Count Time (min) (TC)	30
@AM24102	Tracer Book No.	10B59	Background in cpm (Bkg)	0.17
	Am-243 Tracer Value (dpm/mL)	1130	Am 241 cpm	0
SOLID	Detector Number	14	Am 243 cpm	24.84
	Detector Efficiency (DetEff)	0.2781	Cm 243/244 cpm	0
20001198			AEA Count Time (min)	480
0			Am 241 $\mu\text{Ci/g}$ =	< 1.3291E-03
N/A			Cm 243/244 $\mu\text{Ci/g}$ =	< 1.3291E-03

Am-241 $\mu\text{Ci/g}$ = (C241) (Am-243 Tracer Value) (SPKV) (1000mL/L) (DF) / [(C243) (SS) (D g/L) (2220000dpm/ μCi)]Cm-243/244 $\mu\text{Ci/g}$ = (Cm) (Am-243 Tracer Value) (SPKV) (1000mL/L) (DF) / [(C243) (SS) (D g/L) (2220000dpm/ μCi)]

Relative Counting Error = Square Root of [(1 / (Am-243 cpm * min)) + (1 / (Am-241 or Cm-243/244 cpm * min))] * 1.96 * 100

Am 243 Tracer Recovery = (Total AT Counts / TC - Bkg) * (1/DetEff) * C243 * 100 / Am-243 Tracer Value * SPKV

NOTE: Am-241 Result is a LESS THAN Value.

Am241 $\mu\text{Ci/g}$ = < 1.33E-03

Relative Counting Error = 100.0%

DETECTION
LEVELS
in $\mu\text{Ci/g}$

NOTE: Cm-243/244 Result is a LESS THAN Value.

Cm 243/244 $\mu\text{Ci/g}$ = < 1.33E-03

Relative Counting Error = 100.0%

Am 243 Tracer Recovery = 97.0%

Am 241
1.33E-03
Cm 243/244
1.33E-03

Analyst:	CRJ	Date:	04/06/2000
Signature of Chemist:	JFR	Date:	6 Apr 00
BLANK.WB1 REV 1.2	953103ML		

947

WORKBOOK PAGE: SAM3

Am 241 and Cm 243/244: LA-953-103 (VOID) or LA-953-104(B-0) ³ ₁₀ LIQUID / SO

SAMPLE	Date Counted	APR-05-2000	Am 241 AEA Frac. (C241)	0.815
	Sample Volume in mL (SS)	1.000	Am 243 AEA Frac. (C243)	0.155
	Sample D.F. (DF)	1	Cm 243/244 AEA Frac. (Cm)	0.029
33118	Tracer Volume in mL (SPKV)	0.100	Total AT Counts	5854
	Digest Grams of Solids/L (Dg/L)	2.025	AT Count Time (min) (TC)	30
AM24102	Tracer Book No.	10B59	Background in cpm (Bkg)	0.17
	Am-243 Tracer Value (dpm/mL)	1130	Am 241 cpm	123.45
SOLID	Detector Number	14	Am 243 cpm	23.45
	Detector Efficiency (DetEff)	0.2781	Cm 243/244 cpm	4.33
20001198			AEA Count Time (min)	480
0			Am 241 $\mu\text{Ci/g}$ =	1.3218E-01
			Cm 243/244 $\mu\text{Ci/g}$ =	< 8.4329E-03

FUSION01

S00T000619

Am-241 $\mu\text{Ci/g}$ = (C241) (Am-243 Tracer Value) (SPKV) (1000mL/L) (DF) / [(C243) (SS) (D g/L) (2220000dpm/ μCi)]Cm-243/244 $\mu\text{Ci/g}$ = (Cm) (Am-243 Tracer Value) (SPKV) (1000mL/L) (DF) / [(C243) (SS) (D g/L) (2220000dpm/ μCi)]

Relative Counting Error = Square Root of [(1/(Am-243 cpm * min)) + (1 / (Am-241 or Cm-243/244 cpm * min))] * 1.96 * 100

Am 243 Tracer Recovery = (Total AT Counts / TC - Bkg) * (1/DetEff) * C243 * 100 / Am-243 Tracer Value * SPKV

Am241 $\mu\text{Ci/g}$ = 1.32E-01

Relative Counting Error = 2.0%

DETECTION

LEVELS

in $\mu\text{Ci/g}$

NOTE: Cm-243/244 Result is a LESS THAN Value.

Cm 243/244 $\mu\text{Ci/g}$ < 8.43E-03

Relative Counting Error = 4.7%

Am 243 Tracer Recovery = 96.2%

Am 241

8.43E-03

Cm 243/244

8.43E-03

Analyst:

CRJ

Date: 04/06/2000

Signature of Chemist:

JFR

Date: 6 Apr 2000

SAMPLE.WB1 REV 1.2

953103ML

WORKBOOK PAGE: DUP4

Am 241 and Cm 243/244: LA-953-103 (VOID) or LA-953-104(B-0) ³ LIQUID / SO				DUP
	Date Counted	APR-06-2000	Am 241 AEA Frac. (C241)	0.784
DUP	Sample Volume in mL (SS)	1.000	Am 243 AEA Frac. (C243)	0.164
	Sample D.F. (DF)	1	Cm 243/244 AEA Frac. (Cm)	0.027
33118	Tracer Volume in mL (SPKV)	0.100	Total AT Counts	5909
	Digest Grams of Solids/L (Dg/L)	2.000	AT Count Time (min) (TC)	30
AM24102	Tracer Book No.	10B59	Background in cpm (Bkg)	0.17
	Am-243 Tracer Value (dpm/mL)	1130	Am 241 cpm	123.85
SOLID	Detector Number	14	Am 243 cpm	25.83
	Detector Efficiency (DetEff)	0.2781	Cm 243/244 cpm	4.3
20001198			AEA Count Time (min)	480
0			Am 241 $\mu\text{Ci/g}$ =	1.1944E-01
			Cm 243/244 $\mu\text{Ci/g}$ =	< 7.6176E-03

FUSION01

S00T000619

Am-241 $\mu\text{Ci/g}$ = (C241) (Am-243 Tracer Value) (SPKV) (1000mL/L) (DF) / [(C243) (SS) (D g/L) (2220000dpm/ μCi)]Cm-243/244 $\mu\text{Ci/g}$ = (Cm) (Am-243 Tracer Value) (SPKV) (1000mL/L) (DF) / [(C243) (SS) (D g/L) (2220000dpm/ μCi)]

Relative Counting Error = Square Root of [(1 / (Am-243 cpm * min)) + (1 / (Am-241 or Cm-243/244 cpm * min))] * 1.96 * 100

Am 243 Tracer Recovery = (Total AT Counts / TC - Bkg) * (1/DetEff) * C243 * 100 / Am-243 Tracer Value * SPKV

Am241 $\mu\text{Ci/g}$ =	1.19E-01	DETECTION LEVELS In $\mu\text{Ci/g}$
Relative Counting Error =	1.9%	
NOTE: Cm-243/244 Result is a LESS THAN Value.		Am 241
Cm 243/244 $\mu\text{Ci/g}$	< 7.62E-03	7.62E-03
Relative Counting Error =	4.7%	Cm 243/244
Am 243 Tracer Recovery =	102.7%	7.62E-03

Analyst:	CRJ	Date:	04/06/2000
Signature of Chemist:	JFR	Date:	6 Apr 2000
SAMPLE.WB1 REV 1.2	953103ML		

WORKBOOK PAGE: SAM5

Am 241 and Cm 243/244: LA-953-103 (VOID) or LA-953-104(B-3) ³ ₁₀ LIQUID / SO

				SAMPLE
	Date Counted	APR-05-2000	Am 241 AEA Frac. (C241)	0.83
SAMPLE	Sample Volume in mL (SS)	1.000	Am 243 AEA Frac. (C243)	0.117
	Sample D.F. (DF)	1	Cm 243/244 AEA Frac. (Cm)	0.028
33118	Tracer Volume in mL (SPKV)	0.100	Total AT Counts	8791
	Digest Grams of Solids/L (Dg/L)	2.031	AT Count Time (min) (TC)	30
@AM24102	Tracer Book No.	10B59	Background in cpm (Bkg)	0.17
	Am-243 Tracer Value (dpm/mL)	1130	Am 241 cpm	188.97
SOLID	Detector Number	14	Am 243 cpm	26.66
	Detector Efficiency (DetEff)	0.2781	Cm 243/244 cpm	6.48
20001198			AEA Count Time (min)	480
			Am 241 $\mu\text{Ci/g}$ =	1.7777E-01
0			Cm 243/244 $\mu\text{Ci/g}$ =	< 1.0709E-02

FUSION01

S00T000632

Am-241 $\mu\text{Ci/g}$ = (C241) (Am-243 Tracer Value) (SPKV) (1000mL/L) (DF) / [(C243) (SS) (D g/L) (2220000dpm/ μCi)]Cm-243/244 $\mu\text{Ci/g}$ = (Cm) (Am-243 Tracer Value) (SPKV) (1000mL/L) (DF) / [(C243) (SS) (D g/L) (2220000dpm/ μCi)]Relative Counting Error = Square Root of $[(1/(\text{Am-243 cpm} \cdot \text{min})) + (1/(\text{Am-241 or Cm-243/244 cpm} \cdot \text{min}))] \cdot 1.96 \cdot 100$

Am 243 Tracer Recovery = (Total AT Counts / TC - Bkg) * (1/DetEff) * C243 * 100 / Am-243 Tracer Value * SPKV

Am241 $\mu\text{Ci/g}$ = 1.78E-01
 Relative Counting Error = 1.9%

DETECTION
LEVELS
in $\mu\text{Ci/g}$

NOTE: Cm-243/244 Result is a LESS THAN Value.

Cm 243/244 $\mu\text{Ci/g}$ < 1.07E-02

Relative Counting Error = 3.9%

Am 243 Tracer Recovery = 109.0%

Am 241
1.07E-02
Cm 243/244
1.07E-02

Analyst:	CRJ	Date:	04/06/2000
Signature of Chemist:	<i>John Relyea</i>	Date:	6 Apr 00
SAMPLE.WB1 REV 1.2	953102ML		

950

WORKBOOK PAGE: DUP6

Am 241 and Cm 243/244: LA-953-103 (VOID) or LA-953-104(B-0) ^{3/10/2000} LIQUID / SO

DUP	Date Counted	APR-06-2000	Am 241 AEA Frac. (C241)	DUP
DUP	Sample Volume in mL (SS)	1.000	Am 243 AEA Frac. (C243)	0.814
33118	Sample D.F. (DF)	1	Cm 243/244 AEA Frac. (Cm)	0.117
AM24102	Tracer Volume in mL (SPKV)	0.100	Total AT Counts	0.028
	Digest Grams of Solids/L (Dg/L)	0.022	AT Count Time (min) (TC)	8867
	Tracer Book No.	10B59	Background in cpm (Bkg)	30
	Am-243 Tracer Value (dpm/mL)	1130	Am 241 cpm	0.17
SOLID	Detector Number	14	Am 243 cpm	200.68
	Detector Efficiency (DetEff)	0.2781	Cm 243/244 cpm	28.94
20001198			AEA Count Time (min)	6.87
0			Am 241 $\mu\text{Ci/g}$ =	480
FUSION01			Cm 243/244 $\mu\text{Ci/g}$ =	1.7510E-01
S00T000632				< 1.0756E-02

Am-241 $\mu\text{Ci/g}$ = (C241) (Am-243 Tracer Value) (SPKV) (1000mL/L) (DF) / [(C243) (SS) (D g/L) (2220000dpm/ μCi)]Cm-243/244 $\mu\text{Ci/g}$ = (Cm) (Am-243 Tracer Value) (SPKV) (1000mL/L) (DF) / [(C243) (SS) (D g/L) (2220000dpm/ μCi)]

Relative Counting Error = Square Root of [(1 / (Am-243 cpm * min)) + (1 / (Am-241 or Cm-243/244 cpm * min))] * 1.96 * 100

Am 243 Tracer Recovery = (Total AT Counts / TC - Bkg) * (1 / DetEff) * C243 * 100 / Am-243 Tracer Value * SPKV

Am241 $\mu\text{Ci/g}$ =	1.75E-01	DETECTION LEVELS In $\mu\text{Ci/g}$
Relative Counting Error =	1.8%	
NOTE: Cm-243/244 Result is a LESS THAN Value.		Am 241
Cm 243/244 $\mu\text{Ci/g}$	< 1.08E-02	1.08E-02
Relative Counting Error =	3.8%	Cm 243/244
Am 243 Tracer Recovery =	109.9%	1.08E-02

Analyst:	CRJ	Date:	04/06/2000
Signature of Chemist:	JFR	Date:	6/2/2000

SAMPLE.WB1 REV 1.2

953/03ML

LABCORE Completed Worklist Report for Worklist# 32866

Analyst: ak1

Instrument: AB16

Book#: _____

Method: LA-953-104 Rev/Mod B-3

Worklist Comment: SY-102 FOR @PU23902 RTS

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	STD		0		@PU23902 PU23901 LIQUID		1.26E-04	1.26E-4	100.000	% Recovery
1	STD		0		@PU23902 PU23901T LIQUID		100	9.86E+01	98.600	% Recovery
1	STD		0		@PU23902 PU23901E LIQUID		1.0	1.72E+00	1.720	% Ct Error
2	BLNK		0		@PU23902 PU23901 LIQUID		1	<3.23E-4		uCi/mL
2	BLNK		0		@PU23902 PU23901T LIQUID		100	1.03E+02	103.000	% Recovery
2	BLNK		0		@PU23902 PU23901E LIQUID		1.00	1.00E+02	100.000	uCi/mL
2	BLNK		0		@PU23902 PU23801 LIQUID		1	<3.23E-4		uCi/mL
2	BLNK		0		@PU23902 PU23801E LIQUID		1.00	1.00E+02	100.000	uCi/mL
3	SAMPLE	S00T000505	0		@PU23902 PU23901 LIQUID		N/A	< 3.33E-04	3.33E-004	uCi/mL
3	SAMPLE	S00T000505	0		@PU23902 PU23901T LIQUID		N/A	1.04E+02		% Recovery
3	SAMPLE	S00T000505	0		@PU23902 PU23901E LIQUID		N/A	9.73E+00		% Ct. Error
3	SAMPLE	S00T000505	0		@PU23902 PU23801 LIQUID		N/A	< 3.33E-04	3.33E-004	uCi/mL
3	SAMPLE	S00T000505	0		@PU23902 PU23801E LIQUID		N/A	1.00E+02		% Ct. Error
4	DUP	S00T000505	0		@PU23902 PU23901 LIQUID		<3.33E-4	<3.30E-4		RPD
4	DUP	S00T000505	0		@PU23902 PU23901T LIQUID		100	1.03E+02	103.000	% Recovery
4	DUP	S00T000505	0		@PU23902 PU23901E LIQUID		1.00	9.22E+00	9.220	% Ct Error
4	DUP	S00T000505	0		@PU23902 PU23801 LIQUID		<3.33E-4	<3.30E-4		RPD
4	DUP	S00T000505	0		@PU23902 PU23801E LIQUID		1.00	1.00E+02	100.000	% Ct. Error
5	SAMPLE	S00T000506	0		@PU23902 PU23901 LIQUID		N/A	< 3.32E-04	3.32E-004	uCi/mL
5	SAMPLE	S00T000506	0		@PU23902 PU23901T LIQUID		N/A	1.08E+02		% Recovery
5	SAMPLE	S00T000506	0		@PU23902 PU23901E LIQUID		N/A	7.72E+00		% Ct. Error
5	SAMPLE	S00T000506	0		@PU23902 PU23801 LIQUID		N/A	< 3.32E-04	3.32E-004	uCi/mL
5	SAMPLE	S00T000506	0		@PU23902 PU23801E LIQUID		N/A	1.11E+01		% Ct. Error
6	DUP	S00T000506	0		@PU23902 PU23901 LIQUID		<3.32E-4	<3.38E-4		RPD
6	DUP	S00T000506	0		@PU23902 PU23901T LIQUID		100	1.02E+02	102.000	% Recovery
6	DUP	S00T000506	0		@PU23902 PU23901E LIQUID		1.00	8.30E+00	8.300	% Ct Error
6	DUP	S00T000506	0		@PU23902 PU23801 LIQUID		<3.32E-4	<3.38E-4		RPD
6	DUP	S00T000506	0		@PU23902 PU23801E LIQUID		1.00	1.03E+01	10.300	% Ct. Error
7	SAMPLE	S00T000507	0		@PU23902 PU23901 LIQUID		N/A	< 3.39E-04	3.39E-004	uCi/mL
7	SAMPLE	S00T000507	0		@PU23902 PU23901T LIQUID		N/A	9.91E+01		% Recovery
7	SAMPLE	S00T000507	0		@PU23902 PU23901E LIQUID		N/A	9.73E+00		% Ct. Error
7	SAMPLE	S00T000507	0		@PU23902 PU23801 LIQUID		N/A	< 3.39E-04	3.39E-004	uCi/mL
7	SAMPLE	S00T000507	0		@PU23902 PU23801E LIQUID		N/A	1.00E+02		% Ct. Error
8	DUP	S00T000507	0		@PU23902 PU23901 LIQUID		<3.39E-4	<3.36E-4		RPD
8	DUP	S00T000507	0		@PU23902 PU23901T LIQUID		100	1.07E+02	107.000	% Recovery
8	DUP	S00T000507	0		@PU23902 PU23901E LIQUID		1.00	9.74E+00	9.740	% Ct Error
8	DUP	S00T000507	0		@PU23902 PU23801 LIQUID		<3.39E-4	<3.36E-4		RPD
8	DUP	S00T000507	0		@PU23902 PU23801E LIQUID		1.00	1.00E+02	100.000	% Ct. Error

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

LABCORE Completed Worklist Report for Worklist# 32866

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
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Final page for worklist# 32866

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

16 Mar 2000
Reviewer Signature _____ Date _____

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

LABCORE Data Entry Template for Worklist# 32866Analyst: AKL Instrument: PU01 16 Book# 46B57Method: LA-953-104 Rev/Mod B-3

Worklist Comment: SY-102 FOR @PU23902 RTS

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 STD			@PU23902	LIQUID		
2 BLNK			@PU23902	LIQUID		
3 SAMPLE	S00T000505 0		@PU23902	LIQUID	20000085	SY-102 GRAB6
	Analytes Requested: PU23801 , PU23801E, PU23901 , PU23901E, PU23901T					
4 DUP	S00T000505 0		@PU23902	LIQUID		
5 SAMPLE	S00T000506 0		@PU23902	LIQUID	20000085	SY-102 GRAB6
	Analytes Requested: PU23801 , PU23801E, PU23901 , PU23901E, PU23901T					
6 DUP	S00T000506 0		@PU23902	LIQUID		
7 SAMPLE	S00T000507 0		@PU23902	LIQUID	20000085	SY-102 GRAB6
	Analytes Requested: PU23801 , PU23801E, PU23901 , PU23901E, PU23901T					
8 DUP	S00T000507 0		@PU23902	LIQUID		

Final page for worklist # 32866

Alita Huron 3/15/00
Signature Date

John Z. Cochran 3/16/00
Signature Date
W. B. Brown 3/16/00

Data Entry Comments:

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

222-S Analytical Laboratory
 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. 2.11

DATA REDUCTION REPORT

SAMPLE
 WL32866-STD-PU
 File ID: 2a2075.CNF

Counted on: 3/15/ 0 @17: 7
 Detector: AEA2
 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	2404.2	2404.2	363.064	363.064	10.000	2.210	5.000	1.391
2?	17.8	17.8	302.898	302.887	12.000	5.750	6.000	2.011
3?	8.9	8.9	288.859	288.496	8.000	0.989	4.000	1.499
4	16.8	16.8	256.402	256.385	30.000	46.738	15.000	20.629
5	3243.9	3243.9	229.579	229.578	8.000	2.494	4.000	2.287

PEAK RESULTS

Peak Error Limit: 30%

Peak ID	Isotope	AEA Frac	Peak Centroid Exp.	Obs.	Diff.	FWHM	Count Rate c/m	%err @95	d/m	Activity uCi/ea	
1	Pu236	0.437	5.755	5.759	-.0040	0.01	50.00	1.3	233.5	0.105E-03	
2		????		5.482			0.63	11.4			
3		????		5.416			0.10	48.8			
4	Am243	0.010	5.266	5.268	-.0020	0.21	1.16	9.4	5.4	0.242E-05	
	Po210		5.305	5.268	0.037				5.3	0.239E-05	
5	Pu240	0.520	5.144	5.145	-.0010	0.01	59.52	1.2	272.4	0.123E-03	
	Pu239		5.147	5.145	0.002				272.4	0.123E-03	
Totals:		0.967	<--valid peaks only-->				110.69				

DETECTOR CALIBRATION

Energy (MEV) = 4.089 + (0.0046)*Channel
 Energy range (MeV): 4.089 TO 6.444
 Efficiency = 0.2185 CPM/DPM
 (Data reduction compression factor: 1.)

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	54943.0	100.000
Smoothed	54942.6	99.999
Composite fit	53493.3	97.362
Residuals	1449.7	2.638

955 Analyzed by: _____

Spectrum 2a2075.CNF

1 Legend: Raw = Modeled Peaks = 1,2,..., etc

Display Max.: 19469.0

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5.
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4.....5...
4
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4
3
3
2
2

1
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1...

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Raw Data Dump for AEA Spectrum: 2a2075.CNF

1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	1.	1.	1.	1.
21	0.	0.	0.	0.	0.	0.	0.	1.	1.	0.
31	0.	1.	2.	0.	0.	1.	0.	1.	1.	1.
41	2.	1.	0.	2.	1.	2.	1.	0.	2.	1.
51	0.	0.	0.	1.	1.	0.	0.	1.	1.	0.
61	0.	2.	1.	0.	0.	1.	0.	0.	1.	0.
71	1.	0.	2.	0.	0.	0.	1.	0.	0.	0.
81	2.	0.	1.	0.	1.	1.	0.	1.	0.	2.
91	0.	1.	1.	0.	0.	2.	1.	2.	3.	0.
101	1.	1.	2.	2.	1.	0.	1.	0.	2.	1.
111	1.	1.	1.	1.	2.	1.	2.	1.	1.	1.
121	3.	2.	1.	1.	0.	2.	3.	0.	1.	0.
131	1.	2.	1.	2.	3.	4.	1.	2.	3.	1.
141	2.	1.	2.	1.	1.	0.	2.	4.	1.	1.
151	3.	2.	1.	2.	2.	1.	2.	0.	2.	4.
161	0.	0.	0.	2.	0.	2.	2.	2.	0.	1.
171	5.	3.	6.	5.	3.	2.	4.	2.	1.	3.
181	4.	4.	1.	6.	4.	4.	0.	4.	4.	9.
191	6.	7.	6.	4.	4.	3.	13.	15.	15.	8.
201	5.	15.	18.	15.	17.	21.	26.	34.	39.	37.
211	41.	68.	90.	107.	140.	198.	314.	440.	525.	564.
221	601.	608.	724.	914.	1269.	1800.	2508.	3202.	4104.	4252.
231	3674.	2217.	902.	230.	23.	11.	6.	6.	3.	3.
241	2.	6.	2.	3.	1.	6.	3.	5.	4.	7.
251	8.	9.	10.	14.	15.	21.	18.	19.	11.	6.
261	0.	4.	4.	2.	2.	2.	6.	5.	6.	4.
271	7.	4.	5.	5.	1.	1.	2.	1.	6.	0.
281	2.	2.	5.	5.	9.	5.	10.	22.	16.	13.
291	13.	5.	3.	7.	12.	13.	12.	10.	11.	11.
301	13.	22.	24.	18.	14.	12.	10.	4.	2.	1.
311	3.	9.	7.	2.	2.	1.	6.	1.	5.	4.
321	6.	5.	4.	3.	5.	4.	10.	7.	12.	8.
331	16.	12.	6.	9.	15.	16.	11.	15.	25.	14.
341	23.	35.	50.	44.	62.	83.	93.	148.	234.	337.
351	543.	693.	994.	1017.	906.	716.	713.	795.	1074.	1429.
361	1949.	2564.	3177.	3109.	2104.	870.	213.	40.	7.	5.
371	3.	1.	1.	1.	2.	2.	0.	2.	1.	0.
381	0.	1.	0.	1.	0.	2.	0.	1.	0.	2.
391	0.	1.	1.	1.	0.	1.	0.	1.	0.	0.
401	0.	2.	0.	0.	2.	0.	0.	0.	1.	0.
411	0.	0.	0.	0.	0.	1.	0.	0.	0.	1.
421	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.
431	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.
441	0.	0.	2.	0.	0.	0.	0.	0.	0.	0.
451	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
461	0.	0.	0.	0.	1.	0.	1.	0.	0.	0.
471	0.	0.	1.	0.	0.	2.	0.	0.	0.	0.
481	1.	0.	0.	0.	3.	0.	0.	0.	0.	0.
491	0.	1.	1.	0.	0.	0.	0.	0.	0.	0.
511	0.	0.								

222-S Analytical Laboratory
 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. 2.11

DATA REDUCTION REPORT

SAMPLE
 WL32866-BLNK-PU
 File ID: 3a3019.CNF

Counted on: 3/15/ 0 @17: 7
 Detector: AEA3
 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	2115.1	2115.1	363.555	363.555	10.000	2.895	5.000	1.566

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	0.994	5.755	5.759	-.0040	0.01	50.77	1.3	233.9	0.105E-03
Totals:		0.994	<--valid peaks only-->				50.77			

DETECTOR CALIBRATION

Energy(MEV) = 4.087 + (0.0046)*Channel
 Energy range (MeV): 4.087 TO 6.442
 Efficiency = 0.2215 CPM/DPM
 (Data reduction compression factor: 1.)

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	24536.0	100.000
Smoothed	24535.9	100.000
Composite fit	24376.6	99.350
Residuals	159.4	0.650

Analyzed by: _____

SLH2

Spectrum 3a3019.CNF

1 Legend: Raw = Modeled Peaks = 1,2,..., etc

Display Max.: 12976.5

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1
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.....1
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Raw Data Dump for AEA Spectrum: 3a3019.CNF

1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.
31	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.
41	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.
51	0.	1.	0.	1.	0.	0.	0.	0.	0.	0.
61	1.	0.	0.	0.	0.	0.	1.	0.	0.	0.
71	0.	0.	1.	0.	0.	1.	0.	0.	0.	1.
81	0.	0.	1.	0.	0.	1.	0.	0.	0.	1.
91	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
101	2.	0.	0.	0.	0.	0.	1.	1.	0.	0.
111	0.	1.	1.	1.	0.	0.	0.	0.	0.	0.
121	0.	0.	0.	1.	0.	1.	0.	1.	0.	0.
131	0.	1.	1.	1.	0.	1.	0.	0.	0.	0.
141	0.	2.	0.	0.	0.	0.	0.	1.	0.	0.
151	1.	2.	0.	0.	0.	0.	0.	0.	1.	0.
161	0.	0.	0.	0.	0.	0.	0.	2.	0.	0.
171	0.	2.	0.	0.	0.	1.	1.	0.	1.	0.
181	0.	0.	0.	1.	0.	0.	1.	0.	1.	0.
191	0.	0.	0.	1.	0.	1.	0.	1.	0.	0.
201	0.	0.	3.	1.	0.	1.	1.	0.	0.	1.
211	2.	0.	0.	0.	1.	0.	3.	0.	2.	1.
221	1.	2.	0.	1.	1.	1.	1.	2.	1.	2.
231	3.	1.	1.	1.	1.	1.	1.	0.	1.	1.
241	1.	2.	1.	1.	1.	7.	2.	5.	2.	0.
251	1.	2.	4.	3.	7.	11.	10.	5.	6.	2.
261	0.	1.	1.	0.	2.	1.	6.	2.	4.	5.
271	4.	2.	4.	4.	0.	2.	3.	1.	1.	2.
281	2.	1.	3.	3.	9.	5.	9.	11.	10.	10.
291	3.	3.	3.	2.	1.	3.	3.	0.	4.	1.
301	2.	4.	3.	4.	2.	6.	6.	6.	1.	3.
311	4.	2.	1.	1.	2.	2.	4.	4.	2.	2.
321	1.	5.	2.	1.	9.	4.	8.	6.	10.	8.
331	13.	9.	13.	12.	10.	15.	13.	18.	16.	26.
341	31.	28.	45.	70.	82.	97.	137.	193.	251.	320.
351	454.	641.	829.	960.	972.	861.	776.	841.	1001.	1241.
361	1682.	2129.	2564.	2676.	2308.	1619.	765.	285.	64.	14.
371	0.	1.	3.	1.	1.	2.	1.	0.	0.	1.
381	0.	0.	1.	3.	0.	1.	1.	0.	1.	0.
391	0.	0.	0.	3.	1.	0.	1.	0.	0.	0.
401	0.	0.	0.	1.	1.	0.	0.	0.	0.	2.
411	0.	0.	1.	1.	1.	0.	0.	0.	0.	0.
421	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.
431	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.
441	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
451	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.
461	0.	1.	1.	1.	0.	1.	1.	0.	0.	0.
471	0.	0.	2.	0.	0.	0.	2.	1.	2.	0.
481	2.	0.	0.	0.	0.	2.	0.	0.	0.	1.
491	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
511	0.	0.								

222-S Analytical Laboratory
 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. 2.11

DATA REDUCTION REPORT

SAMPLE
 S00T505-SAM-PU
 File ID: 4a4113.CNF

Counted on: 3/15/ 0 @17: 8
 Detector: AEA4
 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	2255.1	2255.1	360.224	360.224	10.000	2.458	5.000	1.409
2	39.9	39.9	227.750	227.750	10.000	3.209	5.000	2.335

PEAK RESULTS

Peak Error Limit: 30%

Peak ID	Isotope	AEA Frac	Peak Centroid Exp.	Obs.	Diff.	FWHM	Count Rate c/m	%err @95	d/m	Activity uCi/ea
1	Pu236	0.966	5.755	5.747	0.008	0.01	50.51	1.3	231.0	0.104E-03
2	Pu240	0.017	5.144	5.138	0.006	0.01	0.86	9.6	3.9	0.174E-05
	Pu239		5.147	5.138	0.009				3.9	0.174E-05
Totals:		0.983	<--valid peaks only-->				51.37			

DETECTOR CALIBRATION

Energy(MEV) = 4.090 + (0.0046)*Channel
 Energy range (MeV): 4.090 TO 6.445
 Efficiency = 0.2231 CPM/DPM
 (Data reduction compression factor: 1.)

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	25094.0	100.000
Smoothed	25094.0	100.000
Composite fit	24660.6	98.273
Residuals	433.4	1.727

Analyzed by: _____

SLH2

1 Legend: Raw = Modeled Peaks = 1,2,..., etc

Display Max.: 11000.6

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2

1

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Raw Data Dump for AEA Spectrum: 4a4113.CNF

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.	1.	0.	1.	0.	0.	0.	0.
31	0.	1.	0.	0.	0.	0.	1.	0.	0.	1.
41	0.	0.	0.	2.	0.	0.	0.	0.	1.	0.
51	0.	0.	0.	1.	0.	0.	0.	0.	0.	1.
61	0.	1.	1.	0.	0.	0.	0.	1.	0.	1.
71	0.	0.	0.	1.	0.	1.	0.	0.	0.	0.
81	1.	0.	0.	0.	2.	1.	0.	0.	0.	0.
91	0.	1.	0.	0.	0.	1.	0.	0.	0.	0.
101	0.	1.	0.	0.	0.	0.	1.	0.	1.	0.
111	0.	1.	0.	1.	0.	1.	0.	1.	0.	1.
121	0.	2.	0.	0.	0.	0.	0.	0.	1.	0.
131	1.	0.	1.	0.	1.	2.	2.	0.	0.	1.
141	0.	1.	1.	2.	1.	1.	0.	0.	0.	0.
151	0.	0.	0.	0.	0.	0.	1.	2.	1.	2.
161	0.	0.	1.	1.	0.	2.	2.	1.	2.	1.
171	0.	0.	0.	2.	0.	0.	0.	1.	1.	0.
181	0.	0.	2.	0.	3.	0.	1.	2.	0.	0.
191	0.	1.	0.	1.	0.	0.	0.	1.	0.	2.
201	1.	4.	2.	0.	1.	0.	2.	2.	0.	3.
211	7.	1.	3.	3.	7.	4.	8.	12.	14.	16.
221	8.	12.	10.	26.	28.	41.	54.	49.	43.	38.
231	14.	13.	5.	0.	0.	1.	0.	2.	0.	1.
241	3.	1.	0.	2.	3.	7.	1.	2.	3.	3.
251	7.	4.	6.	7.	6.	9.	4.	2.	2.	2.
261	2.	2.	0.	0.	4.	1.	4.	2.	3.	2.
271	0.	1.	0.	3.	0.	1.	2.	4.	5.	1.
281	2.	6.	8.	12.	8.	9.	12.	8.	10.	8.
291	5.	3.	8.	7.	2.	7.	7.	7.	5.	14.
301	12.	9.	11.	8.	9.	5.	2.	0.	0.	3.
311	1.	4.	0.	5.	2.	5.	3.	4.	2.	2.
321	7.	4.	7.	10.	10.	9.	7.	13.	9.	9.
331	11.	13.	15.	12.	14.	15.	20.	27.	32.	30.
341	42.	69.	91.	135.	163.	269.	397.	526.	677.	873.
351	1005.	944.	826.	774.	847.	1051.	1395.	1850.	2381.	2800.
361	2998.	2241.	1117.	368.	67.	8.	1.	1.	3.	0.
371	1.	0.	1.	3.	0.	0.	1.	0.	0.	0.
381	1.	0.	1.	0.	0.	1.	1.	0.	0.	0.
391	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.
401	0.	0.	0.	0.	2.	1.	0.	1.	0.	0.
411	0.	1.	0.	0.	0.	0.	0.	0.	0.	1.
421	0.	0.	1.	0.	0.	0.	0.	0.	1.	0.
431	1.	0.	1.	0.	0.	0.	0.	0.	0.	0.
441	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
451	0.	1.	0.	0.	1.	0.	1.	0.	0.	0.
461	0.	0.	1.	1.	0.	0.	0.	2.	0.	1.
471	3.	0.	3.	1.	0.	2.	0.	1.	0.	0.
481	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
491	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
511	0.	0.								

222-S Analytical Laboratory
 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. 2.11

DATA REDUCTION REPORT

SAMPLE
 S00T505-DUP-PU
 File ID: 5a5635.CNF

Counted on: 3/15/ 0 @17: 9
 Detector: AEA5
 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	2225.2	2225.2	362.099	362.099	10.000	2.561	5.000	1.423
2	43.1	43.1	230.657	230.657	12.000	3.097	6.000	2.025

PEAK RESULTS

Peak Error Limit: 30%

Peak ID	Isotope	AEA Frac	Peak Centroid Exp.	Obs.	Diff.	FWHM	Count Rate c/m	%err @95	d/m	Activity uCi/ea
1	Pu236	0.973	5.755	5.745	0.010	0.01	51.18	1.3	218.4	0.984E-04
2	Pu240	0.018	5.144	5.141	0.003	0.01	0.96	9.1	4.0	0.181E-05
	Pu239		5.147	5.141	0.006				4.0	0.181E-05
Totals:		0.991	<--valid peaks only-->				52.14			

DETECTOR CALIBRATION

Energy(MEV) = 4.080 + (0.0046)*Channel
 Energy range (MeV): 4.080 TO 6.435
 Efficiency = 0.2391 CPM/DPM
 (Data reduction compression factor: 1.)

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	25243.0	100.000
Smoothed	25243.0	100.000
Composite fit	25027.8	99.147
Residuals	215.2	0.853

Analyzed by: _____

SLH2

Spectrum 5a5635.CNF

1 Legend: Raw = Modeled Peaks = 1,2,..., etc

Display Max.: 11490.4

2
2
21
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1.....

Raw Data Dump for AEA Spectrum: 5a5635.CNF

1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.
31	0.	0.	0.	0.	1.	1.	0.	1.	0.	0.
41	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
51	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
61	0.	1.	0.	1.	0.	0.	1.	0.	0.	0.
71	0.	0.	1.	0.	1.	1.	0.	0.	1.	1.
81	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.
91	0.	0.	1.	0.	0.	0.	0.	0.	1.	0.
101	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
111	0.	0.	0.	1.	0.	1.	0.	0.	0.	0.
121	2.	0.	0.	1.	0.	0.	1.	1.	0.	0.
131	1.	0.	0.	0.	3.	0.	0.	1.	1.	0.
141	1.	0.	0.	0.	1.	1.	1.	2.	1.	0.
151	0.	0.	1.	0.	0.	0.	1.	0.	1.	1.
161	0.	0.	0.	1.	0.	1.	0.	1.	1.	0.
171	0.	0.	0.	0.	3.	0.	0.	0.	1.	0.
181	3.	1.	0.	0.	0.	0.	0.	0.	0.	0.
191	0.	0.	3.	0.	0.	0.	3.	1.	0.	1.
201	0.	1.	1.	1.	1.	0.	1.	0.	0.	1.
211	3.	2.	2.	1.	4.	5.	4.	5.	3.	7.
221	18.	12.	10.	19.	17.	27.	37.	31.	27.	60.
231	55.	40.	36.	15.	11.	3.	2.	0.	2.	3.
241	0.	2.	1.	0.	2.	1.	1.	1.	2.	4.
251	3.	3.	6.	10.	8.	9.	7.	6.	3.	0.
261	2.	0.	1.	1.	1.	1.	5.	5.	3.	4.
271	2.	4.	1.	2.	2.	2.	1.	1.	0.	0.
281	5.	2.	2.	6.	8.	9.	15.	11.	10.	7.
291	7.	4.	2.	6.	6.	1.	2.	4.	6.	4.
301	9.	10.	10.	6.	13.	6.	10.	5.	3.	3.
311	2.	0.	5.	0.	4.	2.	2.	3.	2.	3.
321	2.	5.	6.	9.	3.	6.	14.	8.	8.	11.
331	8.	8.	7.	9.	20.	20.	13.	25.	27.	27.
341	47.	43.	51.	85.	107.	148.	212.	251.	417.	513.
351	717.	911.	980.	989.	831.	860.	934.	1095.	1420.	1857.
361	2407.	2847.	2771.	2053.	1094.	390.	72.	8.	3.	1.
371	1.	1.	2.	1.	1.	0.	1.	1.	1.	1.
381	1.	0.	2.	0.	1.	0.	1.	1.	1.	0.
391	0.	0.	0.	0.	0.	1.	1.	0.	0.	0.
401	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.
411	0.	1.	0.	0.	1.	0.	1.	0.	0.	0.
421	1.	0.	0.	1.	0.	0.	0.	0.	0.	1.
431	2.	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.	1.	0.
461	0.	0.	2.	1.	0.	1.	1.	0.	0.	1.
471	0.	1.	0.	1.	0.	1.	1.	2.	1.	0.
481	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
491	2.	0.	0.	0.	0.	0.	0.	0.	0.	0.
511	0.	0.								

222-S Analytical Laboratory
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. 2.11

DATA REDUCTION REPORT

SAMPLE
S00T506-SAM-PU
File ID: 6a6625.CNF

Counted on: 3/15/ 0 @17:10
Detector: AEA6
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	1660.7	1660.7	361.224	361.224	14.000	6.051	7.000	2.894
2	14.4	14.4	301.237	301.095	18.000	8.228	9.000	2.111
3	48.3	48.3	227.775	227.771	16.000	6.888	8.000	4.782

PEAK RESULTS

Peak Error Limit: 30%

Peak ID	Isotope	AEA Frac	Peak Centroid Exp.	Obs.	Diff.	FWHM	Count Rate c/m	%err @95	d/m	Activity uCi/ea
1	Pu236	0.969	5.755	5.751	0.004	0.03	51.36	1.2	273.5	0.123E-03
2	Pu238	0.012	5.487	5.475	0.012	0.04	0.66	11.9	4.8	0.215E-05
	Am241		5.479	5.475	0.004				3.7	0.165E-05
3	Pu240	0.026	5.144	5.137	0.007	0.03	1.38	7.6	7.2	0.324E-05
	Pu239		5.147	5.137	0.010				7.2	0.324E-05
Totals:		1.008	<--valid peaks only-->				53.40			

DETECTOR CALIBRATION

Energy(MEV) = 4.089 + (0.0046)*Channel
Energy range (MeV): 4.089 TO 6.445
Efficiency = 0.1916 CPM/DPM
(Data reduction compression factor: 1.)

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	25434.0	100.000
Smoothed	25434.0	100.000
Composite fit	25632.9	100.782
Residuals	-198.9	-0.782

Analyzed by: _____

SLH2

Spectrum 6a6625.CNF

1 Legend: Raw = Modeled Peaks = 1,2,..., etc

Display Max.: 9652.9

3
.3
3

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Raw Data Dump for AEA Spectrum: 6a6625.CNF

1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.
21	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.
31	0.	0.	1.	0.	0.	0.	0.	0.	1.	0.
41	0.	0.	0.	0.	0.	0.	0.	1.	0.	1.
51	1.	0.	0.	0.	0.	0.	2.	0.	0.	0.
61	0.	0.	1.	1.	0.	0.	0.	1.	0.	0.
71	0.	0.	0.	0.	0.	1.	0.	2.	0.	0.
81	0.	1.	0.	0.	0.	0.	1.	1.	2.	0.
91	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.
101	0.	1.	0.	1.	0.	0.	2.	0.	1.	0.
111	1.	0.	0.	0.	0.	0.	1.	0.	1.	1.
121	1.	0.	0.	1.	0.	1.	2.	1.	1.	0.
131	0.	0.	0.	0.	0.	1.	1.	1.	0.	0.
141	0.	1.	0.	2.	2.	1.	3.	2.	1.	0.
151	1.	3.	2.	0.	1.	0.	0.	0.	0.	0.
161	0.	0.	0.	0.	0.	0.	0.	1.	1.	1.
171	0.	2.	0.	0.	1.	1.	0.	0.	0.	1.
181	0.	0.	0.	0.	0.	4.	0.	1.	1.	1.
191	1.	0.	1.	0.	1.	1.	1.	2.	1.	0.
201	0.	1.	1.	2.	2.	2.	1.	6.	4.	3.
211	4.	5.	5.	3.	5.	7.	15.	8.	15.	20.
221	26.	23.	37.	34.	47.	52.	64.	46.	45.	50.
231	44.	29.	23.	14.	9.	4.	7.	5.	0.	1.
241	1.	1.	1.	2.	2.	1.	3.	2.	5.	4.
251	5.	8.	4.	2.	3.	5.	4.	2.	2.	2.
261	1.	3.	1.	3.	1.	1.	2.	0.	2.	3.
271	2.	3.	3.	3.	3.	5.	3.	1.	2.	2.
281	3.	7.	4.	3.	13.	6.	8.	6.	9.	8.
291	5.	8.	6.	14.	4.	5.	13.	6.	14.	20.
301	18.	17.	14.	12.	10.	15.	10.	7.	8.	3.
311	3.	5.	3.	3.	1.	1.	6.	4.	3.	5.
321	3.	4.	6.	1.	5.	7.	15.	15.	10.	17.
331	8.	13.	18.	20.	20.	24.	29.	25.	32.	54.
341	64.	80.	115.	147.	169.	239.	328.	456.	520.	571.
351	696.	775.	840.	923.	965.	1106.	1264.	1447.	1653.	1862.
361	1848.	1839.	1682.	1399.	1090.	740.	506.	269.	152.	87.
371	47.	19.	10.	5.	2.	1.	1.	0.	0.	1.
381	1.	2.	0.	0.	0.	0.	0.	1.	1.	0.
391	0.	1.	0.	1.	0.	1.	1.	0.	0.	0.
401	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.
411	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.
421	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.
431	0.	0.	1.	0.	0.	0.	0.	0.	1.	0.
441	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.
451	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.
461	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.
471	0.	0.	0.	0.	0.	2.	1.	0.	1.	1.
481	0.	0.	0.	0.	0.	0.	0.	4.	0.	0.
491	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
511	0.	0.								

222-S Analytical Laboratory
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. 2.11

DATA REDUCTION REPORT

SAMPLE
S00T506-DUP-PU
File ID: 7a7689.CNF

Counted on: 3/15/ 0 @17:11
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	2207.7	2207.7	363.078	363.078	10.000	2.381	5.000	1.316
2	17.5	17.5	304.367	304.329	12.000	6.870	6.000	1.789
3	55.5	55.5	229.589	229.588	12.000	3.286	6.000	2.508

PEAK RESULTS

Peak Error Limit: 30%

Peak ID	Isotope	AEA Frac	Peak Centroid Exp.	Obs.	Diff.	FWHM	Count Rate c/m	%err @95	d/m	Activity uCi/ea
1	Pu236	0.950	5.755	5.764	-.0090	0.01	50.05	1.3	216.1	0.974E-04
	Cm243		5.779	5.764	0.015				290.2	0.131E-03
2	Am241	0.015	5.479	5.494	-.0150	0.03	0.77	10.5	3.5	0.156E-05
	Pu238		5.487	5.494	-.007				4.5	0.204E-05
3	Pu240	0.023	5.144	5.150	-.0060	0.02	1.19	8.2	5.0	0.227E-05
	Pu239		5.147	5.150	-.003				5.0	0.227E-05
Totals:		0.988	<--valid peaks only-->				52.01			

DETECTOR CALIBRATION

Energy(MEV) = 4.094 + (0.0046)*Channel
Energy range (MeV): 4.094 TO 6.449
Efficiency = 0.2363 CPM/DPM
(Data reduction compression factor: 1.)

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	25281.0	100.000
Smoothed	25281.1	100.000
Composite fit	24966.8	98.757
Residuals	314.2	1.243

Analyzed by: _____

SLH2

Spectrum 7a7689.CNF

1 Legend: Raw = Modeled Peaks = 1,2,..., etc

Display Max.: 12431.2

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Raw Data Dump for AEA Spectrum: 7a7689.CNF

1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.
31	1.	1.	0.	1.	0.	0.	0.	0.	0.	0.
41	0.	1.	0.	0.	0.	0.	1.	1.	1.	1.
51	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.
61	0.	0.	1.	0.	1.	0.	0.	0.	0.	0.
71	1.	0.	0.	0.	0.	1.	0.	0.	0.	0.
81	0.	3.	0.	0.	1.	2.	0.	1.	1.	0.
91	0.	1.	0.	0.	0.	0.	0.	0.	2.	0.
101	1.	0.	1.	1.	0.	0.	1.	1.	0.	0.
111	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.
121	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
131	0.	1.	0.	1.	1.	1.	0.	1.	0.	0.
141	2.	0.	1.	0.	0.	1.	2.	1.	2.	0.
151	1.	0.	1.	0.	0.	0.	2.	0.	0.	0.
161	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.
171	0.	0.	0.	0.	1.	1.	0.	0.	1.	0.
181	1.	1.	1.	1.	1.	3.	0.	2.	0.	0.
191	0.	1.	1.	0.	0.	0.	1.	0.	1.	1.
201	4.	0.	2.	0.	0.	1.	2.	0.	4.	1.
211	1.	2.	3.	6.	2.	7.	5.	9.	6.	17.
221	8.	14.	22.	30.	20.	33.	43.	58.	74.	66.
231	60.	47.	21.	9.	11.	2.	0.	0.	1.	2.
241	0.	4.	0.	3.	1.	2.	2.	5.	0.	1.
251	4.	2.	2.	2.	9.	14.	7.	7.	3.	1.
261	3.	3.	4.	3.	5.	3.	4.	3.	1.	3.
271	3.	1.	2.	4.	2.	0.	2.	3.	3.	2.
281	3.	2.	7.	9.	4.	5.	20.	6.	7.	9.
291	4.	6.	5.	6.	9.	8.	11.	12.	10.	18.
301	8.	15.	17.	17.	25.	18.	10.	7.	7.	6.
311	10.	8.	5.	4.	4.	3.	5.	3.	4.	8.
321	9.	9.	7.	8.	9.	18.	11.	11.	19.	11.
331	27.	20.	23.	24.	25.	21.	37.	19.	46.	36.
341	48.	60.	77.	75.	99.	144.	147.	226.	306.	402.
351	589.	775.	932.	1007.	884.	776.	738.	850.	1066.	1424.
361	1809.	2371.	2831.	2829.	1989.	954.	257.	53.	6.	2.
371	3.	2.	2.	0.	0.	0.	1.	2.	0.	1.
381	0.	1.	1.	0.	1.	0.	0.	0.	0.	0.
391	0.	0.	0.	0.	0.	1.	1.	0.	1.	1.
401	0.	1.	0.	0.	0.	1.	0.	0.	1.	0.
411	0.	0.	0.	1.	0.	0.	0.	1.	1.	0.
421	2.	0.	1.	0.	0.	0.	0.	0.	0.	0.
431	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
441	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.
451	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
461	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.
471	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.
481	1.	0.	1.	0.	0.	0.	0.	0.	0.	1.
491	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.
511	0.	0.								

222-S Analytical Laboratory
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. 2.11

DATA REDUCTION REPORT

SAMPLE
S00T507-SAM-PU
File ID: 8a8677.CNF

Counted on: 3/15/ 0 @17:12
Detector: AEA8
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	2385.3	2385.3	363.492	363.492	8.000	2.102	4.000	1.368
2?	11.2	11.2	304.712	304.696	10.000	3.116	5.000	0.691
3	40.9	40.9	230.444	230.442	12.000	2.970	6.000	2.169

PEAK RESULTS

Peak Error Limit: 30%

Peak ID	Isotope	AEA Frac	Peak Centroid Exp.	Obs.	Diff.	FWHM	Count Rate c/m	%err @95	d/m	Activity uCi/ea
1	Pu236	0.957	5.755	5.762	-.0070	0.01	48.18	1.3	228.1	0.103E-03
	Cm243		5.779	5.762	0.017				306.3	0.138E-03
2		????		5.491			0.49	12.9		
3	Pu240	0.017	5.144	5.150	-.0060	0.01	0.86	9.7	4.0	0.180E-05
	Pu239		5.147	5.150	-.003				4.0	0.180E-05
Totals:		0.974	<--valid peaks only-->				49.04			

DETECTOR CALIBRATION

Energy (MEV) = 4.090 + (0.0046)*Channel
Energy range (MeV): 4.090 TO 6.445
Efficiency = 0.2155 CPM/DPM
(Data reduction compression factor: 1.)

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	24180.0	100.000
Smoothed	24180.0	100.000
Composite fit	23779.0	98.341
Residuals	401.0	1.659

Analyzed by: _____

SLH2

Spectrum 8a8677.CNF

1 Legend: Raw = Modeled Peaks = 1,2,..., etc

Display Max.: 13375.4

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Raw Data Dump for AEA Spectrum: 8a8677.CNF

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.	0.	0.	0.	0.
31	0.	0.	1.	0.	1.	0.	0.	0.	0.	0.
41	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.
51	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.
61	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
71	0.	0.	2.	2.	0.	0.	0.	1.	0.	0.
81	0.	0.	1.	0.	0.	0.	1.	2.	1.	0.
91	0.	0.	2.	2.	0.	0.	1.	1.	0.	0.
101	0.	1.	1.	0.	0.	1.	0.	0.	2.	0.
111	0.	1.	1.	0.	0.	0.	0.	1.	1.	2.
121	0.	0.	0.	0.	2.	1.	1.	0.	0.	1.
131	1.	0.	0.	1.	0.	0.	0.	0.	0.	0.
141	0.	1.	0.	1.	0.	1.	1.	2.	0.	1.
151	0.	3.	1.	2.	0.	1.	0.	1.	0.	0.
161	1.	0.	0.	0.	1.	2.	0.	1.	1.	0.
171	1.	1.	0.	0.	0.	0.	0.	0.	1.	0.
181	1.	0.	0.	0.	1.	0.	0.	0.	1.	1.
191	1.	0.	2.	2.	1.	0.	1.	0.	0.	0.
201	0.	1.	1.	1.	0.	0.	0.	0.	3.	2.
211	0.	2.	1.	2.	5.	3.	10.	5.	7.	5.
221	5.	9.	11.	17.	15.	19.	36.	32.	42.	55.
231	43.	50.	26.	16.	6.	0.	0.	0.	0.	0.
241	0.	0.	0.	0.	1.	1.	2.	0.	3.	2.
251	4.	4.	3.	2.	9.	10.	9.	5.	2.	1.
261	4.	4.	0.	3.	3.	4.	5.	4.	2.	3.
271	8.	3.	2.	0.	1.	0.	2.	2.	1.	0.
281	1.	2.	2.	5.	3.	5.	10.	8.	12.	7.
291	4.	4.	0.	2.	2.	9.	4.	8.	7.	6.
301	11.	6.	13.	6.	16.	13.	7.	7.	0.	2.
311	2.	0.	3.	0.	0.	0.	0.	2.	2.	1.
321	4.	2.	2.	2.	0.	1.	2.	3.	6.	6.
331	9.	8.	11.	4.	5.	14.	11.	11.	12.	9.
341	13.	11.	28.	38.	29.	49.	70.	120.	184.	246.
351	418.	668.	916.	1070.	928.	713.	614.	658.	858.	1082.
361	1566.	2298.	2918.	3429.	2568.	1232.	387.	67.	5.	9.
371	3.	6.	1.	1.	0.	2.	1.	1.	1.	0.
381	0.	0.	0.	0.	0.	2.	0.	1.	0.	0.
391	0.	2.	0.	1.	1.	2.	0.	0.	0.	0.
401	0.	1.	0.	0.	0.	0.	1.	0.	0.	1.
411	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.
421	0.	0.	0.	0.	1.	0.	0.	0.	0.	1.
431	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.
441	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
451	1.	0.	0.	0.	0.	0.	0.	0.	0.	1.
461	0.	0.	0.	0.	1.	1.	2.	0.	0.	1.
471	1.	0.	0.	0.	1.	1.	4.	4.	4.	0.
481	1.	2.	3.	0.	0.	0.	0.	0.	0.	1.
491	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
511	0.	0.								

222-S Analytical Laboratory
 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. 2.11

DATA REDUCTION REPORT

SAMPLE
 S00T507-DUP-PU
 File ID: 9a9446.CNF

Counted on: 3/15/ 0 @17:23
 Detector: AEA9
 Geometry number: 1
 Count time: 28804. Sec

PEAK ANALYSIS

Peak ID	Peak height		Peak center		FWHM		Tau	
	Initial	Final	Initial	Final	Initial	Final	Initial	Final
1	2085.8	2085.8	360.755	360.755	10.000	2.379	5.000	1.510
2?	12.6	12.6	301.311	301.298	12.000	4.009	6.000	1.261
3	40.1	40.1	227.407	227.407	12.000	3.007	6.000	2.147

PEAK RESULTS

Peak Error Limit: 30%

Peak ID	Isotope	AEA Frac	Peak Centroid Exp.	Obs.	Diff.	FWHM	Count Rate	%err c/m @95	d/m	Activity uCi/ea
1	Pu236	0.958	5.755	5.760	-.005	0.01	43.99	1.3	192.7	0.868E-04
	Cm243		5.779	5.760	0.019				258.7	0.117E-03
2		????		5.486			0.44	13.5		
3	Pu240	0.019	5.144	5.146	-.002	0.01	0.86	9.7	3.7	0.165E-05
	Pu239		5.147	5.146	0.001				3.7	0.165E-05
Totals:		0.977	<---valid peaks only-->				44.85			

DETECTOR CALIBRATION

Energy (MEV) = 4.100 + (0.0046)*Channel
 Energy range (MeV): 4.100 TO 6.456
 Efficiency = 0.2329 CPM/DPM
 (Data reduction compression factor: 1.)

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	22043.0	100.000
Smoothed	22043.0	100.000
Composite fit	21742.2	98.636
Residuals	300.8	1.364

Analyzed by: _____

SLH2

Spectrum 9a9446.CNF

1 Legend: Raw = Modeled Peaks = 1,2,..., etc

Display Max.: 8916.5

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Raw Data Dump for AEA Spectrum: 9a9446.CNF

1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.
21	0.	0.	0.	1.	0.	0.	0.	0.	1.	0.
31	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.
41	1.	0.	0.	0.	0.	0.	1.	1.	0.	0.
51	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
61	0.	0.	2.	1.	1.	0.	0.	0.	0.	0.
71	1.	0.	0.	0.	0.	0.	0.	0.	0.	1.
81	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.
91	1.	0.	0.	1.	0.	1.	0.	0.	0.	0.
101	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.
111	0.	1.	0.	0.	1.	0.	1.	0.	1.	0.
121	0.	0.	0.	0.	1.	0.	1.	0.	0.	1.
131	0.	0.	1.	0.	1.	0.	0.	0.	0.	0.
141	0.	0.	0.	0.	0.	1.	1.	0.	0.	0.
151	0.	0.	0.	1.	1.	1.	0.	0.	0.	1.
161	0.	1.	0.	0.	1.	1.	0.	1.	2.	0.
171	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.
181	1.	0.	0.	0.	0.	1.	0.	0.	1.	0.
191	2.	0.	3.	0.	0.	1.	2.	2.	1.	1.
201	3.	0.	0.	1.	1.	1.	0.	0.	1.	3.
211	2.	2.	1.	7.	7.	13.	7.	13.	12.	9.
221	7.	20.	18.	22.	34.	41.	54.	47.	43.	25.
231	16.	6.	3.	1.	0.	0.	0.	0.	1.	3.
241	2.	1.	0.	3.	1.	6.	0.	2.	2.	7.
251	3.	5.	7.	5.	4.	4.	3.	2.	1.	0.
261	3.	1.	2.	2.	2.	3.	2.	2.	0.	3.
271	2.	1.	1.	1.	2.	0.	0.	3.	4.	0.
281	2.	5.	5.	5.	9.	8.	8.	5.	4.	1.
291	2.	3.	6.	7.	7.	4.	7.	7.	11.	9.
301	18.	16.	10.	7.	6.	5.	3.	2.	2.	1.
311	1.	0.	1.	0.	2.	1.	2.	1.	0.	0.
321	6.	3.	1.	3.	6.	2.	7.	9.	8.	7.
331	7.	8.	5.	4.	6.	13.	13.	14.	22.	25.
341	32.	25.	58.	69.	105.	159.	237.	394.	496.	718.
351	810.	782.	759.	655.	663.	740.	987.	1360.	1859.	2551.
361	2761.	2459.	1562.	646.	170.	35.	1.	0.	1.	0.
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.	0.	0.	0.
431	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
441	1.	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.	1.	1.	0.	0.	2.
471	1.	0.	0.	1.	4.	2.	2.	0.	0.	0.
481	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.
491	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
511	0.	0.								

WORKBOOK PAGE: STD1

Pu 238 and 239/240 : LA-943-128 (VOID) or LA-953-104(B-0) ³ *had* *liquid* LIQUID

	DATE COUNTED	MAR-15-2000	PU 238 AEA FRAC (C238)	STD
STD	SAMPLE VOLUME in mL	SS 1.000	PU 238 AEA FRAC (C238)	0.437
	SAMPLE DILUTION FACTOR	DF 1.000	PU 238 AEA FRAC (C238)	0.000
32866	TRACER VOLUME in mL	SPKV 0.100	PU 239 AEA FRAC (C239)	0.520
	DIGEST DILUTION FACTOR	DDF 1.000	TOTAL AT COUNTS	4336
@PU23902	TRACER BOOK NO	18B59	AT COUNT TIME (MIN)	30
	DETECTOR NUMBER	16	BACKGROUND in cpm (Bkg)	0.170
LIQUID	EFFICIENCY FACTOR	EFF 0.272	PU 236 cpm	50.000
	TRACER PREPARATION DATE	08/30/99	PU 238 cpm	0.000
20000933	TRACER PREPARATION VALUE (dpm/mL)	2687.000	PU 239 cpm	59.520
	PU-238 DECAY CORR'D VALUE (dpm/mL)	2355.095	AEA COUNT TIME	480
0	PU-238 TRACER VALUE (dpm/mL)	0.000	Pu 239/240 μ Ci/L	1.2623E-01
	STANDARD BOOK NO	46B57		
N/A	STANDARD VALUE in μ Ci/mL	1.260E-04		

Decay Time = Date Counted - Tracer Preparation Date

Pu-238 Decay Corr'd Value = Pu-238 Preparation Value * [e to the power of {(-ln2 * Decay Time/1040.95)}]

Pu 238 Tracer Recovery = (Total AT Counts / TC - Bkg) * 1/EFF * C238 * 100 / Pu-238 Decay Corr'd Value * SPKV

Pu 239/240 μ Ci/L = (C239) (Pu 238 Decay Corr'd Value) (SPKV) (1000 mL/L) (DF) (DDF) / [(C238) (SS) (2220000 dpm/ μ Ci)]

Pu 238 dpm = [(Total AT Counts / TC) - Bkg * 1/EFF * C238] - (Pu-238 Tracer Value * SPKV * Pu 238 Tracer Recovery / 100)

Pu 238 μ Ci/L = [(Pu 238 dpm) (DF) (DDF) (1000 mL/L)] / [(Pu-238 Tracer Recovery / 100) (2220000 dpm/ μ Ci) (D g/L) (SS)]

Relative Counting Error = Square Root of [(1 / (Pu 236 cpm * min)) + (1 / (Pu 238 or 239/240 cpm * min))] * 1.96 * 100

03/16/2000	Pu 239/240 μ Ci/mL	1.26E-04	DETECTION LEVELS in μ Ci/mL Pu 239/240 7.39E-06
03/16/2000	Relative Counting Error	1.7%	
11:00 AM			
SY-102	Pu 238 Tracer Recovery	98.6%	

Analyst:	AKL	Date:	16-Mar-2000
Signature of Chemist:	<i>John Relyea</i>	Date:	16 Mar 2000

STANDARD.WB1 REV 1.0

943128ML

WORKBOOK PAGE: BLANK2

Pu 238 and 239/240 : LA-943-128 (VOID) or LA-953-104(B-0) ³ ₁₀ ¹⁰ ₁₀

LI

BLNK

	DATE COUNTED	MAR-16-2000	PU 236 AEA FRAC (C236)	0.994
BLNK	SAMPLE VOLUME in mL	SS 1.000	PU 238 AEA FRAC (C238)	0.000
	SAMPLE DILUTION FACTOR	DF 101.000	PU 239 AEA FRAC (C239)	0.000
32866	TRACER VOLUME in mL	SPKV 0.100	TOTAL AT COUNTS	1990
	DIGEST DILUTION FACTOR	DDF	AT COUNT TIME (MIN)	30
@PU23902	TRACER BOOK NO	18B59	BACKGROUND in cp (Bkg)	0.170
	DETECTOR NUMBER	16	PU 236 cpm	50.770
LIQUID	EFFICIENCY FACTOR	EFF 0.2717	PU 238 cpm	0.000
	TRACER PREPARATION DATE	08/30/99	PU 239 cpm	0.000
20000933	TRACER PREPARATION VALUE (dpm/mL)	2687.00	AEA COUNT TIME	480
	PU-236 DECAY CORR'D VALUE (dpm/mL)	2353.53	Pu 239/240 μ Ci/L =	< 3.232E-01
0	PU-238 TRACER VALUE (dpm/m)	0.00		

N/A

Decay Time = Date Counted - Tracer Preparation Date

Pu-236 Decay Corr'd Value = Pu-236 Preparation Value * [e to the power of {(-ln2 * Decay Time/1040.95)}]

Pu 236 Tracer Recovery = (Total AT Counts / TC - Bkg) * C236 * 100 / (Pu-236 Decay Corr'd Value * SPKV * EFF)

Pu 239/240 μ Ci/L = (C239)(Pu 236 Decay Corr'd Value)(SPKV)(1000mL/L)(DF)(DDF) / [(C236)(SS)(D g/L)(2220000 dpm/ μ Ci)]

Pu 238 dpm = [(Total AT Counts / TC) - Bkg * 1/EFF * C238] - (Pu-238 Tracer Value * SPKV * Pu 236 Tracer Recovery / 100)

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)]

Relative Counting Error = Square Root of [(1/(Pu 236 cpm * min)) + (1 / (Pu 238 or 239/240 cpm * min))] * 1.96 * 100

Pu 239/240 μ Ci/mL < 3.23E-04

Relative Counting Error = 100.0%

DETECTION

LEVELS

In μ Ci/mL

NOTE: Pu 238 Result is a LESS THAN Value.

Pu 238 μ Ci/mL < 3.23E-04

Relative Counting Error = 100.0%

Pu 236 Tracer Recovery = 102.8%

Pu 239/240

3.23E-04

Pu 238

3.23E-04

Analyst:	AKL	Date:	16-Mar-2000
Signature of Chemist:	JFR	Date:	16 Mar 2000

BLANK.WB1 REV 1.0

943128ML

LIQUID /

N/A

800T000505

3.33E-04

SAMPLE.WB1 REV 1.0

WORKBOOK PAGE: DUP4

Pu 238 and 239/240 : LA-943-128 (VOID) or LA-953-104(B-³~~p~~) *White*

LIQUID /

DUP

	DATE COUNTED	MAR-15-2000	PU 236 AEA FRAC (C236)	0.973
DUP	SAMPLE VOLUME in mL	SS 1.000	PU 238 AEA FRAC (C238)	0.000
	SAMPLE DILUTION FACTOR	DF 101.000	PU 239 AEA FRAC (C239)	0.018
32866	TRACER VOLUME in mL	SPKV 0.100	TOTAL AT COUNTS	2045
	DIGEST DILUTION FACTOR	DDF 1000	AT COUNT TIME (MIN)	30
PU23902	TRACER BOOK NO	18B59	BACKGROUND in cpm (Bkg)	0.170
	DETECTOR NUMBER	16	PU 236 cpm	51.180
LIQUID	EFFICIENCY FACTOR	EFF 0.272	PU 238 cpm	0.000
	TRACER PREPARATION DATE	08/30/99	PU 239 cpm	0.960
20000933	TRACER PREPARATION VALUE (dpm/mL)	2687.000	AEA COUNT TIME	480
	PU-236 DECAY CORR'D VALUE (dpm/mL)	2355.095	Pu 239/240 μ Ci/L =	< 3.3036E-01
0	PU-238 TRACER VALUE (dpm/mL)	0.000		

N/A

Decay Time = Date Counted - Tracer Preparation Date

S00T000505

Pu-236 Decay Corr'd Value = Pu-236 Preparation Value * [e to the power of {(-ln2 * Decay Time/1040.95)}]

Pu 236 Tracer Recovery = (Total AT Counts / TC - Bkg) * C236 * 100 / (Pu-236 Decay Corr'd Value * SPKV * EFF)

Pu 239/240 μ Ci/L = (C239) (Pu 236 Decay Corr'd Value) (SPKV) (1000mL/L) (DF) (DDF) / [(C236) (SS) (D g/L) (2220000 dpm/ μ Ci)]

Pu 238 dpm = [(Total AT Counts / TC) - Bkg * 1/EFF * C238] - (Pu-238 Tracer Value * SPKV * Pu 236 Tracer Recovery / 100)

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)]

Relative Counting Error = Square Root of [(1 / (Pu 236 cpm * min)) + (1 / (Pu 238 or 239/240 cpm * min))] * 1.96 * 100

Pu 239/240 μ Ci/mL < 3.30E-04

Relative Counting Error = 9.2%

DETECTION

LEVELS

In μ Ci/mL

NOTE: Pu 238 Result is a LESS THAN Value.

Pu 239/240

Pu 238 μ Ci/mL < 3.30E-04

3.30E-04

Relative Counting Error = 100.0%

Pu 238

Pu 236 Tracer Recovery = 103.4%

3.30E-04

Analyst:	AKL	Date:	18-Mar-2000
Signature of Chemist:	<i>John Relyea</i>	Date:	16/Mar/2000

SAMPLE.WB1 REV 1.0

943128M

WORKBOOK PAGE: SAM5

Pu 238 and 239/240 : LA-943-128 (VOID) or LA-953-104(B-³₀) ^{1AD} LIQUID /

			SAMPLE	
	DATE COUNTED	MAR-15-2000	PU 236 AEA FRAC (C236)	0.969
SAMPLE	SAMPLE VOLUME in mL	SS 1.000	PU 238 AEA FRAC (C238)	0.012
	SAMPLE DILUTION FACTOR	DF 101.000	PU 239 AEA FRAC (C239)	0.026
32866	TRACER VOLUME in mL	SPKV 0.100	TOTAL AT COUNTS	2144
	DIGEST DILUTION FACTOR	DDF 1.0000	AT COUNT TIME (MIN)	30
PU23902	TRACER BOOK NO	18B59	BACKGROUND in cpm (Bkg)	0.170
	DETECTOR NUMBER	16	PU 236 cpm	51.360
LIQUID	EFFICIENCY FACTOR	EFF 0.272	PU 238 cpm	0.660
	TRACER PREPARATION DATE	08/30/99	PU 239 cpm	1.360
20000933	TRACER PREPARATION VALUE (dpm/mL)	2687.000	AEA COUNT TIME	480
	PU-236 DECAY CORR'D VALUE (dpm/mL)	2355.095	Pu 239/240 μ Ci/L =	< 3.3172E-01
0	PU-238 TRACER VALUE (dpm/mL)	0.000		

N/A

800T000606

Decay Time = Date Counted - Tracer Preparation Date

Pu-236 Decay Corr'd Value = Pu-236 Preparation Value * [e to the power of {(-ln2 * Decay Time/1040.95)}]

Pu 236 Tracer Recovery = (Total AT Counts / TC - Bkg) * C236 * 100 / (Pu-236 Decay Corr'd Value * SPKV * EFF)

Pu 239/240 μ Ci/L = (C239) * (Pu 236 Decay Corr'd Value) * (SPKV) * (1000mL/L) * (DF) * (DDF) / [(C236) * (SS) * (D g/L) * (2220000 dpm/ μ Ci)]

Pu 236 dpm = [(Total AT Counts / TC) - Bkg * 1/EFF * C238] - (Pu-238 Tracer Value * SPKV * Pu 236 Tracer Recovery / 100)

Pu 238 μ Ci/L = [(Pu 236 dpm) * (DF) * (DDF) * (1000mL/L)] / [(Pu-238 Tracer Recovery / 100) * (2220000 dpm/ μ Ci) * (D g/L) * (SS)]

Relative Counting Error = Square Root of [(1 / (Pu 236 cpm * min)) + (1 / (Pu 238 or 239/240 cpm * min))] * 1.96 * 100

Pu 239/240 μ Ci/mL < 3.32E-04

Relative Counting Error = 7.7%

DETECTION

LEVELS

In μ Ci/mL

NOTE: Pu 238 Result is a LESS THAN Value.

Pu 239/240

Pu 238 μ Ci/mL < 3.32E-04

3.32E-04

Relative Counting Error = 11.1%

Pu 238

Pu 236 Tracer Recovery = 108.0%

3.32E-04

Analyst:	AKL	Date:	16-Mar-2000
Signature of Chemist:	<i>John Relyea</i>	Date:	16 Mar 2000

SAMPLE.WB1 REV 1.0

943128ML

WORKBOOK PAGE: DUP6

Pu 238 and 239/240 : LA-943-128 (VOID) or LA-953-104(B-3) ³ _{1/16/00}

LIQUID /

DUP

	DATE COUNTED	MAR-15-2000	PU 236 AEA FRAC (C236)	0.980
DUP	SAMPLE VOLUME in mL	SS 1.000	PU 238 AEA FRAC (C238)	0.018
	SAMPLE DILUTION FACTOR	DF 101.000	PU 239 AEA FRAC (C239)	0.023
32866	TRACER VOLUME in mL	SPKV 0.100	TOTAL AT COUNTS	2068
	DIGEST DILUTION FACTOR	DDF 10000	AT COUNT TIME (MIN)	30
PU23902	TRACER BOOK NO	18559	BACKGROUND in cpm (Bkg)	0.170
	DETECTOR NUMBER	16	PU 236 cpm	50.050
LIQUID	EFFICIENCY FACTOR	EFF 0.272	PU 238 cpm	0.770
	TRACER PREPARATION DATE	08/30/99	PU 239 cpm	1.190
20000933	TRACER PREPARATION VALUE (dpm/mL)	2687.000	AEA COUNT TIME	480
	PU-236 DECAY CORR'D VALUE (dpm/mL)	2355.095	Pu 239/240 μ Ci/L =	< 3.3836E-01
0	PU-236 TRACER VALUE (dpm/mL)	0.000		

N/A

Decay Time = Date Counted - Tracer Preparation Date

500T000506

Pu-236 Decay Corr'd Value = Pu-236 Preparation Value * [e to the power of ((-ln2 * Decay Time/1040.95))]

Pu 236 Tracer Recovery = (Total AT Counts / TC - Bkg) * C236 * 100 / (Pu-236 Decay Corr'd Value * SPKV * EFF)

Pu 239/240 μ Ci/L = (C239)(Pu 236 Decay Corr'd Value)(SPKV)(1000mL/L)(DF)(DDF) / [(C236)(SS)(D g/L)(2220000 dpm/ μ Ci)]

Pu 238 dpm = [(Total AT Counts / TC) - Bkg * 1/EFF * C238] - (Pu-238 Tracer Value * SPKV * Pu 236 Tracer Recovery / 100)

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)]

Relative Counting Error = Square Root of [(1/(Pu 236 cpm * min)) + (1 / (Pu 238 or 239/240 cpm * min))] * 1.96 * 100

Pu 239/240 μ Ci/mL < 3.38E-04

Relative Counting Error = 8.3%

DETECTION

LEVELS

In μ Ci/mL

NOTE: Pu 238 Result is a LESS THAN Value.

Pu 239/240

Pu 238 μ Ci/mL < 3.38E-04

3.38E-04

Relative Counting Error = 10.3%

Pu 238

Pu 236 Tracer Recovery = 102.1%

3.38E-04

Analyst:

AKL

Date: 16-Mar-2000

Signature of Chemist:

JFR

Date: 16 Mar 2000

SAMPLE.WB1 REV 1.0

943128ML

John Relyea

WORKBOOK PAGE: SAM7

Pu 238 and 239/240 : LA-943-128 (VOID) or LA-953-104(B-0) ³ ₁₄₈ ₁₄₈ LIQUID /

				SAMPLE
	DATE COUNTED	MAR-15-2000	PU 238 AEA FRAC (C238)	0.957
SAMPLE	SAMPLE VOLUME in mL	SS 1.000	PU 238 AEA FRAC (C238)	0.000
	SAMPLE DILUTION FACTOR	DF 101.000	PU 239 AEA FRAC (C239)	0.017
32866	TRACER VOLUME in mL	SPKV 0.100	TOTAL AT COUNTS	1992
	DIGEST DILUTION FACTOR	DDF 1.0000	AT COUNT TIME (MIN)	30
PU23902	TRACER BOOK NO	18559	BACKGROUND in cpm (Bkg)	0.170
	DETECTOR NUMBER	16	PU 238 cpm	48.180
LIQUID	EFFICIENCY FACTOR	EFF 0.272	PU 238 cpm	0.000
	TRACER PREPARATION DATE	08/30/99	PU 239 cpm	0.480
20000933	TRACER PREPARATION VALUE (dpm/mL)	2687.000	AEA COUNT TIME	450
	PU-238 DECAY CORR'D VALUE (dpm/mL)	2355.095	Pu 239/240 μ Ci/L =	< 3.3909E-01
0	PU-238 TRACER VALUE (dpm/mL)	0.000		

N/A

Decay Time = Date Counted - Tracer Preparation Date

800T000507

Pu-238 Decay Corr'd Value = Pu-238 Preparation Value * [e to the power of {(-ln2 * Decay Time/1040.95)}]

Pu 238 Tracer Recovery = (Total AT Counts / TC - Bkg) * C238 * 100 / (Pu-238 Decay Corr'd Value * SPKV * EFF)

Pu 239/240 μ Ci/L = (C239)(Pu 238 Decay Corr'd Value)(SPKV)(1000mL/L)(DF)(DDF) / [(C238)(SS)(D g/L)(2220000 dpm/ μ Ci)]

Pu 238 dpm = [(Total AT Counts / TC) - Bkg * 1/EFF * C238] - (Pu-238 Tracer Value * SPKV * Pu 238 Tracer Recovery / 100)

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)]

Relative Counting Error = Square Root of [(1/(Pu 238 cpm * min)) + (1 / (Pu 238 or 239/240 cpm * min))] * 1.95 * 100

Pu 239/240 μ Ci/mL < 3.39E-04

Relative Counting Error = 9.7%

DETECTION

LEVELS

In μ Ci/mL

NOTE: Pu 238 Result is a LESS THAN Value.

Pu 239/240

Pu 238 μ Ci/mL < 3.39E-04

3.39E-04

Relative Counting Error = 100.0%

Pu 238

Pu 238 Tracer Recovery = 99.1%

3.39E-04

Analyst:

AKL

Date:

16-Mar-2000

Signature of Chemist:

JFR

Date:

16 Mar 2000

SAMPLE.WB1 REV 1.0

943128ML

985

WORKBOOK PAGE: DUP8

Pu 238 and 239/240 : LA-943-128 (VOID) or LA-953-104(B-0) ³ ⁴ ⁵ ⁶ ⁷ ⁸ ⁹ ¹⁰ ¹¹ ¹² ¹³ ¹⁴ ¹⁵ ¹⁶ ¹⁷ ¹⁸ ¹⁹ ²⁰ ²¹ ²² ²³ ²⁴ ²⁵ ²⁶ ²⁷ ²⁸ ²⁹ ³⁰ ³¹ ³² ³³ ³⁴ ³⁵ ³⁶ ³⁷ ³⁸ ³⁹ ⁴⁰ ⁴¹ ⁴² ⁴³ ⁴⁴ ⁴⁵ ⁴⁶ ⁴⁷ ⁴⁸ ⁴⁹ ⁵⁰ ⁵¹ ⁵² ⁵³ ⁵⁴ ⁵⁵ ⁵⁶ ⁵⁷ ⁵⁸ ⁵⁹ ⁶⁰ ⁶¹ ⁶² ⁶³ ⁶⁴ ⁶⁵ ⁶⁶ ⁶⁷ ⁶⁸ ⁶⁹ ⁷⁰ ⁷¹ ⁷² ⁷³ ⁷⁴ ⁷⁵ ⁷⁶ ⁷⁷ ⁷⁸ ⁷⁹ ⁸⁰ ⁸¹ ⁸² ⁸³ ⁸⁴ ⁸⁵ ⁸⁶ ⁸⁷ ⁸⁸ ⁸⁹ ⁹⁰ ⁹¹ ⁹² ⁹³ ⁹⁴ ⁹⁵ ⁹⁶ ⁹⁷ ⁹⁸ ⁹⁹ ¹⁰⁰ ¹⁰¹ ¹⁰² ¹⁰³ ¹⁰⁴ ¹⁰⁵ ¹⁰⁶ ¹⁰⁷ ¹⁰⁸ ¹⁰⁹ ¹¹⁰ ¹¹¹ ¹¹² ¹¹³ ¹¹⁴ ¹¹⁵ ¹¹⁶ ¹¹⁷ ¹¹⁸ ¹¹⁹ ¹²⁰ ¹²¹ ¹²² ¹²³ ¹²⁴ ¹²⁵ ¹²⁶ ¹²⁷ ¹²⁸ ¹²⁹ ¹³⁰ ¹³¹ ¹³² ¹³³ ¹³⁴ ¹³⁵ ¹³⁶ ¹³⁷ ¹³⁸ ¹³⁹ ¹⁴⁰ ¹⁴¹ ¹⁴² ¹⁴³ ¹⁴⁴ ¹⁴⁵ ¹⁴⁶ ¹⁴⁷ ¹⁴⁸ ¹⁴⁹ ¹⁵⁰ ¹⁵¹ ¹⁵² ¹⁵³ ¹⁵⁴ ¹⁵⁵ ¹⁵⁶ ¹⁵⁷ ¹⁵⁸ ¹⁵⁹ ¹⁶⁰ ¹⁶¹ ¹⁶² ¹⁶³ ¹⁶⁴ ¹⁶⁵ ¹⁶⁶ ¹⁶⁷ ¹⁶⁸ ¹⁶⁹ ¹⁷⁰ ¹⁷¹ ¹⁷² ¹⁷³ ¹⁷⁴ ¹⁷⁵ ¹⁷⁶ ¹⁷⁷ ¹⁷⁸ ¹⁷⁹ ¹⁸⁰ ¹⁸¹ ¹⁸² ¹⁸³ ¹⁸⁴ ¹⁸⁵ ¹⁸⁶ ¹⁸⁷ ¹⁸⁸ ¹⁸⁹ ¹⁹⁰ ¹⁹¹ ¹⁹² ¹⁹³ ¹⁹⁴ ¹⁹⁵ ¹⁹⁶ ¹⁹⁷ ¹⁹⁸ ¹⁹⁹ ²⁰⁰ ²⁰¹ ²⁰² ²⁰³ ²⁰⁴ ²⁰⁵ ²⁰⁶ ²⁰⁷ ²⁰⁸ ²⁰⁹ ²¹⁰ ²¹¹ ²¹² ²¹³ ²¹⁴ ²¹⁵ ²¹⁶ ²¹⁷ ²¹⁸ ²¹⁹ ²²⁰ ²²¹ ²²² ²²³ ²²⁴ ²²⁵ ²²⁶ ²²⁷ ²²⁸ ²²⁹ ²³⁰ ²³¹ ²³² ²³³ ²³⁴ ²³⁵ ²³⁶ ²³⁷ ²³⁸ ²³⁹ ²⁴⁰ ²⁴¹ ²⁴² ²⁴³ ²⁴⁴ ²⁴⁵ ²⁴⁶ ²⁴⁷ ²⁴⁸ ²⁴⁹ ²⁵⁰ ²⁵¹ ²⁵² ²⁵³ ²⁵⁴ ²⁵⁵ ²⁵⁶ ²⁵⁷ ²⁵⁸ ²⁵⁹ ²⁶⁰ ²⁶¹ ²⁶² ²⁶³ 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LABCORE Completed Worklist Report for Worklist# 33121

Analyst: crj

Instrument: AB14

Book#: _____

Method: LA-953-104 Rev/Mod B-3

Worklist Comment: SY-102 GRAB 6 FOR @PU23902 RTS

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD	0		@PU23902 PU23901 LIQUID		1.26E-04	1.24E-4	98.413 % Recovery	
1 STD	0		@PU23902 PU23901T LIQUID		100	9.22E+01	92.200 % Recovery	
1 STD	0		@PU23902 PU23901E LIQUID		1.0	1.70E+00	1.700 % Ct. Error	
2 BLNK	0		@PU23902 PU23901 LIQUID		1	<3.39E-5		uCi/mL
2 BLNK	0		@PU23902 PU23901T LIQUID		100	9.75E+01	97.500 % Recovery	
2 BLNK	0		@PU23902 PU23901E LIQUID		1.00	1.00E+02	100.000	uCi/mL
2 BLNK	0		@PU23902 PU23801 LIQUID		1	<3.39E-5		uCi/mL
2 BLNK	0		@PU23902 PU23801E LIQUID		1.00	1.00E+02	100.000	uCi/mL
3 SAMPLE	S00T000513	0	@PU23902 PU23901 LIQUID		N/A	1.34E-04	3.79E-005	uCi/mL
3 SAMPLE	S00T000513	0	@PU23902 PU23901T LIQUID		N/A	1.00E+02		% Recovery
3 SAMPLE	S00T000513	0	@PU23902 PU23901E LIQUID		N/A	3.14E+00		% Ct. Error
3 SAMPLE	S00T000513	0	@PU23902 PU23801 LIQUID		N/A	4.04E-05	3.79E-005	uCi/mL
3 SAMPLE	S00T000513	0	@PU23902 PU23801E LIQUID		N/A	5.45E+00		% Ct. Error
4 DUP	S00T000513	0	@PU23902 PU23901 LIQUID		1.34E-4	1.29E-4	3.802 RPD	
4 DUP	S00T000513	0	@PU23902 PU23901T LIQUID		100	1.01E+02	101.000 % Recovery	
4 DUP	S00T000513	0	@PU23902 PU23901E LIQUID		1.00	3.83E+00	3.830 % Ct. Error	
4 DUP	S00T000513	0	@PU23902 PU23801 LIQUID		4.04E-5	<3.67E-5		RPD
4 DUP	S00T000513	0	@PU23902 PU23801E LIQUID		1.00	7.18E+00	7.180 % Ct. Error	
5 SAMPLE	S00T000612	0	@PU23902 PU23901 LIQUID		N/A	1.63E-04	3.73E-005	uCi/mL
5 SAMPLE	S00T000612	0	@PU23902 PU23901T LIQUID		N/A	1.00E+02		% Recovery
5 SAMPLE	S00T000612	0	@PU23902 PU23901E LIQUID		N/A	3.49E+00		% Ct. Error
5 SAMPLE	S00T000612	0	@PU23902 PU23801 LIQUID		N/A	4.23E-05	3.73E-005	uCi/mL
5 SAMPLE	S00T000612	0	@PU23902 PU23801E LIQUID		N/A	6.53E+00		% Ct. Error
6 DUP	S00T000612	0	@PU23902 PU23901 LIQUID		1.63E-4	1.62E-4	0.615 RPD	
6 DUP	S00T000612	0	@PU23902 PU23901T LIQUID		100	9.99E+01	99.900 % Recovery	
6 DUP	S00T000612	0	@PU23902 PU23901E LIQUID		1.00	3.47E+00	3.470 % Ct. Error	
6 DUP	S00T000612	0	@PU23902 PU23801 LIQUID		4.23E-5	3.88E-5	8.631 RPD	
6 DUP	S00T000612	0	@PU23902 PU23801E LIQUID		1.00	6.68E+00	6.680 % Ct. Error	
7 SAMPLE	S00T000628	0	@PU23902 PU23901 LIQUID		N/A	1.44E-04	3.64E-005	uCi/mL
7 SAMPLE	S00T000628	0	@PU23902 PU23901T LIQUID		N/A	1.02E+02		% Recovery
7 SAMPLE	S00T000628	0	@PU23902 PU23901E LIQUID		N/A	3.57E+00		% Ct. Error
7 SAMPLE	S00T000628	0	@PU23902 PU23801 LIQUID		N/A	3.64E-05	3.64E-005	uCi/mL
7 SAMPLE	S00T000628	0	@PU23902 PU23801E LIQUID		N/A	7.12E+00		% Ct. Error
8 DUP	S00T000628	0	@PU23902 PU23901 LIQUID		1.44E-4	1.45E-4	0.692 RPD	
8 DUP	S00T000628	0	@PU23902 PU23901T LIQUID		100	1.03E+02	103.000 % Recovery	
8 DUP	S00T000628	0	@PU23902 PU23901E LIQUID		1.00	3.58E+00	3.580 % Ct. Error	
8 DUP	S00T000628	0	@PU23902 PU23801 LIQUID		<3.64E-5	<3.67E-5		RPD
8 DUP	S00T000628	0	@PU23902 PU23801E LIQUID		1.00	6.93E+00	6.930 % Ct. Error	
9 SAMPLE	S00T000637	0	@PU23902 PU23901 LIQUID		N/A	1.20E-04	3.64E-005	uCi/mL
9 SAMPLE	S00T000637	0	@PU23902 PU23901T LIQUID		N/A	1.03E+02		% Recovery
9 SAMPLE	S00T000637	0	@PU23902 PU23901E LIQUID		N/A	3.94E+00		% Ct. Error

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

LABCORE Completed Worklist Report for Worklist# 33121

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
9 SAMPLE	S00T000637	0	②PU23902 PU23801	LIQUID	N/A <	3.64E-05	3.64e-005	uCi/mL
9 SAMPLE	S00T000637	0	②PU23902 PU23801E	LIQUID	N/A	7.49E+00		% Ct. Error
10 DUP	S00T000637	0	②PU23902 PU23901	LIQUID	1.20E-4	1.21E-4	0.830	RPD
10 DUP	S00T000637	0	②PU23902 PU23901T	LIQUID	100	9.92E+01	99.200	% Recovery
10 DUP	S00T000637	0	②PU23902 PU23901E	LIQUID	1.00	3.94E+00	3.940	% Ct. Error
10 DUP	S00T000637	0	②PU23902 PU23801	LIQUID	<3.64E-5	<3.66E-5		RPD
10 DUP	S00T000637	0	②PU23902 PU23801E	LIQUID	1.00	7.59E+00	7.590	% Ct. Error

Final page for worklist# 33121

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

John Relyea
Reviewer Signature _____ Date *6/4/00*

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

LABCORE Data Entry Template for Worklist# 33121

Analyst: CRS Instrument: PU01 14 Book# 46BS7Method: LA-953-104 Rev/Mod B-3

Worklist Comment: SY-102 GRAB 6 FOR @PU23902 RTS

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	STD				@PU23902	LIQUID		
2	BLNK				@PU23902	LIQUID		
3	SAMPLE	S00T000513 0			@PU23902	LIQUID	20000085	SY-102 GRAB6
Analytes Requested: PU23801 , PU23801E, PU23901 , PU23901E, PU23901T								
4	DUP	S00T000513 0			@PU23902	LIQUID		
5	SAMPLE	S00T000612 0			@PU23902	LIQUID	20000085	SY-102 GRAB6
Analytes Requested: PU23801 , PU23801E, PU23901 , PU23901E, PU23901T								
6	DUP	S00T000612 0			@PU23902	LIQUID		
7	SAMPLE	S00T000628 0			@PU23902	LIQUID	20000085	SY-102 GRAB6
Analytes Requested: PU23801 , PU23801E, PU23901 , PU23901E, PU23901T								
8	DUP	S00T000628 0			@PU23902	LIQUID		
9	SAMPLE	S00T000637 0			@PU23902	LIQUID	20000085	SY-102 GRAB6
Analytes Requested: PU23801 , PU23801E, PU23901 , PU23901E, PU23901T								
10	DUP	S00T000637 0			@PU23902	LIQUID		

Final page for worklist # 33121

Signature Date 4/5/00
Alda Jorden 4/5/00

Signature Date 4/6/00
newright 4/6/00

Data Entry Comments:

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

222-S Analytical Laboratory
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 Rev. 2.11

DATA REDUCTION REPORT

SAMPLE
 WL33121-STD-PU
 File ID: 28a2815.CNF

Counted on: 4/ 5/ 0 @21:36
 Detector: AEA28
 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	3805.2	3805.2	156.320	156.320	6.000	1.515	3.000	2.182
2	45.4	45.4	134.112	134.030	10.000	2.630	5.000	0.287
3	4977.9	4977.9	107.302	107.301	8.000	1.322	4.000	2.388

PEAK RESULTS

Peak Error Limit: 30%

Peak ID	Isotope	AEA Frac	Peak Centroid Exp.	Obs.	Diff.	FWHM	Count Rate	%err c/m @95	d/m	Activity uCi/ea
1	Pu236	0.425	5.755	5.756	-.0010	10.02	51.28	1.2	225.1	0.101E-03
2	Am241	0.029	5.479	5.475	0.0040	40.03	3.46	5.0	15.9	0.714E-05
	Pu238		5.487	5.475	0.012				20.7	0.932E-05
3	Pu240	0.502	5.144	5.138	0.0060	60.02	60.54	1.2	260.5	0.117E-03
	Pu239		5.147	5.138	0.009				260.5	0.117E-03
Totals:		0.956	<--valid peaks only-->				115.28			

DETECTOR CALIBRATION

Energy (MEV) = 3.786 + (0.0126)*Channel
 Energy range (MeV): 3.786 TO 10.238
 Efficiency = 0.2324 CPM/DPM
 (Data reduction compression factor: 1.)

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	57896.0	100.000
Smoothed	57896.0	100.000
Composite fit	55347.4	95.598
Residuals	2548.6	4.402

Analyzed by: _____

SLH2

Spectrum 28a2815.CNF

1 Legend: Raw = Modeled Peaks = 1,2,..., etc

Display Max.: 24356.7

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2
2
2
2
2.....3
2.....3
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2
2
2
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.1.....
    
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Raw Data Dump for AEA Spectrum: 28a2815.CNF

HNF-1699 REV. 0

1	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.
11	1.	0.	1.	1.	2.	2.	1.	1.	0.	5.
21	2.	3.	3.	2.	1.	2.	2.	2.	7.	1.
31	2.	2.	3.	3.	1.	2.	2.	3.	2.	2.
41	2.	3.	2.	2.	1.	6.	4.	1.	2.	7.
51	7.	6.	5.	4.	4.	4.	5.	2.	3.	5.
61	2.	7.	7.	6.	4.	5.	5.	5.	5.	5.
71	8.	5.	10.	10.	2.	4.	15.	6.	6.	10.
81	11.	12.	15.	13.	18.	12.	12.	11.	11.	21.
91	31.	20.	36.	42.	46.	60.	71.	84.	134.	215.
101	340.	641.	1115.	1915.	2530.	4211.	7096.	8798.	3805.	136.
111	5.	6.	6.	14.	13.	25.	36.	48.	20.	7.
121	9.	13.	11.	8.	5.	14.	16.	18.	31.	36.
131	27.	31.	39.	59.	68.	33.	16.	13.	10.	17.
141	16.	25.	25.	40.	44.	68.	87.	126.	201.	338.
151	610.	1131.	2279.	2810.	2814.	4554.	6684.	3464.	163.	1.
161	0.	1.	0.	0.	0.	0.	1.	0.	0.	0.
171	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
181	1.	0.	0.	0.	0.	0.	1.	0.	0.	0.
191	0.	0.	0.	0.	0.	0.	1.	2.	7.	2.
201	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.
211	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
221	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
231	0.	0.	0.	0.	2.	2.	2.	2.	1.	0.
241	3.	0.	0.	0.	0.	0.	0.	0.	0.	0.
251	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
261	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
271	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
281	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
291	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
301	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
311	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
321	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
331	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
341	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
351	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
361	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
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.	2.	0.	0.	1.	0.
401	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
411	1.	0.	0.	0.	0.	0.	1.	0.	0.	0.
421	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
431	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
441	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.
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.	0.	0.	0.
491	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
511	0.	0.								

222-S Analytical Laboratory
 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. 2.11

DATA REDUCTION REPORT

SAMPLE
 WL33121-BLKN-PU
 File ID: 29a2949.CNF

Counted on: 4/ 5/ 0 @21:37
 Detector: AEA29
 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	3789.5	3789.5	157.763	157.763	8.000	1.391	4.000	2.056
2?	19.8	19.8	130.631	130.613	18.000	5.544	9.000	9.225
3?	13.9	13.9	118.750	118.464	10.000	1.971	5.000	0.777

PEAK RESULTS

Peak Error Limit: 30%

Peak ID	Isotope	AEA Frac	Peak Centroid Exp. Obs. Diff.	FWHM	Count Rate c/m	%err @95	d/m	Activity uCi/ea
1	Pu236	0.949	5.755 5.751 0.004	0.02	49.14	1.3	202.9	0.914E-04
2		????	5.412		0.46	15.7		
3		????	5.260		0.38	16.7		
Totals:		0.949	<--valid peaks only-->		49.14			

DETECTOR CALIBRATION

Energy(MEV) = 3.779 + (0.0125)*Channel
 Energy range (MeV): 3.779 TO 10.179
 Efficiency = 0.2471 CPM/DPM
 (Data reduction compression factor: 1.)

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	24850.0	100.000
Smoothed	24850.0	100.000
Composite fit	23996.3	96.565
Residuals	853.7	3.435

Analyzed by: _____

SLH2

Spectrum 29a2949.CNF

1 Legend: Raw = Modeled Peaks = 1,2,..., etc

Display Max.: 18795.4

3
3
3
3
2
2

....1

..... 1
.....1.....

Raw Data Dump for AEA Spectrum: 29a2949.CNF

1	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.
11	1.	0.	0.	0.	0.	0.	0.	1.	0.	0.
21	0.	0.	0.	2.	1.	0.	0.	0.	0.	0.
31	0.	1.	0.	0.	0.	0.	0.	0.	1.	0.
41	1.	1.	1.	1.	0.	0.	1.	0.	0.	0.
51	1.	1.	1.	0.	1.	1.	1.	1.	0.	0.
61	1.	1.	1.	3.	1.	2.	0.	4.	2.	0.
71	0.	1.	3.	3.	1.	2.	1.	4.	2.	3.
81	0.	1.	3.	1.	1.	0.	0.	1.	2.	1.
91	1.	1.	2.	1.	3.	2.	0.	2.	3.	4.
101	0.	2.	1.	4.	4.	3.	7.	6.	12.	12.
111	3.	4.	5.	8.	5.	10.	13.	21.	16.	16.
121	12.	7.	5.	6.	8.	3.	10.	9.	8.	29.
131	35.	13.	9.	6.	9.	13.	14.	8.	8.	10.
141	11.	9.	14.	26.	24.	39.	44.	49.	96.	136.
151	212.	405.	827.	1679.	2500.	2534.	3418.	5917.	5500.	916.
161	10.	0.	0.	0.	1.	0.	0.	0.	0.	0.
171	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
181	0.	0.	2.	0.	1.	0.	0.	0.	0.	0.
191	0.	1.	0.	0.	0.	0.	0.	0.	3.	2.
201	2.	1.	0.	0.	0.	0.	0.	0.	0.	0.
211	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
221	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
231	0.	0.	0.	0.	1.	0.	0.	1.	0.	5.
241	2.	0.	0.	0.	0.	0.	0.	0.	0.	0.
251	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
261	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
271	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
281	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
291	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
301	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
311	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
321	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
331	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
341	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
351	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
361	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
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.	1.	0.	0.	0.	0.	0.	0.	1.	0.
411	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.
421	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.
431	0.	0.	0.	0.	0.	0.	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.	0.	0.
471	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
481	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
491	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
511	0.	0.								

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 Rev. 2.11

DATA REDUCTION REPORT

SAMPLE
 S00T513-SAM-PU
 File ID: 30a3004.CNF

Counted on: 4/ 5/ 0 @21:37
 Detector: AEA30
 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	4578.5	4578.5	156.267	156.267	10.000	2.275	5.000	3.603
2	138.1	138.1	134.478	134.450	12.000	3.105	6.000	2.640
3	598.4	598.4	107.184	107.183	10.000	2.259	5.000	3.998

PEAK RESULTS

Peak Error Limit: 30%

Peak ID	Isotope	AEA Frac	Peak Centroid	Count	%err	Activity	
			Exp. Obs. Diff. FWHM	Rate c/m	@95	d/m uCi/ea	
1	Pu236	0.828	5.755 5.758 -.003	0.03	71.38	1.1	230.0 0.104E-03
	Cm243		5.779 5.758 0.021				308.8 0.139E-03
2	Am241	0.032	5.479 5.481 -.002	0.04	2.80	5.7	9.4 0.423E-05
	Pu238		5.487 5.481 0.006				12.3 0.553E-05
3	Pu240	0.106	5.144 5.134 0.010	0.03	9.17	3.0	29.0 0.131E-04
	Pu239		5.147 5.134 0.013				29.0 0.131E-04

Totals:		0.966	<--valid peaks only-->		83.35		

DETECTOR CALIBRATION

Energy (MEV) = 3.773 + (0.0127)*Channel
 Energy range (MeV): 3.773 TO 10.276
 Efficiency = 0.3166 CPM/DPM
 (Data reduction compression factor: 1.)

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	41405.0	100.000
Smoothed	41405.0	100.000
Composite fit	40011.1	96.634
Residuals	1393.9	3.366

Analyzed by: _____

SLH2

Spectrum 30a3004.CNF

1 Legend: Raw = Modeled Peaks = 1,2,..., etc

Display Max.: 26757.1

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.....3
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2
.2
2
.....1
..... 1
.....1.....

Raw Data Dump for AEA Spectrum: 30a3004.CNF

1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	2.	0.	0.	0.	1.	1.	1.	2.	0.	1.
21	0.	1.	1.	2.	2.	0.	0.	0.	2.	0.
31	2.	1.	1.	1.	1.	1.	2.	1.	1.	0.
41	2.	0.	1.	1.	1.	0.	0.	2.	0.	1.
51	0.	2.	2.	0.	2.	0.	0.	2.	2.	1.
61	2.	2.	2.	2.	3.	3.	0.	2.	1.	3.
71	3.	4.	1.	3.	1.	4.	8.	9.	4.	5.
81	3.	6.	5.	8.	5.	4.	4.	2.	0.	6.
91	7.	6.	9.	4.	14.	10.	17.	18.	32.	44.
101	78.	117.	199.	263.	517.	704.	838.	738.	562.	269.
111	95.	18.	12.	13.	20.	18.	23.	32.	24.	12.
121	12.	18.	15.	16.	14.	17.	26.	46.	41.	66.
131	89.	104.	143.	179.	184.	142.	93.	40.	37.	24.
141	24.	31.	36.	54.	78.	89.	142.	193.	339.	584.
151	1101.	1737.	2707.	3671.	4948.	6097.	6169.	4461.	2012.	594.
161	114.	13.	1.	0.	0.	0.	0.	0.	0.	0.
171	0.	0.	1.	0.	1.	0.	1.	1.	1.	1.
181	0.	0.	0.	2.	0.	0.	1.	0.	0.	0.
191	1.	0.	0.	0.	0.	0.	1.	3.	3.	3.
201	2.	3.	0.	0.	0.	0.	0.	0.	0.	0.
211	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
221	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
231	0.	0.	2.	0.	0.	2.	4.	3.	2.	0.
241	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
251	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
261	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
271	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
281	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
291	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
301	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
311	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
321	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
331	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
341	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
351	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
361	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
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.	1.	0.	0.
401	1.	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.	0.	0.	0.
431	0.	0.	0.	0.	0.	0.	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.	0.	0.
471	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
481	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
491	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
511	0.	0.								

222-S Analytical Laboratory
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. 2.11

DATA REDUCTION REPORT

SAMPLE
S00T513-DUP-PU
File ID: 2a2088.CNF

Counted on: 4/ 5/ 0 @23:14
Detector: AEA2
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	2178.2	2178.2	362.724	362.724	10.000	2.460	5.000	1.343
2	53.6	53.6	303.400	303.385	12.000	4.277	6.000	1.822
3	276.6	276.6	229.509	229.509	10.000	3.499	5.000	2.556

PEAK RESULTS

Peak Error Limit: 30%

Peak ID	Isotope	AEA Frac	Peak Centroid Exp.	Obs.	Diff.	FWHM	Count Rate c/m	%err @95	d/m	Activity uCi/ea
1	Pu236	0.854	5.755	5.758	-.0030	0.01	50.09	1.3	231.5	0.104E-03
2	Am241	0.027	5.479	5.485	-.0060	0.02	1.60	7.1	7.7	0.347E-05
	Pu238		5.487	5.485	0.002				10.1	0.454E-05
3	Pu240	0.105	5.144	5.145	-.0010	0.02	6.14	3.6	27.8	0.125E-04
	Pu239		5.147	5.145	0.002				27.8	0.125E-04
Totals:		0.986	<--valid peaks only-->				57.83			

DETECTOR CALIBRATION

Energy (MEV) = 4.089 + (0.0046)*Channel
Energy range (MeV): 4.089 TO 6.444
Efficiency = 0.2208 CPM/DPM
(Data reduction compression factor: 1.)

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	28139.0	100.000
Smoothed	28138.9	99.999
Composite fit	27757.6	98.644
Residuals	381.4	1.356

Analyzed by: _____

SLH2

Spectrum 2a2088.CNF

1 Legend: Raw = Modeled Peaks = 1,2,..., etc

Display Max.: 11968.2

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2

1
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Raw Data Dump for AEA Spectrum: 2a2088.CNF

1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.
21	0.	0.	0.	0.	0.	0.	0.	1.	1.	1.
31	0.	0.	1.	0.	0.	1.	0.	0.	0.	0.
41	0.	1.	0.	0.	2.	0.	0.	1.	1.	0.
51	1.	0.	0.	2.	0.	0.	2.	0.	0.	1.
61	1.	0.	0.	0.	0.	2.	1.	1.	1.	2.
71	0.	1.	2.	0.	0.	1.	0.	1.	0.	1.
81	0.	1.	1.	0.	0.	0.	1.	0.	0.	1.
91	1.	1.	0.	0.	1.	4.	2.	0.	1.	1.
101	0.	0.	1.	0.	0.	0.	0.	2.	1.	1.
111	0.	0.	0.	0.	1.	0.	2.	0.	1.	1.
121	2.	1.	2.	0.	0.	0.	1.	0.	0.	0.
131	1.	0.	1.	0.	2.	1.	2.	1.	0.	4.
141	1.	1.	1.	2.	0.	2.	5.	3.	3.	0.
151	3.	1.	0.	2.	1.	2.	2.	2.	0.	0.
161	1.	1.	1.	1.	1.	4.	1.	2.	2.	0.
171	0.	3.	1.	1.	0.	2.	1.	4.	4.	1.
181	1.	1.	1.	2.	1.	2.	1.	1.	1.	0.
191	3.	0.	1.	5.	2.	2.	3.	5.	3.	0.
201	1.	5.	3.	4.	4.	6.	4.	4.	8.	10.
211	5.	12.	15.	21.	17.	31.	36.	54.	59.	71.
221	73.	75.	100.	113.	134.	167.	234.	320.	310.	352.
231	293.	205.	132.	66.	40.	11.	2.	3.	1.	0.
241	0.	1.	3.	1.	1.	2.	2.	3.	6.	5.
251	6.	8.	5.	11.	11.	7.	9.	4.	6.	2.
261	0.	3.	3.	2.	4.	3.	5.	4.	2.	5.
271	5.	6.	0.	7.	4.	1.	1.	2.	7.	4.
281	5.	3.	8.	7.	8.	10.	11.	13.	16.	16.
291	5.	17.	21.	23.	25.	24.	31.	31.	33.	40.
301	43.	65.	67.	56.	55.	52.	29.	6.	9.	6.
311	7.	2.	5.	7.	6.	7.	3.	8.	8.	5.
321	5.	8.	5.	9.	7.	12.	8.	10.	13.	20.
331	10.	17.	9.	15.	25.	23.	15.	17.	34.	31.
341	50.	60.	55.	91.	112.	133.	216.	225.	352.	457.
351	586.	838.	979.	983.	867.	819.	735.	986.	1168.	1488.
361	1969.	2544.	2853.	2526.	1691.	665.	173.	28.	6.	4.
371	2.	1.	0.	0.	1.	1.	0.	2.	1.	0.
381	0.	1.	1.	0.	2.	1.	0.	1.	2.	0.
391	1.	5.	0.	0.	0.	0.	1.	1.	0.	0.
401	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.
411	0.	1.	0.	1.	0.	0.	0.	1.	0.	0.
421	1.	0.	1.	1.	2.	0.	0.	0.	0.	0.
431	0.	0.	1.	1.	0.	0.	0.	0.	0.	0.
441	0.	1.	0.	0.	0.	0.	1.	0.	0.	0.
451	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
461	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.
471	0.	0.	0.	1.	3.	1.	3.	3.	0.	1.
481	1.	0.	1.	0.	0.	0.	0.	1.	0.	1.
491	0.	1.	1.	0.	2.	1.	0.	0.	1.	0.
511	0.	0.								

222-S Analytical Laboratory
 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. 2.11

DATA REDUCTION REPORT

SAMPLE
 S00T612-SAM-PU
 File ID: 3a3032.CNF

Counted on: 4/ 5/ 0 @23:15
 Detector: AEA3
 Geometry number: 1
 Count time: 28804. Sec

PEAK ANALYSIS

Peak ID	Peak height		Peak center		FWHM		Tau	
	Initial	Final	Initial	Final	Initial	Final	Initial	Final
1	1849.6	1849.6	363.001	363.001	10.000	3.129	5.000	1.470
2	62.1	62.1	303.980	303.940	10.000	4.359	5.000	1.703
3	303.0	303.0	229.632	229.632	12.000	4.163	6.000	2.563

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	Pu236	0.841	5.755	5.756	-0.0010	10.01	48.75	1.3	223.0	0.100E-03
2	Am241	0.034	5.479	5.484	-0.0050	50.02	1.95	6.5	9.3	0.420E-05
	Pu238		5.487	5.484	0.003				12.2	0.548E-05
3	Pu240	0.131	5.144	5.142	0.0020	20.02	7.57	3.3	33.9	0.153E-04
	Pu239		5.147	5.142	0.005				33.9	0.153E-04
Totals:			1.006 <--valid peaks only-->			58.27				

DETECTOR CALIBRATION

Energy(MEV) = 4.086 + (0.0046)*Channel
 Energy range (MeV): 4.086 TO 6.441
 Efficiency = 0.2231 CPM/DPM
 (Data reduction compression factor: 1.)

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	27816.0	100.000
Smoothed	27815.9	100.000
Composite fit	27972.8	100.564
Residuals	-156.8	-0.564

Analyzed by: _____

SLH2

Spectrum 3a3032.CNF

1 Legend: Raw = Modeled Peaks = 1,2,..., etc

Display Max.: 11086.2

3
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2

1
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Raw Data Dump for AEA Spectrum: 3a3032.CNF

1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
31	0.	0.	1.	1.	0.	0.	0.	1.	0.	0.
41	1.	1.	0.	1.	0.	1.	0.	0.	1.	0.
51	1.	0.	1.	0.	1.	1.	0.	0.	0.	0.
61	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.
71	0.	0.	0.	1.	1.	0.	0.	0.	0.	0.
81	0.	0.	1.	1.	1.	1.	0.	0.	1.	0.
91	0.	0.	1.	0.	0.	0.	0.	0.	2.	1.
101	0.	1.	0.	0.	1.	1.	0.	1.	0.	0.
111	1.	0.	2.	0.	0.	0.	0.	1.	0.	0.
121	1.	2.	0.	2.	1.	1.	1.	0.	1.	2.
131	1.	4.	1.	1.	1.	5.	1.	1.	1.	1.
141	1.	1.	4.	1.	3.	1.	1.	3.	3.	1.
151	0.	1.	0.	2.	4.	1.	1.	1.	0.	0.
161	1.	0.	3.	1.	2.	1.	2.	2.	3.	1.
171	1.	0.	3.	0.	2.	1.	0.	2.	1.	0.
181	2.	0.	1.	1.	1.	2.	0.	2.	0.	1.
191	3.	2.	1.	2.	2.	2.	4.	4.	3.	3.
201	1.	4.	4.	3.	3.	5.	2.	11.	12.	12.
211	10.	18.	21.	21.	21.	44.	57.	51.	73.	90.
221	106.	112.	131.	150.	195.	216.	289.	305.	342.	375.
231	301.	271.	183.	111.	55.	14.	4.	4.	0.	4.
241	2.	3.	2.	1.	1.	0.	6.	4.	6.	3.
251	6.	4.	9.	3.	12.	5.	9.	7.	7.	3.
261	2.	5.	3.	2.	3.	2.	3.	3.	2.	4.
271	5.	2.	5.	6.	4.	2.	5.	1.	4.	5.
281	5.	6.	8.	1.	6.	10.	10.	19.	14.	14.
291	15.	23.	24.	24.	32.	37.	37.	36.	45.	53.
301	54.	58.	73.	62.	79.	67.	28.	31.	12.	10.
311	8.	13.	2.	10.	5.	3.	4.	2.	7.	4.
321	1.	10.	10.	9.	7.	9.	8.	13.	16.	15.
331	14.	13.	21.	23.	18.	22.	19.	38.	28.	46.
341	49.	62.	81.	100.	103.	149.	226.	271.	319.	433.
351	606.	722.	865.	925.	860.	831.	815.	906.	1139.	1373.
361	1764.	1992.	2240.	2197.	1736.	1039.	501.	166.	33.	10.
371	4.	2.	3.	3.	1.	0.	0.	2.	1.	1.
381	1.	1.	1.	1.	0.	0.	1.	0.	0.	0.
391	0.	0.	0.	0.	2.	1.	0.	0.	0.	0.
401	1.	0.	0.	1.	0.	0.	0.	0.	0.	0.
411	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.
421	0.	0.	0.	0.	2.	0.	0.	1.	2.	0.
431	0.	0.	1.	0.	0.	0.	0.	1.	1.	3.
441	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
451	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.
461	0.	1.	0.	0.	0.	0.	1.	0.	0.	1.
471	0.	0.	1.	2.	5.	3.	2.	1.	2.	0.
481	0.	1.	0.	0.	1.	1.	1.	0.	0.	0.
491	0.	0.	0.	2.	0.	0.	0.	0.	0.	1.
511	0.	0.								

222-S Analytical Laboratory
 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. 2.11

DATA REDUCTION REPORT

SAMPLE
 S00T612-DUP-PU
 File ID: 4a4130.CNF

Counted on: 4/ 5/ 0 @23:16
 Detector: AEA4
 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	1998.6	1998.6	359.709	359.709	10.000	2.742	5.000	1.359
2	64.7	64.7	301.683	301.655	10.000	3.456	5.000	1.450
3	326.1	326.1	227.403	227.403	12.000	3.679	6.000	2.400

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.	FWHM	c/m			
1	Pu236	0.835	5.755	5.742	0.013	0.01	49.66	1.3	228.6	0.103E-03
2	Am241	0.031	5.479	5.475	0.004	0.02	1.86	6.7	8.9	0.401E-05
	Pu238		5.487	5.475	0.012				11.6	0.524E-05
3	Pu240	0.129	5.144	5.133	0.011	0.02	7.67	3.2	34.6	0.156E-04
	Pu239		5.147	5.133	0.014				34.6	0.156E-04
Totals:		0.996	---valid peaks only---				59.19			

DETECTOR CALIBRATION

Energy (MEV) = 4.087 + (0.0046)*Channel
 Energy range (MeV): 4.087 TO 6.442
 Efficiency = 0.2217 CPM/DPM
 (Data reduction compression factor: 1.)

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	28535.0	100.000
Smoothed	28535.0	100.000
Composite fit	28412.2	99.570
Residuals	122.8	0.430

Analyzed by: _____

SLH2

Spectrum 4a4130.CNF

1 Legend: Raw = Modeled Peaks = 1,2,..., etc

Display Max.: 10960.2

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3
3
 3

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Raw Data Dump for AEA Spectrum: 4a4130.CNF

1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	1.	0.	0.	1.
21	0.	0.	1.	0.	0.	0.	0.	0.	0.	1.
31	0.	0.	0.	0.	0.	1.	1.	0.	1.	0.
41	1.	1.	0.	1.	0.	0.	1.	0.	0.	0.
51	0.	1.	0.	0.	0.	2.	1.	1.	2.	0.
61	0.	1.	0.	0.	0.	0.	0.	0.	0.	1.
71	1.	1.	0.	0.	1.	0.	1.	1.	0.	0.
81	1.	1.	0.	0.	1.	0.	0.	0.	0.	0.
91	0.	0.	1.	1.	0.	1.	1.	0.	0.	0.
101	1.	0.	2.	0.	0.	1.	1.	0.	1.	0.
111	0.	1.	1.	0.	2.	0.	2.	0.	0.	2.
121	0.	3.	1.	0.	0.	0.	0.	1.	1.	2.
131	2.	1.	0.	1.	1.	1.	1.	1.	2.	2.
141	0.	1.	2.	2.	5.	4.	3.	3.	0.	2.
151	4.	1.	2.	1.	2.	1.	0.	1.	0.	0.
161	0.	2.	3.	2.	2.	0.	3.	5.	0.	0.
171	2.	1.	1.	2.	2.	0.	2.	0.	1.	1.
181	4.	2.	1.	2.	1.	2.	2.	0.	0.	1.
191	5.	1.	1.	1.	0.	2.	2.	1.	6.	7.
201	4.	4.	4.	7.	9.	12.	10.	13.	9.	20.
211	23.	24.	34.	42.	54.	61.	64.	92.	77.	116.
221	123.	180.	202.	263.	287.	327.	409.	382.	317.	278.
231	136.	74.	30.	18.	3.	0.	1.	2.	0.	1.
241	2.	2.	3.	6.	1.	8.	2.	4.	6.	6.
251	6.	12.	10.	10.	11.	5.	7.	4.	3.	2.
261	1.	0.	5.	3.	2.	1.	5.	6.	5.	1.
271	3.	0.	5.	4.	0.	3.	1.	2.	5.	7.
281	7.	10.	12.	11.	15.	14.	11.	13.	19.	17.
291	34.	22.	29.	29.	29.	29.	41.	59.	59.	72.
301	55.	76.	82.	55.	28.	14.	10.	5.	5.	5.
311	5.	7.	5.	5.	2.	11.	7.	5.	7.	8.
321	7.	7.	3.	18.	10.	23.	21.	18.	16.	24.
331	22.	28.	30.	32.	19.	51.	45.	55.	68.	77.
341	104.	137.	133.	206.	275.	379.	467.	586.	781.	940.
351	1010.	923.	804.	843.	993.	1218.	1465.	1885.	2275.	2512.
361	2332.	1592.	776.	240.	44.	4.	1.	2.	1.	1.
371	2.	3.	1.	0.	0.	0.	1.	0.	0.	2.
381	1.	2.	1.	0.	1.	1.	0.	0.	1.	1.
391	0.	0.	2.	0.	0.	0.	0.	0.	0.	0.
401	1.	1.	1.	0.	0.	0.	1.	1.	0.	0.
411	0.	0.	0.	0.	1.	0.	0.	0.	1.	1.
421	0.	1.	0.	0.	2.	0.	0.	0.	0.	0.
431	0.	0.	0.	0.	0.	0.	0.	0.	2.	0.
441	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.
451	0.	0.	0.	0.	0.	0.	1.	1.	1.	0.
461	0.	0.	0.	0.	0.	1.	0.	1.	1.	0.
471	1.	1.	1.	2.	1.	2.	0.	0.	0.	0.
481	1.	0.	0.	0.	0.	1.	1.	0.	0.	1.
491	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.
511	0.	0.								

222-S Analytical Laboratory
 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. 2.11

DATA REDUCTION REPORT

SAMPLE
 S00T628-SAM-PU
 File ID: 5a5649.CNF

Counted on: 4/ 5/ 0 @23:18
 Detector: AEA5
 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	2012.9	2012.9	361.495	361.495	8.000	2.722	4.000	1.270
2	57.8	57.8	303.072	303.032	10.000	3.750	5.000	1.678
3	304.3	304.3	229.763	229.762	10.000	3.494	5.000	2.198

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	Pu236	0.863	5.755	5.741	0.014	51.70	1.2	218.0	0.982E-04
2	Am241	0.027	5.479	5.473	0.006	1.63	7.2	7.2	0.323E-05
	Pu238		5.487	5.473	0.014			9.4	0.421E-05
3	Pu240	0.119	5.144	5.136	0.008	7.15	3.3	29.6	0.133E-04
	Pu239		5.147	5.136	0.011			29.6	0.133E-04
Totals:		1.010	<--valid peaks only-->			60.48			

DETECTOR CALIBRATION

Energy (MEV) = 4.079 + (0.0046)*Channel
 Energy range (MeV): 4.079 TO 6.434
 Efficiency = 0.2420 CPM/DPM
 (Data reduction compression factor: 1.)

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	28757.0	100.000
Smoothed	28756.5	99.998
Composite fit	29031.9	100.956
Residuals	-274.9	-0.956

Analyzed by: _____

SLH2

Spectrum 5a5649.CNF

1 Legend: Raw = Modeled Peaks = 1,2,..., etc

Display Max.: 9692.6

3
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Raw Data Dump for AEA Spectrum: 5a5649.CNF

1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	1.	1.	0.	1.	0.
21	0.	1.	0.	0.	0.	0.	1.	0.	0.	1.
31	0.	0.	0.	1.	0.	0.	0.	1.	2.	0.
41	0.	0.	1.	0.	0.	1.	1.	0.	0.	2.
51	0.	1.	0.	0.	1.	0.	0.	1.	2.	0.
61	1.	0.	0.	1.	1.	0.	0.	0.	0.	0.
71	0.	0.	0.	0.	1.	1.	0.	0.	1.	0.
81	0.	0.	0.	0.	1.	1.	0.	0.	1.	1.
91	0.	0.	0.	0.	0.	1.	0.	0.	2.	0.
101	1.	0.	1.	0.	1.	0.	0.	1.	0.	0.
111	0.	0.	2.	0.	1.	1.	0.	1.	0.	3.
121	1.	0.	0.	0.	0.	1.	0.	2.	1.	1.
131	0.	1.	0.	0.	1.	0.	0.	0.	4.	0.
141	0.	3.	1.	2.	3.	2.	2.	2.	1.	6.
151	0.	2.	1.	1.	0.	5.	2.	1.	3.	1.
161	1.	1.	0.	2.	1.	1.	4.	0.	0.	0.
171	1.	0.	0.	1.	0.	1.	1.	3.	0.	0.
181	1.	1.	0.	2.	0.	1.	0.	0.	3.	1.
191	4.	2.	2.	2.	2.	1.	1.	4.	3.	4.
201	5.	6.	5.	4.	5.	9.	8.	8.	19.	13.
211	14.	15.	17.	32.	29.	41.	43.	48.	81.	84.
221	92.	107.	116.	135.	160.	192.	239.	324.	356.	364.
231	341.	278.	158.	76.	44.	11.	2.	3.	1.	3.
241	2.	1.	0.	3.	1.	2.	0.	4.	7.	4.
251	4.	3.	7.	8.	12.	10.	6.	6.	4.	9.
261	3.	2.	3.	4.	3.	7.	5.	5.	3.	8.
271	5.	2.	2.	5.	4.	3.	3.	3.	3.	5.
281	5.	5.	7.	5.	10.	13.	18.	12.	13.	18.
291	14.	16.	16.	20.	23.	27.	29.	34.	47.	55.
301	48.	70.	70.	64.	55.	51.	15.	14.	5.	4.
311	5.	5.	9.	10.	8.	4.	6.	8.	4.	6.
321	5.	9.	4.	12.	16.	13.	13.	16.	16.	20.
331	26.	12.	19.	31.	28.	26.	30.	43.	62.	62.
341	79.	98.	110.	142.	171.	234.	273.	419.	481.	628.
351	847.	991.	1042.	908.	894.	994.	1061.	1263.	1630.	1934.
361	2381.	2523.	2271.	1454.	569.	150.	25.	5.	3.	3.
371	1.	4.	0.	1.	0.	1.	0.	0.	1.	1.
381	1.	2.	2.	0.	0.	0.	0.	1.	0.	2.
391	0.	1.	0.	0.	1.	0.	1.	1.	1.	1.
401	0.	0.	0.	1.	1.	1.	1.	1.	0.	1.
411	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.
421	1.	0.	1.	0.	0.	0.	0.	0.	1.	0.
431	0.	0.	1.	0.	0.	1.	0.	0.	0.	1.
441	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.
451	0.	0.	1.	0.	0.	0.	0.	0.	1.	1.
461	0.	0.	0.	0.	0.	1.	0.	0.	0.	1.
471	0.	1.	0.	0.	3.	4.	1.	1.	0.	0.
481	0.	0.	0.	0.	1.	0.	1.	0.	0.	0.
491	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.
511	1.	0.								

222-S Analytical Laboratory
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. 2.11

DATA REDUCTION REPORT

SAMPLE
S00T628-DUP-PU
File ID: 6a6638.CNF

Counted on: 4/ 5/ 0 @23:19
Detector: AEA6
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	1744.9	1744.9	361.303	361.303	12.000	4.698	6.000	2.160
2	48.9	48.9	302.226	302.147	12.000	5.676	6.000	2.019
3	265.9	265.9	227.869	227.869	12.000	5.585	6.000	3.692

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	Pu236	0.856	5.755	5.754	0.0010	0.02	51.28	1.2	324.2	0.146E-03
2	Am241	0.029	5.479	5.482	-0.0030	0.03	1.72	7.0	11.3	0.510E-05
	Pu238		5.487	5.482	0.005				14.8	0.666E-05
3	Pu240	0.119	5.144	5.140	0.0040	0.03	7.13	3.4	44.2	0.199E-04
	Pu239		5.147	5.140	0.007				44.2	0.199E-04

Totals:		1.003	<--valid peaks only-->				60.13			

DETECTOR CALIBRATION

Energy (MEV) = 4.092 + (0.0046)*Channel
Energy range (MeV): 4.092 TO 6.447
Efficiency = 0.1614 CPM/DPM
(Data reduction compression factor: 1.)

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	28770.0	100.000
Smoothed	28769.9	99.999
Composite fit	28860.4	100.314
Residuals	-90.4	-0.314

Analyzed by: _____

SLH2

Spectrum 6a6638.CNF

1 Legend: Raw = Modeled Peaks = 1,2,..., etc

Display Max.: 9551.5

3
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Raw Data Dump for AEA Spectrum: 6a6638.CNF

1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.
31	0.	0.	1.	2.	0.	1.	0.	1.	0.	0.
41	1.	0.	0.	0.	1.	1.	0.	0.	0.	2.
51	0.	0.	1.	0.	0.	0.	1.	0.	1.	0.
61	1.	1.	1.	0.	0.	0.	0.	0.	1.	0.
71	3.	1.	0.	0.	1.	0.	0.	0.	0.	0.
81	0.	1.	2.	0.	0.	0.	0.	1.	1.	2.
91	0.	0.	0.	1.	0.	1.	0.	1.	0.	0.
101	1.	0.	0.	0.	2.	0.	0.	0.	2.	0.
111	0.	1.	1.	0.	1.	0.	1.	0.	0.	0.
121	1.	1.	1.	0.	1.	0.	0.	0.	1.	0.
131	0.	1.	1.	0.	0.	1.	1.	1.	2.	0.
141	1.	0.	0.	3.	5.	2.	3.	3.	3.	1.
151	6.	2.	1.	0.	5.	2.	1.	0.	0.	4.
161	3.	2.	0.	1.	0.	0.	0.	4.	2.	0.
171	2.	1.	1.	0.	2.	1.	2.	2.	0.	0.
181	1.	3.	1.	2.	2.	0.	4.	0.	2.	5.
191	2.	3.	1.	5.	2.	2.	0.	2.	4.	2.
201	3.	6.	3.	7.	5.	8.	10.	11.	5.	22.
211	19.	18.	29.	30.	39.	55.	64.	81.	62.	83.
221	121.	125.	187.	191.	258.	276.	306.	304.	287.	248.
231	196.	158.	88.	66.	34.	14.	9.	8.	3.	1.
241	1.	5.	0.	3.	6.	0.	4.	3.	1.	6.
251	8.	2.	9.	11.	8.	5.	10.	9.	3.	3.
261	2.	3.	3.	4.	2.	3.	6.	1.	5.	2.
271	2.	0.	3.	2.	4.	3.	2.	4.	2.	2.
281	7.	9.	12.	15.	20.	8.	14.	10.	16.	21.
291	16.	20.	21.	20.	33.	37.	44.	34.	48.	48.
301	60.	51.	55.	49.	52.	29.	17.	17.	7.	5.
311	5.	6.	13.	8.	7.	6.	3.	7.	4.	6.
321	10.	7.	11.	11.	10.	14.	13.	12.	11.	15.
331	15.	23.	31.	17.	27.	31.	42.	42.	40.	58.
341	66.	90.	119.	140.	198.	253.	328.	410.	591.	627.
351	773.	834.	811.	923.	980.	1043.	1181.	1441.	1603.	1888.
361	2037.	1978.	1786.	1381.	995.	603.	325.	160.	68.	28.
371	10.	3.	1.	3.	1.	0.	0.	0.	1.	1.
381	0.	0.	0.	1.	0.	1.	0.	1.	0.	1.
391	0.	1.	0.	0.	0.	0.	0.	0.	0.	1.
401	0.	0.	0.	0.	1.	1.	0.	0.	0.	0.
411	0.	0.	0.	0.	0.	1.	1.	0.	0.	0.
421	0.	0.	0.	1.	1.	0.	0.	1.	1.	1.
431	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
441	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
451	0.	0.	0.	0.	0.	0.	1.	0.	1.	0.
461	0.	1.	2.	0.	0.	0.	1.	0.	0.	0.
471	1.	1.	1.	0.	0.	4.	2.	0.	0.	0.
481	0.	2.	0.	0.	0.	1.	1.	1.	0.	0.
491	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
511	0.	0.								

222-S Analytical Laboratory
 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. 2.11

DATA REDUCTION REPORT

SAMPLE
 S00T637-SAM-PU
 File ID: 7a7701.CNF

Counted on: 4/ 5/ 0 @23:21
 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	2199.2	2199.2	362.811	362.811	10.000	2.424	5.000	1.353
2	52.3	52.3	303.759	303.746	10.000	3.936	5.000	1.811
3?	10.2	10.2	256.324	256.308	10.000	3.782	5.000	1.487
4	256.8	256.8	229.414	229.410	10.000	3.397	5.000	2.364

PEAK RESULTS

Peak Error Limit: 30%

Peak ID	Isotope	AEA Frac	Peak Centroid	Count	%err	Activity	
			Exp. Obs. Diff. FWHM	Rate c/m	@95	d/m uCi/ea	
1	Pu236	0.862	5.755 5.762 -.007	0.01	49.80	1.3	213.2 0.960E-04
	Cm243		5.779 5.762 0.017				286.2 0.129E-03
2	Am241	0.025	5.479 5.490 -.011	0.02	1.47	7.4	6.6 0.295E-05
	Pu238		5.487 5.490 -.003				8.6 0.386E-05
3		????	5.272		0.31	16.3	
4	Pu240	0.099	5.144 5.148 -.004	0.02	5.75	3.7	24.1 0.109E-04
	Pu239		5.147 5.148 -.001				24.1 0.109E-04
Totals:		0.987	<--valid peaks only-->		57.02		

DETECTOR CALIBRATION

Energy (MEV) = 4.093 + (0.0046)*Channel
 Energy range (MeV): 4.093 TO 6.448
 Efficiency = 0.2384 CPM/DPM
 (Data reduction compression factor: 1.)

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	27733.0	100.000
Smoothed	27732.8	99.999
Composite fit	27519.1	99.229
Residuals	213.9	0.771

Analyzed by:

1014

SLH2

Spectrum 7a7701.CNF

1 Legend: Raw = Modeled Peaks = 1,2,..., etc

Display Max.: 12100.3

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Raw Data Dump for AEA Spectrum: 7a7701.CNF

1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.
21	0.	0.	1.	0.	1.	0.	0.	0.	0.	0.
31	0.	1.	1.	0.	0.	0.	0.	0.	0.	1.
41	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
51	0.	0.	0.	0.	0.	0.	0.	1.	0.	2.
61	1.	1.	0.	0.	0.	0.	0.	1.	0.	0.
71	0.	0.	1.	0.	0.	0.	1.	0.	1.	0.
81	1.	1.	1.	0.	0.	0.	0.	0.	0.	0.
91	1.	0.	1.	0.	1.	0.	0.	0.	0.	0.
101	1.	0.	0.	0.	1.	2.	0.	1.	0.	0.
111	1.	0.	2.	0.	0.	1.	0.	2.	1.	0.
121	0.	0.	1.	0.	0.	1.	2.	1.	1.	1.
131	1.	0.	1.	3.	4.	2.	0.	0.	1.	0.
141	0.	2.	1.	1.	0.	1.	2.	3.	3.	4.
151	1.	0.	4.	0.	2.	4.	1.	1.	0.	1.
161	4.	2.	0.	1.	0.	2.	0.	1.	1.	1.
171	0.	0.	1.	1.	0.	1.	2.	1.	1.	0.
181	1.	0.	1.	1.	2.	0.	3.	0.	2.	2.
191	1.	0.	2.	2.	0.	0.	1.	3.	0.	4.
201	3.	2.	3.	1.	1.	3.	5.	5.	10.	5.
211	9.	10.	10.	16.	17.	17.	57.	39.	47.	79.
221	80.	88.	103.	100.	123.	180.	236.	284.	306.	317.
231	274.	192.	104.	46.	27.	9.	3.	0.	1.	0.
241	1.	0.	5.	4.	3.	0.	0.	0.	4.	6.
251	4.	6.	7.	8.	10.	13.	13.	13.	4.	0.
261	2.	2.	3.	4.	3.	1.	2.	8.	5.	4.
271	4.	4.	6.	4.	2.	2.	3.	2.	2.	2.
281	5.	6.	6.	4.	9.	9.	10.	11.	11.	14.
291	13.	13.	18.	20.	13.	28.	16.	29.	31.	40.
301	46.	52.	48.	66.	62.	39.	30.	17.	7.	5.
311	3.	12.	9.	2.	4.	4.	7.	3.	0.	6.
321	4.	5.	12.	6.	6.	7.	6.	14.	14.	14.
331	13.	11.	11.	11.	19.	20.	20.	32.	28.	30.
341	33.	44.	74.	76.	101.	132.	160.	217.	329.	441.
351	606.	762.	988.	993.	862.	763.	781.	907.	1140.	1527.
361	1913.	2465.	2905.	2613.	1722.	763.	195.	33.	5.	4.
371	3.	3.	2.	2.	1.	2.	1.	2.	1.	1.
381	0.	1.	2.	1.	1.	2.	1.	2.	0.	0.
391	2.	0.	0.	0.	0.	0.	1.	0.	0.	1.
401	0.	1.	1.	0.	0.	0.	0.	0.	0.	0.
411	0.	0.	1.	0.	2.	0.	0.	0.	0.	1.
421	0.	0.	0.	0.	0.	1.	0.	1.	0.	0.
431	0.	0.	1.	0.	1.	0.	0.	1.	0.	0.
441	0.	1.	0.	1.	0.	0.	0.	0.	2.	0.
451	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
461	1.	0.	0.	0.	1.	0.	0.	0.	1.	0.
471	0.	0.	0.	0.	0.	0.	2.	4.	0.	0.
481	1.	0.	0.	0.	0.	0.	1.	0.	0.	0.
491	0.	1.	0.	0.	0.	0.	0.	0.	0.	0.
511	1.	0.								

222-S Analytical Laboratory
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. 2.11

DATA REDUCTION REPORT

SAMPLE
S00T637-DUP-PU
File ID: 8a8792.CNF

Counted on: 4/ 6/ 0 @ 0:56
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	2192.8	2192.8	362.772	362.772	10.000	2.423	5.000	1.358
2?	4.3	4.3	326.468	324.607	12.000	0.000	6.000	4.895
3	44.5	44.5	304.037	304.014	12.000	4.921	6.000	1.948
4?	11.4	11.4	256.122	256.098	10.000	2.926	5.000	1.158
5	261.5	261.5	229.738	229.734	10.000	3.430	5.000	2.530

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	Pu236	0.864	5.755	5.757	-.0020	0.01	49.54	1.3	233.0	0.105E-03
2		????		5.581			0.00	1000.		
3	Am241	0.025	5.479	5.486	-.0070	0.02	1.43	7.6	7.0	0.316E-05
	Pu238		5.487	5.486	0.001				9.1	0.412E-05
4		????		5.266			0.33	16.0		
5	Pu240	0.100	5.144	5.145	-.0010	0.02	5.74	3.7	26.5	0.119E-04
	Pu239		5.147	5.145	0.002				26.5	0.119E-04
Totals:		0.989	<--valid peaks only-->				56.71			

DETECTOR CALIBRATION

Energy(MEV) = 4.088 + (0.0046)*Channel
Energy range (MeV): 4.088 TO 6.443
Efficiency = 0.2170 CPM/DPM
(Data reduction compression factor: 1.)

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	27537.0	100.000
Smoothed	27537.1	100.000
Composite fit	27381.9	99.437
Residuals	155.1	0.563

1017 Analyzed by: _____

Spectrum 8a8792.CNF

1 Legend: Raw = Modeled Peaks = 1,2,..., etc

Display Max.: 12040.5

```

.5
.....5
45.
4
4
4

3
3
3
3

1
. 1
.....1.
.....1
.....1
.1....
    
```


Raw Data Dump for AEA Spectrum: 8a8792.CNF

1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.
21	0.	0.	1.	1.	0.	0.	0.	0.	0.	0.
31	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
41	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
51	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.
61	0.	0.	0.	1.	1.	1.	1.	0.	1.	0.
71	0.	0.	3.	0.	0.	2.	0.	0.	1.	0.
81	0.	1.	1.	0.	0.	0.	1.	0.	0.	0.
91	0.	0.	1.	0.	1.	0.	0.	1.	0.	0.
101	1.	1.	0.	0.	1.	1.	0.	0.	1.	1.
111	1.	0.	0.	0.	0.	0.	0.	0.	2.	1.
121	0.	1.	1.	0.	0.	0.	0.	1.	1.	0.
131	0.	1.	0.	1.	0.	0.	0.	0.	0.	1.
141	0.	2.	0.	1.	1.	3.	1.	6.	3.	2.
151	1.	0.	1.	1.	0.	1.	0.	0.	1.	0.
161	0.	1.	2.	1.	1.	1.	0.	0.	3.	1.
171	0.	1.	2.	0.	1.	2.	1.	0.	2.	1.
181	1.	2.	3.	4.	0.	0.	3.	2.	0.	0.
191	1.	0.	0.	0.	3.	1.	2.	2.	0.	2.
201	1.	0.	4.	1.	5.	7.	3.	5.	6.	7.
211	14.	9.	12.	14.	18.	24.	37.	43.	48.	71.
221	65.	66.	76.	93.	144.	166.	206.	290.	295.	323.
231	291.	229.	133.	77.	35.	7.	2.	3.	1.	2.
241	0.	0.	2.	3.	3.	2.	6.	3.	2.	3.
251	5.	8.	3.	8.	12.	18.	12.	11.	3.	5.
261	1.	3.	1.	3.	1.	2.	2.	5.	2.	4.
271	4.	1.	4.	1.	1.	4.	1.	2.	1.	4.
281	4.	5.	5.	6.	5.	4.	12.	18.	11.	17.
291	13.	6.	16.	13.	16.	26.	18.	31.	32.	35.
301	51.	51.	37.	53.	44.	47.	38.	20.	7.	9.
311	6.	3.	4.	4.	6.	5.	5.	5.	6.	8.
321	4.	5.	4.	11.	4.	18.	10.	6.	10.	6.
331	5.	8.	13.	19.	25.	21.	30.	11.	21.	27.
341	35.	36.	53.	67.	86.	120.	167.	240.	306.	410.
351	622.	781.	1006.	968.	909.	733.	752.	907.	1218.	1447.
361	1979.	2489.	2852.	2659.	1671.	693.	188.	29.	7.	3.
371	3.	1.	2.	3.	3.	1.	0.	2.	1.	0.
381	0.	0.	1.	1.	0.	0.	1.	0.	0.	1.
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.	0.	1.	0.	0.	1.	1.	0.
421	0.	0.	1.	0.	0.	0.	2.	0.	0.	0.
431	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.
441	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.
451	1.	0.	0.	0.	0.	1.	0.	0.	0.	0.
461	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.
471	0.	0.	0.	0.	3.	2.	0.	0.	4.	0.
481	0.	0.	1.	0.	0.	1.	0.	0.	0.	1.
491	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
511	0.	0.								

WORKBOOK PAGE: STD1

Pu 238 and 239/240 : LA-943-128 (VOID) or LA-953-104(B-³0) ~~128~~ LIQUID

Pu 238 and 239/240 : LA-943-128 (VOID) or LA-953-104(B-0) <i>PU 238</i> LIQUID					STD
	DATE COUNTED		APR-05-2000	PU 238 AEA FRAC (C238)	0.425
STD	SAMPLE VOLUME in mL	SS	1.000	PU 238 AEA FRAC (C238)	0.029
	SAMPLE DILUTION FACTOR	DF	1.000	PU 239 AEA FRAC (C239)	0.502
33121	TRACER VOLUME in mL	SPKV	0.100	TOTAL AT COUNTS	4207
	DIGEST DILUTION FACTOR	DDF	1.000	AT COUNT TIME (MIN)	30
@PU23902	TRACER BOOK NO		18B59	BACKGROUND in cpm (Bkg)	0.170
	DETECTOR NUMBER		14	PU 238 cpm	51.280
LIQUID	EFFICIENCY FACTOR	EFF	0.278	PU 238 cpm	3.460
	TRACER PREPARATION DATE		08/30/99	PU 239 cpm	60.540
20001202	TRACER PREPARATION VALUE (dpm/mL)		2687.000	AEA COUNT TIME	480
	PU-238 DECAY CORR'D VALUE (dpm/mL)		2322.392	Pu 239/240 μ Ci/L	1.2357E-01
0	PU-238 TRACER VALUE (dpm/mL)		0.000		
	STANDARD BOOK NO		46B57		
N/A	STANDARD VALUE in μ Ci/mL		1.260E-04		

WL33121-STD

Decay Time = Date Counted - Tracer Preparation Date

WB27807

Pu-238 Decay Corr'd Value = Pu-238 Preparation Value * [e to the power of $\{(-\ln 2 * \text{Decay Time}) / 1040.95\}$]

Pu 238 Tracer Recovery = (Total AT Counts / TC - Bkg) * 1/EFF * C236 * 100 / Pu-238 Decay Corr'd Value * SPKV

MCB

Pu 239/240 μ Ci/L = (C239)(Pu 238 Decay Corr'd Value)(SPKV)(1000mL/L)(DF)(DDF) / [(C236)(SS)(2220000 dpm/ μ Ci)]

JFR

Pu 238 dpm = [(Total AT Counts / TC) - Bkg * 1/EFF * C238] - (Pu-238 Tracer Value * SPKV * Pu 238 Tracer Recovery / 100)

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)]

CRJ

Relative Counting Error = Square Root of $\{[1 / (\text{Pu 238 cpm} * \text{min})] + [1 / (\text{Pu 238 or 239/240 cpm} * \text{min})]\} * 1.96 * 100$

04/06/2000

Pu 239/240 μ Ci/mL

1.24E-04

DETECTION

04/06/2000

Relative Counting Error =

1.7%

LEVELS

02:10 PM

in μ Ci/mL

Pu 239/240

8.01E-06

8Y-102 GRAB 6

Pu 238 Tracer Recovery =

92.2%

Analyst:

CRJ

Date: 06-Apr-2000

Signature of Chemist:

JFR

Date: 6 Apr 2000

STANDARD.WB1 REV 1.0

843128ML

1020

WORKBOOK PAGE: BLANK2

Pu 238 and 239/240 : LA-943-128 (VOID) or LA-953-104(B-0) ³ *hdp* *Chlor* L

	DATE COUNTED	APR-05-2000	PU 236 AEA FRAC (C236)	BLNK
BLNK	SAMPLE VOLUME in mL	SS 0.100	PU 238 AEA FRAC (C238)	0.000
	SAMPLE DILUTION FACTOR	DF 1.000	PU 239 AEA FRAC (C239)	0.000
33121	TRACER VOLUME in mL	SPKV 0.100	TOTAL AT COUNTS	1998
	DIGEST DILUTION FACTOR	DDF 1.0000	AT COUNT TIME (MIN)	30
@PU23902	TRACER BOOK NO	18B59	BACKGROUND in cp (Bkg)	0.170
	DETECTOR NUMBER	14	PU 236 cpm	49.140
LIQUID	EFFICIENCY FACTOR	EFF 0.2781	PU 238 cpm	0.000
	TRACER PREPARATION DATE	08/30/99	PU 239 cpm	0.000
20001202	TRACER PREPARATION VALUE (dpm/mL)	2687.00	AEA COUNT TIME	480
	PU-236 DECAY CORR'D VALUE (dpm/mL)	2322.39	Pu 239/240 μ Ci/L =	< 3.391E-02
0	PU-238 TRACER VALUE (dpm/mL)	0.00		

N/A

Decay Time = Date Counted - Tracer Preparation Date

WL33121-BLNK

Pu-236 Decay Corr'd Value = Pu-236 Preparation Value * [e to the power of {(-ln2 * Decay Time/1040.95)}]

Pu 238 Tracer Recovery = (Total AT Counts / TC - Bkg) * C236 * 100 / (Pu-236 Decay Corr'd Value * SPKV * EFF)

Pu 239/240 μ Ci/L = (C239) * (Pu 236 Decay Corr'd Value) * (SPKV) * (1000 mL/L) * (DF) * (DDF) / [(C236) * (SS) * (D g/L) * (2220000 dpm/ μ Ci)]

Pu 238 dpm = [(Total AT Counts / TC) - Bkg * 1/EFF * C238] - (Pu-238 Tracer Value * SPKV * Pu 238 Tracer Recovery / 100)

Pu 238 μ Ci/L = [(Pu 238 dpm) * (DF) * (DDF) * (1000 mL/L)] / [(Pu-238 Tracer Recovery / 100) * (2220000 dpm/ μ Ci) * (D g/L) * (SS)]

Relative Counting Error = Square Root of [(1 / (Pu 236 cpm * min)) + (1 / (Pu 238 or 239/240 cpm * min))] * 1.96 * 100

Pu 239/240 μ Ci/mL < 3.39E-05

Relative Counting Error = 100.0%

DETECTION

LEVELS

in μ Ci/mL

NOTE: Pu 238 Result is a LESS THAN Value.

Pu 239/240

Pu 238 μ Ci/mL < 3.39E-05

3.39E-05

Relative Counting Error = 100.0%

Pu 238

Pu 236 Tracer Recovery = 97.5%

3.39E-05

Analyst:

CRJ

Date:

06-Apr-2000

Signature of Chemist:

JFR

Date:

6 Apr 2000

BLANK.WB1 REV 1.0

943128

WORKBOOK PAGE: SAM3

Pu 238 and 239/240 : LA-943-128 (VOID) or LA-953-104(B-0) ³ _{1.26}

LIQUID /

SAMPLE		DATE COUNTED	APR-05-2000	Pu 238 AEA FRAC (C238)	0.828
33121	SAMPLE VOLUME in mL	SS	0.100	Pu 238 AEA FRAC (C238)	0.032
	SAMPLE DILUTION FACTOR	DF	1.000	Pu 239 AEA FRAC (C239)	0.108
@PU23902	TRACER VOLUME in mL	SPKV	0.100	TOTAL AT COUNTS	2358
	DIGEST DILUTION FACTOR	DDF	1.0000	AT COUNT TIME (MIN)	30
LIQUID	TRACER BOOK NO		18B59	BACKGROUND in cpm (Bkg)	0.170
	DETECTOR NUMBER		14	Pu 238 cpm	71.380
20001202	EFFICIENCY FACTOR	EFF	0.278	Pu 238 cpm	2.500
	TRACER PREPARATION DATE		08/30/99	Pu 239 cpm	9.170
0	TRACER PREPARATION VALUE (dpm/mL)		2687.000	AEA COUNT TIME	480
	PU-238 DECAY CORR'D VALUE (dpm/mL)		2322.392	Pu 239/240 μ Ci/L	1.3392E-01
N/A		PU-238 TRACER VALUE (dpm/mL)	0.000		

Decay Time = Date Counted - Tracer Preparation Date

Pu-238 Decay Corr'd Value = Pu-238 Preparation Value * [e to the power of {(-ln2 * Decay Time/1040.95)}]

Pu 238 Tracer Recovery = (Total AT Counts / TC - Bkg) * C238 * 100 / (Pu-238 Decay Corr'd Value * SPKV * EFF)

Pu 239/240 μ Ci/L = (C239)(Pu 238 Decay Corr'd Value)(SPKV)(1000mL/L)(DF)(DDF) / [(C238)(SS)(D g/L)(2220000 dpm/ μ Ci)]

Pu 238 dpm = [(Total AT Counts / TC) - Bkg * 1/EFF * C238] - (Pu-238 Tracer Value * SPKV * Pu 238 Tracer Recovery / 100)

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)]

Relative Counting Error = Square Root of [(1/(Pu 238 cpm * min)) + (1 / (Pu 238 or 239/240 cpm * min))] * 1.96 * 100

Pu 239/240 μ Ci/mL = 1.34E-04

Relative Counting Error = 3.1%

DETECTION

LEVELS

In μ Ci/mL

Pu 239/240

3.79E-05

Pu 238

3.79E-05

Pu 238 μ Ci/mL = 4.04E-05

Relative Counting Error = 5.5%

Pu 238 Tracer Recovery = 100.5%

Analyst:	CRJ	Date:	06-Apr-2000
Signature of Chemist:	<i>John Relyea</i>	Date:	6 Apr 2000
SAMPLE.WB1 REV 1.0	943128ML		

WORKBOOK PAGE: DUP4

Pu 238 and 239/240 : LA-943-128 (VOID) or LA-953-104(B-D)

LIQUID /

Pu 238 and 239/240 : LA-943-128 (VOID) or LA-953-104(B-5) (146)				LIQUID /	DUP
	DATE COUNT		APR-05-2000	PU 236 AEA FRAC (C236)	0.854
DUP	SAMPLE VOLUME in mL	SS	0.100	PU 238 AEA FRAC (C238)	0.027
	SAMPLE DILUTION FACTOR	DF	1.000	PU 239 AEA FRAC (C239)	0.105
33121	TRACER VOLUME in mL	SPKV	0.100	TOTAL AT COUNTS	2299
	DIGEST DILUTION FACTOR	DDF	1.0000	AT COUNT TIME (MIN)	30
PU23902	TRACER BOOK NO		18B59	BACKGROUND in cpm (Bkg)	0.170
	DETECTOR NUMBER		14	PU 236 cpm	50.090
LIQUID	EFFICIENCY FACTOR	EFF	0.278	PU 238 cpm	1.600
	TRACER PREPARATION DATE		08/30/99	PU 239 cpm	6.140
20001202	TRACER PREPARATION VALUE (dpm/mL)		2687.000	AEA COUNT TIME	480
	PU-238 DECAY CORR'D VALUE (dpm/mL)		2322.392	Pu 239/240 μ Ci/L	1.2862E-01
0	PU-238 TRACER VALUE (dpm/mL)		0.000		

N/A

Decay Time = Date Counted - Tracer Preparation Date

S00T000513

Pu-238 Decay Corr'd Value = Pu-236 Preparation Value * [e to the power of {(-ln2 * Decay Time/1040.95)}]

$$\text{Pu 236 Tracer Recovery} = (\text{Total AT Counts} / \text{TC -Bkg}) * \text{C236} * 100 / ((\text{Pu-236 Decay Corr'd Value} * \text{SPKV} * \text{EFF}))$$
$$\text{Pu 239/240 } \mu\text{Ci/L} = (\text{C239})(\text{Pu 236 Decay Corr'd Value})(\text{SPKV})(1000\text{mL/L})(\text{DF})(\text{DDF}) / [(\text{C236})(\text{SS})(\text{D g/L})(2220000 \text{ dpm}/\mu\text{Ci})]$$
$$\text{Pu 238 dpm} = [(\text{Total AT Counts} / \text{TC}) - \text{Bkg} * 1/\text{EFF} * \text{C238}] - (\text{Pu-238 Tracer Value} * \text{SPKV} * \text{Pu 236 Tracer Recovery} / 100)$$
$$\text{Pu 238 } \mu\text{Ci/L} = \frac{(\text{Pu 238 dpm}) \cdot (\text{DF}) \cdot (\text{DDF}) \cdot (1000 \text{ mL/L})}{[(\text{Pu-238 Tracer Recovery} / 100) \cdot (2220000 \text{ dpm}/\mu\text{Ci}) \cdot (\text{D g/L}) \cdot (\text{SS})]}$$
$$\text{Relative Counting Error} = \text{Square Root of } \left\{ \left(\frac{1}{\text{Pu 236 cpm} \cdot \text{min}} \right) + \left(\frac{1}{\text{Pu 238 or 239/240 cpm} \cdot \text{min}} \right) \right\} \cdot 1.96 \cdot 100$$

Pu 239/240 $\mu\text{Ci/mL}$	1.29E-04	DETECTION LEVELS in $\mu\text{Ci/mL}$
Relative Counting Error =	3.8%	
NOTE: Pu 238 Result is a LESS THAN Value.		
Pu 238 $\mu\text{Ci/mL}$	< 3.67E-05	Pu 239/240 3.67E-05
Relative Counting Error =	7.2%	Pu 238 3.67E-05
Pu 236 Tracer Recovery =	101.1%	

Analyst:

CRJ

Date: 06-Apr-2000

Signature of Chemist:

JFR

Date: 6 Apr 00

SAMPLE.WB1 REV 1.0

943128ML

WORKBOOK PAGE: SAM5

Pu 238 and 239/240 : LA-943-128 (VOID) or LA-953-104(B-0) ³ ₁₀₀₀ LIQUID /

			DATE COUNTED	APR-05-2000	PU 236 AEA FRAC (C238)	SAMPLE
SAMPLE	SAMPLE VOLUME in mL	SS		0.100	PU 238 AEA FRAC (C238)	0.841
	SAMPLE DILUTION FACTOR	DF		1.000	PU 239 AEA FRAC (C239)	0.034
33121	TRACER VOLUME in mL	SPKV		0.100	TOTAL AT COUNTS	0.131
	DIGEST DILUTION FACTOR	DDF		1.0000	AT COUNT TIME (MIN)	2315
@PU23902	TRACER BOOK NO		18B59		BACKGROUND in cpm (Bkg)	30
	DETECTOR NUMBER		14		PU 236 cpm	0.170
LIQUID	EFFICIENCY FACTOR	EFF	0.278		PU 238 cpm	48.750
	TRACER PREPARATION DATE		08/30/99		PU 239 cpm	1.950
20001202	TRACER PREPARATION VALUE (dpm/mL)		2687.000		AEA COUNT TIME	7.570
	PU-236 DECAY CORR'D VALUE (dpm/mL)		2322.392		Pu 239/240 µCi/L	480
0	PU-238 TRACER VALUE (dpm/mL)		0.000			1.6295E-01

N/A

Decay Time = Date Counted - Tracer Preparation Date

S00T000612

Pu-236 Decay Corr'd Value = Pu-236 Preparation Value * [e to the power of {(-ln2 * Decay Time/1040.95)}]

Pu 236 Tracer Recovery = (Total AT Counts / TC - Bkg) * C238 * 100 / (Pu-236 Decay Corr'd Value * SPKV * EFF)

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)]

Pu 238 dpm = [(Total AT Counts / TC) - Bkg * 1/EFF * C238] - (Pu-238 Tracer Value * SPKV * Pu 236 Tracer Recovery / 100)

Pu 238 µCi/L = [(Pu 238 dpm) (DF) (DDF) (1000mL/L)] / [(Pu-238 Tracer Recovery / 100) (2220000 dpm/µCi) (D g/L) (SS)]

Relative Counting Error = Square Root of [(1 / (Pu 236 cpm * min)) + (1 / (Pu 238 or 239/240 cpm * min))] * 1.96 * 100

Pu 239/240 µCi/mL = 1.63E-04

Relative Counting Error = 3.5%

DETECTION

LEVELS

In µCi/mL

Pu 239/240

3.73E-05

Pu 238

3.73E-05

Pu 238 µCi/mL = 4.23E-05

Relative Counting Error = 6.5%

Pu 236 Tracer Recovery = 100.3%

Analyst:	CRJ	Date:	06-Apr-2000
Signature of Chemist:	JFR	Date:	6 Apr 2000

SAMPLE.WB1 REV 1.0

943128ML

LIQUID /

N/A

Decay Time = Date Counted - Tracer Preparation Date

S00T000612

Pu-236 Decay Corr'd Value = Pu-236 Preparation Value * [e to the power of {(-ln2 * Decay Time/1040.95)}]

Pu 238 Tracer Recovery = (Total AT Counts / TC -Bkg) *C236*100/(Pu-236 Decay Corr'd Value * SPKV * EFF)

$$\text{Pu 239/240 } \mu\text{Ci/L} = (\text{C239})(\text{Pu 238 Decay Corr'd Value})(\text{SPKV})(1000\text{mL/L})(\text{DF})(\text{DDF}) / [(\text{C236})(\text{SS})(\text{D g/L})(2220000 \text{ dpm}/\mu\text{Ci})]$$
$$\text{Pu 238 dpm} = [(\text{Total AT Counts} / \text{TC}) - \text{Bkg} * 1/\text{EFF} * \text{C238}] - (\text{Pu-238 Tracer Value} * \text{SPKV} * \text{Pu 236 Tracer Recovery} / 100)$$
$$\text{Pu 238 } \mu\text{Ci/L} = [(\text{Pu 238 dpm})(\text{DF})(\text{DDF})(1000\text{mL/L})] / [(\text{Pu-236 Tracer Recovery} / 100)(2220000 \text{ dpm}/\mu\text{Ci})(\text{D g/L})(\text{SS})]$$

Relative Counting Error = Square Root of [(1/(Pu 236 cpm * min)) + (1 / (Pu 238 or 239/240 cpm * min))] * 1.96 * 100

Pu 239/240 $\mu\text{Ci/mL}$	1.62E-04	DETECTION LEVELS in $\mu\text{Ci/mL}$
Relative Counting Error =	3.5%	
		Pu 239/240 3.76E-05
Pu 238 $\mu\text{Ci/mL}$	3.88E-05	Pu 238 3.76E-05
Relative Counting Error =	6.7%	
Pu 236 Tracer Recovery =	99.9%	

Analyst:	CRJ	Date:	06-Apr-2000
Signature of Chemist:	JFR	Date:	6 Apr 000
SAMPLE WB1 REV 1.0			
943128ML			

WORKBOOK PAGE: SAM7

Pu 238 and 239/240 : LA-943-128 (VOID) or LA-953-104(B-0) ³ _{1/10/00}

LIQUID /

SAMPLE

	DATE COUNTED	APR-05-2000	PU 236 AEA FRAC (C236)	0.863
SAMPLE	SAMPLE VOLUME in mL	SS 0.100	PU 238 AEA FRAC (C238)	0.027
	SAMPLE DILUTION FACTOR	DF 1.000	PU 239 AEA FRAC (C239)	0.119
33121	TRACER VOLUME in mL	SPKV 0.100	TOTAL AT COUNTS	2308
	DIGEST DILUTION FACTOR	DDF 1.0000	AT COUNT TIME (MIN)	30
@PU23902	TRACER BOOK NO	18859	BACKGROUND in cpm (Bkg)	0.170
	DETECTOR NUMBER	14	PU 236 cpm	51.700
LIQUID	EFFICIENCY FACTOR	EFF 0.278	PU 238 cpm	1.630
	TRACER PREPARATION DATE	08/30/99	PU 239 cpm	7.150
20001202	TRACER PREPARATION VALUE (dpm/mL)	2687.000	AEA COUNT TIME	480
	PU-236 DECAY CORR'D VALUE (dpm/mL)	2322.392	Pu 239/240 µCi/L	1.4425E-01
0	PU-238 TRACER VALUE (dpm/mL)	0.000		

N/A

Decay Time = Date Counted - Tracer Preparation Date

S00T000628

Pu-236 Decay Corr'd Value = Pu-236 Preparation Value * [e to the power of {(-ln2 * Decay Time/1040.95)}]

Pu 236 Tracer Recovery = (Total AT Counts / TC - Bkg) * C236 * 100 / (Pu-236 Decay Corr'd Value * SPKV * EFF)

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)]

Pu 238 dpm = [(Total AT Counts / TC) - Bkg * 1/EFF * C238] - (Pu-238 Tracer Value * SPKV * Pu 236 Tracer Recovery / 100)

Pu 238 µCi/L = [(Pu 238 dpm) (DF) (DDF) (1000mL/L)] / [(Pu-236 Tracer Recovery / 100) (2220000 dpm/µCi) (D g/L) (SS)]

Relative Counting Error = Square Root of [(1 / (Pu 236 cpm * min)) + (1 / (Pu 238 or 239/240 cpm * min))] * 1.96 * 100

Pu 239/240 µCi/mL 1.44E-04

Relative Counting Error = 3.6%

DETECTION
LEVELS
In µCi/mL

NOTE: Pu 238 Result is a LESS THAN Value.

Pu 238 µCi/mL < 3.64E-05

Relative Counting Error = 7.1%

Pu 236 Tracer Recovery = 102.5%

Pu 239/240
3.64E-05
Pu 238
3.64E-05

Analyst:	CRJ	Date:	06-Apr-2000
Signature of Chemist:	JFR	Date:	6 Apr 2000
SAMPLE.WB1 REV 1.0	943128ML		

WORKBOOK PAGE: DUP8

Pu 238 and 239/240 : LA-943-128 (VOID) or LA-953-104(B-0) ³ _{11/16/00}

LIQUID /

DUP

	DATE COUNTED	APR-05-2000	PU 236 AEA FRAC (C236)	0.856
DUP	SAMPLE VOLUME in mL	SS 0.100	PU 238 AEA FRAC (C238)	0.029
	SAMPLE DILUTION FACTOR	DF 1.000	PU 239 AEA FRAC (C239)	0.119
33121	TRACER VOLUME in mL	SPKV 0.100	TOTAL AT COUNTS	2339
	DIGEST DILUTION FACTOR	DDF 1.0000	AT COUNT TIME (MIN)	30
@PU23902	TRACER BOOK NO	18B59	BACKGROUND in cpm (Bkg)	0.170
	DETECTOR NUMBER	14	PU 236 cpm	51.280
LIQUID	EFFICIENCY FACTOR	EFF 0.278	PU 238 cpm	1.720
	TRACER PREPARATION DATE	08/30/99	PU 239 cpm	7.130
20001202	TRACER PREPARATION VALUE (dpm/mL)	2687.000	AEA COUNT TIME	480
	PU-238 DECAY CORR'D VALUE (dpm/mL)	2322.392	Pu 239/240 μ Ci/L	1.4543E-01
0	PU-238 TRACER VALUE (dpm/mL)	0.000		

N/A

Decay Time = Date Counted - Tracer Preparation Date

S00T000628

Pu-236 Decay Corr'd Value = Pu-236 Preparation Value * [e to the power of $\{-\ln 2 * \text{Decay Time} / 1040.95\}$]

Pu 236 Tracer Recovery = (Total AT Counts / TC - Bkg) * C236 * 100 / (Pu-236 Decay Corr'd Value * SPKV * EFF)

Pu 239/240 μ Ci/L = (C239) * (Pu 236 Decay Corr'd Value) * (SPKV) * (1000 mL/L) * (DF) * (DDF) / [(C238) * (SS) * (D g/L) * (2220000 dpm/ μ Ci)]

Pu 238 dpm = [(Total AT Counts / TC) - Bkg * 1/EFF * C238] - (Pu-238 Tracer Value * SPKV * Pu 236 Tracer Recovery / 100)

Pu 238 μ Ci/L = [(Pu 238 dpm) * (DF) * (DDF) * (1000 mL/L)] / [(Pu-236 Tracer Recovery / 100) * (2220000 dpm/ μ Ci) * (D g/L) * (SS)]Relative Counting Error = Square Root of $\{[1 / (\text{Pu 236 cpm} * \text{min})] + [1 / (\text{Pu 238 or 239/240 cpm} * \text{min})]\} * 1.96 * 100$ Pu 239/240 μ Ci/mL = 1.45E-04

Relative Counting Error = 3.6%

DETECTION

LEVELS

in μ Ci/mL

NOTE: Pu 238 Result is a LESS THAN Value.

Pu 238 μ Ci/mL < 3.67E-05

Relative Counting Error = 6.9%

Pu 236 Tracer Recovery = 103.1%

Pu 239/240

3.67E-05

Pu 238

3.67E-05

Analyst:	CRJ	Date:	06-Apr-2000
Signature of Chemist:	JFR	Date:	6 Apr 2000

SAMPLE.WB1 REV 1.0

943128ML

1027

WORKBOOK PAGE: SAM9

Pu 238 and 239/240 : LA-943-128 (VOID) or LA-953-104(B-0) ^{3/10} _{11/10}

LIQUID /

SAMPLE

	DATE COUNTED	APR-05-2000	PU 236 AEA FRAC (C236)	0.862
SAMPLE	SAMPLE VOLUME in mL	SS 0.100	PU 238 AEA FRAC (C238)	0.025
	SAMPLE DILUTION FACTOR	DF 1.000	PU 239 AEA FRAC (C239)	0.099
33121	TRACER VOLUME in mL	SPKV 0.100	TOTAL AT COUNTS	2315
	DIGEST DILUTION FACTOR	DDF 1.0000	AT COUNT TIME (MIN)	30
@PU23902	TRACER BOOK NO	18859	BACKGROUND in cpm (Bkg)	0.170
	DETECTOR NUMBER	14	PU 236 cpm	48.800
LIQUID	EFFICIENCY FACTOR	EFF 0.278	PU 238 cpm	1.470
	TRACER PREPARATION DATE	08/30/99	PU 239 cpm	5.750
20001202	TRACER PREPARATION VALUE (dpm/mL)	2687.000	AEA COUNT TIME	480
	PU-236 DECAY CORR'D VALUE (dpm/mL)	2322.392	Pu 239/240 μ Ci/L	1.2015E-01
0	PU-238 TRACER VALUE (dpm/mL)	0.000		

N/A

Decay Time = Date Counted - Tracer Preparation Date

S00T000637 Pu-236 Decay Corr'd Value = Pu-236 Preparation Value * [e to the power of $\{(-\ln 2 * \text{Decay Time}) / 1040.95\}$]

Pu 236 Tracer Recovery = (Total AT Counts / TC - Bkg) * C236 * 100 / (Pu-236 Decay Corr'd Value * SPKV * EFF)

Pu 239/240 μ Ci/L = (C239)(Pu 236 Decay Corr'd Value)(SPKV)(1000mL/L)(DF)(DDF) / [(C236)(SS)(D g/L)(2220000 dpm/ μ Ci)]

Pu 238 dpm = [(Total AT Counts / TC) - Bkg * 1/EFF * C238] - (Pu-238 Tracer Value * SPKV * Pu 236 Tracer Recovery / 100)

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)]Relative Counting Error = Square Root of $\{[1 / (\text{Pu 236 cpm} * \text{min})] + [1 / (\text{Pu 238 or 239/240 cpm} * \text{min})]\} * 1.96 * 100$ Pu 239/240 μ Ci/mL 1.20E-04

Relative Counting Error = 3.9%

DETECTION
LEVELS
In μ Ci/mL

NOTE: Pu 238 Result is a LESS THAN Value.

Pu 238 μ Ci/mL < 3.64E-05

Relative Counting Error = 7.5%

Pu 238 Tracer Recovery = 102.8%

Pu 239/240
3.64E-05
Pu 238
3.64E-05

Analyst:	CRJ	Date:	06-Apr-2000
Signature of Chemist:	<i>John Relyea</i>	Date:	6 Apr 000

SAMPLE.WB1 REV 1.0

943128ML

WORKBOOK PAGE: DUP10

Pu 238 and 239/240 : LA-943-128 (VOID) or LA-953-104(B-0) *3rd*

LIQUID /

DUP

	DATE COUNTED	APR-06-2000	PU 236 AEA FRAC (C236)	0.864
DUP	SAMPLE VOLUME in mL	SS 0.100	PU 238 AEA FRAC (C238)	0.025
	SAMPLE DILUTION FACTOR	DF 1.000	PU 239 AEA FRAC (C239)	0.100
33121	TRACER VOLUME in mL	SPKV 0.100	TOTAL AT COUNTS	2228
	DIGEST DILUTION FACTOR	DDF 1.0000	AT COUNT TIME (MIN)	30
@PU23902	TRACER BOOK NO	18B59	BACKGROUND in cpm (Bkg)	0.170
	DETECTOR NUMBER	14	PU 236 cpm	49.540
LIQUID	EFFICIENCY FACTOR	EFF 0.278	PU 238 cpm	1.430
	TRACER PREPARATION DATE	08/30/99	PU 239 cpm	5.740
20001202	TRACER PREPARATION VALUE (dpm/mL)	2687.000	AEA COUNT TIME	480
	PU-236 DECAY CORR'D VALUE (dpm/mL)	2320.846	Pu 239/240 μ Ci/L	1.2100E-01
0	PU-238 TRACER VALUE (dpm/mL)	0.000		

N/A

Decay Time = Date Counted - Tracer Preparation Date

S00T000637

Pu-236 Decay Corr'd Value = Pu-236 Preparation Value * [e to the power of $\{(-\ln 2 * \text{Decay Time}) / 1040.95\}$]

Pu 236 Tracer Recovery = (Total AT Counts / TC - Bkg) * C236 * 100 / (Pu-236 Decay Corr'd Value * SPKV * EFF)

Pu 239/240 μ Ci/L = (C239)(Pu 236 Decay Corr'd Value)(SPKV)(1000mL/L)(DF)(DDF) / [(C236)(SS)(D g/L)(2220000 dpm/ μ Ci)]

Pu 238 dpm = [(Total AT Counts / TC) - Bkg * 1/EFF * C238] - (Pu-238 Tracer Value * SPKV * Pu 236 Tracer Recovery / 100)

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)]Relative Counting Error = Square Root of $\{[1 / (\text{Pu 236 cpm} * \text{min})] + [1 / (\text{Pu 238 or 239/240 cpm} * \text{min})]\} * 1.96 * 100$ Pu 239/240 μ Ci/mL = 1.21E-04

Relative Counting Error = 3.9%

DETECTION
LEVELS
in μ Ci/mL

NOTE: Pu 238 Result is a LESS THAN Value.

Pu 238 μ Ci/mL < 3.66E-05

Relative Counting Error = 7.6%

Pu 238 Tracer Recovery = 99.2%

Pu 239/240
3.66E-05
Pu 238
3.66E-05

Analyst:

CRJ

Date: 06-Apr-2000

Signature of Chemist:

JFR

Date: 6 Apr 2000

SAMPLE.WB1 REV 1.0

943128ML

LABCORE Completed Worklist Report for Worklist# 33122

Analyst: crj

Instrument: AB15

Book#: _____

Method: LA-953-104 Rev/Mod _____

Worklist Comment: SY-102 GRAB 6 FOR @PU23902 RTS

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD	0		@PU23902 PU23901	SOLID	1.26E-04	1.26E-4	100.000	% Recovery
1 STD	0		@PU23902 PU23901T	SOLID	100.	9.86E+01	98.600	% Recovery
1 STD	0		@PU23902 PU23901E	SOLID	1.0	1.68E+00	1.680	% Ct. Error
2 BLNK-PREP	0		@PU23902 PU23901	SOLID	1	<1.62E-2		uCi/g
2 BLNK-PREP	0		@PU23902 PU23901T	SOLID	100	9.83E+01	98.300	% Recovery
2 BLNK-PREP	0		@PU23902 PU23901E	SOLID	1.00	1.00E+02	100.000	uCi/g
2 BLNK-PREP	0		@PU23902 PU23801	SOLID	1	<1.62E-2		uCi/g
2 BLNK-PREP	0		@PU23902 PU23801E	SOLID	1	1.00E+02	100.000	uCi/g
3 SAMPLE	S00T000619	0 F	@PU23902 PU23901	SOLID	N/A	1.35E-01	2.09E-002	uCi/g
3 SAMPLE	S00T000619	0 F	@PU23902 PU23901T	SOLID	N/A	9.81E+01		% Recovery
3 SAMPLE	S00T000619	0 F	@PU23902 PU23901E	SOLID	N/A	2.74E+00		% Ct. Error
3 SAMPLE	S00T000619	0 F	@PU23902 PU23801	SOLID	N/A	2.66E-02	2.09E-002	uCi/g
3 SAMPLE	S00T000619	0 F	@PU23902 PU23801E	SOLID	N/A	5.62E+00		% Ct. Error
4 DUP	S00T000619	0 F	@PU23902 PU23901	SOLID	1.35E-1	1.39E-1	2.920	RPD
4 DUP	S00T000619	0 F	@PU23902 PU23901T	SOLID	100	9.64E+01	96.400	% Recovery
4 DUP	S00T000619	0 F	@PU23902 PU23901E	SOLID	1.00	3.13E+00	3.130	% Ct. Error
4 DUP	S00T000619	0 F	@PU23902 PU23801	SOLID	2.66E-2	2.76E-2	3.690	RPD
4 DUP	S00T000619	0 F	@PU23902 PU23801E	SOLID	1.00	6.44E+00	6.440	% Ct. Error
5 SAMPLE	S00T000632	0 F	@PU23902 PU23901	SOLID	N/A	7.13E-02	7.74E-003	uCi/g
5 SAMPLE	S00T000632	0 F	@PU23902 PU23901T	SOLID	N/A	1.02E+02		% Recovery
5 SAMPLE	S00T000632	0 F	@PU23902 PU23901E	SOLID	N/A	2.20E+00		% Ct. Error
5 SAMPLE	S00T000632	0 F	@PU23902 PU23801	SOLID	N/A	1.34E-02	7.74E-003	uCi/g
5 SAMPLE	S00T000632	0 F	@PU23902 PU23801E	SOLID	N/A	4.44E+00		% Ct. Error
6 DUP	S00T000632	0 F	@PU23902 PU23901	SOLID	7.13E-2	7.33E-2	2.766	RPD
6 DUP	S00T000632	0 F	@PU23902 PU23901T	SOLID	100	1.02E+02	102.000	% Recovery
6 DUP	S00T000632	0 F	@PU23902 PU23901E	SOLID	1.00	2.28E+00	2.280	% Ct. Error
6 DUP	S00T000632	0 F	@PU23902 PU23801	SOLID	1.34E-2	1.43E-2	6.498	RPD
6 DUP	S00T000632	0 F	@PU23902 PU23801E	SOLID	1.00	4.49E+00	4.490	% Ct. Error

Final page for worklist# 33122

Analyst Signature

Date

Analyst Signature

Date

Reviewer Signature
Date

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

LABCORE Data Entry Template for Worklist# 33122

Analyst: CRJ Instrument: AB15 15 Book# 46357Method: LA-953-104 Rev/Mod B-3

Worklist Comment: SY-102 GRAB 6 FOR @PU23902 RTS

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	STD				@PU23902	SOLID		
2	BLNK-PREP				@PU23902	SOLID		
3	SAMPLE	S00T000619	0	F	@PU23902	SOLID	20000085	SY-102 GRAB6
		Analytes Requested: PU23801 , PU23801E, PU23901 , PU23901E, PU23901T						
4	DUP	S00T000619	0	F	@PU23902	SOLID		
5	SAMPLE	S00T000632	0	F	@PU23902	SOLID	20000085	SY-102 GRAB6
		Analytes Requested: PU23801 , PU23801E, PU23901 , PU23901E, PU23901T						
6	DUP	S00T000632	0	F	@PU23902	SOLID		

Final page for worklist # 33122

Signature

Date

4/5/00

Signature

Date

4/6/00
4/6/00

Data Entry Comments:

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

222-S Analytical Laboratory
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. 2.11

DATA REDUCTION REPORT

SAMPLE
WL33122-STD-PU
File ID: 18a1852.CNF

Counted on: 4/ 5/ 0 @18:35
Detector: AEA18
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	2069.9	2069.9	361.776	361.776	10.000	2.839	5.000	1.411
2?	15.9	15.9	301.722	301.537	16.000	8.666	8.000	2.113
3?	16.4	16.4	254.425	254.370	8.000	1.979	4.000	1.762
4	2898.5	2898.5	227.800	227.800	10.000	2.976	5.000	2.066

PEAK RESULTS

Peak Error Limit: 30%

Peak ID	Isotope	AEA Frac	Exp.	Obs.	Diff.	FWHM	Count Rate	%err @95	d/m	Activity uCi/ea
1	Pu236	0.442	5.755	5.762	-0.007	0.01	51.75	1.2	240.5	0.108E-03
	Cm243		5.779	5.762	0.017				322.8	0.145E-03
2		????		5.485			0.76	10.9		
3		????		5.268			0.28	18.0		
4	Pu240	0.532	5.144	5.146	-0.002	0.01	62.40	1.1	284.2	0.128E-03
	Pu239		5.147	5.146	0.001				284.2	0.128E-03

Totals:		0.974	<--valid peaks only-->				114.15			

DETECTOR CALIBRATION

Energy(MEV) = 4.098 + (0.0046)*Channel
Energy range (MeV): 4.098 TO 6.454
Efficiency = 0.2196 CPM/DPM
(Data reduction compression factor: 1.)

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	56262.0	100.000
Smoothed	56261.8	100.000
Composite fit	55294.8	98.281
Residuals	967.2	1.719

Analyzed by: _____

SLH2

Spectrum 18a1852.CNF

1 Legend: Raw = Modeled Peaks = 1,2,..., etc

Display Max.: 18124.2

Raw Data Dump for AEA Spectrum: 18a1852.CNF

1	0.	0.	0.	0.	0.	0.	1.	0.	1.	1.
11	0.	1.	2.	0.	0.	0.	0.	1.	1.	0.
21	1.	0.	1.	1.	0.	0.	0.	0.	2.	2.
31	0.	1.	1.	1.	0.	0.	1.	0.	1.	0.
41	0.	0.	2.	1.	0.	0.	2.	1.	2.	1.
51	2.	0.	1.	0.	2.	3.	2.	1.	1.	3.
61	0.	0.	2.	0.	1.	1.	2.	0.	1.	3.
71	2.	0.	1.	0.	1.	1.	1.	2.	1.	3.
81	0.	0.	1.	1.	0.	4.	0.	4.	3.	3.
91	1.	1.	2.	0.	2.	4.	1.	3.	1.	3.
101	0.	1.	2.	0.	1.	2.	0.	2.	3.	0.
111	4.	3.	2.	0.	1.	3.	2.	1.	0.	1.
121	0.	1.	2.	1.	3.	3.	0.	1.	2.	1.
131	1.	0.	5.	3.	3.	2.	3.	1.	2.	1.
141	5.	2.	7.	1.	0.	1.	5.	4.	1.	1.
151	1.	5.	2.	5.	5.	3.	5.	3.	2.	0.
161	4.	2.	3.	1.	6.	4.	7.	5.	7.	6.
171	4.	5.	2.	6.	11.	7.	5.	11.	7.	9.
181	8.	9.	10.	7.	14.	10.	9.	17.	11.	10.
191	18.	19.	12.	19.	19.	15.	18.	27.	35.	26.
201	26.	32.	24.	33.	54.	59.	83.	86.	119.	109.
211	148.	187.	258.	325.	408.	487.	550.	735.	771.	830.
221	891.	1108.	1325.	1831.	2261.	2886.	3379.	3554.	3389.	2476.
231	1432.	516.	119.	25.	1.	1.	0.	3.	1.	1.
241	1.	3.	2.	4.	1.	4.	2.	4.	5.	10.
251	8.	6.	13.	20.	9.	13.	11.	8.	1.	0.
261	2.	3.	5.	4.	3.	5.	3.	4.	5.	4.
271	5.	2.	2.	5.	1.	4.	1.	2.	3.	6.
281	5.	3.	2.	7.	13.	14.	11.	14.	8.	7.
291	4.	7.	3.	6.	6.	12.	10.	13.	15.	23.
301	18.	13.	19.	16.	18.	5.	4.	5.	9.	6.
311	8.	5.	7.	5.	8.	5.	9.	4.	5.	3.
321	10.	3.	10.	10.	14.	12.	10.	16.	17.	16.
331	14.	20.	27.	33.	21.	24.	35.	37.	41.	77.
341	66.	69.	93.	141.	154.	188.	260.	364.	485.	625.
351	822.	972.	965.	941.	822.	897.	1024.	1302.	1588.	1950.
361	2360.	2515.	2470.	1761.	891.	299.	52.	7.	1.	0.
371	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.
381	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.
391	0.	1.	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.	1.	0.	0.	0.	0.	1.	0.
431	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
441	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
451	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.
461	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
471	0.	0.	1.	0.	2.	1.	0.	1.	1.	1.
481	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
491	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
511	0.	0.								

222-S Analytical Laboratory
 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. 2.11

DATA REDUCTION REPORT

SAMPLE
 WL33122-BLKN-PU
 File ID: 19a1983.CNF

Counted on: 4/ 5/ 0 @18:36
 Detector: AEA19
 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	2136.5	2136.5	362.307	362.307	10.000	2.608	5.000	1.370

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	Pu236	0.988	5.755	5.750	0.0050	50.83	1.3	218.1	0.983E-04	
Totals:		0.988	<--valid peaks only-->			50.83				

DETECTOR CALIBRATION

Energy(MEV) = 4.084 + (0.0046)*Channel
 Energy range (MeV): 4.084 TO 6.439
 Efficiency = 0.2378 CPM/DPM
 (Data reduction compression factor: 1.)

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	24691.0	100.000
Smoothed	24691.0	100.000
Composite fit	24404.7	98.840
Residuals	286.3	1.160

Analyzed by: _____

SLH2

Spectrum 19a1983.CNF

1 Legend: Raw = Modeled Peaks = 1,2,..., etc

Display Max.: 11445.6

```

1
.. 1
.....1.
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```

Raw Data Dump for AEA Spectrum: 19a1983.CNF

1	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.
11	0.	0.	1.	0.	0.	2.	0.	0.	0.	0.
21	0.	0.	1.	0.	0.	0.	1.	1.	0.	1.
31	0.	0.	0.	1.	0.	0.	2.	0.	0.	0.
41	0.	0.	0.	0.	0.	0.	0.	0.	2.	0.
51	0.	0.	2.	1.	0.	1.	1.	0.	0.	1.
61	0.	0.	1.	0.	0.	1.	0.	1.	2.	0.
71	0.	0.	0.	0.	3.	0.	0.	0.	0.	1.
81	0.	0.	1.	2.	1.	1.	0.	0.	0.	1.
91	0.	0.	0.	0.	2.	1.	0.	0.	0.	0.
101	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.
111	0.	2.	0.	0.	0.	0.	0.	1.	0.	0.
121	0.	1.	0.	0.	1.	1.	1.	1.	0.	1.
131	0.	1.	0.	0.	3.	1.	0.	0.	1.	0.
141	1.	0.	0.	1.	1.	2.	0.	1.	0.	0.
151	2.	0.	1.	0.	0.	1.	0.	1.	1.	0.
161	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.
171	0.	0.	0.	0.	0.	2.	0.	0.	0.	0.
181	0.	1.	2.	0.	1.	2.	1.	2.	1.	0.
191	0.	0.	1.	0.	1.	0.	1.	2.	0.	1.
201	2.	0.	0.	0.	0.	1.	0.	2.	0.	0.
211	3.	1.	1.	1.	1.	0.	0.	3.	1.	4.
221	2.	5.	2.	3.	5.	3.	5.	10.	7.	10.
231	13.	7.	11.	5.	0.	0.	1.	0.	0.	0.
241	2.	0.	1.	1.	4.	4.	3.	4.	2.	1.
251	3.	5.	5.	3.	6.	4.	6.	4.	4.	2.
261	3.	4.	4.	6.	2.	2.	3.	3.	4.	6.
271	5.	2.	4.	3.	4.	1.	2.	3.	2.	5.
281	3.	4.	0.	6.	7.	5.	8.	9.	10.	11.
291	4.	2.	4.	3.	4.	5.	3.	5.	7.	3.
301	3.	3.	5.	1.	7.	5.	9.	3.	3.	0.
311	1.	5.	6.	3.	1.	2.	0.	5.	6.	5.
321	3.	7.	4.	5.	10.	10.	8.	7.	15.	12.
331	17.	14.	21.	14.	12.	13.	25.	32.	35.	38.
341	48.	64.	67.	103.	97.	141.	186.	278.	384.	504.
351	730.	903.	991.	978.	863.	830.	924.	1067.	1323.	1753.
361	2197.	2678.	2682.	2288.	1251.	445.	91.	8.	3.	0.
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.	1.	0.
421	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.
431	1.	1.	0.	0.	0.	0.	0.	0.	0.	0.
441	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
451	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.
461	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.
471	0.	0.	0.	0.	3.	0.	0.	1.	0.	0.
481	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
491	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
511	0.	0.								

222-S Analytical Laboratory
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. 2.11

DATA REDUCTION REPORT

SAMPLE
S00T619-SAM-PU
File ID: 20a2057.CNF

Counted on: 4/ 5/ 0 @18:36
Detector: AEA20
Geometry number: 1
Count time: 28804. Sec

PEAK ANALYSIS

Peak ID	Peak height		Peak center		FWHM		Tau	
	Initial	Final	Initial	Final	Initial	Final	Initial	Final
1	2167.7	2167.7	364.745	364.745	10.000	2.631	5.000	1.361
2	97.4	97.4	305.740	305.730	10.000	2.985	5.000	1.292
3	572.8	572.8	230.591	230.590	10.000	3.847	5.000	2.631

PEAK RESULTS

Peak Error Limit: 30%

Peak ID	Isotope	AEA Frac	Exp.	Obs.	Diff.	FWHM	Count Rate	%err @95	d/m	Activity uCi/ea
1	Pu236	0.766	5.755	5.768	-.013	0.01	52.14	1.2	238.8	0.108E-03
	Cm243		5.779	5.768	0.011				320.6	0.144E-03
2	Am241	0.039	5.479	5.496	-.017	0.01	2.66	5.5	12.7	0.573E-05
	Pu238		5.487	5.496	-.009				16.6	0.748E-05
3	Pu240	0.197	5.144	5.151	-.007	0.02	13.41	2.4	60.2	0.271E-04
	Pu239		5.147	5.151	-.004				60.2	0.271E-04
Totals:		1.002	<--valid peaks only-->				68.21			

DETECTOR CALIBRATION

Energy (MEV) = 4.090 + (0.0046)*Channel
Energy range (MeV): 4.090 TO 6.445
Efficiency = 0.2228 CPM/DPM
(Data reduction compression factor: 1.)

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	32693.0	100.000
Smoothed	32693.8	100.002
Composite fit	32746.9	100.165
Residuals	-53.9	-0.165

Analyzed by: _____

SLH2

Spectrum 20a2057.CNF

1 Legend: Raw = Modeled Peaks = 1,2,..., etc

Display Max.: 13584.0

3
...3.
.....3
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2
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.2

1
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Raw Data Dump for AEA Spectrum: 20a2057.CNF

1	0.	0.	0.	0.	1.	0.	1.	0.	1.	0.
11	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.
21	0.	0.	1.	0.	0.	1.	0.	0.	0.	0.
31	1.	0.	0.	0.	0.	0.	0.	0.	0.	1.
41	0.	0.	0.	1.	0.	0.	0.	0.	0.	0.
51	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.
61	1.	0.	0.	0.	1.	0.	1.	0.	0.	0.
71	0.	1.	0.	1.	0.	2.	0.	0.	1.	0.
81	0.	0.	0.	0.	1.	0.	1.	0.	0.	2.
91	0.	1.	0.	1.	1.	0.	1.	0.	0.	0.
101	1.	0.	0.	1.	1.	3.	0.	0.	1.	0.
111	1.	0.	3.	0.	0.	0.	0.	0.	1.	2.
121	1.	2.	1.	0.	0.	1.	2.	1.	1.	1.
131	0.	1.	2.	1.	0.	0.	0.	2.	0.	2.
141	0.	2.	0.	1.	3.	2.	2.	2.	2.	4.
151	2.	2.	0.	1.	2.	4.	0.	0.	3.	0.
161	1.	1.	3.	0.	1.	1.	1.	0.	2.	0.
171	0.	1.	1.	1.	0.	0.	0.	2.	3.	2.
181	0.	0.	2.	0.	3.	2.	2.	4.	1.	0.
191	2.	2.	2.	2.	3.	3.	1.	4.	3.	3.
201	5.	3.	4.	5.	4.	6.	11.	7.	11.	14.
211	13.	15.	24.	37.	35.	38.	68.	85.	102.	118.
221	155.	164.	189.	216.	268.	299.	413.	522.	588.	674.
231	696.	620.	461.	302.	185.	82.	36.	9.	2.	3.
241	1.	0.	1.	0.	1.	3.	2.	2.	0.	2.
251	1.	2.	4.	2.	7.	6.	4.	8.	4.	4.
261	2.	0.	6.	2.	1.	2.	2.	4.	6.	5.
271	5.	5.	1.	3.	0.	3.	4.	6.	3.	5.
281	8.	5.	7.	3.	8.	11.	12.	18.	16.	12.
291	20.	26.	18.	26.	30.	45.	52.	46.	46.	64.
301	66.	60.	61.	91.	118.	121.	107.	90.	41.	13.
311	8.	1.	5.	3.	3.	1.	4.	1.	2.	0.
321	3.	3.	1.	2.	5.	9.	13.	8.	4.	4.
331	13.	13.	8.	10.	6.	10.	17.	11.	20.	20.
341	26.	35.	27.	52.	71.	82.	119.	158.	183.	272.
351	363.	461.	666.	792.	997.	1007.	968.	792.	912.	1073.
361	1251.	1617.	1984.	2456.	2741.	2553.	1758.	796.	226.	27.
371	1.	1.	0.	1.	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.	0.	0.	0.
431	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.
441	0.	1.	0.	0.	0.	1.	0.	0.	0.	0.
451	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
461	0.	0.	0.	0.	1.	0.	0.	0.	0.	0.
471	0.	0.	0.	1.	0.	1.	1.	2.	1.	3.
481	2.	2.	0.	1.	1.	0.	0.	0.	0.	0.
491	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
511	0.	0.								

222-S Analytical Laboratory
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. 2.11

DATA REDUCTION REPORT

SAMPLE
S00T619-DUP-PU
File ID: 21a2136.CNF

Counted on: 4/ 5/ 0 @18:37
Detector: AEA21
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	1596.0	1596.0	360.970	360.970	10.000	2.964	5.000	1.577
2	72.6	72.6	302.256	302.246	10.000	3.950	5.000	1.845
3	455.8	455.8	228.027	228.027	12.000	3.867	6.000	2.916

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	Pu236	0.759	5.755	5.750	0.0050	0.01	38.87	1.4	172.4	0.776E-04
2	Am241	0.040	5.479	5.480	-0.0010	0.02	2.03	6.3	9.4	0.422E-05
	Pu238		5.487	5.480	0.007				12.2	0.551E-05
3	Pu240	0.202	5.144	5.139	0.0050	0.02	10.33	2.8	44.9	0.202E-04
	Pu239		5.147	5.139	0.008				44.9	0.202E-04
Totals:		1.001	<--valid peaks only-->				51.23			

DETECTOR CALIBRATION

Energy (MEV) = 4.090 + (0.0046)*Channel
Energy range (MeV): 4.090 TO 6.445
Efficiency = 0.2301 CPM/DPM
(Data reduction compression factor: 1.)

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	24574.0	100.000
Smoothed	24574.5	100.002
Composite fit	24591.9	100.073
Residuals	-17.9	-0.073

Analyzed by: _____

SLH2

1 Legend: Raw = Modeled Peaks = 1,2,..., etc

Display Max.: 7473.4

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2

1
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1...

Raw Data Dump for AEA Spectrum: 21a2136.CNF

HNF-1699 REV. 0

1	0.	0.	0.	1.	0.	0.	0.	0.	0.	1.
11	0.	1.	0.	0.	0.	0.	1.	1.	0.	0.
21	0.	0.	0.	0.	0.	0.	1.	1.	2.	0.
31	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
41	1.	1.	1.	0.	0.	0.	0.	0.	1.	0.
51	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
61	0.	1.	1.	1.	0.	0.	0.	0.	0.	0.
71	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.
81	1.	1.	0.	0.	1.	0.	0.	0.	1.	0.
91	0.	0.	0.	1.	2.	0.	1.	0.	0.	0.
101	0.	0.	0.	0.	0.	1.	0.	2.	1.	0.
111	1.	2.	0.	0.	0.	0.	1.	0.	0.	0.
121	1.	1.	0.	0.	1.	2.	0.	0.	1.	0.
131	3.	2.	0.	0.	0.	0.	0.	1.	2.	1.
141	2.	1.	0.	3.	0.	2.	2.	2.	1.	0.
151	3.	1.	0.	3.	0.	5.	0.	0.	1.	2.
161	0.	1.	0.	0.	0.	3.	1.	0.	2.	1.
171	0.	0.	1.	1.	1.	0.	0.	2.	4.	0.
181	0.	1.	2.	1.	2.	1.	1.	1.	0.	0.
191	0.	3.	1.	3.	2.	3.	1.	1.	4.	1.
201	2.	3.	5.	6.	5.	2.	13.	11.	8.	9.
211	15.	12.	19.	32.	49.	73.	85.	70.	125.	121.
221	157.	178.	233.	284.	375.	449.	498.	573.	501.	418.
231	311.	182.	99.	44.	16.	2.	1.	1.	0.	1.
241	1.	2.	0.	0.	0.	4.	2.	1.	0.	1.
251	4.	4.	8.	4.	3.	5.	7.	2.	2.	0.
261	3.	4.	1.	2.	5.	3.	3.	3.	1.	4.
271	3.	2.	1.	1.	1.	2.	2.	1.	1.	3.
281	3.	8.	11.	12.	7.	12.	13.	18.	11.	11.
291	17.	23.	29.	39.	41.	38.	36.	45.	69.	78.
301	66.	78.	90.	80.	43.	34.	19.	7.	6.	5.
311	3.	3.	3.	2.	3.	1.	2.	3.	1.	6.
321	2.	2.	4.	3.	3.	3.	9.	10.	12.	9.
331	9.	5.	12.	14.	9.	6.	12.	17.	22.	26.
341	37.	47.	51.	99.	132.	163.	237.	336.	437.	579.
351	676.	718.	707.	655.	604.	746.	920.	1059.	1489.	1818.
361	1992.	1869.	1454.	870.	366.	108.	14.	7.	0.	0.
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.	1.	0.	0.	0.	0.	0.	1.
431	0.	0.	0.	0.	0.	0.	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.	1.	0.	0.	0.	0.	0.	0.	0.
471	1.	1.	1.	2.	2.	0.	0.	0.	1.	1.
481	0.	2.	0.	0.	0.	0.	0.	0.	0.	0.
491	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
511	0.	0.								

222-S Analytical Laboratory
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. 2.11

DATA REDUCTION REPORT

SAMPLE
S00T632-SAM-PU
File ID: 22a2217.CNF

Counted on: 4/ 5/ 0 @18:39
Detector: AEA22
Geometry number: 1
Count time: 28804. Sec

PEAK ANALYSIS

Peak ID	Peak height		Peak center		FWHM		Tau	
	Initial	Final	Initial	Final	Initial	Final	Initial	Final
1	2412.0	2412.0	360.708	360.708	10.000	2.582	5.000	1.402
2	166.1	166.1	302.132	302.127	10.000	3.069	5.000	1.436
3	1028.1	1028.1	227.475	227.475	10.000	3.540	5.000	2.444

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	Pu236	0.665	5.755	5.755	0.0000.01	56.24	1.2	238.8	0.108E-03
2	Am241	0.052	5.479	5.485	-0.0060.01	4.37	4.3	19.3	0.871E-05
	Pu238		5.487	5.485	0.002			25.3	0.114E-04
3	Pu240	0.276	5.144	5.142	0.0020.02	23.37	1.9	97.3	0.438E-04
	Pu239		5.147	5.142	0.005			97.3	0.438E-04
Totals:		0.992	<---valid peaks only-->			83.98			

DETECTOR CALIBRATION

Energy (MEV) = 4.096 + (0.0046)*Channel
Energy range (MeV): 4.096 TO 6.451
Efficiency = 0.2403 CPM/DPM
(Data reduction compression factor: 1.)

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	40626.0	100.000
Smoothed	40625.7	99.999
Composite fit	40316.3	99.238
Residuals	309.7	0.762

Analyzed by: _____

SLH2

Spectrum 22a2217.CNF

1 Legend: Raw = Modeled Peaks = 1,2,..., etc

Display Max.: 11383.5

...3
3
3
 ...3.

.2
2
 .2

1
 ... 1
1....
 1
1.
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Raw Data Dump for AEA Spectrum: 22a2217.CNF

1	0.	0.	1.	1.	0.	2.	0.	0.	0.	0.
11	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
21	0.	1.	0.	0.	0.	0.	0.	0.	1.	1.
31	0.	0.	1.	0.	0.	1.	0.	1.	3.	0.
41	0.	0.	0.	2.	1.	0.	0.	0.	1.	1.
51	0.	0.	0.	1.	0.	0.	1.	1.	0.	0.
61	0.	0.	1.	0.	0.	2.	1.	0.	0.	0.
71	0.	1.	0.	1.	0.	0.	1.	1.	1.	1.
81	1.	0.	0.	0.	0.	0.	2.	0.	1.	1.
91	0.	0.	1.	1.	0.	0.	0.	1.	0.	0.
101	0.	0.	1.	2.	0.	1.	0.	2.	1.	1.
111	3.	1.	1.	1.	1.	3.	1.	1.	3.	2.
121	1.	1.	2.	0.	1.	0.	0.	1.	1.	0.
131	1.	1.	0.	1.	1.	1.	1.	2.	5.	2.
141	2.	2.	3.	5.	5.	6.	8.	5.	6.	6.
151	0.	1.	3.	2.	3.	3.	4.	4.	2.	4.
161	2.	1.	4.	0.	1.	3.	4.	2.	3.	3.
171	4.	0.	0.	1.	1.	2.	3.	2.	1.	2.
181	1.	0.	0.	5.	1.	1.	2.	2.	4.	7.
191	6.	3.	5.	2.	3.	5.	6.	5.	6.	6.
201	7.	10.	12.	10.	18.	14.	26.	31.	21.	37.
211	52.	76.	84.	92.	126.	177.	229.	251.	304.	333.
221	387.	478.	589.	737.	938.	1092.	1223.	1230.	1140.	777.
231	467.	235.	79.	31.	5.	0.	0.	0.	2.	1.
241	1.	0.	1.	2.	6.	1.	3.	3.	4.	2.
251	8.	6.	8.	10.	6.	3.	2.	3.	1.	1.
261	2.	3.	5.	5.	2.	5.	8.	4.	6.	9.
271	3.	3.	4.	3.	10.	2.	5.	2.	8.	6.
281	8.	10.	11.	17.	24.	30.	24.	32.	36.	37.
291	46.	64.	74.	63.	93.	86.	97.	96.	130.	156.
301	166.	195.	209.	168.	97.	30.	16.	8.	9.	9.
311	6.	3.	6.	5.	5.	5.	4.	2.	3.	4.
321	8.	12.	8.	5.	6.	11.	15.	15.	9.	22.
331	13.	11.	16.	17.	22.	18.	29.	33.	40.	58.
341	80.	84.	102.	136.	191.	250.	349.	510.	669.	849.
351	1010.	1113.	1057.	889.	979.	1141.	1430.	1637.	2254.	2795.
361	3086.	2832.	1861.	832.	217.	31.	5.	2.	1.	3.
371	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
381	0.	0.	0.	0.	0.	1.	0.	0.	0.	0.
391	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
401	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.
411	0.	0.	0.	0.	0.	1.	0.	0.	0.	1.
421	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.
431	0.	0.	0.	1.	1.	0.	1.	1.	0.	0.
441	0.	1.	0.	0.	0.	0.	0.	0.	0.	1.
451	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
461	0.	0.	0.	0.	1.	1.	0.	0.	0.	0.
471	1.	1.	0.	2.	1.	1.	0.	1.	1.	0.
481	1.	0.	0.	0.	0.	0.	0.	0.	1.	0.
491	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
511	0.	0.								

222-S Analytical Laboratory
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. 2.11

DATA REDUCTION REPORT

SAMPLE
S00T632-DUP-PU
File ID: 23a2330.CNF

Counted on: 4/ 5/ 0 @18:39
Detector: AEA23
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	2081.5	2081.5	363.320	363.320	10.000	2.963	5.000	1.535
2	160.8	160.8	304.215	304.208	12.000	3.693	6.000	1.817
3	940.5	940.5	229.608	229.608	10.000	3.839	5.000	2.682

PEAK RESULTS

Peak Error Limit: 30%

Peak ID	Isotope	AEA Frac	Peak Centroid Exp.	Obs.	Diff.	FWHM	Count Rate	%err c/m @95	d/m	Activity uCi/ea
1	Pu236	0.661	5.755	5.766	-.011	10.01	51.42	1.2	210.7	0.949E-04
	Cm243		5.779	5.766	0.013				282.9	0.127E-03
2	Am241	0.055	5.479	5.494	-.015	10.02	4.30	4.3	18.4	0.828E-05
	Pu238		5.487	5.494	-.007				24.0	0.108E-04
3	Pu240	0.281	5.144	5.151	-.007	10.02	21.84	1.9	87.7	0.395E-04
	Pu239		5.147	5.151	-.004				87.7	0.395E-04
Totals:		0.997	<--valid peaks only-->				77.56			

DETECTOR CALIBRATION

Energy(MEV) = 4.095 + (0.0046)*Channel
Energy range (MeV): 4.095 TO 6.450
Efficiency = 0.2490 CPM/DPM
(Data reduction compression factor: 1.)

TOTAL COUNT DATA:

Item	Total	% Recovery
Raw spectrum	37339.0	100.000
Smoothed	37340.5	100.004
Composite fit	37229.2	99.706
Residuals	109.8	0.294

Analyzed by: _____

SLH2

Spectrum 23a2330.CNF

1 Legend: Raw = Modeled Peaks = 1,2,..., etc

Display Max.: 12658.7

.3
3
3
3

2
2
 ..2

1
 . 1
1
1.
1
1...

Raw Data Dump for AEA Spectrum: 23a2330.CNF

1	0.	0.	0.	1.	1.	0.	0.	1.	0.	0.
11	0.	0.	1.	4.	0.	0.	1.	1.	0.	0.
21	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.
31	0.	1.	1.	0.	1.	0.	2.	0.	0.	0.
41	0.	0.	0.	0.	2.	0.	0.	0.	0.	0.
51	0.	0.	0.	2.	0.	0.	0.	1.	0.	0.
61	1.	0.	0.	0.	0.	0.	1.	1.	0.	0.
71	0.	0.	1.	0.	0.	0.	0.	0.	1.	0.
81	0.	1.	1.	0.	1.	0.	1.	0.	0.	0.
91	1.	0.	0.	2.	1.	1.	0.	0.	0.	0.
101	0.	1.	0.	0.	1.	0.	0.	0.	0.	0.
111	1.	1.	0.	0.	0.	0.	2.	0.	1.	1.
121	0.	1.	0.	2.	1.	2.	1.	0.	3.	0.
131	0.	1.	3.	0.	0.	1.	1.	1.	1.	1.
141	0.	2.	3.	3.	3.	2.	0.	3.	3.	4.
151	3.	4.	1.	2.	4.	0.	2.	3.	1.	3.
161	1.	0.	0.	2.	0.	6.	1.	1.	1.	3.
171	2.	1.	0.	2.	0.	4.	1.	1.	1.	1.
181	2.	0.	2.	0.	2.	2.	0.	2.	6.	2.
191	6.	2.	1.	2.	7.	4.	5.	2.	8.	5.
201	3.	7.	5.	11.	11.	8.	7.	18.	23.	20.
211	22.	35.	43.	52.	89.	107.	108.	166.	191.	227.
221	259.	310.	350.	434.	523.	672.	810.	1005.	1117.	1143.
231	986.	803.	527.	277.	135.	44.	14.	4.	1.	0.
241	3.	1.	1.	1.	1.	3.	3.	1.	1.	1.
251	3.	4.	6.	4.	10.	11.	6.	6.	2.	1.
261	1.	1.	2.	3.	4.	0.	1.	3.	3.	1.
271	3.	4.	6.	1.	3.	6.	2.	1.	2.	3.
281	8.	7.	8.	16.	12.	17.	24.	17.	34.	19.
291	28.	44.	38.	46.	74.	70.	67.	105.	88.	99.
301	115.	145.	186.	196.	177.	165.	128.	64.	24.	9.
311	9.	8.	3.	5.	6.	2.	7.	1.	4.	1.
321	3.	4.	3.	4.	7.	5.	3.	12.	9.	12.
331	18.	14.	15.	13.	17.	14.	20.	21.	22.	31.
341	29.	49.	61.	74.	105.	118.	144.	210.	274.	410.
351	527.	688.	809.	941.	924.	874.	838.	957.	1154.	1421.
361	1767.	2150.	2576.	2544.	2194.	1366.	642.	208.	50.	8.
371	2.	1.	0.	1.	0.	1.	0.	0.	0.	0.
381	0.	0.	0.	0.	0.	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.	1.	0.	0.	0.	1.	0.
431	0.	0.	1.	0.	0.	0.	2.	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.	1.	0.	0.	0.	0.	0.
471	0.	0.	1.	1.	1.	0.	5.	0.	0.	0.
481	1.	0.	0.	0.	1.	0.	0.	0.	0.	0.
491	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
511	0.	0.								

WORKBOOK PAGE: STD1

Pu 238 and 239/240 : LA-943-128 (VOID) or LA-953-104(B-0) ^{3 and 100} LIQUID

WORKBOOK PAGE: STD1

Pu 238 and 239/240 : LA-943-128 (VOID) or LA-953-104(B-0) ^{3/16/00} LIQUID				STD
	DATE COUNTED	APR-05-2000	PU 236 AEA FRAC (C236)	0.442
STD	SAMPLE VOLUME in mL	SS	1.000	PU 238 AEA FRAC (C238)
	SAMPLE DILUTION FACTOR	DF	1.000	PU 239 AEA FRAC (C239)
33122	TRACER VOLUME in mL	SPKV	0.100	TOTAL AT COUNTS
	DIGEST DILUTION FACTOR	DDF	1.000	AT COUNT TIME (MIN)
@PU23902	TRACER BOOK NO	18B59	BACKGROUND in cpm (Bkg)	0.300
	DETECTOR NUMBER	15	PU 236 cpm	51.750
LIQUID	EFFICIENCY FACTOR	EFF	0.289	PU 238 cpm
	TRACER PREPARATION DATE	08/30/99	PU 239 cpm	62.400
20001203	TRACER PREPARATION VALUE (dpm/mL)	2687.000	AEA COUNT TIME	480
	PU-238 DECAY CORR'D VALUE (dpm/mL)	2322.392	Pu 239/240 μ Ci/L	1.2591E-01
0	PU-238 TRACER VALUE (dpm/mL)	0.000		
	STANDARD BOOK NO	46B57		
N/A	STANDARD VALUE in μ Ci/mL	1.260E-04		

WL33122-STD

Decay Time = Date Counted - Tracer Preparation Date

WB26872

Pu-238 Decay Corr'd Value = Pu-236 Preparation Value * [e to the power of ((-ln2 * Decay Time/1040.95))]

Pu 236 Tracer Recovery = (Total AT Counts / TC - Bkg) * 1/EFF * C236 * 100 / Pu-236 Decay Corr'd Value * SPKV

MCS

Pu 239/240 μ Ci/L = (C239)(Pu 236 Decay Corr'd Value)(SPKV)(1000mL/L)(DF)(DDF) / [(C236)(SS)(2220000 dpm/ μ Ci)]

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)]

Relative Counting Error = Square Root of [(1/(Pu 236 cpm * min)) + (1 / (Pu 238 or 239/240 cpm * min))] * 1.96 * 100

CRJ

04/06/2000

Pu 239/240 μ Ci/mL

DETECTION

Relative Counting Error = 1.7%

LEVELS

04/06/2000

in μ Ci/mL

11:00 AM

Pu 239/240

7.20E-06

SY-102 GRAB 6

Pu 236 Tracer Recovery = 98.6%

Analyst:

CRJ

Date: 06-Apr-2000

Signature of Chemist:

JFR

Date: 6 Apr 00

STANDARD.WB1 REV 1.0

943128ML

WORKBOOK PAGE: BLANK2

Pu 238 and 239/240 : LA-943-128 (VOID) or LA-953-104(B-0) ^{3, 1/13/00}

		L		BLNK-PREP
	DATE COUNTED	APR-05-2000	PU 236 AEA FRAC (C236)	0.988
BLNK-PREP	SAMPLE VOLUME in mL	SS 0.200	PU 238 AEA FRAC (C238)	0.000
	SAMPLE DILUTION FACTOR	DF 1.000	PU 239 AEA FRAC (C239)	0.000
33122	TRACER VOLUME in mL	SPKV 0.100	TOTAL AT COUNTS	2036
	DIGEST GRAMS of SOLIDS/L	Dg/L 10000	AT COUNT TIME (MIN)	30
@PU23902	TRACER BOOK NO	18B59	BACKGROUND in cp (Bkg)	0.300
	DETECTOR NUMBER	15	PU 236 cpm	50.830
SOLID	EFFICIENCY FACTOR	EFF 0.2894	PU 238 cpm	0.000
	TRACER PREPARATION DATE	08/30/99	PU 239 cpm	0.000
20001203	TRACER PREPARATION VALUE (dpm/mL)	2687.00	AEA COUNT TIME	480
	PU-236 DECAY CORR'D VALUE (dpm/mL)	2322.39	Pu 239/240 $\mu\text{Ci/g}$ =	< 1.615E-02
0	PU-238 TRACER VALUE (dpm/mL)	0.00		

N/A

Decay Time = Date Counted - Tracer Preparation Date

WL33122-BLNK

Pu-236 Decay Corr'd Value = Pu-236 Preparation Value * [e to the power of $\{-\ln 2 * \text{Decay Time}/1040.95\}$]

Pu 236 Tracer Recovery = (Total AT Counts / TC - Bkg) * C236 * 100 / (Pu-236 Decay Corr'd Value * SPKV * EFF)

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)]

Pu 238 dpm = [(Total AT Counts / TC) - Bkg * 1/EFF * C238] - (Pu-238 Tracer Value * SPKV * Pu 236 Tracer Recovery / 100)

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)]Relative Counting Error = Square Root of $\{[1 / (\text{Pu 236 cpm} * \text{min})] + [1 / (\text{Pu 238 or 239/240 cpm} * \text{min})]\} * 1.96 * 100$ Pu 239/240 $\mu\text{Ci/g}$ < 1.62E-02

Relative Counting Error = 100.0%

DETECTION

LEVELS

In $\mu\text{Ci/g}$

NOTE: Pu 238 Result is a LESS THAN Value.

Pu 238 $\mu\text{Ci/g}$ < 1.62E-02

Relative Counting Error = 100.0%

Pu 236 Tracer Recovery = 98.3%

Pu 239/240

1.62E-02

Pu 238

1.62E-02

Analyst:

CRJ

Date:

06-Apr-2000

Signature of Chemist:

JFR

Date:

7 Apr 00

BLANK.WB1 REV 1.0

943128ML

WORKBOOK PAGE: SAM3

Pu 238 and 239/240 : LA-943-128 (VOID) or LA-953-104(B-0) ³ *not used*

LIQUID /

			SAMPLE	
	DATE COUNTED	APR-05-2000	PU 236 AEA FRAC (C236)	0.786
SAMPLE	SAMPLE VOLUME in mL	SS 0.200	PU 238 AEA FRAC (C238)	0.039
	SAMPLE DILUTION FACTOR	DF 1.000	PU 239 AEA FRAC (C239)	0.197
33122	TRACER VOLUME in mL	SPKV 0.100	TOTAL AT COUNTS	2591
	DIGEST GRAMS of SOLIDS/L	Dg/L 1.0000	AT COUNT TIME (MIN)	30
PU23802	TRACER BOOK NO	18B59	BACKGROUND in cpm (Bkg)	0.300
	DETECTOR NUMBER	15	PU 236 cpm	52.140
SOLID	EFFICIENCY FACTOR	EFF 0.289	PU 238 cpm	2.660
	TRACER PREPARATION DATE	08/30/99	PU 239 cpm	13.410
20001203	TRACER PREPARATION VALUE (dpm/mL)	2687.000	AEA COUNT TIME	480
	PU-236 DECAY CORR'D VALUE (dpm/mL)	2322.392	Pu 239/240 μ Cl/g 1.3452E-01	
0	PU-238 TRACER VALUE (dpm/mL)	0.000		

N/A

S00T000619

Decay Time = Date Counted - Tracer Preparation Date

Pu-236 Decay Corr'd Value = Pu-236 Preparation Value * [e to the power of $\{-\ln 2 * \text{Decay Time} / 1040.95\}$]

Pu 236 Tracer Recovery = (Total AT Counts / TC - Bkg) * C236 * 100 / (Pu-236 Decay Corr'd Value * SPKV * EFF)

Pu 239/240 μ Cl/g = (C239)(Pu 236 Decay Corr'd Value)(SPKV)(1000mL/L)(DF) / [(C236)(SS)(D g/L)(2220000 dpm/ μ Cl)]

Pu 238 dpm = [(Total AT Counts / TC) - Bkg * 1/EFF * C238] - (Pu-238 Tracer Value * SPKV * Pu 236 Tracer Recovery / 100)

Pu 238 μ Cl/g = [(Pu 238 dpm)(DF)(1000mL/L)] / [(Pu-236 Tracer Recovery / 100)(2220000 dpm/ μ Cl)(D g/L)(SS)]Relative Counting Error = Square Root of $\{[1 / (\text{Pu 236 cpm} * \text{min})] + [1 / (\text{Pu 238 or 239/240 cpm} * \text{min})]\} * 1.96 * 100$

Pu 239/240 μ Cl/g	=	1.35E-01	DETECTION LEVELS in μ Cl/g
Relative Counting Error	=	2.7%	
Pu 238 μ Cl/g	=	2.66E-02	
Relative Counting Error	=	5.6%	Pu 239/240 2.09E-02
Pu 236 Tracer Recovery	=	98.1%	Pu 238 2.09E-02

Analyst:	CRJ	Date:	06-Apr-2000
Signature of Chemist:	JFR	Date:	7 Apr 00

SAMPLE.WB1 REV 1.0

943128ML

WORKBOOK PAGE: DUP4

Pu 238 and 239/240 : LA-943-128 (VOID) or LA-953-104(B-0)

LIQUID /

DUP

	DATE COUNTED	APR-05-2000	PU 236 AEA FRAC (C236)	0.759
DUP	SAMPLE VOLUME in mL	SS 0.200	PU 238 AEA FRAC (C238)	0.040
	SAMPLE DILUTION FACTOR	DF 1.000	PU 239 AEA FRAC (C239)	0.202
33122	TRACER VOLUME in mL	SPKV 0.100	TOTAL AT COUNTS	2569
	DIGEST GRAMS of SOLIDS/L	Dg/L 1.0000	AT COUNT TIME (MIN)	30
@PU23902	TRACER BOOK NO	18B59	BACKGROUND in cpm (Bkg)	0.300
	DETECTOR NUMBER	15	PU 236 cpm	35.870
SOLID	EFFICIENCY FACTOR	EFF 0.289	PU 238 cpm	2.030
	TRACER PREPARATION DATE	08/30/99	PU 239 cpm	10.330
20001203	TRACER PREPARATION VALUE (dpm/mL)	2687.000	AEA COUNT TIME	480
	PU-236 DECAY CORR'D VALUE (dpm/mL)	2322.392	Pu 239/240 µCi/g	1.3921E-01
0	PU-238 TRACER VALUE (dpm/mL)	0.000		

N/A

Decay Time = Date Counted - Tracer Preparation Date

S00T000619

Pu-236 Decay Corr'd Value = Pu-236 Preparation Value * [e to the power of ((-ln2 * Decay Time)/1040.95)]

Pu 236 Tracer Recovery = (Total AT Counts / TC - Bkg) * C236 * 100 / (Pu-236 Decay Corr'd Value * SPKV * EFF)

Pu 239/240 µCi/g = (C239) * (Pu 236 Decay Corr'd Value) * (SPKV) * (1000mL/L) * (DF) / [(C236) * (SS) * (D g/L) * (2220000 dpm/µCi)]

Pu 238 dpm = [(Total AT Counts / TC) - Bkg * 1/EFF * C238] - (Pu-238 Tracer Value * SPKV * Pu 236 Tracer Recovery / 100)

Pu 238 µCi/g = [(Pu 238 dpm) * (DF) * (1000mL/L)] / [(Pu-236 Tracer Recovery / 100) * (2220000 dpm/µCi) * (D g/L) * (SS)]

Relative Counting Error = Square Root of [(1 / (Pu 236 cpm * min)) + (1 / (Pu 238 or 239/240 cpm * min))] * 1.96 * 100

Pu 239/240 µCi/g = 1.39E-01

Relative Counting Error = 3.1%

DETECTION

LEVELS

in µCi/g

Pu 239/240

2.15E-02

Pu 238

2.15E-02

Pu 238 µCi/g = 2.76E-02

Relative Counting Error = 6.4%

Pu 236 Tracer Recovery = 96.4%

Analyst:	CRJ	Date:	06-Apr-2000
Signature of Chemist:	JFR	Date:	7 Apr 00

SAMPLE.WB1 REV 1.0

943128ML

WORKBOOK PAGE: SAM5

Pu 238 and 239/240 : LA-943-128 (VOID) or LA-953-104(B-0) ³ *Handwritten: 3*

LIQUID /

SAMPLE

	DATE COUNTED	APR-05-2000	PU 236 AEA FRAC (C236)	0.665
SAMPLE	SAMPLE VOLUME in mL	SS 0.300	PU 238 AEA FRAC (C238)	0.052
	SAMPLE DILUTION FACTOR	DF 1.000	PU 239 AEA FRAC (C239)	0.278
33122	TRACER VOLUME in mL	SPKV 0.100	TOTAL AT COUNTS	3088
	DIGEST GRAMS of SOLIDS/L	Dg/L 2.0312	AT COUNT TIME (MIN)	30
PU23802	TRACER BOOK NO	18B59	BACKGROUND in cpm (Bkg)	0.300
	DETECTOR NUMBER	15	PU 236 cpm	56.240
SOLID	EFFICIENCY FACTOR	EFF 0.289	PU 238 cpm	4.370
	TRACER PREPARATION DATE	08/30/99	PU 239 cpm	23.370
20001203	TRACER PREPARATION VALUE (dpm/mL)	2687.000	AEA COUNT TIME	480
	PU-236 DECAY CORR'D VALUE (dpm/mL)	2322.392	Pu 239/240 $\mu\text{Ci/g}$	7.1252E-02
0	PU-238 TRACER VALUE (dpm/mL)	0.000		

FUSION01

Decay Time = Date Counted - Tracer Preparation Date

S00T000632

Pu-236 Decay Corr'd Value = Pu-236 Preparation Value * [e to the power of $\{(-\ln 2 * \text{Decay Time})/1040.95\}$]

Pu 236 Tracer Recovery = (Total AT Counts / TC - Bkg) * C236 * 100 / (Pu-236 Decay Corr'd Value * SPKV * EFF)

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)]

Pu 238 dpm = [(Total AT Counts / TC) - Bkg * 1/EFF * C238] - (Pu-238 Tracer Value * SPKV * Pu 236 Tracer Recovery / 100)

Pu 238 $\mu\text{Ci/g}$ = [(Pu 238 dpm)(DF)(1000mL/L)] / [(Pu-238 Tracer Recovery / 100)(2220000 dpm/ μCi)(D g/L)(SS)]Relative Counting Error = Square Root of $\{[1/(\text{Pu 236 cpm} * \text{min})] + [1/(\text{Pu 238 or 239/240 cpm} * \text{min})]\} * 1.96 * 100$ Pu 239/240 $\mu\text{Ci/g}$ = 7.13E-02

Relative Counting Error = 2.2%

DETECTION
LEVELS
in $\mu\text{Ci/g}$

Pu 239/240

7.74E-03

Pu 238

7.74E-03

Pu 238 $\mu\text{Ci/g}$ = 1.34E-02

Relative Counting Error = 4.4%

Pu 236 Tracer Recovery = 101.5%

Analyst:	CRJ	Date:	06-Apr-2000
Signature of Chemist:	JFR	Date:	7/1/00

SAMPLE.WB1 REV 1.0

943128ML

WORKBOOK PAGE: DUP6

Pu 238 and 239/240 : LA-943-128 (VOID) or LA-953-104(B-0) ³ ₁₀

LIQUID /

DUP

	DATE COUNTED	APR-05-2000	PU 236 AEA FRAC (C236)	0.661
DUP	SAMPLE VOLUME in mL	SS 0.300	PU 238 AEA FRAC (C238)	0.066
	SAMPLE DILUTION FACTOR	DF 1.000	PU 239 AEA FRAC (C239)	0.281
33122	TRACER VOLUME in mL	SPKV 0.100	TOTAL AT COUNTS	3119
	DIGEST GRAMS of SOLIDS/L	Dg/L 2.0224	AT COUNT TIME (MIN)	30
@PU23902	TRACER BOOK NO	18B59	BACKGROUND in cpm (Bkg)	0.300
	DETECTOR NUMBER	15	PU 236 cpm	51.420
SOLID	EFFICIENCY FACTOR	EFF 0.289	PU 238 cpm	4.300
	TRACER PREPARATION DATE	08/30/99	PU 239 cpm	21.840
20001203	TRACER PREPARATION VALUE (dpm/mL)	2687.000	AEA COUNT TIME	480
	PU-236 DECAY CORR'D VALUE (dpm/mL)	2322.392	Pu 239/240 μ Ci/g	7.3299E-02
0	PU-238 TRACER VALUE (dpm/mL)	0.000		

FUSION01

Decay Time = Date Counted - Tracer Preparation Date

S00T000632

Pu-236 Decay Corr'd Value = Pu-236 Preparation Value * [e to the power of ((-ln2 * Decay Time)/1040.95)]

Pu 236 Tracer Recovery = (Total AT Counts / TC - Bkg) * C236 * 100 / (Pu-236 Decay Corr'd Value * SPKV * EFF)

Pu 239/240 μ Ci/g = (C239)/(Pu 236 Decay Corr'd Value)(SPKV)(1000mL/L)(DF) / [(C236)(SS)(D g/L)(2220000 dpm/ μ Ci)]

Pu 238 dpm = [(Total AT Counts / TC) - Bkg * 1/EFF * C238] - (Pu-238 Tracer Value * SPKV * Pu 236 Tracer Recovery / 100)

Pu 238 μ Ci/g = [(Pu 238 dpm)(DF)(1000mL/L)] / [(Pu-236 Tracer Recovery / 100)(2220000 dpm/ μ Ci)(D g/L)(SS)]

Relative Counting Error = Square Root of [(1/(Pu 236 cpm * min)) + (1 / (Pu 238 or 239/240 cpm * min))] * 1.96 * 100

Pu 239/240 μ Ci/g = 7.33E-02

Relative Counting Error = 2.3%

DETECTION

LEVELS

In μ Ci/g

Pu 239/240

7.83E-03

Pu 238

7.83E-03

Pu 238 μ Ci/g = 1.43E-02

Relative Counting Error = 4.5%

Pu 236 Tracer Recovery = 102.0%

Analyst:

CRJ

Date:

06-Apr-2000

Signature of Chemist:

JFR

Date:

7 Apr 00

SAMPLE.WB1 REV 1.0

943128ML

HNF-1699 REV. 0

OPPORTUNISTIC ANALYTES

APPENDIX A

HNF-1699 REV. 0

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Tank 241-SY-102 - Opportunistic Analysis Report for Project
SY-102 GRAB6CORE NUMBER: n/a
SEGMENT #: 2SY-00-1

SEGMENT PORTION: Supernate

Sample#	R A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD % Spk Rec %	Det Limit	Count Err%
S00T000503	D	Uranium-233 by ICP/MS Acid Add	ug/mL	n/a	<1.20e-5	<4.85e-01	<4.85e-1	n/a	n/a	4.85e-01	n/a
S00T000503	D	Uranium-234 by ICP/MS Acid Add	ug/mL	n/a	<1.20e-5	<4.85e-01	<4.85e-1	n/a	n/a	4.85e-01	n/a
S00T000503	D	Uranium-236 by ICP/MS Acid Add	ug/mL	n/a	<1.60e-5	<6.46e-01	<6.46e-1	n/a	n/a	6.46e-01	n/a
S00T000503	D	Sn 117 by ICP/MS Acid Addition	ug/mL	100.8	<1.50e-4	< 6.060	<6.06e0	n/a	n/a	6.060	n/a
S00T000503	D	Sn 126 by ICP/MS Acid Addition	ug/mL	n/a	<1.50e-4	< 6.060	<6.06e0	n/a	n/a	6.060	n/a
S00T000503	D	Cs 133 by ICP/MS Acid Addition	ug/mL	107.0	<2.00e-6	5.042	4.750	4.896	5.92	8.08e-02	n/a
S00T000503	D	Cs 135 by ICP/MS Acid Addition	ug/mL	n/a	<2.00e-6	1.382	1.370	1.376	0.73	8.08e-02	n/a
S00T000503	D	Cs 137 by ICP/MS Acid Addition	ug/mL	n/a	<2.00e-6	1.733	1.670	1.702	3.53	8.08e-02	n/a
S00T000506	D	Silver-ICP-Acid Dil.	ug/mL	97.40	<1.00e-2	6.150	5.620	5.885	9.01	2.010	n/a
S00T000506	D	Arsenic-ICP-Acid Dil.	ug/mL	102.2	<1.00e-1	< 20.10	<2.01e1	n/a	n/a	20.10	n/a
S00T000506	D	Boron-ICP-Acid Dil.	ug/mL	101.0	<5.00e-2	31.30	30.10	30.70	3.91	10.10	n/a
S00T000506	D	Barium-ICP-Acid Dil.	ug/mL	96.40	<5.00e-2	< 10.10	<1.01e1	n/a	n/a	10.10	n/a
S00T000506	D	Beryllium-ICP-Acid Dil.	ug/mL	98.80	<5.00e-3	< 1.010	<1.01e0	n/a	n/a	1.010	n/a
S00T000506	D	Bismuth-ICP-Acid Dil.	ug/mL	99.80	<1.00e-1	< 20.10	<2.01e1	n/a	n/a	20.10	n/a
S00T000506	D	Calcium-ICP-Acid Dil.	ug/mL	101.4	<1.00e-1	53.40	52.00	52.70	2.66	20.10	n/a
S00T000506	D	Cadmium-ICP-Acid Dil.	ug/mL	100.8	<5.00e-3	2.950	2.690	2.820	9.22	1.010	n/a
S00T000506	D	Cerium-ICP-Acid Dil.	ug/mL	100.4	<1.00e-1	< 20.10	<2.01e1	n/a	n/a	20.10	n/a
S00T000506	D	Cobalt-ICP-Acid Dil.	ug/mL	100.8	<2.00e-2	< 4.020	<4.02e0	n/a	n/a	4.020	n/a
S00T000506	D	Copper-ICP-Acid Dil.	ug/mL	96.20	<1.00e-2	8.410	8.180	8.295	2.77	2.010	n/a
S00T000506	D	Potassium-ICP-Acid Dil.	ug/mL	103.6	<5.00e-1	1.43e+03	1.40e+03	1.42e+03	2.12	101.0	n/a
S00T000506	D	Lanthanum-ICP-Acid Dil.	ug/mL	99.80	<5.00e-2	< 10.10	<1.01e1	n/a	n/a	10.10	n/a
S00T000506	D	Lithium-ICP-Acid Dil.	ug/mL	102.2	<1.00e-2	< 2.010	<2.01e0	n/a	n/a	2.010	n/a
S00T000506	D	Magnesium-ICP-Acid Dil.	ug/mL	102.2	<1.00e-1	< 20.10	<2.01e1	n/a	n/a	20.10	n/a
S00T000506	D	Molybdenum-ICP-Acid Dil.	ug/mL	97.00	<5.00e-2	43.00	42.70	42.85	0.70	10.10	n/a
S00T000506	D	Sodium-ICP-Acid Dil.	ug/mL	102.2	<1.00e-1	8.93e+04	8.56e+04	8.74e+04	4.23	20.10	n/a
S00T000506	D	Neodymium-ICP-Acid Dil.	ug/mL	100.0	<1.00e-1	< 20.10	<2.01e1	n/a	n/a	20.10	n/a
S00T000506	D	Phosphorus-ICP-Acid Dil.	ug/mL	100.6	<2.00e-1	1.42e+03	1.39e+03	1.40e+03	2.14	40.20	n/a
S00T000506	D	Lead-ICP-Acid Dil.	ug/mL	99.60	<1.00e-1	< 20.10	<2.01e1	n/a	n/a	20.10	n/a
S00T000506	D	Sulfur-ICP-Acid Dil.	ug/mL	92.00	<1.00e-1	7.79e+02	754.0	766.5	3.26	20.10	n/a
S00T000506	D	Antimony-ICP-Acid Dil.	ug/mL	99.40	<6.00e-2	< 12.10	<1.21e1	n/a	n/a	12.10	n/a
S00T000506	D	Selenium-ICP-Acid Dil.	ug/mL	100.2	<1.00e-1	< 20.10	<2.01e1	n/a	n/a	20.10	n/a
S00T000506	D	Silicon-ICP-Acid Dil.	ug/mL	103.4	<5.00e-2	34.90	34.20	34.55	2.03	10.10	n/a
S00T000506	D	Samarium-ICP-Acid Dil.	ug/mL	100.4	<1.00e-1	< 20.10	<2.01e1	n/a	n/a	20.10	n/a
S00T000506	D	Strontium-ICP-Acid Dil.	ug/mL	98.20	<1.00e-2	< 2.010	<2.01e0	n/a	n/a	2.010	n/a
S00T000506	D	Titanium-ICP-Acid Dil.	ug/mL	98.80	<1.00e-2	< 2.010	<2.01e0	n/a	n/a	2.010	n/a
S00T000506	D	Thallium-ICP-Acid Dil.	ug/mL	100.6	<2.00e-1	< 40.20	<4.02e1	n/a	n/a	40.20	n/a
S00T000506	D	Uranium-ICP-Acid Dil.	ug/mL	99.10	<5.00e-1	<1.01e+02	<1.01e2	n/a	n/a	101.0	n/a
S00T000506	D	Vanadium-ICP-Acid Dil.	ug/mL	98.40	<5.00e-2	< 10.10	<1.01e1	n/a	n/a	10.10	n/a
S00T000506	D	Zinc-ICP-Acid Dil.	ug/mL	101.0	<1.00e-2	< 2.010	<2.01e0	n/a	n/a	2.010	n/a
S00T000506	D	Zirconium-ICP-Acid Dil.	ug/mL	102.0	<1.00e-2	< 2.010	<2.01e0	n/a	n/a	2.010	n/a
S00T000506	D	Bromide by Ion Chromatograph	ug/mL	104.6	<1.25e-1	<2.65e2	<2.65e2	n/a	n/a	265.1	n/a
S00T000506	D	Niobium-94 by GEA	uCi/mL	n/a	<1.88e-3	<3.20e-03	<3.45e-3	n/a	n/a	3.20e-03	n/a
S00T000506	D	Ru/Rh-106 by GEA	uCi/mL	n/a	<3.04e-2	<5.30e-01	<5.35e-1	n/a	n/a	5.30e-01	n/a
S00T000506	D	Cesium-134 by GEA	uCi/mL	n/a	<1.77e-3	<2.66e-02	<2.67e-2	n/a	n/a	2.66e-02	n/a

Sample#	R A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S00T000506		Ce/Pr-144 by GEA	uCi/mL	n/a	<1.73e-2	<3.37e-01	<3.40e-1	n/a	n/a	n/a	3.37e-01	n/a
S00T000506		Radium-226 by GEA	uCi/mL	n/a	<2.96e-2	<6.35e-01	<6.38e-1	n/a	n/a	n/a	6.35e-01	n/a

Tank 241-SY-102 - Opportunistic Analysis Report for Project
SY-102 GRAB6CORE NUMBER: n/a
SEGMENT #: 2SY-00-2

SEGMENT PORTION: Supernate

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S00T000502	D		Uranium-233 by ICP/MS Acid Add	ug/mL	n/a	<1.20e-5	<4.85e-01	<4.85e-1	n/a	n/a	n/a	4.85e-01	n/a
S00T000502	D		Uranium-234 by ICP/MS Acid Add	ug/mL	n/a	<1.20e-5	<4.85e-01	<4.85e-1	n/a	n/a	n/a	4.85e-01	n/a
S00T000502	D		Uranium-236 by ICP/MS Acid Add	ug/mL	n/a	<1.60e-5	<6.46e-01	<6.46e-1	n/a	n/a	n/a	6.46e-01	n/a
S00T000502	D		Sn 117 by ICP/MS Acid Addition	ug/mL	100.8	<1.50e-4	< 6.060	<6.060	n/a	n/a	102.9	6.060	n/a
S00T000502	D		Sn 126 by ICP/MS Acid Addition	ug/mL	n/a	<1.50e-4	< 6.060	<6.060	n/a	n/a	n/a	6.060	n/a
S00T000502	D		Cs 133 by ICP/MS Acid Addition	ug/mL	107.0	<2.00e-6	2.137	2.090	2.114	2.36	104.5	8.08e-02	n/a
S00T000502	D		Cs 137 by ICP/MS Acid Addition	ug/mL	n/a	<2.00e-6	2.614	2.540	2.577	2.72	n/a	8.08e-02	n/a
S00T000505	D		Silver-ICP-Acid Dil.	ug/mL	97.80	<1.00e-2	9.440	9.640	9.540	2.10	91.20	4.010	n/a
S00T000505	D		Arsenic-ICP-Acid Dil.	ug/mL	103.0	<1.00e-1	< 40.10	<4.01e1	n/a	n/a	99.00	40.10	n/a
S00T000505	D		Boron-ICP-Acid Dil.	ug/mL	104.6	<5.00e-2	48.40	49.90	49.15	3.05	101.0	20.10	n/a
S00T000505	D		Barium-ICP-Acid Dil.	ug/mL	99.80	<5.00e-2	< 20.10	<2.01e1	n/a	n/a	93.70	20.10	n/a
S00T000505	D		Beryllium-ICP-Acid Dil.	ug/mL	99.20	<5.00e-3	< 2.010	<2.01e0	n/a	n/a	96.30	2.010	n/a
S00T000505	D		Bismuth-ICP-Acid Dil.	ug/mL	101.4	<1.00e-1	< 40.10	<4.01e1	n/a	n/a	98.70	40.10	n/a
S00T000505	D		Calcium-ICP-Acid Dil.	ug/mL	103.0	<1.00e-1	56.10	54.30	55.20	3.26	104.0	40.10	n/a
S00T000505	D		Cadmium-ICP-Acid Dil.	ug/mL	100.6	<5.00e-3	< 2.010	<2.01e0	n/a	n/a	99.80	2.010	n/a
S00T000505	D		Cerium-ICP-Acid Dil.	ug/mL	102.4	<1.00e-1	< 40.10	<4.01e1	n/a	n/a	97.60	40.10	n/a
S00T000505	D		Cobalt-ICP-Acid Dil.	ug/mL	101.8	<2.00e-2	< 8.020	<8.02e0	n/a	n/a	100.0	8.020	n/a
S00T000505	D		Copper-ICP-Acid Dil.	ug/mL	102.2	<1.00e-2	7.960	7.600	7.780	4.63	97.90	4.010	n/a
S00T000505	D		Potassium-ICP-Acid Dil.	ug/mL	100.0	<5.00e-1	2.45e+03	2.39e+03	2.42e+03	2.48	96.70	201.0	n/a
S00T000505	D		Lanthanum-ICP-Acid Dil.	ug/mL	103.2	<5.00e-2	< 20.10	<2.01e1	n/a	n/a	99.80	20.10	n/a
S00T000505	D		Lithium-ICP-Acid Dil.	ug/mL	103.2	<1.00e-2	< 4.010	<4.01e0	n/a	n/a	94.90	4.010	n/a
S00T000505	D		Magnesium-ICP-Acid Dil.	ug/mL	101.8	<1.00e-1	< 40.10	<4.01e1	n/a	n/a	97.50	40.10	n/a
S00T000505	D		Molybdenum-ICP-Acid Dil.	ug/mL	100.4	<5.00e-2	70.20	72.90	71.55	3.77	100.0	20.10	n/a
S00T000505	D		Sodium-ICP-Acid Dil.	ug/mL	105.6	<1.00e-1	1.50e+05	1.50e+05	1.50e+05	0.00	86.40	401.0	n/a
S00T000505	D		Neodymium-ICP-Acid Dil.	ug/mL	102.6	<1.00e-1	< 40.10	<4.01e1	n/a	n/a	99.90	40.10	n/a
S00T000505	D		Phosphorus-ICP-Acid Dil.	ug/mL	103.6	<2.00e-1	1.27e+03	1.34e+03	1.30e+03	5.36	117.0	80.20	n/a
S00T000505	D		Lead-ICP-Acid Dil.	ug/mL	98.20	<1.00e-1	< 40.10	<4.01e1	n/a	n/a	105.0	40.10	n/a
S00T000505	D		Sulfur-ICP-Acid Dil.	ug/mL	93.40	<1.00e-1	1.06e+03	1.11e+03	1.08e+03	4.61	102.0	40.10	n/a
S00T000505	D		Antimony-ICP-Acid Dil.	ug/mL	101.2	<6.00e-2	< 24.10	<2.41e1	n/a	n/a	101.0	24.10	n/a
S00T000505	D		Selenium-ICP-Acid Dil.	ug/mL	100.4	<1.00e-1	< 40.10	<4.01e1	n/a	n/a	111.0	40.10	n/a
S00T000505	D		Silicon-ICP-Acid Dil.	ug/mL	105.0	<5.00e-2	22.30	21.80	22.05	2.27	105.0	20.10	n/a
S00T000505	D		Samarium-ICP-Acid Dil.	ug/mL	102.4	<1.00e-1	< 40.10	<4.01e1	n/a	n/a	98.70	40.10	n/a
S00T000505	D		Strontium-ICP-Acid Dil.	ug/mL	100.8	<1.00e-2	< 4.010	<4.01e0	n/a	n/a	96.80	4.010	n/a
S00T000505	D		Titanium-ICP-Acid Dil.	ug/mL	104.2	<1.00e-2	< 4.010	<4.01e0	n/a	n/a	100.0	4.010	n/a
S00T000505	D		Thallium-ICP-Acid Dil.	ug/mL	100.2	<2.00e-1	< 80.20	<8.02e1	n/a	n/a	97.60	80.20	n/a
S00T000505	D		Uranium-ICP-Acid Dil.	ug/mL	101.0	<5.00e-1	<2.01e+02	<2.01e2	n/a	n/a	99.50	201.0	n/a
S00T000505	D		Vanadium-ICP-Acid Dil.	ug/mL	103.0	<5.00e-2	< 20.10	<2.01e1	n/a	n/a	101.0	20.10	n/a
S00T000505	D		Zinc-ICP-Acid Dil.	ug/mL	101.2	<1.00e-2	< 4.010	<4.01e0	n/a	n/a	99.80	4.010	n/a
S00T000505	D		Zirconium-ICP-Acid Dil.	ug/mL	103.4	<1.00e-2	< 4.010	<4.01e0	n/a	n/a	101.0	4.010	n/a
S00T000505	D		Bromide by Ion Chromatograph	ug/mL	104.6	<1.25e-1	<5.18e+02	<5.18e2	n/a	n/a	100.8	517.6	n/a
S00T000505	D		Nitobium-94 by GEA	uci/mL	n/a	<1.88e-3	<5.19e-03	<5.16e-3	n/a	n/a	n/a	5.19e-03	n/a
S00T000505	D		Ru/Rh-106 by GEA	uci/mL	n/a	<3.04e-2	<7.06e-01	<7.06e-1	n/a	n/a	n/a	7.06e-01	n/a
S00T000505	D		Cesium-134 by GEA	uci/mL	n/a	<1.77e-3	<3.55e-02	<3.56e-2	n/a	n/a	n/a	3.55e-02	n/a

Sample#	R A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S00T000505		Ce/Pr-144 by GEA	uCi/mL	n/a	<1.73e-2	<4.48e-01	<4.48e-1	n/a	n/a	n/a	4.48e-01	n/a
S00T000505		Radium-226 by GEA	uCi/mL	n/a	<2.96e-2	< 1.218	<8.41e-1	n/a	n/a	n/a	1.218	n/a

Tank 241-SY-102 - Opportunistic Analysis Report for Project
SY-102 GRAB6CORE NUMBER: n/a
SEGMENT #: 2SY-00-3

SEGMENT PORTION: Supernate

Sample#	R A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S00T000504	D	Uranium-233 by ICP/MS Acid Add	ug/mL	n/a	<1.20e-5	<4.85e-01	<4.85e-1	n/a	n/a	n/a	4.85e-01	n/a
S00T000504	D	Uranium-234 by ICP/MS Acid Add	ug/mL	n/a	<1.20e-5	<4.85e-01	<4.85e-1	n/a	n/a	n/a	4.85e-01	n/a
S00T000504	D	Uranium-236 by ICP/MS Acid Add	ug/mL	n/a	<1.60e-5	<6.46e-01	<6.46e-1	n/a	n/a	n/a	6.46e-01	n/a
S00T000504	D	Sn 117 by ICP/MS Acid Addition	ug/mL	100.8	<1.50e-4	<6.060	<6.060	n/a	n/a	n/a	6.060	n/a
S00T000504	D	Sn 126 by ICP/MS Acid Addition	ug/mL	107.0	<1.50e-4	<6.060	<6.060	n/a	n/a	n/a	6.060	n/a
S00T000504	D	Cs 133 by ICP/MS Acid Addition	ug/mL	n/a	<2.00e-6	8.242	8.250	8.246	0.12	n/a	8.08e-02	n/a
S00T000504	D	Cs 135 by ICP/MS Acid Addition	ug/mL	n/a	<2.00e-6	2.287	2.460	2.373	7.16	n/a	8.08e-02	n/a
S00T000507	D	Silver-ICP-Acid Dil.	ug/mL	97.40	<1.00e-2	9.920	9.430	9.675	5.06	n/a	2.010	n/a
S00T000507	D	Arsenic-ICP-Acid Dil.	ug/mL	102.2	<1.00e-1	<20.10	<2.01e1	n/a	n/a	n/a	20.10	n/a
S00T000507	D	Boron-ICP-Acid Dil.	ug/mL	101.0	<5.00e-2	61.40	58.20	59.80	5.35	n/a	10.10	n/a
S00T000507	D	Barium-ICP-Acid Dil.	ug/mL	96.40	<5.00e-2	<10.10	<1.01e1	n/a	n/a	n/a	10.10	n/a
S00T000507	D	Beryllium-ICP-Acid Dil.	ug/mL	98.80	<5.00e-3	<1.010	<1.01e0	n/a	n/a	n/a	1.010	n/a
S00T000507	D	Bismuth-ICP-Acid Dil.	ug/mL	99.80	<1.00e-1	<20.10	<2.01e1	n/a	n/a	n/a	20.10	n/a
S00T000507	D	Calcium-ICP-Acid Dil.	ug/mL	101.4	<1.00e-1	37.50	36.70	37.10	2.16	n/a	20.10	n/a
S00T000507	D	Cadmium-ICP-Acid Dil.	ug/mL	100.8	<5.00e-3	<1.010	<1.01e0	n/a	n/a	n/a	1.010	n/a
S00T000507	D	Cerium-ICP-Acid Dil.	ug/mL	100.4	<1.00e-1	<20.10	<2.01e1	n/a	n/a	n/a	20.10	n/a
S00T000507	D	Cobalt-ICP-Acid Dil.	ug/mL	100.8	<2.00e-2	<4.020	<4.02e0	n/a	n/a	n/a	4.020	n/a
S00T000507	D	Copper-ICP-Acid Dil.	ug/mL	96.20	<1.00e-2	<2.010	<2.01e0	n/a	n/a	n/a	2.010	n/a
S00T000507	D	Potassium-ICP-Acid Dil.	ug/mL	103.6	<5.00e-1	2.35e+03	2.26e+03	2.30e+03	3.90	n/a	101.0	n/a
S00T000507	D	Lanthanum-ICP-Acid Dil.	ug/mL	99.80	<5.00e-2	<10.10	<1.01e1	n/a	n/a	n/a	10.10	n/a
S00T000507	D	Lithium-ICP-Acid Dil.	ug/mL	102.2	<1.00e-2	<2.010	<2.01e0	n/a	n/a	n/a	2.010	n/a
S00T000507	D	Magnesium-ICP-Acid Dil.	ug/mL	102.2	<1.00e-1	<20.10	<2.01e1	n/a	n/a	n/a	20.10	n/a
S00T000507	D	Molybdenum-ICP-Acid Dil.	ug/mL	97.00	<5.00e-2	75.80	73.90	74.85	2.54	n/a	10.10	n/a
S00T000507	D	Sodium-ICP-Acid Dil.	ug/mL	102.2	<1.00e-1	1.39e+05	1.33e+05	1.36e+05	4.41	n/a	20.10	n/a
S00T000507	D	Neodymium-ICP-Acid Dil.	ug/mL	100.0	<2.00e-1	<20.10	<2.01e1	n/a	n/a	n/a	20.10	n/a
S00T000507	D	Phosphorus-ICP-Acid Dil.	ug/mL	100.6	<2.00e-1	1.23e+03	1.20e+03	1.22e+03	2.47	n/a	40.20	n/a
S00T000507	D	Lead-ICP-Acid Dil.	ug/mL	99.60	<1.00e-1	<20.10	<2.01e1	n/a	n/a	n/a	20.10	n/a
S00T000507	D	Sulfur-ICP-Acid Dil.	ug/mL	92.00	<1.00e-1	1.16e+03	1.13e+03	1.14e+03	2.62	n/a	20.10	n/a
S00T000507	D	Antimony-ICP-Acid Dil.	ug/mL	99.40	<6.00e-2	<12.10	<1.21e1	n/a	n/a	n/a	12.10	n/a
S00T000507	D	Selenium-ICP-Acid Dil.	ug/mL	100.2	<1.00e-1	<20.10	<2.01e1	n/a	n/a	n/a	20.10	n/a
S00T000507	D	Silicon-ICP-Acid Dil.	ug/mL	103.4	<5.00e-2	81.80	80.10	80.95	2.10	n/a	10.10	n/a
S00T000507	D	Samarium-ICP-Acid Dil.	ug/mL	100.4	<1.00e-1	<20.10	<2.01e1	n/a	n/a	n/a	20.10	n/a
S00T000507	D	Strontium-ICP-Acid Dil.	ug/mL	98.20	<1.00e-2	<2.010	<2.01e0	n/a	n/a	n/a	2.010	n/a
S00T000507	D	Titanium-ICP-Acid Dil.	ug/mL	98.80	<1.00e-2	<2.010	<2.01e0	n/a	n/a	n/a	2.010	n/a
S00T000507	D	Thallium-ICP-Acid Dil.	ug/mL	100.6	<2.00e-1	<40.20	<4.02e1	n/a	n/a	n/a	40.20	n/a
S00T000507	D	Uranium-ICP-Acid Dil.	ug/mL	99.10	<5.00e-1	<1.01e+02	<1.01e2	n/a	n/a	n/a	101.0	n/a
S00T000507	D	Vanadium-ICP-Acid Dil.	ug/mL	98.40	<5.00e-2	<10.10	<1.01e1	n/a	n/a	n/a	10.10	n/a
S00T000507	D	Zinc-ICP-Acid Dil.	ug/mL	101.0	<1.00e-2	<2.010	<2.01e0	n/a	n/a	n/a	2.010	n/a
S00T000507	D	Zirconium-ICP-Acid Dil.	ug/mL	102.0	<1.00e-2	<2.010	<2.01e0	n/a	n/a	n/a	2.010	n/a
S00T000507	D	Bromide by Ion Chromatograph	ug/mL	104.6	<1.25e-1	<5.18e+02	<5.18e2	n/a	n/a	n/a	517.6	n/a
S00T000507	D	Niobium-94 by GEA	uCi/mL	n/a	<1.88e-3	<4.97e-03	<4.98e-3	n/a	n/a	n/a	4.97e-03	n/a
S00T000507	D	Ru/Rh-106 by GEA	uCi/mL	n/a	<3.04e-2	<6.87e-01	<6.84e-1	n/a	n/a	n/a	6.87e-01	n/a
S00T000507	D	Cesium-134 by GEA	uCi/mL	n/a	<1.77e-3	<3.46e-02	<3.43e-2	n/a	n/a	n/a	3.46e-02	n/a

Sample#	R A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S00T000507		Ce/Pr-144 by GEA	uCi/mL	n/a	<1.73e-2	<4.38e-01	<4.35e-1	n/a	n/a	n/a	4.38e-01	n/a
S00T000507		Radium-226 by GEA	uCi/mL	n/a	<2.96e-2	<8.21e-01	<8.18e-1	n/a	n/a	n/a	8.21e-01	n/a

Tank 241-SY-102 - Opportunistic Analysis Report for Project
SY-102 GRAB6CORE NUMBER: n/a
SEGMENT #: 2SY-00-4

SEGMENT PORTION: Centrifuged Solids (Grab Sample)

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count	Err%
S00T000619	F	Antimony-125	by GEA	ug/g	n/a	<1.41e-1	<5.47e-01	<5.47e-1	6.55e-01	n/a	n/a	5.47e-01	n/a	n/a
S00T000619	F	Americium-241	by GEA	ug/g	n/a	<7.51e-2	6.77e-01	6.33e-01	6.55e-01	6.72	n/a	n/a	n/a	17.9
S00T000620	A	Uranium-233	by ICP/MS AcidD159	ug/g	n/a	<4.81e-3	<9.12e-01	<9.39e-1	n/a	n/a	n/a	9.12e-01	n/a	n/a
S00T000620	A	Uranium-234	by ICP/MS AcidD159	ug/g	n/a	<4.81e-3	<9.12e-01	<9.39e-1	n/a	n/a	n/a	9.12e-01	n/a	n/a
S00T000620	A	Uranium-236	by ICP/MS AcidD159	ug/g	n/a	<6.42e-3	<1.217	<1.25e0	n/a	n/a	n/a	1.217	n/a	n/a
S00T000620	A	Sn117 ICP/MS	AcidDig LA-505159	ug/g	97.50	<6.02e-2	<11.41	<1.17e1	n/a	n/a	106.0	11.40	n/a	n/a
S00T000620	A	Sn126 ICP/MS	AcidDig LA-505159	ug/g	n/a	<6.02e-2	<11.41	<1.17e1	n/a	n/a	n/a	11.40	n/a	n/a
S00T000620	A	Cs133 ICP/MS	AcidDig LA-505159	ug/g	94.50	4.45e-03	4.935	4.990	4.963	1.21	103.0	1.52e-01	n/a	n/a
S00T000620	A	Cs135 ICP/MS	AcidDig LA-505159	ug/g	n/a	<8.02e-4	1.247	1.190	1.219	4.92	n/a	1.52e-01	n/a	n/a
S00T000620	A	Cs137 ICP/MS	AcidDig LA-505159	ug/g	n/a	<8.02e-4	18.00	17.30	17.65	3.97	n/a	1.52e-01	n/a	n/a
S00T000620	A	Silver - ICP-Acid	Digest	ug/g	88.70	<1.00e-2	10.20	10.30	10.25	0.98	97.70	7.580	n/a	n/a
S00T000620	A	Arsenic - ICP-Acid	Digest	ug/g	87.80	<1.00e-1	<75.80	<7.81e1	n/a	n/a	95.65	75.80	n/a	n/a
S00T000620	A	Boron - ICP-Acid	Digest	ug/g	100.4	5.83e-01	<3.79e+02	<3.90e2	n/a	n/a	103.0	379.0	n/a	n/a
S00T000620	A	Barium - ICP-Acid	Digest	ug/g	89.20	<5.00e-2	<37.90	<3.90e1	n/a	n/a	92.63	37.90	n/a	n/a
S00T000620	A	Beryllium - ICP-Acid	Digest	ug/g	89.80	<5.00e-3	<3.790	<3.90e0	n/a	n/a	94.46	3.790	n/a	n/a
S00T000620	A	Bismuth - ICP-Acid	Digest	ug/g	86.20	<1.00e-1	<75.80	<7.81e1	n/a	n/a	99.76	75.80	n/a	n/a
S00T000620	A	Calcium - ICP-Acid	Digest	ug/g	86.60	<1.00e-1	4.02e+02	350.0	376.0	13.8	88.74	75.80	n/a	n/a
S00T000620	A	Cadmium - ICP-Acid	Digest	ug/g	85.00	<5.00e-3	76.40	73.20	74.80	4.28	95.76	3.790	n/a	n/a
S00T000620	A	Cerium - ICP-Acid	Digest	ug/g	92.20	<1.00e-1	<75.80	<7.81e1	n/a	n/a	99.54	75.80	n/a	n/a
S00T000620	A	Cobalt - ICP-Acid	Digest	ug/g	86.20	<2.00e-2	<15.20	<1.56e1	n/a	n/a	96.73	15.20	n/a	n/a
S00T000620	A	Copper - ICP-Acid	Digest	ug/g	90.00	<1.00e-2	<7.580	<7.81e0	n/a	n/a	90.79	7.580	n/a	n/a
S00T000620	A	Potassium - ICP-Acid	Digest	ug/g	87.40	<5.00e-1	1.49e+03	1.44e+03	1.46e+03	3.41	93.39	379.0	n/a	n/a
S00T000620	A	Lanthanum - ICP-Acid	Digest	ug/g	92.60	<5.00e-2	<37.90	<3.90e1	n/a	n/a	98.68	37.90	n/a	n/a
S00T000620	A	Lithium - ICP-Acid	Digest	ug/g	91.40	<1.00e-2	<7.580	<7.81e0	n/a	n/a	93.82	7.580	n/a	n/a
S00T000620	A	Magnesium - ICP-Acid	Digest	ug/g	86.60	<1.00e-1	<75.80	<7.81e1	n/a	n/a	97.60	75.80	n/a	n/a
S00T000620	A	Molybdenum - ICP-Acid	Digest	ug/g	90.20	<5.00e-2	<37.90	<3.90e1	n/a	n/a	100.1	37.90	n/a	n/a
S00T000620	A	Sodium - ICP-Acid	Digest	ug/g	107.4	1.00e+00	1.26e+05	1.35e+05	1.31e+05	6.90	-5.02e+02	758.0	n/a	n/a
S00T000620	A	Neodymium - ICP-Acid	Digest	ug/g	94.20	<1.00e-1	94.30	86.80	90.55	8.28	96.62	75.80	n/a	n/a
S00T000620	A	Phosphorus - ICP-Acid	Digest	ug/g	89.60	<2.00e-1	1.01e+03	1.03e+03	1.02e+03	1.96	89.39	152.0	n/a	n/a
S00T000620	A	Lead - ICP-Acid	Digest	ug/g	83.40	<1.00e-1	4.48e+02	429.0	438.5	4.33	99.00	75.80	n/a	n/a
S00T000620	A	Sulfur - ICP-Acid	Digest	ug/g	81.00	<1.00e-1	6.22e+02	648.0	635.0	4.09	87.56	75.80	n/a	n/a
S00T000620	A	Antimony - ICP-Acid	Digest	ug/g	87.40	<6.00e-2	1.26e+02	128.0	127.0	1.57	95.98	45.50	n/a	n/a
S00T000620	A	Selenium - ICP-Acid	Digest	ug/g	87.20	<1.00e-1	<75.80	<7.81e1	n/a	n/a	99.97	75.80	n/a	n/a
S00T000620	A	Silicon - ICP-Acid	Digest	ug/g	137.8	2.47e-01	2.16e+02	195.0	205.5	10.2	98.14	37.90	n/a	n/a
S00T000620	A	Samarium - ICP-Acid	Digest	ug/g	92.80	<1.00e-1	<75.80	<7.81e1	n/a	n/a	97.38	75.80	n/a	n/a
S00T000620	A	Strontium - ICP-Acid	Digest	ug/g	91.60	<1.00e-2	<7.580	<7.81e0	n/a	n/a	95.33	75.80	n/a	n/a
S00T000620	A	Titanium - ICP-Acid	Digest	ug/g	92.40	<1.00e-2	7.670	<7.81e0	n/a	n/a	95.33	75.80	n/a	n/a
S00T000620	A	Thallium - ICP-Acid	Digest	ug/g	84.20	<2.00e-1	<1.52e+02	<1.56e2	n/a	n/a	96.19	152.0	n/a	n/a
S00T000620	A	Uranium - ICP-Acid	Digest	ug/g	93.90	<5.00e-1	4.10e+02	<3.90e2	n/a	n/a	95.54	379.0	n/a	n/a
S00T000620	A	Vanadium - ICP-Acid	Digest	ug/g	89.80	<5.00e-2	<37.90	<3.90e1	n/a	n/a	97.49	37.90	n/a	n/a
S00T000620	A	Zinc - ICP-Acid	Digest	ug/g	84.00	1.29e-02	40.50	44.50	42.50	9.41	96.19	7.580	n/a	n/a
S00T000620	A	Zirconium - ICP-Acid	Digest	ug/g	93.60	<1.00e-2	46.50	43.40	44.95	6.90	96.95	7.580	n/a	n/a
S00T000624	W	Bromide by Ion Chromatograph		ug/g	103.5	<1.25e-1	<5.08e+02	<5.16e2	n/a	n/a	99.52	508.2	n/a	n/a

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A-0002-1(14.1)

Decanted Supernate (Liquid Grab Sludge): Decanted Supernate (Liquid Grab Sludge)

Sample#	R A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S00T000611	D	Uranium-233 by ICP/MS Acid Add	ug/mL	n/a	<1.20e-5	<4.85e-01	<4.85e-01	n/a	n/a	n/a	4.85e-01	n/a
S00T000611	D	Uranium-234 by ICP/MS Acid Add	ug/mL	n/a	<1.20e-5	<4.85e-01	<4.85e-01	n/a	n/a	n/a	4.85e-01	n/a
S00T000611	D	Uranium-236 by ICP/MS Acid Add	ug/mL	n/a	<1.60e-5	<6.46e-01	<6.46e-01	n/a	n/a	n/a	6.46e-01	n/a
S00T000611	D	Sn 117 by ICP/MS Acid Addition	ug/mL	97.50	<1.50e-4	< 6.060	< 6.060	n/a	n/a	99.00	6.060	n/a
S00T000611	D	Sn 126 by ICP/MS Acid Addition	ug/mL	n/a	<1.50e-4	< 6.060	< 6.060	n/a	n/a	n/a	6.060	n/a
S00T000611	D	Cs 133 by ICP/MS Acid Addition	ug/mL	94.50	8.40e-06	8.892	8.630	8.761	2.97	103.0	8.08e-02	n/a
S00T000611	D	Cs 135 by ICP/MS Acid Addition	ug/mL	n/a	<2.00e-6	2.380	2.430	2.405	2.08	n/a	8.08e-02	n/a
S00T000611	D	Cs 137 by ICP/MS Acid Addition	ug/mL	n/a	<2.00e-6	2.856	2.840	2.848	0.70	n/a	8.08e-02	n/a
S00T000612	D	Silver-ICP-Acid Dil.	ug/mL	96.60	<1.00e-1	13.10	11.80	12.45	10.4	n/a	4.010	n/a
S00T000612	D	Arsenic-ICP-Acid Dil.	ug/mL	102.0	<1.00e-1	< 4.010	<4.01e1	n/a	n/a	n/a	4.010	n/a
S00T000612	D	Boron-ICP-Acid Dil.	ug/mL	102.6	<5.00e-2	51.40	48.90	50.15	4.99	n/a	20.10	n/a
S00T000612	D	Barium-ICP-Acid Dil.	ug/mL	98.40	<5.00e-2	< 20.10	<2.01e1	n/a	n/a	n/a	20.10	n/a
S00T000612	D	Beryllium-ICP-Acid Dil.	ug/mL	97.20	<5.00e-3	< 2.010	<2.01e0	n/a	n/a	n/a	2.010	n/a
S00T000612	D	Bismuth-ICP-Acid Dil.	ug/mL	99.80	<1.00e-1	< 40.10	<4.01e1	55.20	2.17	n/a	40.10	n/a
S00T000612	D	Calcium-ICP-Acid Dil.	ug/mL	101.6	<1.00e-1	55.80	54.60	55.20	2.17	n/a	2.010	n/a
S00T000612	D	Cadmium-ICP-Acid Dil.	ug/mL	98.60	<5.00e-3	< 2.010	<2.01e0	n/a	n/a	n/a	2.010	n/a
S00T000612	D	Cerium-ICP-Acid Dil.	ug/mL	101.0	<1.00e-1	< 40.10	<4.01e1	n/a	n/a	n/a	40.10	n/a
S00T000612	D	Cobalt-ICP-Acid Dil.	ug/mL	100.2	<2.00e-2	< 8.020	<8.02e0	n/a	n/a	n/a	8.020	n/a
S00T000612	D	Copper-ICP-Acid Dil.	ug/mL	100.6	<1.00e-2	6.910	6.160	6.535	11.5	n/a	4.010	n/a
S00T000612	D	Potassium-ICP-Acid Dil.	ug/mL	107.0	<5.00e-1	2.53e+03	2.18e+03	2.36e+03	14.9	n/a	201.0	n/a
S00T000612	D	Lanthanum-ICP-Acid Dil.	ug/mL	101.4	<5.00e-2	< 20.10	<2.01e1	n/a	n/a	n/a	20.10	n/a
S00T000612	D	Lithium-ICP-Acid Dil.	ug/mL	104.4	<1.00e-2	< 4.010	<4.01e0	n/a	n/a	n/a	4.010	n/a
S00T000612	D	Magnesium-ICP-Acid Dil.	ug/mL	100.8	<1.00e-1	< 40.10	<4.01e1	n/a	n/a	n/a	40.10	n/a
S00T000612	D	Molybdenum-ICP-Acid Dil.	ug/mL	98.80	<5.00e-2	70.60	67.60	69.10	4.34	n/a	20.10	n/a
S00T000612	D	Sodium-ICP-Acid Dil.	ug/mL	107.6	<1.00e-1	1.54e+05	1.37e+05	1.46e+05	11.7	n/a	40.10	n/a
S00T000612	D	Neodymium-ICP-Acid Dil.	ug/mL	101.0	<1.00e-1	< 40.10	<4.01e1	n/a	n/a	n/a	40.10	n/a
S00T000612	D	Phosphorus-ICP-Acid Dil.	ug/mL	101.8	<2.00e-1	1.63e+03	1.56e+03	1.60e+03	4.39	n/a	80.20	n/a
S00T000612	D	Lead-ICP-Acid Dil.	ug/mL	97.00	<1.00e-1	< 40.10	<4.01e1	n/a	n/a	n/a	40.10	n/a
S00T000612	D	Sulfur-ICP-Acid Dil.	ug/mL	92.20	<1.00e-1	1.13e+03	1.07e+03	1.10e+03	5.45	n/a	24.10	n/a
S00T000612	D	Antimony-ICP-Acid Dil.	ug/mL	99.60	<6.00e-2	< 24.10	<2.41e1	n/a	n/a	n/a	40.10	n/a
S00T000612	D	Selenium-ICP-Acid Dil.	ug/mL	98.00	<5.00e-1	35.40	29.90	32.65	16.8	n/a	20.10	n/a
S00T000612	D	Silicon-ICP-Acid Dil.	ug/mL	103.2	<5.00e-2	< 40.10	<4.01e1	n/a	n/a	n/a	40.10	n/a
S00T000612	D	Samarium-ICP-Acid Dil.	ug/mL	100.8	<1.00e-1	< 40.10	<4.01e1	n/a	n/a	n/a	4.010	n/a
S00T000612	D	Strontium-ICP-Acid Dil.	ug/mL	98.80	<1.00e-2	< 4.010	<4.01e0	n/a	n/a	n/a	4.010	n/a
S00T000612	D	Titanium-ICP-Acid Dil.	ug/mL	101.2	<1.00e-2	< 4.010	<4.01e0	n/a	n/a	n/a	80.20	n/a
S00T000612	D	Thallium-ICP-Acid Dil.	ug/mL	97.80	<2.00e-1	< 80.20	<8.02e1	n/a	n/a	n/a	201.0	n/a
S00T000612	D	Vanadium-ICP-Acid Dil.	ug/mL	99.30	<5.00e-1	<2.01e+02	<2.01e2	n/a	n/a	n/a	20.10	n/a
S00T000612	D	Zinc-ICP-Acid Dil.	ug/mL	101.0	<5.00e-2	< 4.010	<4.01e0	n/a	n/a	n/a	4.010	n/a
S00T000612	D	Zirconium-ICP-Acid Dil.	ug/mL	99.80	<1.00e-2	< 4.010	<4.01e0	n/a	n/a	n/a	4.010	n/a
S00T000612	D	Bromide by Ion Chromatograph	ug/mL	101.6	<1.25e-1	<1.28e+03	<1.28e3	n/a	n/a	n/a	1.28e+03	n/a
S00T000612	D	Niobium-94 by GEA	ug/mL	102.1	<1.72e-3	<4.87e-03	<4.61e-3	n/a	n/a	n/a	4.87e-03	n/a
S00T000612	D	Ru/Rh-106 by GEA	ug/mL	n/a	<3.00e-2	<6.74e-01	<6.65e-1	n/a	n/a	n/a	6.74e-01	n/a
S00T000612	D	Cesium-134 by GEA	ug/mL	n/a	<1.77e-3	<3.39e-02	<3.33e-2	n/a	n/a	n/a	3.39e-02	n/a
S00T000612	D	Ce/Pr-144 by GEA	ug/mL	n/a	<1.79e-2	<4.29e-01	<4.20e-1	n/a	n/a	n/a	4.29e-01	n/a
S00T000612	D	Radium-226 by GEA	ug/mL	n/a	<3.11e-2	<8.05e-01	<7.92e-1	n/a	n/a	n/a	8.05e-01	n/a

Interstitial Liquid: Interstitial Liquid

Sample#	R A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec. %	Det Limit	Count Err%
S00T000511	D	Uranium-233 by ICP/MS Acid Add	ug/mL	n/a	<1.20e-5	<4.85e-01	<4.85e-1	n/a	n/a	n/a	4.85e-01	n/a
S00T000511	D	Uranium-234 by ICP/MS Acid Add	ug/mL	n/a	<1.20e-5	<4.85e-01	<4.85e-1	n/a	n/a	n/a	4.85e-01	n/a
S00T000511	D	Uranium-236 by ICP/MS Acid Add	ug/mL	n/a	<1.60e-1	<6.46e-01	<6.46e-1	n/a	n/a	n/a	6.46e-01	n/a
S00T000511	D	Sn 117 by ICP/MS Acid Addition	ug/mL	97.50	<1.50e-4	< 6.060	<6.06e0	n/a	n/a	100.5	6.060	n/a
S00T000511	D	Sn 126 by ICP/MS Acid Addition	ug/mL	n/a	<1.50e-4	< 6.060	<6.06e0	n/a	n/a	n/a	6.060	n/a
S00T000511	D	Cs 133 by ICP/MS Acid Addition	ug/mL	94.50	8.40e-06	7.305	7.340	7.322	0.55	108.0	8.08e-02	n/a
S00T000511	D	Cs 135 by ICP/MS Acid Addition	ug/mL	n/a	<2.00e-6	2.056	2.080	2.068	0.97	n/a	8.08e-02	n/a
S00T000511	D	Cs 137 by ICP/MS Acid Addition	ug/mL	n/a	<2.00e-6	2.448	2.440	2.444	0.41	n/a	8.08e-02	n/a
S00T000513	D	Silver-ICP-Acid Dil.	ug/mL	96.60	<1.00e-2	12.20	11.40	11.80	6.78	90.40	4.010	n/a
S00T000513	D	Arsenic-ICP-Acid Dil.	ug/mL	102.0	<1.00e-1	< 40.10	<4.01e1	n/a	n/a	96.50	40.10	n/a
S00T000513	D	Boron-ICP-Acid Dil.	ug/mL	102.6	<5.00e-2	49.50	50.00	49.75	1.01	100.0	20.10	n/a
S00T000513	D	Barium-ICP-Acid Dil.	ug/mL	98.40	<5.00e-2	< 20.10	<2.01e1	n/a	n/a	93.90	20.10	n/a
S00T000513	D	Beryllium-ICP-Acid Dil.	ug/mL	97.20	<5.00e-3	< 2.010	<2.01e0	n/a	n/a	95.60	2.010	n/a
S00T000513	D	Bismuth-ICP-Acid Dil.	ug/mL	99.80	<1.00e-1	< 40.10	<4.01e1	n/a	n/a	95.20	40.10	n/a
S00T000513	D	Calcium-ICP-Acid Dil.	ug/mL	101.6	<1.00e-1	65.90	52.90	59.40	21.9	97.80	40.10	n/a
S00T000513	D	Cadmium-ICP-Acid Dil.	ug/mL	98.60	<5.00e-3	< 2.010	<2.01e0	n/a	n/a	98.20	2.010	n/a
S00T000513	D	Cerium-ICP-Acid Dil.	ug/mL	101.0	<1.00e-1	< 40.10	<4.01e1	n/a	n/a	99.00	40.10	n/a
S00T000513	D	Cobalt-ICP-Acid Dil.	ug/mL	100.2	<2.00e-2	< 8.020	<8.02e0	n/a	n/a	98.90	8.020	n/a
S00T000513	D	Copper-ICP-Acid Dil.	ug/mL	100.6	<1.00e-2	6.420	6.640	6.530	3.37	98.60	4.010	n/a
S00T000513	D	Potassium-ICP-Acid Dil.	ug/mL	107.0	<5.00e-1	2.37e+03	2.39e+03	2.38e+03	0.84	81.40	201.0	n/a
S00T000513	D	Lanthanum-ICP-Acid Dil.	ug/mL	101.4	<5.00e-2	< 20.10	<2.01e1	n/a	n/a	101.0	20.10	n/a
S00T000513	D	Lithium-ICP-Acid Dil.	ug/mL	104.4	<1.00e-2	< 40.10	<4.01e1	n/a	n/a	97.80	40.10	n/a
S00T000513	D	Magnesium-ICP-Acid Dil.	ug/mL	100.8	<1.00e-1	< 40.10	<4.01e1	n/a	n/a	99.70	40.10	n/a
S00T000513	D	Molybdenum-ICP-Acid Dil.	ug/mL	98.80	<5.00e-2	69.20	69.90	69.55	1.01	98.80	20.10	n/a
S00T000513	D	Sodium-ICP-Acid Dil.	ug/mL	107.6	<1.00e-1	1.65e+05	1.66e+05	1.66e+05	0.60	88.40	401.0	n/a
S00T000513	D	Neodymium-ICP-Acid Dil.	ug/mL	101.0	<1.00e-1	< 40.10	<4.01e1	n/a	n/a	100.0	40.10	n/a
S00T000513	D	Phosphorus-ICP-Acid Dil.	ug/mL	101.8	<2.00e-1	1.60e+03	1.62e+03	1.61e+03	1.24	100.0	80.20	n/a
S00T000513	D	Lead-ICP-Acid Dil.	ug/mL	97.00	<1.00e-1	< 40.10	<4.01e1	n/a	n/a	99.30	40.10	n/a
S00T000513	D	Sulfur-ICP-Acid Dil.	ug/mL	92.20	<1.00e-1	1.10e+03	1.11e+03	1.10e+03	0.90	89.20	40.10	n/a
S00T000513	D	Antimony-ICP-Acid Dil.	ug/mL	99.60	<6.00e-2	< 24.10	<2.41e1	n/a	n/a	101.0	24.10	n/a
S00T000513	D	Selenium-ICP-Acid Dil.	ug/mL	98.00	<1.00e-1	< 40.10	<4.01e1	n/a	n/a	104.0	40.10	n/a
S00T000513	D	Silicon-ICP-Acid Dil.	ug/mL	103.2	<5.00e-2	31.70	31.40	31.55	0.95	103.0	20.10	n/a
S00T000513	D	Samarium-ICP-Acid Dil.	ug/mL	100.8	<1.00e-1	< 40.10	<4.01e1	n/a	n/a	97.70	40.10	n/a
S00T000513	D	Strontium-ICP-Acid Dil.	ug/mL	98.80	<1.00e-2	< 40.10	<4.01e0	n/a	n/a	97.50	4.010	n/a
S00T000513	D	Titanium-ICP-Acid Dil.	ug/mL	101.2	<1.00e-2	< 4.010	<4.01e0	n/a	n/a	99.80	4.010	n/a
S00T000513	D	Thallium-ICP-Acid Dil.	ug/mL	97.80	<2.00e-1	< 80.20	<8.02e1	n/a	n/a	97.10	80.20	n/a
S00T000513	D	Uranium-ICP-Acid Dil.	ug/mL	99.30	<5.00e-2	<2.01e+02	<2.01e2	n/a	n/a	97.00	201.0	n/a
S00T000513	D	Vanadium-ICP-Acid Dil.	ug/mL	101.0	<5.00e-2	< 20.10	<2.01e1	n/a	n/a	100.0	20.10	n/a
S00T000513	D	Zinc-ICP-Acid Dil.	ug/mL	99.80	<1.00e-2	< 40.10	<4.01e0	n/a	n/a	99.30	4.010	n/a
S00T000513	D	Zirconium-ICP-Acid Dil.	ug/mL	101.6	<1.00e-2	< 40.10	<4.01e0	n/a	n/a	101.0	4.010	n/a
S00T000513	D	Bromide by Ion Chromatograph	ug/mL	99.84	<1.25e-1	<1.28e+03	<1.28e3	n/a	n/a	101.3	1.28e+03	n/a
S00T000513	D	Niobium-94 by GEA	uCi/mL	n/a	<1.72e-3	<4.72e-03	<5.32e-3	n/a	n/a	n/a	4.72e-03	n/a
S00T000513	D	Ru/Rh-106 by GEA	uCi/mL	n/a	<3.07e-2	<6.77e-03	<7.16e-1	n/a	n/a	n/a	6.77e-03	n/a
S00T000513	D	Cesium-134 by GEA	uCi/mL	n/a	<1.77e-3	<3.59e-02	<3.57e-2	n/a	n/a	n/a	3.59e-02	n/a
S00T000513	D	Ce/Pr-144 by GEA	uCi/mL	n/a	<1.79e-2	<4.31e-01	<4.52e-1	n/a	n/a	n/a	4.31e-01	n/a
S00T000513	D	Radium-226 by GEA	uCi/mL	n/a	<3.11e-2	<8.09e-01	<8.47e-1	n/a	n/a	n/a	8.09e-01	n/a

Tank 241-SY-102 - Opportunistic Analysis Report for Project
SY-102 GRAB6CORE NUMBER: n/a
SEGMENT #: 2SY-00-5

SEGMENT PORTION: Centrifuged Solids (Grab Sample)

Sample#	R A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S00T000632	F	Antimony-125 by GEA	uCi/g	n/a	<1.41e-1	<5.45e-01	<5.43e-1	n/a	n/a	n/a	5.45e-01	n/a
S00T000632	F	Americium-241 by GEA	uCi/g	n/a	<7.51e-2	8.02e-01	7.32e-01	7.67e-01	9.13	n/a	n/a	20.8
S00T000633	A	Uranium-234 by ICP/MS AcidD159	ug/g	n/a	<4.81e-3	<9.12e-01	<9.88e-1	n/a	n/a	n/a	9.12e-01	n/a
S00T000633	A	Uranium-234 by ICP/MS AcidD159	ug/g	n/a	<4.81e-3	<9.12e-01	<9.88e-1	n/a	n/a	n/a	9.12e-01	n/a
S00T000633	A	Uranium-236 by ICP/MS AcidD159	ug/g	n/a	<6.42e-3	<1.32e0	<1.32e0	n/a	n/a	n/a	1.215	n/a
S00T000633	A	Sn117 ICP/MS AcidD159	ug/g	97.50	<6.02e-2	<11.40	<1.24e1	n/a	n/a	n/a	11.40	n/a
S00T000633	A	Sn126 ICP/MS AcidD159	ug/g	n/a	<6.02e-2	<11.40	<1.24e1	n/a	n/a	n/a	11.40	n/a
S00T000633	A	Cs133 ICP/MS AcidD159	ug/g	94.50	4.45e-03	5.280	5.060	5.170	4.26	n/a	1.52e-01	n/a
S00T000633	A	Cs135 ICP/MS AcidD159	ug/g	n/a	<8.02e-4	1.193	1.150	1.171	3.42	n/a	1.52e-01	n/a
S00T000633	A	Cs137 ICP/MS AcidD159	ug/g	n/a	<8.02e-4	17.35	17.40	17.38	0.00	n/a	1.52e-01	n/a
S00T000633	A	Silver - ICP-Acid Digest	ug/g	88.70	<1.00e-2	12.40	11.60	12.00	6.67	n/a	7.580	n/a
S00T000633	A	Arsenic - ICP-Acid Digest	ug/g	87.80	<1.00e-1	<75.80	<8.21e1	n/a	n/a	n/a	75.80	n/a
S00T000633	A	Boron - ICP-Acid Digest	ug/g	100.4	5.83e-01	1.21e+02	129.0	125.0	6.40	n/a	37.90	n/a
S00T000633	A	Barium - ICP-Acid Digest	ug/g	89.20	<5.00e-2	<37.90	<4.11e1	n/a	n/a	n/a	37.90	n/a
S00T000633	A	Beryllium - ICP-Acid Digest	ug/g	89.80	<5.00e-3	<3.790	<4.11e0	n/a	n/a	n/a	3.790	n/a
S00T000633	A	Bismuth - ICP-Acid Digest	ug/g	86.20	<1.00e-1	<75.80	<8.21e1	n/a	n/a	n/a	75.80	n/a
S00T000633	A	Calcium - ICP-Acid Digest	ug/g	86.60	<1.00e-1	3.30e+02	338.0	334.0	2.40	n/a	75.80	n/a
S00T000633	A	Cadmium - ICP-Acid Digest	ug/g	85.00	<5.00e-3	72.60	75.80	74.20	4.31	n/a	3.790	n/a
S00T000633	A	Cerium - ICP-Acid Digest	ug/g	92.20	<1.00e-1	<75.80	<8.21e1	n/a	n/a	n/a	75.80	n/a
S00T000633	A	Cobalt - ICP-Acid Digest	ug/g	86.20	<2.00e-2	<15.20	<1.64e1	n/a	n/a	n/a	15.20	n/a
S00T000633	A	Copper - ICP-Acid Digest	ug/g	90.00	<1.00e-2	<7.580	<8.21e0	n/a	n/a	n/a	7.580	n/a
S00T000633	A	Potassium - ICP-Acid Digest	ug/g	87.40	<5.00e-1	1.57e+03	1.45e+03	1.51e+03	7.95	n/a	379.0	n/a
S00T000633	A	Lanthanum - ICP-Acid Digest	ug/g	92.60	<5.00e-2	<37.90	<4.11e1	n/a	n/a	n/a	37.90	n/a
S00T000633	A	Lithium - ICP-Acid Digest	ug/g	91.40	<1.00e-1	<75.80	<8.21e0	n/a	n/a	n/a	75.80	n/a
S00T000633	A	Magnesium - ICP-Acid Digest	ug/g	86.60	<1.00e-1	<75.80	<8.21e1	n/a	n/a	n/a	75.80	n/a
S00T000633	A	Molybdenum - ICP-Acid Digest	ug/g	90.20	<5.00e-2	<37.90	<4.11e1	n/a	n/a	n/a	37.90	n/a
S00T000633	A	Sodium - ICP-Acid Digest	ug/g	107.4	1.00e+00	1.30e+05	1.27e+05	1.29e+05	2.33	n/a	75.80	n/a
S00T000633	A	Neodymium - ICP-Acid Digest	ug/g	94.20	<1.00e-1	94.40	94.10	94.25	0.32	n/a	75.80	n/a
S00T000633	A	Phosphorus - ICP-Acid Digest	ug/g	89.60	<2.00e-1	1.08e+03	1.05e+03	1.06e+03	2.82	n/a	152.0	n/a
S00T000633	A	Lead - ICP-Acid Digest	ug/g	83.40	<1.00e-1	4.34e+02	437.0	435.5	0.69	n/a	75.80	n/a
S00T000633	A	Sulfur - ICP-Acid Digest	ug/g	81.00	<1.00e-1	6.33e+02	635.0	634.0	0.32	n/a	75.80	n/a
S00T000633	A	Antimony - ICP-Acid Digest	ug/g	87.40	<6.00e-2	1.16e+02	130.0	123.0	11.4	n/a	45.50	n/a
S00T000633	A	Selenium - ICP-Acid Digest	ug/g	87.20	<1.00e-1	<75.80	<8.21e1	n/a	n/a	n/a	75.80	n/a
S00T000633	A	Silicon - ICP-Acid Digest	ug/g	137.8	2.47e-01	2.03e+02	214.0	208.5	5.28	n/a	37.90	n/a
S00T000633	A	Samarium - ICP-Acid Digest	ug/g	92.80	<1.00e-1	<75.80	<8.21e1	n/a	n/a	n/a	75.80	n/a
S00T000633	A	Strontium - ICP-Acid Digest	ug/g	91.60	<1.00e-2	<7.580	<8.21e0	n/a	n/a	n/a	7.580	n/a
S00T000633	A	Titanium - ICP-Acid Digest	ug/g	92.40	<1.00e-2	7.600	<8.21e0	n/a	n/a	n/a	7.580	n/a
S00T000633	A	Thallium - ICP-Acid Digest	ug/g	84.20	<2.00e-1	<1.52e+02	<1.64e2	n/a	n/a	n/a	152.0	n/a
S00T000633	A	Uranium - ICP-Acid Digest	ug/g	93.90	<5.00e-1	<3.79e+02	<4.11e2	n/a	n/a	n/a	379.0	n/a
S00T000633	A	Vanadium - ICP-Acid Digest	ug/g	89.80	<5.00e-2	<37.90	<4.11e1	n/a	n/a	n/a	37.90	n/a
S00T000633	A	Zinc - ICP-Acid Digest	ug/g	84.00	1.29e-02	38.10	41.80	39.95	9.26	n/a	7.580	n/a
S00T000633	A	Zirconium - ICP-Acid Digest	ug/g	93.60	<1.00e-2	42.10	42.80	42.45	1.65	n/a	7.580	n/a
S00T000634	M	Bromide by Ion Chromatograph	ug/g	103.5	<1.25e-1	<5.22e+02	<5.26e2	n/a	n/a	n/a	521.8	n/a

Decanted Supernate (Liquid Grab Sludge): Decanted Supernate (Liquid Grab Sludge)

Sample#	RIA#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S00T000627	D	Uranium-233 by ICP/MS Acid Add	ug/mL	n/a	<1.20e-5	<4.85e-01	<4.85e-1	n/a	n/a	n/a	4.85e-01	n/a
S00T000627	D	Uranium-234 by ICP/MS Acid Add	ug/mL	n/a	<1.20e-5	<4.85e-01	<4.85e-1	n/a	n/a	n/a	4.85e-01	n/a
S00T000627	D	Uranium-236 by ICP/MS Acid Add	ug/mL	n/a	<1.60e-5	<6.46e-01	<6.46e-1	n/a	n/a	n/a	6.46e-01	n/a
S00T000627	D	Sn 117 by ICP/MS Acid Addition	ug/mL	97.50	<1.50e-4	<6.060	<6.060	n/a	n/a	n/a	6.060	n/a
S00T000627	D	Sn 126 by ICP/MS Acid Addition	ug/mL	n/a	<1.50e-4	<6.060	<6.060	n/a	n/a	n/a	6.060	n/a
S00T000627	D	Cs 133 by ICP/MS Acid Addition	ug/mL	94.50	8.40e-06	7.729	7.870	7.800	1.79	n/a	8.08e-02	n/a
S00T000627	D	Cs 135 by ICP/MS Acid Addition	ug/mL	n/a	<2.00e-6	2.073	2.100	2.087	1.44	n/a	8.08e-02	n/a
S00T000627	D	Cs 137 by ICP/MS Acid Addition	ug/mL	n/a	<2.00e-6	2.497	2.560	2.529	2.37	n/a	8.08e-02	n/a
S00T000628	D	Silver-ICP-Acid Dil.	ug/mL	96.60	<1.00e-2	12.10	11.70	11.90	3.36	n/a	4.010	n/a
S00T000628	D	Arsenic-ICP-Acid Dil.	ug/mL	102.0	<1.00e-1	<40.10	<4.01e1	n/a	n/a	n/a	40.10	n/a
S00T000628	D	Boron-ICP-Acid Dil.	ug/mL	102.6	<5.00e-2	52.30	50.20	51.25	4.10	n/a	20.10	n/a
S00T000628	D	Barium-ICP-Acid Dil.	ug/mL	98.40	<5.00e-2	<20.10	<2.01e1	n/a	n/a	n/a	20.10	n/a
S00T000628	D	Beryllium-ICP-Acid Dil.	ug/mL	97.20	<5.00e-3	<2.010	<2.01e0	n/a	n/a	n/a	2.010	n/a
S00T000628	D	Bismuth-ICP-Acid Dil.	ug/mL	99.80	<1.00e-1	<40.10	<4.01e1	n/a	n/a	n/a	40.10	n/a
S00T000628	D	Calcium-ICP-Acid Dil.	ug/mL	101.6	<1.00e-1	51.60	51.80	51.70	0.39	n/a	40.10	n/a
S00T000628	D	Cadmium-ICP-Acid Dil.	ug/mL	98.60	<5.00e-3	<2.010	<2.01e0	n/a	n/a	n/a	2.010	n/a
S00T000628	D	Cerium-ICP-Acid Dil.	ug/mL	101.0	<1.00e-1	<40.10	<4.01e1	n/a	n/a	n/a	40.10	n/a
S00T000628	D	Cobalt-ICP-Acid Dil.	ug/mL	100.2	<2.00e-2	<8.020	<8.02e0	n/a	n/a	n/a	8.020	n/a
S00T000628	D	Copper-ICP-Acid Dil.	ug/mL	100.6	<1.00e-2	6.230	6.010	6.120	3.59	n/a	4.010	n/a
S00T000628	D	Potassium-ICP-Acid Dil.	ug/mL	107.0	<5.00e-1	2.41e+03	2.71e+03	2.56e+03	11.7	n/a	201.0	n/a
S00T000628	D	Lanthanum-ICP-Acid Dil.	ug/mL	101.4	<5.00e-2	<20.10	<2.01e1	n/a	n/a	n/a	20.10	n/a
S00T000628	D	Lithium-ICP-Acid Dil.	ug/mL	104.4	<1.00e-2	<40.10	<4.01e0	n/a	n/a	n/a	40.10	n/a
S00T000628	D	Magnesium-ICP-Acid Dil.	ug/mL	100.8	<1.00e-1	<40.10	<4.01e1	n/a	n/a	n/a	40.10	n/a
S00T000628	D	Molybdenum-ICP-Acid Dil.	ug/mL	98.80	<5.00e-2	68.90	69.70	69.30	1.15	n/a	20.10	n/a
S00T000628	D	Sodium-ICP-Acid Dil.	ug/mL	107.6	<1.00e-1	1.47e+05	1.50e+05	1.49e+05	2.02	n/a	40.10	n/a
S00T000628	D	Neodymium-ICP-Acid Dil.	ug/mL	101.0	<1.00e-1	<40.10	<4.01e1	n/a	n/a	n/a	40.10	n/a
S00T000628	D	Phosphorus-ICP-Acid Dil.	ug/mL	101.8	<2.00e-1	1.56e+03	1.56e+03	1.56e+03	0.00	n/a	80.20	n/a
S00T000628	D	Lead-ICP-Acid Dil.	ug/mL	97.00	<1.00e-1	<40.10	<4.01e1	n/a	n/a	n/a	40.10	n/a
S00T000628	D	Sulfur-ICP-Acid Dil.	ug/mL	92.20	<1.00e-1	1.10e+03	1.10e+03	1.10e+03	0.00	n/a	40.10	n/a
S00T000628	D	Antimony-ICP-Acid Dil.	ug/mL	99.60	<6.00e-2	<24.10	<2.41e1	n/a	n/a	n/a	24.10	n/a
S00T000628	D	Selenium-ICP-Acid Dil.	ug/mL	98.00	<1.00e-1	<40.10	<4.01e1	n/a	n/a	n/a	40.10	n/a
S00T000628	D	Silicon-ICP-Acid Dil.	ug/mL	103.2	<5.00e-2	28.10	35.20	31.65	22.4	n/a	20.10	n/a
S00T000628	D	Samarium-ICP-Acid Dil.	ug/mL	100.8	<1.00e-1	<40.10	<4.01e1	n/a	n/a	n/a	40.10	n/a
S00T000628	D	Strontium-ICP-Acid Dil.	ug/mL	98.80	<1.00e-2	<40.10	<4.01e0	n/a	n/a	n/a	4.010	n/a
S00T000628	D	Titanium-ICP-Acid Dil.	ug/mL	101.2	<1.00e-2	<40.10	<4.01e0	n/a	n/a	n/a	4.010	n/a
S00T000628	D	Thallium-ICP-Acid Dil.	ug/mL	97.80	<2.00e-1	<80.20	<8.02e1	n/a	n/a	n/a	80.20	n/a
S00T000628	D	Uranium-ICP-Acid Dil.	ug/mL	99.30	<5.00e-1	<2.01e+02	<2.01e2	n/a	n/a	n/a	201.0	n/a
S00T000628	D	Vanadium-ICP-Acid Dil.	ug/mL	101.0	<5.00e-2	<20.10	<2.01e1	n/a	n/a	n/a	20.10	n/a
S00T000628	D	Zinc-ICP-Acid Dil.	ug/mL	99.80	<1.00e-2	<40.10	<4.01e0	n/a	n/a	n/a	40.10	n/a
S00T000628	D	Zirconium-ICP-Acid Dil.	ug/mL	101.6	<1.00e-2	<40.10	<4.01e0	n/a	n/a	n/a	4.010	n/a
S00T000628	D	Bromide by Ion Chromatograph	ug/mL	102.1	<1.25e-1	<1.28e+03	<1.28e3	n/a	n/a	n/a	1.28e+03	n/a
S00T000628	D	Niobium-94 by GEA	ug/mL	n/a	<1.72e-3	<7.91e-03	<7.90e-3	n/a	n/a	n/a	7.91e-03	n/a
S00T000628	D	Ru/Rh-106 by GEA	ug/mL	n/a	<3.07e-2	<1.312	<1.38e0	n/a	n/a	n/a	1.312	n/a
S00T000628	D	Cesium-134 by GEA	ug/mL	n/a	<1.77e-3	<6.53e-02	<6.94e-2	n/a	n/a	n/a	6.53e-02	n/a
S00T000628	D	Ce/Pr-144 by GEA	ug/mL	n/a	<1.79e-2	<9.75e-01	<1.03e0	n/a	n/a	n/a	9.75e-01	n/a
S00T000628	D	Radium-226 by GEA	ug/mL	n/a	<3.11e-2	<1.770	<1.86e0	n/a	n/a	n/a	1.770	n/a

Interstitial Liquid: Interstitial Liquid

Sample#	R A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S00T000636	D	Uranium-234 by ICP/MS Acid Add	ug/mL	n/a	<1.20e-5	<4.85e-01	<4.85e-1	n/a	n/a	n/a	4.85e-01	n/a
S00T000636	D	Uranium-236 by ICP/MS Acid Add	ug/mL	n/a	<1.20e-5	<4.85e-01	<4.85e-1	n/a	n/a	n/a	4.85e-01	n/a
S00T000636	D	Uranium-236 by ICP/MS Acid Add	ug/mL	n/a	<1.60e-5	<6.46e-01	<6.46e-1	n/a	n/a	n/a	6.46e-01	n/a
S00T000636	D	Sn 117 by ICP/MS Acid Addition	ug/mL	97.50	<1.50e-4	<6.06e0	<6.06e0	n/a	n/a	n/a	6.06e0	n/a
S00T000636	D	Sn 126 by ICP/MS Acid Addition	ug/mL	n/a	<1.50e-4	<6.06e0	<6.06e0	n/a	n/a	n/a	6.06e0	n/a
S00T000636	D	Cs 133 by ICP/MS Acid Addition	ug/mL	94.50	8.40e-06	7.515	7.690	7.603	2.37	n/a	8.08e-02	n/a
S00T000636	D	Cs 135 by ICP/MS Acid Addition	ug/mL	n/a	<2.00e-6	2.141	2.020	2.080	5.77	n/a	8.08e-02	n/a
S00T000636	D	Cs 137 by ICP/MS Acid Addition	ug/mL	n/a	<2.00e-6	2.497	2.440	2.468	2.43	n/a	8.08e-02	n/a
S00T000637	D	Silver-ICP-Acid Dil.	ug/mL	96.60	<1.00e-2	11.40	10.70	11.05	6.33	n/a	4.010	n/a
S00T000637	D	Arsenic-ICP-Acid Dil.	ug/mL	102.0	<1.00e-1	<40.10	<4.01e1	n/a	n/a	n/a	40.10	n/a
S00T000637	D	Boron-ICP-Acid Dil.	ug/mL	102.6	<5.00e-2	51.20	49.50	50.35	3.38	n/a	20.10	n/a
S00T000637	D	Barium-ICP-Acid Dil.	ug/mL	98.40	<5.00e-2	<20.10	<2.01e1	n/a	n/a	n/a	20.10	n/a
S00T000637	D	Beryllium-ICP-Acid Dil.	ug/mL	97.20	<5.00e-3	<2.010	<2.01e0	n/a	n/a	n/a	2.010	n/a
S00T000637	D	Bismuth-ICP-Acid Dil.	ug/mL	99.80	<1.00e-1	<40.10	<4.01e1	n/a	n/a	n/a	40.10	n/a
S00T000637	D	Calcium-ICP-Acid Dil.	ug/mL	101.6	<1.00e-1	51.40	47.20	49.30	8.52	n/a	40.10	n/a
S00T000637	D	Cadmium-ICP-Acid Dil.	ug/mL	98.60	<5.00e-3	<2.010	<2.01e0	n/a	n/a	n/a	2.010	n/a
S00T000637	D	Cerium-ICP-Acid Dil.	ug/mL	101.0	<1.00e-1	<40.10	<4.01e1	n/a	n/a	n/a	40.10	n/a
S00T000637	D	Cobalt-ICP-Acid Dil.	ug/mL	100.2	<2.00e-2	<8.020	<8.02e0	n/a	n/a	n/a	8.020	n/a
S00T000637	D	Copper-ICP-Acid Dil.	ug/mL	100.6	<1.00e-2	5.390	5.370	5.380	0.37	n/a	4.010	n/a
S00T000637	D	Potassium-ICP-Acid Dil.	ug/mL	107.0	<5.00e-1	2.38e+03	2.24e+03	2.31e+03	6.06	n/a	201.0	n/a
S00T000637	D	Lanthanum-ICP-Acid Dil.	ug/mL	101.4	<5.00e-2	<20.10	<2.01e1	n/a	n/a	n/a	20.10	n/a
S00T000637	D	Lithium-ICP-Acid Dil.	ug/mL	104.4	<1.00e-2	<40.10	<4.01e0	n/a	n/a	n/a	4.010	n/a
S00T000637	D	Magnesium-ICP-Acid Dil.	ug/mL	100.8	<1.00e-1	<40.10	<4.01e1	n/a	n/a	n/a	40.10	n/a
S00T000637	D	Molybdenum-ICP-Acid Dil.	ug/mL	98.80	<5.00e-2	71.70	67.10	69.40	6.63	n/a	20.10	n/a
S00T000637	D	Sodium-ICP-Acid Dil.	ug/mL	107.6	<1.00e-1	1.49e+05	1.42e+05	1.46e+05	4.81	n/a	40.10	n/a
S00T000637	D	Neodymium-ICP-Acid Dil.	ug/mL	101.0	<1.00e-1	<40.10	<4.01e1	n/a	n/a	n/a	40.10	n/a
S00T000637	D	Phosphorus-ICP-Acid Dil.	ug/mL	101.8	<2.00e-1	1.61e+03	1.51e+03	1.56e+03	6.41	n/a	80.20	n/a
S00T000637	D	Lead-ICP-Acid Dil.	ug/mL	97.00	<1.00e-1	<40.10	<4.01e1	n/a	n/a	n/a	40.10	n/a
S00T000637	D	Sulfur-ICP-Acid Dil.	ug/mL	92.20	<1.00e-1	1.12e+03	1.06e+03	1.09e+03	5.50	n/a	40.10	n/a
S00T000637	D	Antimony-ICP-Acid Dil.	ug/mL	99.60	<6.00e-2	<24.10	<2.41e1	n/a	n/a	n/a	24.10	n/a
S00T000637	D	Selenium-ICP-Acid Dil.	ug/mL	98.00	<1.00e-1	<40.10	<4.01e1	n/a	n/a	n/a	40.10	n/a
S00T000637	D	Silicon-ICP-Acid Dil.	ug/mL	103.2	<5.00e-2	33.60	24.20	28.90	32.5	n/a	20.10	n/a
S00T000637	D	Samarium-ICP-Acid Dil.	ug/mL	100.8	<1.00e-1	<40.10	<4.01e1	n/a	n/a	n/a	40.10	n/a
S00T000637	D	Strontium-ICP-Acid Dil.	ug/mL	98.80	<1.00e-2	<40.10	<4.01e0	n/a	n/a	n/a	4.010	n/a
S00T000637	D	Titanium-ICP-Acid Dil.	ug/mL	101.2	<1.00e-2	<40.10	<4.01e0	n/a	n/a	n/a	4.010	n/a
S00T000637	D	Thallium-ICP-Acid Dil.	ug/mL	97.80	<2.00e-1	<80.20	<8.02e1	n/a	n/a	n/a	80.20	n/a
S00T000637	D	Uranium-ICP-Acid Dil.	ug/mL	99.30	<5.00e-1	<2.01e+02	<2.01e2	n/a	n/a	n/a	201.0	n/a
S00T000637	D	Vanadium-ICP-Acid Dil.	ug/mL	101.0	<5.00e-2	<20.10	<2.01e1	n/a	n/a	n/a	20.10	n/a
S00T000637	D	Zinc-ICP-Acid Dil.	ug/mL	99.80	<1.00e-2	<40.10	<4.01e0	n/a	n/a	n/a	4.010	n/a
S00T000637	D	Zirconium-ICP-Acid Dil.	ug/mL	101.6	<1.00e-2	<40.10	<4.01e0	n/a	n/a	n/a	4.010	n/a
S00T000637	D	Bromide by Ion Chromatograph	ug/mL	99.84	<1.25e-1	<6.44e+02	<6.44e2	n/a	n/a	n/a	643.9	n/a
S00T000637	D	Niobium-94 by GEA	uci/mL	n/a	<1.72e-3	<4.85e-03	<4.85e-3	n/a	n/a	n/a	4.85e-03	n/a
S00T000637	D	Ru/Rh-106 by GEA	uci/mL	n/a	<3.07e-2	<6.70e-01	<6.71e-1	n/a	n/a	n/a	6.70e-01	n/a
S00T000637	D	Cesium-134 by GEA	uci/mL	n/a	<1.77e-3	<3.36e-02	<3.37e-2	n/a	n/a	n/a	3.36e-02	n/a
S00T000637	D	Ce/Pr-144 by GEA	uci/mL	n/a	<1.79e-2	<4.26e-01	<4.20e-1	n/a	n/a	n/a	4.26e-01	n/a
S00T000637	D	Radium-226 by GEA	uci/mL	n/a	<3.11e-2	<7.97e-01	<7.90e-1	n/a	n/a	n/a	7.97e-01	n/a