ENGINEERING CHANGE NOTICE

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"FINAL REPORT FOR TANK 241-BY-105, ROTARY AND PUSH MODE CORE 108"

Leela M. Sasaki
Westinghouse Hanford Company, Richland, WA 99352
U.S. Department of Energy Contract DE-AC06-87RL10930

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REVISED FINAL REPORT FOR TANK 241-BY-105, ROTARY AND PUSH MODE CORE 108

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Westinghouse
Hanford Company

P.O. Box 1970 Richland, WA 99352

WHC-SD-WM-DP-162, REV. 1

ANALYTICAL SERVICES

**FINAL REPORT FOR TANK 241-BY-105,
ROTARY AND PUSH MODE
CORE 108**

Project Coordinator: LEELA M. SASAKI

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

by

**Westinghouse Hanford Company
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Richland, Washington**

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This document consists of two sections.

Part I consists of pages 1 through 411, plus pages 6.1-6.2, 304.1 and pages ii, 2, 8, 32, 45, 57, 69, 84 and 342 were intentionally left blank.

Part II consists of pages 2-1 through 2-144, plus pages 2-3.1, 2-13.1, and page 2-27.1 were intentionally left blank.

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NARRATIVE

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FINAL REPORT FOR TANK 241-BY-105,
ROTARY AND PUSH MODE CORE 108

INTRODUCTION

Ten rotary- and push-mode core sample segments (identified as Core 108) were obtained from riser 12A of tank 241-BY-105 and were received at the 222-S Laboratory. The samples were obtained from the top 120.4 centimeters (cm) (47.4 inches [in]) of the waste and did not constitute a full core sample. Because a full core sample was not obtained, the affected programs were notified and a decision was made that only a limited set of analyses - safety screening per the safety screening data quality objective (DQO) (Dukelow et al. 1995) and total organic carbon (TOC) analyses would be required for these samples; the full set of analyses called for in the sampling and analysis plan (Sasaki 1995a) would not be required.

The samples underwent primary safety screening analyses - differential scanning calorimetry (DSC), thermogravimetric analysis (TGA), total alpha analysis, bulk density, and specific gravity measurements. Tank dome space flammability measurements were taken during core sampling. Two subsamples (a liquid and a solid sample) exceeded the exotherm limit of 480 J/g (dry weight basis) and had secondary safety screening analyses performed; cyanide and TOC were performed on both samples and reactive system screening tool (RSST) analysis has been requested on the solid sample. Results of the RSST analysis will be added in a revision to this document.

In addition to the safety screening analyses, TOC analysis was performed on all subsamples. Bromide analysis by ion chromatography (IC) and lithium analysis by inductively coupled plasma atomic emission spectroscopy (ICP/AES) were performed to determine if the samples were contaminated with any lithium bromide solution that may have been used during sampling.

This report is prepared in two parts. Part I contains the data and a narrative describing the cyanide, TOC, IC, and ICP/AES analyses performed. Part II contains the 45-day report (Sasaki 1995b) which presents the primary safety screening data and its evaluation. Although the primary safety screening data are incorporated in the data summary, the reader is directed to the part II for observations and evaluations of those data. Duplication of information between the two sections is minimized to the extent possible.

SUMMARY

Core sample receipt, extrusion, and assignment of sample numbers are presented in part II of this document. Additional analyses beyond the primary safety screening were performed on the ten rotary and push mode sample segments from riser 12A of tank 241-BY-105. The results of these additional analyses are presented in this portion (part I) of this document.

Analyses were performed to determine bromide concentrations by ion chromatography. This measurement did not indicate hydrostatic head fluid (HHF) was used although the detection level was high compared to a diluted fraction of HHF. Metals analyses were performed by ICP/AES. Lithium concentration, a second indicator of HHF was found to be very low, other analyte concentration values generated with the lithium are reported. These data are presented in the summary and the raw information is presented later in this data package.

The notification limit for energetics was exceeded on two of the BY-105 samples. Exotherms in excess of the 480 J/g (dry weight basis) notification limit were observed in one drainable liquid and one solid sample. No other notification limits were exceeded. The upper limit of the one-sided 95-percent confidence intervals for the total alpha results were more than 500 times below the notification limit. Tank vapor flammability was measured at 0 percent of the lower flammability limit. All cyanide and TOC results were well below the notification limits of 39,000 $\mu\text{g/g}$ for cyanide and 30,000 $\mu\text{g/g}$ (dry weight basis) for TOC. This sampling and analysis of tank 241-BY-105 does not fully meet the requirement of the safety screening DQO because only one partial core sample was obtained from the tank.

Data quality is generally good in this package with the exceptions evaluated below. However, a preliminary comparison indicates that the phosphorus by ICP/AES and phosphate determined by IC generally do not match up well. In all cases of this comparison the IC phosphate result was low compared to the concentration measured by the ICP/AES, indicating the presence of insoluble phosphate or sources of phosphorus other than the phosphate anion.

SCOPE

This document provides the entire data set available on samples received from the BY-105 tank between August 30 and October 6, 1995. Part II provides those screening analyses performed and reported earlier as the 45-day report (Sasaki 1995b). This report incorporates additional analytical data generated (i.e., cyanide, TOC, ICP/AES, and IC) beyond those screening analyses.

SAMPLE RECEIPT AND EXTRUSION

A description of the sampling locations, sample receipt and extrusion is contained in the 45-day report (Sasaki 1995b). Of the ten segments taken, one segment (segment 1C) contained very small amounts of sample which were not recoverable, and therefore no analyses were performed on this segment. The chain of custody forms, photographs of the extruded segments, and extrusion worklists are provided in the hot cell logbook for tank 241-BY-105 (Fuller 1995).

TANK HEADSPACE FLAMMABILITY

A description of the tank headspace flammability and other headspace measurements taken in tank 241-BY-105 during core sampling is provided in the 45-day report (Sasaki 1995b). All combustible gas meter readings were 0 percent of the lower flammability limit.

ANALYTICAL RESULTS

A full discussion of TGA, DSC, total alpha, bulk density and specific gravity analyses is presented in part II. Results of TOC, cyanide, IC, and ICP/AES analyses are discussed below.

Total Organic Carbon

The TOC content of each sample was determined using procedure LA-342-100, Rev C-0. The quality control results on this method indicate the persulfate oxidation/coulometry method is reproducible and appropriate for the matrix in this tank. In every case, the standard recovery is 93 percent, well within the control interval of the method. Spike recoveries were performed and are better than 85 percent when the concentration in the sample allowed measurement of sample and the added spike. Each result was measured 2 times, considered a "sample" and "duplicate" in the summary table. A relative percent difference (RPD) between these results are calculated and reported in the summary table. These values are calculated by the equation:

$$\frac{|\text{Sample result} - \text{Duplicate Result}|}{\text{Average}} \times 100 = \text{RPD}$$

Obviously the RPD can not be calculated if either of the values, sample or duplicate, are less than the quantifiable limit of the method. The RPD varies more, as expected, when the sample concentration exceeds the calibration range and multiple dilutions are necessary for the measurement to be made. RPDs for the TOC results were generally quite low (about 5 percent or less) and all were below 20 percent, as required by the sampling and analysis plan (Sasaki 1995a).

The table below presents the TOC results converted to $\mu\text{g C/g}$, dry weight basis. All results are well below the notification limit of 30,000 $\mu\text{g C/g}$, dry weight basis.

Sample Number	Segment	Sample Portion	TOC µg C/g, dry wt basis
S95T003395	1A	solids	7,580
S95T003396	1A	drainable liquid	3,090
S95T003419	1AR	solids	7,120
S95T003418	1AR	drainable liquid	2,950
S95T003397	1B	solids	9,540
S95T003417	1R	solids	5,340
S95T003421	2AR	solids	2,730
S95T003422	2AR	drainable liquid	2,970
S95T003420	2R	solids	6,520
S95T003393	1	solids	4,630
S95T003394	1	drainable liquid	3,020
S95T003398	2	solids	4,900
S95T003399	3	solids	709

Cyanide

Cyanide ion was requested on sample S95T003418 and on sample S95T003399 because DSC analyses for these samples resulted in one value greater than 480 J/g. Cyanide analysis was performed using procedure LA-695-102, Rev. E-0. In this method, direct sample is introduced and ethylenediamine tetra acetic acid is used to quantitatively destroy complexes of cyanide that may bias results low. Accuracy of these two analyses were within ± 1 percent of 100 percent and blank were well below the quantitation limit. Spike recovery was slightly low, 82.5 percent on sample S95T003399, however this is acceptable performance for the method. The RPD between result and duplicate indicated a difference of 39.7 percent which is a high difference. If this difference in results reflects heterogeneity of the original sample, this could also account for the high difference between the DSC energetics results. The result reported is coincident with the listed detection limit and this is more likely the cause of the large difference between results. On sample S95T003418, the results are approximately a factor of 50 higher than the detection limit and the RPD is 11.2 percent, a more normal distribution of results. Results for samples S95T003418 and S95T003399 were 10.70 µg/mL and 4.89 µg/g, respectively. These results are well below the cyanide notification limit of 39,000 µg/g.

Lithium Analysis by ICP/AES

Lithium analyses by ICP/AES was performed according to procedure LA-505-161, Rev D-3. Solid samples were prepared by an acid digestion (procedure LA-505-159, Rev. C-0) prior to analysis. The ICP/AES provides quantitative data on multiple analytes simultaneously, however trace elements require different dilutions than are used to measure the major elements. Therefore in the data summary, since only lithium was of major importance, certain other constituents may fall outside the quality control parameters established. These concentrations are still reported, however the user of these data need to evaluate the quality control measures included to determine the applicability of these data to needs of a program.

Standards recovery was very good, within ± 10 percent of 100 percent, except for the recovery of silicon. The result for this analyte was repetitively reported at 143 to 147 percent except in two cases. It would appear that contamination of the standard or improper calibration may be a factor in this discrepancy. Insufficient information is currently available to determine which cause is appropriate.

Large variations in the spike recovery results are evident for a variety of reasons, e.g. spike recovery calculated when one or more of the sample results are at or less than the quantitation limit, or the calculated concentration of the sample analyte was very high on the calibration curve. Since these data were not of primary importance, reruns were not necessarily performed to bring each analyte within the control limits. Lithium concentration data appear to corroborate the anion results that no significant HHF intrusion occurred during this sampling event.

Bromide Analysis by IC

Bromide was determined using procedure number LA-533-105, Rev. D-1. Solid samples were prepared by a water digestion (procedure LA-504-101, Rev. D-0) prior to analysis. Fluoride, chloride, nitrate, nitrite, phosphate, sulfate, and oxalate results were generated during the analysis and are also reported in the data summary table. Accuracy of the measurement system was measured by performing the same analyses on a standard solution of known concentration. The extremes of data recorded during the analysis of these samples ranged from 90.35 percent (oxalate) to a high of 107 percent (fluoride). Most values centered at about 95 to 97 percent. Similarly the effect of sample matrices on the performance of the instrument is measured by adding a standard, known amount of each analyte to the sample matrix. These spike recoveries centered about 95 percent, however there was significantly more scatter in the data than those generated on standard materials. As anions exceeded approximately 10 weight percent of the sample, spike recoveries tended to be erratic. This anomaly exists primarily in the nitrate spike which exceeded 125 percent on several samples. Other results met the established criteria for fully acceptable data. Blank solutions with no compounds of interest present, were analyzed and each was at least a factor of 100 or 1000 below the measured value found in samples.

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Most RPDs are within 10 percent, however on sample S95T003516, the RPD for phosphate was 30 percent. Fluoride, nitrite, and nitrate spike recoveries for S95T003418 were 120.7, 127.7, and 218.6 percent, respectively. Fluoride results are traditionally of marginal quality since the anion elutes from the column near the void volume. Nitrite and nitrate concentrations are in the 1 and 10 weight percent region where additional dilutions are necessary for the sample concentration to be within the calibration range of the instrument. For sample S95T003512 chloride and phosphate RPDs were 50 and 44.8 percent, respectively. The chloride concentration results on sample S95T003518 also had a high RPD of 90.3 percent. Chloride again was different between aliquots of samples S95T003510 and S95T003513 with RPDs of 39.5 and 37.5 percent, respectively (concentrations of the samples were in the range of 1000 µg/L).

Revision of TGA and DSC Results

Based on reexamination of the TGA scans, the weight percent moisture results for one sample has been revised since the issuance of the 45-day report. The average result for sample S95T003419 has increased to 21.95 weight percent water from the 8.20 weight percent previously reported. This change also affects the dry weight basis exotherm result. The average exotherm result for this sample increased to 34.40 J/g, dry weight basis, from the 29.24 J/g, dry weight basis, previously reported.

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WHC-SD-WM-DP-162, REV. 1

SAMPLE DATA SUMMARY

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Laboratory Results for Core 108.
BY-105 (R)

CORE NUMBER: 108
SEGMENT #: 1A

SEGMENT PORTION: W Whole Segment

Sample#	R #	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count	Err%
S95T003381		Bulk Density of Sample	g/mL	n/a	n/a	1.970	1.980	1.975	0.51	n/a	5.00e-01	n/a	n/a
S95T003395		DSC Exotherm using Mettler	Joules/g	96.66	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a	n/a
S95T003395	1	DSC Exotherm using Mettler	Joules/g	95.61	n/a	60.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a
S95T003395		DSC Exotherm Dry Calculated	Joules/g Dry	n/a	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a	n/a
S95T003395		% Water by TGA using Mettler	%	100.9	n/a	9.470	9.090	9.280	4.09	n/a	n/a	n/a	n/a
S95T003395		TOC by Persulfate/Coulometry	ug/g	93.70	9.00e-01	6.97e+03	6.80e+03	6.88e+03	2.47	n/a	40.00	n/a	n/a
S95T003401	F	Alpha of Digested Solid	uCi/g	96.88	<6.21e-03	2.05e-02	1.61e-02	1.83e-02	24.0	83.42	1.20e-02	5.25E+01	n/a
S95T003502		Alpha - ICP-Acid Digest	ug/g	93.90	<1.00e-02	14.30	14.40	14.35	0.70	n/a	3.850	n/a	n/a
S95T003502		Aluminum - ICP-Acid Digest	ug/g	96.00	<5.00e-02	2.92e+04	2.52e+04	2.72e+04	14.7	n/a	19.20	n/a	n/a
S95T003502		Arsenic - ICP-Acid Digest	ug/g	96.60	<1.00e-01	< 38.50	<3.89e1	n/a	n/a	n/a	38.50	n/a	n/a
S95T003502		Boron - ICP-Acid Digest	ug/g	107.0	8.20e-02	32.90	<1.94e1	n/a	n/a	n/a	19.20	n/a	n/a
S95T003502		Barium - ICP-Acid Digest	ug/g	94.60	<5.00e-02	< 19.20	<1.94e1	n/a	n/a	n/a	19.20	n/a	n/a
S95T003502		Beryllium - ICP-Acid Digest	ug/g	103.4	<5.00e-03	< 1.920	<1.94e0	n/a	n/a	n/a	1.920	n/a	n/a
S95T003502		Bismuth - ICP-Acid Digest	ug/g	95.20	<1.00e-01	1.03e+02	43.80	73.40	80.7	n/a	38.50	n/a	n/a
S95T003502		Calcium - ICP-Acid Digest	ug/g	98.00	<1.00e-01	2.35e+02	254.0	244.5	7.77	n/a	38.50	n/a	n/a
S95T003502		Cadmium - ICP-Acid Digest	ug/g	94.40	<5.00e-03	9.650	8.840	9.245	8.76	n/a	1.920	n/a	n/a
S95T003502		Cerium - ICP-Acid Digest	ug/g	97.60	<1.00e-01	< 38.50	<3.89e1	n/a	n/a	n/a	38.50	n/a	n/a
S95T003502		Cobalt - ICP-Acid Digest	ug/g	96.40	<2.00e-02	9.530	9.260	9.395	2.87	n/a	7.690	n/a	n/a
S95T003502		Chromium - ICP-Acid Digest	ug/g	96.40	<1.00e-02	2.59e+02	248.0	253.5	4.34	n/a	3.850	n/a	n/a
S95T003502		Copper - ICP-Acid Digest	ug/g	94.20	<1.00e-02	56.60	4.780	30.69	169	n/a	3.850	n/a	n/a
S95T003502		Iron - ICP-Acid Digest	ug/g	95.60	<5.00e-02	5.39e+02	675.0	607.0	22.4	n/a	19.20	n/a	n/a
S95T003502		Potassium - ICP-Acid Digest	ug/g	94.40	<5.00e-01	4.66e+02	592.0	529.0	23.8	n/a	192.0	n/a	n/a
S95T003502		Lanthanum - ICP-Acid Digest	ug/g	96.40	<5.00e-02	< 19.20	<1.94e1	n/a	n/a	n/a	19.20	n/a	n/a
S95T003502		Lithium - ICP-Acid Digest	ug/g	94.00	<1.00e-02	< 3.850	<3.89e0	n/a	n/a	n/a	3.850	n/a	n/a
S95T003502		Magnesium - ICP-Acid Digest	ug/g	92.80	<1.00e-01	< 38.50	<3.89e1	n/a	n/a	n/a	38.50	n/a	n/a
S95T003502		Manganese - ICP-Acid Digest	ug/g	94.20	<1.00e-02	32.20	31.70	31.95	1.56	n/a	3.850	n/a	n/a
S95T003502		Molybdenum - ICP-Acid Digest	ug/g	96.40	<5.00e-02	< 19.20	<1.94e1	n/a	n/a	n/a	19.20	n/a	n/a
S95T003502		Sodium - ICP-Acid Digest	ug/g	109.8	1.53e-01	1.84e+05	1.84e+05	1.84e+05	0.00	n/a	38.50	n/a	n/a
S95T003502		Neodymium - ICP-Acid Digest	ug/g	93.80	<1.00e-01	< 38.50	<3.89e1	n/a	n/a	n/a	38.50	n/a	n/a
S95T003502		Nickel - ICP-Acid Digest	ug/g	96.00	<2.00e-02	1.06e+02	99.80	102.9	6.03	n/a	7.690	n/a	n/a
S95T003502		Phosphorus - ICP-Acid Digest	ug/g	97.60	<2.00e-01	2.04e+03	2.20e+03	2.12e+03	7.55	n/a	76.90	n/a	n/a
S95T003502		Lead - ICP-Acid Digest	ug/g	94.80	<1.00e-01	54.40	54.70	54.55	0.55	n/a	38.50	n/a	n/a
S95T003502		Sulfur - ICP-Acid Digest	ug/g	92.60	<1.00e-01	5.08e+03	5.14e+03	5.11e+03	1.17	n/a	38.50	n/a	n/a
S95T003502		Antimony - ICP-Acid Digest	ug/g	90.00	<6.00e-02	< 23.10	<2.33e1	n/a	n/a	n/a	23.10	n/a	n/a
S95T003502		Selenium - ICP-Acid Digest	ug/g	94.40	<1.00e-01	< 38.50	<3.89e1	n/a	n/a	n/a	38.50	n/a	n/a
S95T003502		Silicon - ICP-Acid Digest	ug/g	143.8	<5.00e-02	3.22e+02	316.0	319.0	1.88	n/a	19.20	n/a	n/a
S95T003502		Samarium - ICP-Acid Digest	ug/g	93.00	<1.00e-01	< 38.50	<3.89e1	n/a	n/a	n/a	38.50	n/a	n/a
S95T003502		Strontium - ICP-Acid Digest	ug/g	94.80	<1.00e-02	1.27e+02	127.0	127.0	0.00	n/a	3.850	n/a	n/a
S95T003502		Titanium - ICP-Acid Digest	ug/g	93.20	<1.00e-02	< 3.850	<3.89e0	n/a	n/a	n/a	3.850	n/a	n/a
S95T003502		Thallium - ICP-Acid Digest	ug/g	91.20	<2.00e-01	< 76.90	<7.77e1	n/a	n/a	n/a	76.90	n/a	n/a
S95T003502		Uranium - ICP-Acid Digest	ug/g	91.20	<5.00e-01	3.34e+02	328.0	331.0	1.81	n/a	192.0	n/a	n/a
S95T003502		Vanadium - ICP-Acid Digest	ug/g	94.00	<5.00e-02	< 19.20	<1.94e1	n/a	n/a	n/a	19.20	n/a	n/a
S95T003502	A	Zinc - ICP-Acid Digest	ug/g	93.00	<1.00e-02	43.40	39.30	41.35	9.92	n/a	3.850	n/a	n/a

note: Average of three DSC results is 22 J/g, dry weight basis; standard deviation is 22 J/g.

WHC-SD-WM-DP-162 REV. 1

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T003502	A		Zirconium -ICP-Acid Digest	ug/g	94.00	<1.00e-02	6.610	6.410	6.510	3.07	n/a	3.850	n/a
S95T003511	W		Fluoride-IC-Dionex 4000i/4500	ug/g	102.4	<1.30e-02	9.49e+03	9.97e+03	9.73e+03	4.93	n/a	168.2	n/a
S95T003511	W		Chloride-IC-Dionex 4000i/4500	ug/g	104.6	<1.70e-02	4.28e+02	392.0	410.1	8.78	n/a	220.0	n/a
S95T003511	W		Nitrite-IC - Dionex 4000i/4500	ug/g	99.44	<1.07e-01	7.88e+03	7.74e+03	7.81e+03	1.79	n/a	1.38e+03	n/a
S95T003511	W		Bromide by Ion Chromatograph	ug/g	100.3	<1.26e-01	<1.63e+03	<1.64e3	n/a	n/a	n/a	1.63e+03	n/a
S95T003511	W		Nitrate by IC-Dionex4000i/4500	ug/g	102.8	1.65e-01	5.28e+05	5.10e+05	5.19e+05	3.47	n/a	1.81e+03	n/a
S95T003511	W		Phosphate-IC-Dionex 4000i/4500	ug/g	102.2	<1.19e-01	5.06e+03	5.53e+03	5.29e+03	8.88	n/a	1.54e+03	n/a
S95T003511	W		Sulfate by IC-Dionex4000i/4500	ug/g	101.0	<1.36e-01	2.11e+04	2.17e+04	2.14e+04	2.80	n/a	1.76e+03	n/a
S95T003511	W		Oxalate by IC - Dionex 4000i	ug/g	105.2	<1.05e-01	2.55e+04	2.68e+04	2.61e+04	4.97	n/a	1.36e+03	n/a

Drainable Liquid: Drainable Liquid

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T003396			DSC Exotherm using Mettler	Joules/g	102.3	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S95T003396			DSC Exotherm Dry Calculated	Joules/g Dry	n/a	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S95T003396			Specific Gravity	Sp.G.	99.10	n/a	1.400	1.390	1.395	0.72	n/a	1.00e-02	n/a
S95T003396			% Water by TGA using Mettler	%	101.0	n/a	54.36	54.07	54.22	0.53	n/a	n/a	n/a
S95T003396			TOC by Persulfate/Coulometry	ug/mL	93.03	2.700	1.99e+03	1.95e+03	1.97e+03	2.03	n/a	40.00	n/a
S95T003396	D		Silver-ICP-Acid Dil.	ug/mL	101.0	<1.00e-02	< 4.010	<4.01e0	n/a	n/a	35.90	4.010	n/a
S95T003396	D		Aluminum-ICP-Acid Dil.	ug/mL	101.0	<5.00e-02	1.45e+04	1.39e+04	1.42e+04	4.23	n/a	20.10	n/a
S95T003396	D		Arsenic-ICP-Acid Dil.	ug/mL	103.0	<1.00e-01	< 40.10	<4.01e1	n/a	n/a	97.50	40.10	n/a
S95T003396	D		Boron-ICP-Acid Dil.	ug/mL	98.60	<5.00e-02	32.50	29.10	30.80	11.0	95.40	20.10	n/a
S95T003396	D		Barium-ICP-Acid Dil.	ug/mL	100.6	<5.00e-02	< 20.00	<2.00e1	n/a	n/a	96.50	20.10	n/a
S95T003396	D		Beryllium-ICP-Acid Dil.	ug/mL	103.6	<5.00e-03	< 2.000	<2.00e0	n/a	n/a	103.0	2.000	n/a
S95T003396	D		Bismuth-ICP-Acid Dil.	ug/mL	100.2	<1.00e-01	< 40.10	<4.01e1	n/a	n/a	100.5	40.10	n/a
S95T003396	D		Calcium-ICP-Acid Dil.	ug/mL	102.6	<1.00e-01	< 40.10	<4.01e1	n/a	n/a	109.7	40.10	n/a
S95T003396	D		Cadmium-ICP-Acid Dil.	ug/mL	101.8	<5.00e-03	< 2.000	<2.00e0	n/a	n/a	102.0	2.000	n/a
S95T003396	D		Cerium-ICP-Acid Dil.	ug/mL	103.0	<1.00e-01	< 40.10	<4.01e1	n/a	n/a	100.3	40.10	n/a
S95T003396	D		Cobalt-ICP-Acid Dil.	ug/mL	98.20	<2.00e-02	< 8.020	<8.02e0	n/a	n/a	99.80	8.020	n/a
S95T003396	D		Chromium-ICP-Acid Dil.	ug/mL	103.0	<1.00e-02	1.29e+03	1.23e+03	1.26e+03	4.76	83.10	4.010	n/a
S95T003396	D		Copper-ICP-Acid Dil.	ug/mL	99.60	<1.00e-02	< 4.010	<4.01e0	n/a	n/a	97.50	4.010	n/a
S95T003396	D		Iron-ICP-Acid Dil.	ug/mL	102.4	<5.00e-02	< 20.00	<2.00e1	n/a	n/a	104.0	20.10	n/a
S95T003396	D		Potassium-ICP-Acid Dil.	ug/mL	98.40	<5.00e-01	3.50e+03	3.20e+03	3.35e+03	8.96	n/a	200.0	n/a
S95T003396	D		Lanthanum-ICP-Acid Dil.	ug/mL	101.4	<5.00e-02	< 20.00	<2.00e1	n/a	n/a	99.80	20.10	n/a
S95T003396	D		Lithium-ICP-Acid Dil.	ug/mL	101.4	<1.00e-02	< 4.010	<4.01e0	n/a	n/a	99.00	4.010	n/a
S95T003396	D		Magnesium-ICP-Acid Dil.	ug/mL	100.2	<1.00e-01	< 40.10	<4.01e1	n/a	n/a	96.30	40.10	n/a
S95T003396	D		Manganese-ICP-Acid Dil.	ug/mL	100.4	<1.00e-02	< 4.010	<4.01e0	n/a	n/a	96.80	4.010	n/a
S95T003396	D		Molybdenum-ICP-Acid Dil.	ug/mL	100.0	<5.00e-02	27.50	25.00	26.25	9.52	99.60	20.10	n/a
S95T003396	D		Sodium-ICP-Acid Dil.	ug/mL	101.2	<1.00e-01	2.04e+05	1.96e+05	2.00e+05	4.00	n/a	40.10	n/a
S95T003396	D		Neodymium-ICP-Acid Dil.	ug/mL	105.0	<1.00e-01	< 40.10	<4.01e1	n/a	n/a	103.3	40.10	n/a
S95T003396	D		Nickel-ICP-Acid Dil.	ug/mL	102.0	<2.00e-02	< 8.020	<8.02e0	n/a	n/a	100.8	8.020	n/a
S95T003396	D		Phosphorus-ICP-Acid Dil.	ug/mL	99.60	<2.00e-01	4.88e+02	469.0	478.5	3.97	96.30	80.20	n/a
S95T003396	D		Lead-ICP-Acid Dil.	ug/mL	102.4	<1.00e-01	68.90	66.30	67.60	3.85	100.5	40.10	n/a
S95T003396	D		Sulfur-ICP-Acid Dil.	ug/mL	98.40	<1.00e-01	6.97e+02	661.0	679.0	5.30	90.40	40.10	n/a
S95T003396	D		Antimony-ICP-Acid Dil.	ug/mL	94.00	<6.00e-02	< 24.10	<2.41e1	n/a	n/a	94.50	24.10	n/a
S95T003396	D		Selenium-ICP-Acid Dil.	ug/mL	101.6	<1.00e-01	< 40.10	<4.01e1	n/a	n/a	112.2	40.10	n/a
S95T003396	D		Silicon-ICP-Acid Dil.	ug/mL	98.40	<5.00e-02	3.06e+02	239.0	272.5	24.6	101.8	20.10	n/a
S95T003396	D		Samarium-ICP-Acid Dil.	ug/mL	100.2	<1.00e-01	< 40.10	<4.01e1	n/a	n/a	100.5	40.10	n/a
S95T003396	D		Strontium-ICP-Acid Dil.	ug/mL	100.2	<1.00e-02	< 4.010	<4.01e0	n/a	n/a	99.00	4.010	n/a
S95T003396	D		Titanium-ICP-Acid Dil.	ug/mL	96.60	<1.00e-02	< 4.010	<4.01e0	n/a	n/a	95.50	4.010	n/a

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WHC-SD-WM-DP-162, REV. 1

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T003396	D		Thallium-ICP-Acid Dil.	ug/mL	100.4	<2.00e-01	< 80.20	<8.02e1	n/a	n/a	99.00	80.20	n/a
S95T003396	D		Uranium-ICP-Acid Dil.	ug/mL	98.70	<5.00e-01	<2.00e+02	<2.00e2	n/a	n/a	100.0	200.0	n/a
S95T003396	D		Vanadium-ICP-Acid Dil.	ug/mL	99.20	<5.00e-02	< 20.00	<2.00e1	n/a	n/a	99.00	20.10	n/a
S95T003396	D		Zinc-ICP-Acid Dil.	ug/mL	98.80	<1.00e-02	98.50	107.0	102.8	8.27	102.4	4.010	n/a
S95T003396	D		Zirconium-ICP-Acid Dil.	ug/mL	98.00	<1.00e-02	< 4.010	<4.01e0	n/a	n/a	97.80	4.010	n/a
S95T003396			Fluoride-IC-Dionex 4000i/4500	ug/mL	92.88	<1.30e-02	6.32e+02	630.0	630.9	0.32	n/a	66.96	n/a
S95T003396			Chloride-IC-Dionex 4000i/4500	ug/mL	92.28	<1.70e-02	3.06e+03	3.41e+03	3.24e+03	10.8	n/a	87.57	n/a
S95T003396			Nitrite-IC - Dionex 4000i/4500	ug/mL	91.31	<1.07e-01	3.95e+04	4.09e+04	4.02e+04	3.48	n/a	551.2	n/a
S95T003396			Bromide by Ion Chromatograph	ug/mL	92.35	<1.26e-01	<6.49e+02	<6.49e2	n/a	n/a	n/a	649.0	n/a
S95T003396			Nitrate-IC - Dionex 4000i/4500	ug/mL	94.62	<1.40e-01	2.46e+05	2.52e+05	2.49e+05	2.41	n/a	721.1	n/a
S95T003396			Phosphate-IC-Dionex 4000i/4500	ug/mL	93.22	<1.19e-01	8.88e+02	<6.18e2	n/a	n/a	n/a	618.1	n/a
S95T003396			Sulfate by IC-Dionex4000i/4500	ug/mL	92.87	<1.36e-01	1.63e+03	1.80e+03	1.71e+03	9.91	n/a	700.5	n/a
S95T003396			Oxalate by IC - Dionex 4000i	ug/mL	90.35	1.08e-01	5.64e+02	<5.41e2	n/a	n/a	n/a	540.9	n/a
S95T003396			Alpha in Liquid Samples	uCi/mL	94.53	3.00e-03	6.11e-03	4.51e-03	5.31e-03	30.1	99.33	4.00e-03	6.14E+01

Laboratory Results for Core 108.
BY-105 (R)

CORE NUMBER: 108
SEGMENT #: 1AR

SEGMENT PORTION: W Whole Segment

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
* S95T003406			Bulk Density of Sample	g/mL	n/a	n/a	<5.00e-01	n/a	n/a	n/a	n/a	5.00e-01	n/a
S95T003419			DSC Exotherm using Mettler	Joules/g	98.07	n/a	32.60	21.10	26.85	42.8	n/a	n/a	n/a
S95T003419			DSC Exotherm Dry Calculated	Joules/g Dry	n/a	n/a	41.77	27.03	34.40	42.8	n/a	n/a	n/a
S95T003419			% Water by TGA using Mettler	%	100.7	n/a	21.06	22.83	21.95	8.07	n/a	n/a	n/a
S95T003419			TOC by Persulfate/Coulometry	ug/g	93.03	2.700	5.40e+03	5.71e+03	5.56e+03	5.58	92.80	80.00	n/a
S95T003424	F		Alpha of Digested Solid	uCi/g	105.2	<3.50e-03	1.58e-02	1.32e-02	1.45e-02	17.9	96.68	8.00e-03	4.50E+01
S95T003507	A		Silver - ICP-Acid Digest	ug/g	92.50	<1.00e-02	14.30	15.50	14.90	8.05	n/a	4.670	n/a
S95T003507	A		Aluminium - ICP-Acid Digest	ug/g	98.40	1.39e-01	1.66e+04	2.34e+04	2.00e+04	34.0	n/a	23.30	n/a
S95T003507	A		Arsenic - ICP-Acid Digest	ug/g	96.00	<1.00e-01	< 46.70	<4.51e1	n/a	n/a	n/a	46.70	n/a
S95T003507	A		Boron - ICP-Acid Digest	ug/g	101.4	4.74e-01	25.40	23.40	24.40	8.20	n/a	23.30	n/a
S95T003507	A		Barium - ICP-Acid Digest	ug/g	97.80	<5.00e-02	< 23.30	<2.26e1	n/a	n/a	n/a	23.30	n/a
S95T003507	A		Beryllium - ICP-Acid Digest	ug/g	107.0	<5.00e-03	< 2.330	<2.26e0	n/a	n/a	n/a	2.330	n/a
S95T003507	A		Bismuth - ICP-Acid Digest	ug/g	94.80	<1.00e-01	< 46.70	220.0	n/a	n/a	n/a	46.70	n/a
S95T003507	A		Calcium - ICP-Acid Digest	ug/g	97.40	3.71e-01	2.03e+02	254.0	228.5	22.3	n/a	46.70	n/a
S95T003507	A		Cadmium - ICP-Acid Digest	ug/g	92.20	<5.00e-03	5.490	7.420	6.455	29.9	n/a	2.330	n/a
S95T003507	A		Cerium - ICP-Acid Digest	ug/g	100.0	<1.00e-01	< 46.70	<4.51e1	n/a	n/a	n/a	46.70	n/a
S95T003507	A		Cobalt - ICP-Acid Digest	ug/g	94.20	<2.00e-02	< 9.340	<9.03e0	n/a	n/a	n/a	9.340	n/a
S95T003507	A		Chromium - ICP-Acid Digest	ug/g	95.20	<1.00e-02	2.58e+02	395.0	326.5	42.0	n/a	4.670	n/a
S95T003507	A		Copper - ICP-Acid Digest	ug/g	96.40	<1.00e-02	5.500	<4.51e0	n/a	n/a	n/a	4.670	n/a
S95T003507	A		Iron - ICP-Acid Digest	ug/g	97.00	1.36e-01	2.48e+02	369.0	308.5	39.2	n/a	23.30	n/a
S95T003507	A		Potassium - ICP-Acid Digest	ug/g	100.4	<5.00e-01	7.63e+02	1.06e+03	911.5	32.6	n/a	233.0	n/a
S95T003507	A		Lanthanum - ICP-Acid Digest	ug/g	99.20	<5.00e-02	< 23.30	43.90	n/a	n/a	n/a	23.30	n/a
S95T003507	A		Lithium - ICP-Acid Digest	ug/g	99.20	<1.00e-02	12.60	18.80	15.70	39.5	n/a	4.670	n/a
S95T003507	A		Magnesium - ICP-Acid Digest	ug/g	93.60	<1.00e-01	< 46.70	<4.51e1	n/a	n/a	n/a	46.70	n/a
S95T003507	A		Manganese - ICP-Acid Digest	ug/g	93.00	<1.00e-02	17.30	25.10	21.20	36.8	n/a	4.670	n/a
S95T003507	A		Molybdenum - ICP-Acid Digest	ug/g	95.40	<5.00e-02	< 23.30	<2.26e1	n/a	n/a	n/a	23.30	n/a
S95T003507	A		Sodium - ICP-Acid Digest	ug/g	107.6	7.60e-01	1.83e+05	1.92e+05	1.88e+05	4.80	n/a	46.70	n/a
S95T003507	A		Neodymium - ICP-Acid Digest	ug/g	97.00	<1.00e-01	< 46.70	<4.51e1	n/a	n/a	n/a	46.70	n/a
S95T003507	A		Nickel - ICP-Acid Digest	ug/g	94.40	<2.00e-02	54.80	79.20	67.00	36.4	n/a	9.340	n/a
S95T003507	A		Phosphorus - ICP-Acid Digest	ug/g	94.20	<2.00e-01	1.83e+03	871.0	1.35e+03	71.0	n/a	93.40	n/a
S95T003507	A		Lead - ICP-Acid Digest	ug/g	91.40	<1.00e-01	< 46.70	<4.51e1	n/a	n/a	n/a	46.70	n/a
S95T003507	A		Sulfur - ICP-Acid Digest	ug/g	91.00	<1.00e-01	1.93e+03	2.86e+03	2.40e+03	38.8	n/a	46.70	n/a
S95T003507	A		Antimony - ICP-Acid Digest	ug/g	88.80	<6.00e-02	< 28.00	<2.71e1	n/a	n/a	n/a	28.00	n/a
S95T003507	A		Selenium - ICP-Acid Digest	ug/g	94.20	<1.00e-01	< 46.70	<4.51e1	n/a	n/a	n/a	46.70	n/a
S95T003507	A		Silicon - ICP-Acid Digest	ug/g	149.2	1.11e-01	1.67e+02	233.0	200.0	33.0	n/a	23.30	n/a
S95T003507	A		Samarium - ICP-Acid Digest	ug/g	96.80	<1.00e-01	< 46.70	<4.51e1	n/a	n/a	n/a	46.70	n/a
S95T003507	A		Strontium - ICP-Acid Digest	ug/g	97.60	<1.00e-02	59.40	85.70	72.55	36.3	n/a	4.670	n/a
S95T003507	A		Titanium - ICP-Acid Digest	ug/g	94.20	<1.00e-02	< 4.670	<4.51e0	n/a	n/a	n/a	4.670	n/a
S95T003507	A		Thallium - ICP-Acid Digest	ug/g	92.00	<2.00e-01	< 93.40	<9.03e1	n/a	n/a	n/a	93.40	n/a
S95T003507	A		Uranium - ICP-Acid Digest	ug/g	93.50	<5.00e-01	<2.33e+02	233.0	n/a	n/a	n/a	233.0	n/a
S95T003507	A		Vanadium - ICP-Acid Digest	ug/g	93.40	<5.00e-02	< 23.30	<2.26e1	n/a	n/a	n/a	23.30	n/a
S95T003507	A		Zinc - ICP-Acid Digest	ug/g	89.00	<1.00e-02	39.40	51.90	45.65	27.4	n/a	4.670	n/a
S95T003507	A		Zirconium - ICP-Acid Digest	ug/g	94.60	<1.00e-02	< 4.670	<4.51e0	n/a	n/a	n/a	4.670	n/a

* Insufficient sample for bulk density measurement.

WHC-SD-WM-DP-162, REV. 1

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T003516	W		Fluoride-IC-Dionex 4000i/4500	ug/g	104.1	<1.30e-02	3.49e+03	4.17e+03	3.83e+03	17.8	n/a	80.68	n/a
S95T003516	W		Chloride-IC-Dionex 4000i/4500	ug/g	107.0	<1.70e-02	8.91e+02	1.06e+03	975.4	17.3	n/a	105.5	n/a
S95T003516	W		Nitrite-IC - Dionex 4000i/4500	ug/g	97.23	<1.07e-01	1.06e+04	1.25e+04	1.16e+04	16.5	n/a	664.0	n/a
S95T003516	W		Bromide by Ion Chromatograph	ug/g	97.04	<1.26e-01	7.83e+02	817.0	799.9	4.25	n/a	781.9	n/a
S95T003516	W		Nitrate by IC-Dionex4000i/4500	ug/g	96.25	<1.40e-01	5.16e+05	4.72e+05	4.94e+05	8.91	n/a	2.56e+03	n/a
S95T003516	W		Phosphate-IC-Dionex 4000i/4500	ug/g	99.63	<1.19e-01	2.44e+03	3.30e+03	2.87e+03	30.0	n/a	738.5	n/a
S95T003516	W		Sulfate by IC-Dionex4000i/4500	ug/g	97.78	<1.36e-01	8.64e+03	9.80e+03	9.22e+03	12.6	n/a	844.0	n/a
S95T003516	W		Oxalate by IC - Dionex 4000i	ug/g	101.9	<1.05e-01	1.75e+04	1.99e+04	1.87e+04	12.8	n/a	651.6	n/a

Drainable Liquid: Drainable Liquid

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T003418			Cyanide EDTA Addition	ug/mL	99.67	<1.10e-02	10.10	11.30	10.70	11.2	101.5	2.20e-01	n/a
S95T003418			DSC Exotherm using Mettler	Joules/g	100.9	n/a	0.00e+00	676.2	338.1	200	n/a	n/a	n/a
S95T003418			DSC Exotherm Dry Calculated	Joules/g Dry	n/a	n/a	0.00e+00	1.46e+03	730.0	200	n/a	n/a	n/a
S95T003418			Specific Gravity	Sp.G.	99.10	n/a	1.410	1.410	1.410	0.00	n/a	1.00e-02	n/a
S95T003418			% Water by TGA on Perkin Elmer	%	100.8	n/a	53.58	54.10	53.84	0.97	n/a	n/a	n/a
S95T003418			TOC by Persulfate/Coulometry	ug/mL	93.03	2.700	1.78e+03	2.06e+03	1.92e+03	14.6	n/a	40.00	n/a
S95T003418	D		Silver-ICP-Acid Dil.	ug/mL	101.0	<1.00e-02	< 4.010	<4.01e0	n/a	n/a	8.600	4.010	n/a
S95T003418	D		Aluminum-ICP-Acid Dil.	ug/mL	101.0	<5.00e-02	2.23e+04	2.20e+04	2.22e+04	1.35	n/a	20.10	n/a
S95T003418	D		Arsenic-ICP-Acid Dil.	ug/mL	103.0	<1.00e-01	< 40.10	<4.01e1	n/a	n/a	98.00	40.10	n/a
S95T003418	D		Boron-ICP-Acid Dil.	ug/mL	98.60	<5.00e-02	22.70	23.30	23.00	2.61	97.60	20.10	n/a
S95T003418	D		Barium-ICP-Acid Dil.	ug/mL	100.6	<5.00e-02	< 20.00	<2.00e1	n/a	n/a	95.00	20.10	n/a
S95T003418	D		Beryllium-ICP-Acid Dil.	ug/mL	103.6	<5.00e-03	< 2.000	<2.00e0	n/a	n/a	104.0	2.000	n/a
S95T003418	D		Bismuth-ICP-Acid Dil.	ug/mL	100.2	<1.00e-01	< 40.10	<4.01e1	n/a	n/a	99.30	40.10	n/a
S95T003418	D		Calcium-ICP-Acid Dil.	ug/mL	102.6	<1.00e-01	< 40.10	<4.01e1	n/a	n/a	114.2	40.10	n/a
S95T003418	D		Cadmium-ICP-Acid Dil.	ug/mL	101.8	<5.00e-03	< 2.000	<2.00e0	n/a	n/a	102.3	2.000	n/a
S95T003418	D		Cerium-ICP-Acid Dil.	ug/mL	103.0	<1.00e-01	< 40.10	<4.01e1	n/a	n/a	101.3	40.10	n/a
S95T003418	D		Cobalt-ICP-Acid Dil.	ug/mL	98.20	<2.00e-02	< 8.020	<8.02e0	n/a	n/a	99.80	8.020	n/a
S95T003418	D		Chromium-ICP-Acid Dil.	ug/mL	103.0	<1.00e-02	1.26e+03	1.23e+03	1.24e+03	2.41	91.70	4.010	n/a
S95T003418	D		Copper-ICP-Acid Dil.	ug/mL	99.60	<1.00e-02	< 4.010	<4.01e0	n/a	n/a	98.30	4.010	n/a
S95T003418	D		Iron-ICP-Acid Dil.	ug/mL	102.4	<5.00e-02	< 20.00	<2.00e1	n/a	n/a	105.0	20.10	n/a
S95T003418	D		Potassium-ICP-Acid Dil.	ug/mL	98.40	<5.00e-01	3.54e+03	3.54e+03	3.54e+03	0.00	66.30	200.0	n/a
S95T003418	D		Lanthanum-ICP-Acid Dil.	ug/mL	101.4	<5.00e-02	< 20.00	<2.00e1	n/a	n/a	100.8	20.10	n/a
S95T003418	D		Lithium-ICP-Acid Dil.	ug/mL	101.4	<1.00e-02	< 4.010	<4.01e0	n/a	n/a	100.5	4.010	n/a
S95T003418	D		Magnesium-ICP-Acid Dil.	ug/mL	100.2	<1.00e-01	< 40.10	<4.01e1	n/a	n/a	97.80	40.10	n/a
S95T003418	D		Manganese-ICP-Acid Dil.	ug/mL	100.4	<1.00e-02	< 4.010	<4.01e0	n/a	n/a	97.00	4.010	n/a
S95T003418	D		Molybdenum-ICP-Acid Dil.	ug/mL	100.0	<5.00e-02	27.70	27.80	27.75	0.36	100.3	20.10	n/a
S95T003418	D		Sodium-ICP-Acid Dil.	ug/mL	101.2	<1.00e-01	1.99e+05	1.97e+05	1.98e+05	1.01	n/a	40.10	n/a
S95T003418	D		Neodymium-ICP-Acid Dil.	ug/mL	105.0	<1.00e-01	< 40.10	<4.01e1	n/a	n/a	104.0	40.10	n/a
S95T003418	D		Nickel-ICP-Acid Dil.	ug/mL	102.0	<2.00e-02	< 8.020	<8.02e0	n/a	n/a	101.3	8.020	n/a
S95T003418	D		Phosphorus-ICP-Acid Dil.	ug/mL	99.60	<2.00e-01	4.83e+02	467.0	475.0	3.37	103.0	80.20	n/a
S95T003418	D		Lead-ICP-Acid Dil.	ug/mL	102.4	<1.00e-01	79.60	78.30	78.95	1.65	100.6	40.10	n/a
S95T003418	D		Sulfur-ICP-Acid Dil.	ug/mL	98.40	<1.00e-01	7.02e+02	690.0	696.0	1.72	94.20	40.10	n/a
S95T003418	D		Antimony-ICP-Acid Dil.	ug/mL	94.00	<6.00e-02	< 25.10	<2.41e1	n/a	n/a	95.30	24.10	n/a
S95T003418	D		Selenium-ICP-Acid Dil.	ug/mL	101.6	<1.00e-01	< 40.10	<4.01e1	n/a	n/a	112.7	40.10	n/a
S95T003418	D		Silicon-ICP-Acid Dil.	ug/mL	98.40	<5.00e-02	1.44e+02	139.0	141.5	3.53	102.9	20.10	n/a
S95T003418	D		Samarium-ICP-Acid Dil.	ug/mL	100.2	<1.00e-01	< 40.10	<4.01e1	n/a	n/a	101.5	40.10	n/a
S95T003418	D		Strontium-ICP-Acid Dil.	ug/mL	100.2	<1.00e-02	< 4.010	<4.01e0	n/a	n/a	99.80	4.010	n/a
S95T003418	D		Titanium-ICP-Acid Dil.	ug/mL	96.60	<1.00e-02	< 4.010	<4.01e0	n/a	n/a	96.00	4.010	n/a

note: A triplicate DSC was run. Result was 87.1 J/g, wet weight basis. Average of three DSC results is 551 J/g, dry weight basis; standard deviation is 460 J/g.

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T003418	D		Thallium-ICP-Acid Dil.	ug/mL	100.4	<2.00e-01	< 80.20	<8.02e1	n/a	n/a	99.30	80.20	n/a
S95T003418	D		Uranium-ICP-Acid Dil.	ug/mL	98.70	<5.00e-01	<2.00e+02	<2.00e2	n/a	n/a	100.5	200.0	n/a
S95T003418	D		Vanadium-ICP-Acid Dil.	ug/mL	99.20	<5.00e-02	< 20.00	<2.00e1	n/a	n/a	99.00	20.10	n/a
S95T003418	D		Zinc-ICP-Acid Dil.	ug/mL	98.80	<1.00e-02	1.51e+02	150.0	150.5	0.66	98.10	4.010	n/a
S95T003418	D		Zirconium-ICP-Acid Dil.	ug/mL	98.00	<1.00e-02	< 4.010	<4.01e0	n/a	n/a	98.50	4.010	n/a
S95T003418			Fluoride-IC-Dionex 4000i/4500	ug/mL	104.1	<1.30e-02	5.13e+02	615.0	564.0	18.1	120.7	66.96	n/a
S95T003418			Chloride-IC-Dionex 4000i/4500	ug/mL	97.97	<1.70e-02	3.28e+03	4.07e+03	3.68e+03	21.5	n/a	87.57	n/a
S95T003418			Nitrite-IC - Dionex 4000i/4500	ug/mL	97.04	<1.07e-01	3.86e+04	4.23e+04	4.05e+04	9.15	127.7	551.2	n/a
S95T003418			Bromide by Ion Chromatograph	ug/mL	99.13	<1.26e-01	1.11e+03	1.15e+03	1.13e+03	3.54	n/a	649.0	n/a
S95T003418			Nitrate-IC - Dionex 4000i/4500	ug/mL	100.2	1.82e-01	2.14e+05	2.29e+05	2.22e+05	6.77	218.6	721.1	n/a
S95T003418			Phosphate-IC-Dionex 4000i/4500	ug/mL	100.4	<1.19e-01	9.19e+02	924.0	921.5	0.54	n/a	618.1	n/a
S95T003418			Sulfate by IC-Dionex4000i/4500	ug/mL	101.1	<1.36e-01	1.62e+03	1.67e+03	1.65e+03	3.04	n/a	700.5	n/a
S95T003418			Oxalate by IC - Dionex 4000i	ug/mL	103.5	<1.05e-01	<5.41e+02	<5.41e2	n/a	n/a	103.6	540.9	n/a
S95T003418			Alpha in Liquid Samples	uCi/mL	110.9	<6.63e-03	<3.27e-03	<2.61E-3	n/a	n/a	100.7	6.00e-03	5.00E+02

Laboratory Results for Core 108.
BY-105 (R)CORE NUMBER: 108
SEGMENT #: 18

SEGMENT PORTION: W Whole Segment

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T003383			Bulk Density of Sample	g/ml	n/a	n/a	1.870	1.890	1.880	1.06	n/a	5.00e-01	n/a
S95T003397			DSC Exotherm using Mettler	Joules/g	96.66	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S95T003397 1			DSC Exotherm using Mettler	Joules/g	95.61	n/a	33.80	n/a	n/a	n/a	n/a	n/a	n/a
S95T003397			DSC Exotherm Dry Calculated	Joules/g Dry	n/a	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S95T003397 1			DSC Exotherm Dry Calculated	Joules/g Dry	n/a	n/a	46.28	n/a	n/a	n/a	n/a	n/a	n/a
S95T003397			% Water by TGA using Mettler	%	100.9	n/a	28.58	18.07	23.32	45.1	n/a	n/a	n/a
S95T003397			% Water by TGA on Perkin Elmer	%	100.6	n/a	34.23	n/a	n/a	n/a	n/a	n/a	n/a
S95T003397			TOC by Persulfate/Coulometry	ug/g	93.70	9.00e-01	7.60e+03	6.34e+03	6.97e+03	9.90	105.9	40.00	n/a
S95T003402	F		Alpha of Digested Solid	uCi/g	94.79	<5.85e-03	2.52e-02	3.01e-02	2.77e-02	17.7	85.97	9.00e-03	3.65e+01
S95T003503	A		Silver - ICP-Acid Digest	ug/g	93.90	<1.00e-02	14.60	15.80	15.20	7.89	n/a	3.660	n/a
S95T003503	A		Aluminium - ICP-Acid Digest	ug/g	96.00	<5.00e-02	1.89e+04	1.78e+04	1.84e+04	5.99	n/a	18.30	n/a
S95T003503	A		Arsenic - ICP-Acid Digest	ug/g	96.60	<1.00e-01	< 36.60	<3.56e1	n/a	n/a	n/a	36.60	n/a
S95T003503	A		Boron - ICP-Acid Digest	ug/g	107.0	8.20e-02	< 18.30	20.50	n/a	n/a	n/a	18.30	n/a
S95T003503	A		Barium - ICP-Acid Digest	ug/g	94.60	<5.00e-02	< 18.30	<1.78e1	n/a	n/a	n/a	18.30	n/a
S95T003503	A		Beryllium - ICP-Acid Digest	ug/g	103.4	<5.00e-03	< 1.830	<1.78e0	n/a	n/a	n/a	1.830	n/a
S95T003503	A		Bismuth - ICP-Acid Digest	ug/g	95.20	<1.00e-01	37.20	<3.56e1	n/a	n/a	n/a	36.60	n/a
S95T003503	A		Calcium - ICP-Acid Digest	ug/g	98.00	<1.00e-01	3.13e+02	232.0	272.5	29.7	n/a	36.60	n/a
S95T003503	A		Cadmium - ICP-Acid Digest	ug/g	94.40	<5.00e-03	8.560	8.420	8.490	1.65	n/a	1.830	n/a
S95T003503	A		Cerium - ICP-Acid Digest	ug/g	97.60	<1.00e-01	< 36.60	<3.56e1	n/a	n/a	n/a	36.60	n/a
S95T003503	A		Cobalt - ICP-Acid Digest	ug/g	96.40	<2.00e-02	9.540	9.360	9.450	1.90	n/a	7.320	n/a
S95T003503	A		Chromium - ICP-Acid Digest	ug/g	96.40	<1.00e-02	3.00e+02	296.0	298.0	1.34	n/a	3.660	n/a
S95T003503	A		Copper - ICP-Acid Digest	ug/g	94.20	<1.00e-02	5.820	<3.56e0	n/a	n/a	n/a	3.660	n/a
S95T003503	A		Iron - ICP-Acid Digest	ug/g	95.60	<5.00e-02	5.31e+02	521.0	526.0	1.90	n/a	18.30	n/a
S95T003503	A		Potassium - ICP-Acid Digest	ug/g	94.40	<5.00e-01	5.68e+02	657.0	612.5	14.5	n/a	183.0	n/a
S95T003503	A		Lanthanum - ICP-Acid Digest	ug/g	96.40	<5.00e-02	< 18.30	<1.78e1	n/a	n/a	n/a	18.30	n/a
S95T003503	A		Lithium - ICP-Acid Digest	ug/g	94.00	<1.00e-02	< 3.660	<3.56e0	n/a	n/a	n/a	3.660	n/a
S95T003503	A		Magnesium - ICP-Acid Digest	ug/g	92.80	<1.00e-01	< 36.60	<3.56e1	n/a	n/a	n/a	36.60	n/a
S95T003503	A		Manganese - ICP-Acid Digest	ug/g	94.20	<1.00e-02	34.40	35.00	34.70	1.73	n/a	3.660	n/a
S95T003503	A		Molybdenum - ICP-Acid Digest	ug/g	96.40	<5.00e-02	< 18.30	<1.78e1	n/a	n/a	n/a	18.30	n/a
S95T003503	A		Sodium - ICP-Acid Digest	ug/g	109.8	1.53e-01	1.92e+05	1.98e+05	1.95e+05	3.08	n/a	36.60	n/a
S95T003503	A		Neodymium - ICP-Acid Digest	ug/g	93.80	<1.00e-01	< 36.60	<3.56e1	n/a	n/a	n/a	36.60	n/a
S95T003503	A		Nickel - ICP-Acid Digest	ug/g	96.00	<2.00e-02	1.13e+02	115.0	114.0	1.75	n/a	7.320	n/a
S95T003503	A		Phosphorus - ICP-Acid Digest	ug/g	97.60	<2.00e-01	1.14e+03	1.15e+03	1.14e+03	0.87	n/a	73.20	n/a
S95T003503	A		Lead - ICP-Acid Digest	ug/g	94.80	<1.00e-01	51.00	56.50	53.75	10.2	n/a	36.60	n/a
S95T003503	A		Sulfur - ICP-Acid Digest	ug/g	92.60	<1.00e-01	3.15e+03	3.37e+03	3.26e+03	6.75	n/a	36.60	n/a
S95T003503	A		Antimony - ICP-Acid Digest	ug/g	90.00	<6.00e-02	< 22.00	<2.14e1	n/a	n/a	n/a	22.00	n/a
S95T003503	A		Selenium - ICP-Acid Digest	ug/g	94.40	<1.00e-01	< 36.60	<3.56e1	n/a	n/a	n/a	36.60	n/a
S95T003503	A		Silicon - ICP-Acid Digest	ug/g	143.8	<5.00e-02	2.16e+02	262.0	239.0	19.2	n/a	18.30	n/a
S95T003503	A		Samarium - ICP-Acid Digest	ug/g	93.00	<1.00e-01	< 36.60	<3.56e1	n/a	n/a	n/a	36.60	n/a
S95T003503	A		Strontium - ICP-Acid Digest	ug/g	94.80	<1.00e-02	1.37e+02	137.0	137.0	0.00	n/a	3.660	n/a
S95T003503	A		Titanium - ICP-Acid Digest	ug/g	93.20	<1.00e-02	< 3.660	<3.56e0	n/a	n/a	n/a	3.660	n/a
S95T003503	A		Thallium - ICP-Acid Digest	ug/g	91.20	<2.00e-01	< 73.20	<7.12e1	n/a	n/a	n/a	73.20	n/a
S95T003503	A		Uranium - ICP-Acid Digest	ug/g	91.20	<5.00e-01	4.05e+02	425.0	415.0	4.82	n/a	183.0	n/a

note: Average of three TGA results is 26.96%; standard deviation is 8.20%.

Average of three DSC results is 15 J/g, dry weight basis; standard deviation is 15 J/g.

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WMC-SD-WM-IDP-102, REV. 1

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T003503	A		Vanadium -ICP-Acid Digest	ug/g	94.00	<5.00e-02	< 18.30	<1.78e1	n/a	n/a	n/a	18.30	n/a
S95T003503	A		Zinc -ICP-Acid Digest	ug/g	93.00	<1.00e-02	34.00	30.60	32.30	10.5	n/a	3.660	n/a
S95T003503	A		Zirconium -ICP-Acid Digest	ug/g	94.00	<1.00e-02	7.650	8.480	8.065	10.3	n/a	3.660	n/a
S95T003512	W		Fluoride-IC-Dionex 4000i/4500	ug/g	95.25	<1.30e-02	4.51e+03	3.93e+03	4.22e+03	13.7		103.6	53.63
S95T003512	W		Chloride-IC-Dionex 4000i/4500	ug/g	92.91	<1.70e-02	8.40e+02	504.0	672.0	50.0		81.17	70.14
S95T003512	W		Nitrite-IC - Dionex 4000i/4500	ug/g	93.90	<1.07e-01	7.75e+03	6.50e+03	7.12e+03	17.5		92.94	441.5
S95T003512	W		Bromide by Ion Chromatograph	ug/g	93.91	<1.26e-01	<5.20e+02	<5.08e2	n/a	n/a		93.04	519.8
S95T003512	W		Nitrate by IC-Dionex4000i/4500	ug/g	95.28	<1.40e-01	4.29e+05	5.39e+05	4.84e+05	22.7		144.5	2.78e+03
S95T003512	W		Phosphate-IC-Dionex 4000i/4500	ug/g	96.70	<1.20e-01	3.55e+03	2.25e+03	2.90e+03	44.8		91.50	494.7
S95T003512	W		Sulfate by IC-Dionex4000i/4500	ug/g	94.30	<1.36e-01	9.39e+03	8.54e+03	8.97e+03	9.48		93.66	560.7
S95T003512	W		Oxalate by IC - Dionex 4000i	ug/g	97.96	<1.05e-01	2.56e+04	2.13e+04	2.34e+04	18.3		103.8	433.2

Laboratory Results for Core 108.
BY-105 (R)

CORE NUMBER: 108
SEGMENT #: 1R

SEGMENT PORTION: W Whole Segment

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count	Err%
S95T003405			Bulk Density of Sample	g/mL	n/a	n/a	1.900	1.860	1.880	2.13	n/a	5.00e-01	n/a	n/a
S95T003417			DSC Exotherm using Mettler	Joules/g	98.07	n/a	21.80	23.60	22.70	7.93	n/a	n/a	n/a	n/a
S95T003417			DSC Exotherm Dry - Calculated	Joules/g Dry	n/a	n/a	28.61	31.06	29.84	7.95	n/a	n/a	n/a	n/a
S95T003417			% Water by TGA using Mettler	%	100.7	n/a	17.69	39.65	28.67	76.6	n/a	n/a	n/a	n/a
S95T003417	1		% Water by TGA using Mettler	%	98.19	n/a	14.76	n/a	n/a	n/a	n/a	n/a	n/a	n/a
S95T003417			TOC by Persulfate/Coulometry	ug/g	93.70	9.00e-01	4.03e+03	4.10e+03	4.06e+03	1.72	n/a	40.00	n/a	n/a
S95T003423	F		Alpha of Digested Solid	uCi/g	115.1	<7.11e-03	1.09e-02	<8.82E-3	n/a	n/a	101.0	1.20e-02	1.04E+02	n/a
S95T003506		A	Silver - ICP-Acid Digest	ug/g	92.50	<1.00e-02	14.90	16.80	15.85	12.0	82.30	3.590	n/a	n/a
S95T003506		A	Aluminum - ICP-Acid Digest	ug/g	98.40	1.39e-01	1.60e+04	2.29e+04	1.94e+04	35.5	695.1	17.90	n/a	n/a
S95T003506		A	Arsenic - ICP-Acid Digest	ug/g	96.00	<1.00e-01	< 35.90	<3.53e1	n/a	n/a	84.40	35.90	n/a	n/a
S95T003506		A	Boron - ICP-Acid Digest	ug/g	101.4	4.74e-01	< 17.90	<1.76e1	n/a	n/a	84.80	17.90	n/a	n/a
S95T003506		A	Barium - ICP-Acid Digest	ug/g	97.80	<5.00e-02	< 17.90	<1.76e1	n/a	n/a	86.20	17.90	n/a	n/a
S95T003506		A	Beryllium - ICP-Acid Digest	ug/g	107.0	<5.00e-03	< 1.790	<1.76e0	n/a	n/a	91.40	1.790	n/a	n/a
S95T003506		A	Bismuth - ICP-Acid Digest	ug/g	94.80	<1.00e-01	< 35.90	48.00	n/a	n/a	84.60	35.90	n/a	n/a
S95T003506		A	Calcium - ICP-Acid Digest	ug/g	97.40	3.71e-01	1.87e+02	206.0	196.5	9.67	102.8	35.90	n/a	n/a
S95T003506		A	Cadmium - ICP-Acid Digest	ug/g	92.20	<5.00e-03	5.310	6.940	6.125	26.6	82.20	1.790	n/a	n/a
S95T003506		A	Cerium - ICP-Acid Digest	ug/g	100.0	<1.00e-01	< 35.90	<3.53e1	n/a	n/a	88.40	35.90	n/a	n/a
S95T003506		A	Cobalt - ICP-Acid Digest	ug/g	94.20	<2.00e-02	< 7.170	7.970	n/a	n/a	83.80	7.170	n/a	n/a
S95T003506		A	Chromium - ICP-Acid Digest	ug/g	95.20	<1.00e-02	2.97e+02	352.0	324.5	16.9	85.92	3.590	n/a	n/a
S95T003506		A	Copper - ICP-Acid Digest	ug/g	96.40	<1.00e-02	9.340	12.10	10.72	25.7	84.36	3.590	n/a	n/a
S95T003506		A	Iron - ICP-Acid Digest	ug/g	97.00	1.36e-01	4.73e+02	555.0	514.0	16.0	81.68	17.90	n/a	n/a
S95T003506		A	Potassium - ICP-Acid Digest	ug/g	100.4	<5.00e-01	7.60e+02	777.0	768.5	2.21	78.50	17.90	n/a	n/a
S95T003506		A	Lanthanum - ICP-Acid Digest	ug/g	99.20	<5.00e-02	< 17.90	<1.76e1	n/a	n/a	88.00	17.90	n/a	n/a
S95T003506		A	Lithium - ICP-Acid Digest	ug/g	99.20	<1.00e-02	69.20	79.50	74.35	13.9	89.48	3.590	n/a	n/a
S95T003506		A	Magnesium - ICP-Acid Digest	ug/g	93.60	<1.00e-01	< 35.90	<3.53e1	n/a	n/a	83.60	35.90	n/a	n/a
S95T003506		A	Manganese - ICP-Acid Digest	ug/g	93.00	<1.00e-02	19.10	25.40	22.25	28.3	81.46	3.590	n/a	n/a
S95T003506		A	Molybdenum - ICP-Acid Digest	ug/g	95.40	<5.00e-02	< 17.90	<1.76e1	n/a	n/a	84.40	17.90	n/a	n/a
S95T003506		A	Sodium - ICP-Acid Digest	ug/g	107.6	7.60e-01	1.97e+05	2.19e+05	2.08e+05	10.6	438.4	35.90	n/a	n/a
S95T003506		A	Neodymium - ICP-Acid Digest	ug/g	97.00	<1.00e-01	< 35.90	<3.53e1	n/a	n/a	85.80	35.90	n/a	n/a
S95T003506		A	Nickel - ICP-Acid Digest	ug/g	94.40	<2.00e-02	58.90	76.00	67.45	25.4	84.62	7.170	n/a	n/a
S95T003506		A	Phosphorus - ICP-Acid Digest	ug/g	94.20	<2.00e-01	1.51e+03	746.0	1.13e+03	67.7	14.98	71.70	n/a	n/a
S95T003506		A	Lead - ICP-Acid Digest	ug/g	91.40	<1.00e-01	41.70	54.80	48.25	27.2	81.94	35.90	n/a	n/a
S95T003506		A	Sulfur - ICP-Acid Digest	ug/g	91.00	<1.00e-01	3.60e+03	4.57e+03	4.08e+03	23.7	146.4	35.90	n/a	n/a
S95T003506		A	Antimony - ICP-Acid Digest	ug/g	88.80	<6.00e-02	< 21.50	<2.12e1	n/a	n/a	79.00	21.50	n/a	n/a
S95T003506		A	Selenium - ICP-Acid Digest	ug/g	94.20	<1.00e-01	< 35.90	<3.53e1	n/a	n/a	85.00	35.90	n/a	n/a
S95T003506		A	Silicon - ICP-Acid Digest	ug/g	149.2	1.11e-01	1.20e+02	246.0	183.0	68.9	99.16	17.90	n/a	n/a
S95T003506		A	Samarium - ICP-Acid Digest	ug/g	96.80	<1.00e-01	< 35.90	<3.53e1	n/a	n/a	84.40	35.90	n/a	n/a
S95T003506		A	Strontium - ICP-Acid Digest	ug/g	97.60	<1.00e-02	73.00	100.0	86.50	31.2	88.26	3.590	n/a	n/a
S95T003506		A	Titanium - ICP-Acid Digest	ug/g	94.20	<1.00e-02	< 3.590	<3.53e0	n/a	n/a	83.00	3.590	n/a	n/a
S95T003506		A	Thallium - ICP-Acid Digest	ug/g	92.00	<2.00e-02	< 71.70	<7.06e1	n/a	n/a	79.60	71.70	n/a	n/a
S95T003506		A	Uranium - ICP-Acid Digest	ug/g	93.50	<5.00e-01	<1.79e+02	246.0	n/a	n/a	94.70	179.0	n/a	n/a
S95T003506		A	Vanadium - ICP-Acid Digest	ug/g	93.40	<5.00e-02	< 17.90	<1.76e1	n/a	n/a	82.20	17.90	n/a	n/a
S95T003506		A	Zinc - ICP-Acid Digest	ug/g	89.00	<1.00e-02	46.10	57.90	52.00	22.7	80.66	3.590	n/a	n/a

note: Average of three TGA results is 24.03%; standard deviation is 13.60%.

WHC-SD-WM-DP-162; REV. 1

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T003506	A		Zirconium - ICP-Acid Digest	ug/g	94.60	<1.00e-02	< 3.590	4.380	n/a	n/a	84.40	3.590	n/a
S95T003515	W		Fluoride-IC-Dionex 4000i/4500	ug/g	104.1	<1.30e-02	6.81e+03	7.24e+03	7.02e+03	6.12	99.64	68.72	n/a
S95T003515	W		Chloride-IC-Dionex 4000i/4500	ug/g	107.0	<1.70e-02	6.17e+02	717.0	667.1	15.0	100.3	89.83	n/a
S95T003515	W		Nitrite-IC - Dionex 4000i/4500	ug/g	97.23	<1.07e-01	8.56e+03	9.26e+03	8.91e+03	7.86	97.77	565.5	n/a
S95T003515	W		Bromide by Ion Chromatograph	ug/g	97.04	<1.26e-01	1.06e+03	1.12e+03	1.09e+03	5.50	83.43	665.9	n/a
S95T003515	W		Nitrate by IC-Dionex4000i/4500	ug/g	96.25	<1.40e-01	4.78e+05	4.62e+05	4.70e+05	3.40	n/a	2.53e+03	n/a
S95T003515	W		Phosphate-IC-Dionex 4000i/4500	ug/g	99.63	<1.19e-01	3.41e+03	3.65e+03	3.53e+03	6.80	97.40	628.9	n/a
S95T003515	W		Sulfate by IC-Dionex4000i/4500	ug/g	97.78	<1.36e-01	1.35e+04	1.35e+04	1.35e+04	0.00	97.75	718.8	n/a
S95T003515	W		Oxalate by IC - Dionex 4000i	ug/g	101.9	<1.05e-01	1.39e+04	1.41e+04	1.40e+04	1.43	102.7	554.9	n/a

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WHC-SD-WM-DP-162, REV. 1

Laboratory Results for Core 108.
BY-105 (R)

CORE NUMBER: 108
SEGMENT #: 2AR

SEGMENT PORTION: W Whole Segment

Sample#	R	AW	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count	Err%
S95T003409			Bulk Density of Sample	g/mL	n/a	n/a	1.880	1.810	1.845	3.79	n/a	5.00e-01	n/a	
S95T003421			DSC Exotherm using Mettler	Joules/g	99.12	n/a	6.400	2.500	4.450	87.6	n/a	n/a	n/a	
S95T003421			DSC Exotherm Dry Calculated	Joules/g Dry	n/a	n/a	8.010	3.130	5.570	87.6	n/a	n/a	n/a	
S95T003421			% Water by TGA using Mettler	%	101.3	n/a	19.43	20.74	20.09	6.52	n/a	n/a	n/a	
S95T003421			TOC by Persulfate/Coulometry	ug/g	93.03	2.700	1.99e+03	2.37e+03	2.18e+03	17.4	n/a	80.00	n/a	
S95T003426	F		Alpha of Digested Solid	UCI/g	109.9	1.60e-02	< 5.14e-03	1.45e-02	n/a	n/a	94.64	1.20e-02	5.00e+02	
S95T003509	A		Silver - ICP-Acid Digest	ug/g	92.50	< 1.00e-02	13.00	14.10	13.55	8.12	n/a	3.650	n/a	
S95T003509	A		Aluminium - ICP-Acid Digest	ug/g	98.40	1.39e-01	4.77e+04	4.44e+04	4.60e+04	7.17	n/a	18.30	n/a	
S95T003509	A		Arsenic - ICP-Acid Digest	ug/g	96.00	< 1.00e-01	< 36.50	< 3.47e1	n/a	n/a	n/a	36.50	n/a	
S95T003509	A		Boron - ICP-Acid Digest	ug/g	101.4	4.74e-01	< 18.30	< 1.73e1	n/a	n/a	n/a	18.30	n/a	
S95T003509	A		Barium - ICP-Acid Digest	ug/g	97.80	< 5.00e-02	< 18.30	< 1.73e1	n/a	n/a	n/a	18.30	n/a	
S95T003509	A		Beryllium - ICP-Acid Digest	ug/g	107.0	< 5.00e-03	< 1.830	< 1.73e0	n/a	n/a	n/a	1.830	n/a	
S95T003509	A		Bismuth - ICP-Acid Digest	ug/g	94.80	< 1.00e-01	< 36.50	39.70	n/a	n/a	n/a	36.50	n/a	
S95T003509	A		Calcium - ICP-Acid Digest	ug/g	97.40	3.71e-01	2.64e+02	256.0	260.0	3.08	n/a	36.50	n/a	
S95T003509	A		Cadmium - ICP-Acid Digest	ug/g	92.20	< 5.00e-03	11.70	10.90	11.30	7.08	n/a	1.830	n/a	
S95T003509	A		Cerium - ICP-Acid Digest	ug/g	100.0	< 1.00e-01	< 36.50	< 3.47e1	n/a	n/a	n/a	36.50	n/a	
S95T003509	A		Cobalt - ICP-Acid Digest	ug/g	94.20	< 2.00e-02	10.20	9.760	9.980	4.41	n/a	7.300	n/a	
S95T003509	A		Chromium - ICP-Acid Digest	ug/g	95.20	< 1.00e-02	3.74e+02	448.0	411.0	18.0	n/a	3.650	n/a	
S95T003509	A		Copper - ICP-Acid Digest	ug/g	96.40	< 1.00e-02	11.20	8.250	9.725	30.3	n/a	3.650	n/a	
S95T003509	A		Iron - ICP-Acid Digest	ug/g	97.00	1.36e-01	4.93e+02	478.0	485.5	3.09	n/a	18.30	n/a	
S95T003509	A		Potassium - ICP-Acid Digest	ug/g	100.4	< 5.00e-01	7.64e+02	986.0	875.0	25.4	n/a	183.0	n/a	
S95T003509	A		Lanthanum - ICP-Acid Digest	ug/g	99.20	< 5.00e-02	< 18.30	< 1.73e1	n/a	n/a	n/a	18.30	n/a	
S95T003509	A		Lithium - ICP-Acid Digest	ug/g	99.20	< 1.00e-02	9.060	11.40	10.23	22.9	n/a	3.650	n/a	
S95T003509	A		Magnesium - ICP-Acid Digest	ug/g	93.60	< 1.00e-01	< 36.50	< 3.47e1	n/a	n/a	n/a	36.50	n/a	
S95T003509	A		Manganese - ICP-Acid Digest	ug/g	93.00	< 1.00e-02	34.10	35.10	34.60	2.89	n/a	3.650	n/a	
S95T003509	A		Molybdenum - ICP-Acid Digest	ug/g	95.40	< 5.00e-02	< 18.30	< 1.73e1	n/a	n/a	n/a	18.30	n/a	
S95T003509	A		Sodium - ICP-Acid Digest	ug/g	107.6	7.60e-01	1.64e+05	1.79e+05	1.72e+05	8.75	n/a	36.50	n/a	
S95T003509	A		Neodymium - ICP-Acid Digest	ug/g	97.00	< 1.00e-01	< 36.50	< 3.47e1	n/a	n/a	n/a	36.50	n/a	
S95T003509	A		Nickel - ICP-Acid Digest	ug/g	94.40	< 2.00e-02	1.06e+02	103.0	104.5	2.87	n/a	7.300	n/a	
S95T003509	A		Phosphorus - ICP-Acid Digest	ug/g	94.20	< 2.00e-01	1.85e+03	1.88e+03	1.86e+03	1.61	n/a	73.00	n/a	
S95T003509	A		Lead - ICP-Acid Digest	ug/g	91.40	< 1.00e-01	61.60	59.30	60.45	3.80	n/a	36.50	n/a	
S95T003509	A		Sulfur - ICP-Acid Digest	ug/g	91.00	< 1.00e-01	4.47e+03	4.62e+03	4.54e+03	3.30	n/a	36.50	n/a	
S95T003509	A		Antimony - ICP-Acid Digest	ug/g	88.80	< 6.00e-02	< 21.90	< 2.08e1	n/a	n/a	n/a	21.90	n/a	
S95T003509	A		Selenium - ICP-Acid Digest	ug/g	94.20	< 1.00e-01	< 36.50	< 3.47e1	n/a	n/a	n/a	36.50	n/a	
S95T003509	A		Silicon - ICP-Acid Digest	ug/g	149.2	1.11e-01	1.40e+02	156.0	148.0	10.8	n/a	18.30	n/a	
S95T003509	A		Samarium - ICP-Acid Digest	ug/g	96.80	< 1.00e-01	< 36.50	< 3.47e1	n/a	n/a	n/a	36.50	n/a	
S95T003509	A		Strontium - ICP-Acid Digest	ug/g	97.60	< 1.00e-02	1.27e+02	118.0	122.5	7.35	n/a	3.650	n/a	
S95T003509	A		Titanium - ICP-Acid Digest	ug/g	94.20	< 1.00e-02	< 3.650	< 3.47e0	n/a	n/a	n/a	3.650	n/a	
S95T003509	A		Thallium - ICP-Acid Digest	ug/g	92.00	< 2.00e-01	< 73.00	< 6.93e0	n/a	n/a	n/a	73.00	n/a	
S95T003509	A		Uranium - ICP-Acid Digest	ug/g	93.50	< 5.00e-01	2.91e+02	278.0	284.5	4.57	n/a	183.0	n/a	
S95T003509	A		Vanadium - ICP-Acid Digest	ug/g	93.40	< 5.00e-02	< 18.30	< 1.73e1	n/a	n/a	n/a	18.30	n/a	
S95T003509	A		Zinc - ICP-Acid Digest	ug/g	89.00	< 1.00e-02	81.90	62.00	71.95	27.7	n/a	3.650	n/a	
S95T003509	A		Zirconium - ICP-Acid Digest	ug/g	94.60	< 1.00e-02	6.470	5.670	6.070	13.2	n/a	3.650	n/a	

Sample#	R#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T003518	W	Fluoride-IC-Dionex 40001/4500	ug/g	92.88	<1.30e-02	4.39e+03	6.73e+03	5.56e+03	42.1	n/a	234.4	n/a
S95T003518	W	Chloride-IC-Dionex 40001/4500	ug/g	95.32	<1.70e-02	2.91e+03	1.10e+03	2.01e+03	90.3	n/a	306.6	n/a
S95T003518	W	Nitrite-IC - Dionex 40001/4500	ug/g	95.19	<1.07e-01	1.29e+04	1.32e+04	1.31e+04	2.30	n/a	1.93e+03	n/a
S95T003518	W	Bromide by Ion Chromatograph	ug/g	96.52	<1.26e-01	<2.27e+03	<2.26e3	n/a	n/a	n/a	2.27e+03	n/a
S95T003518	W	Nitrate by IC-Dionex40001/4500	ug/g	96.42	8.36e-01	4.14e+05	3.70e+05	3.92e+05	11.2	n/a	2.52e+03	n/a
S95T003518	W	Phosphate-IC-Dionex 40001/4500	ug/g	97.62	<1.20e-01	6.36e+03	2.68e+04	1.66e+04	123	n/a	2.16e+03	n/a
S95T003518	W	Sulfate by IC-Dionex40001/4500	ug/g	95.56	<1.36e-01	1.49e+04	1.54e+04	1.52e+04	3.30	n/a	2.45e+03	n/a
S95T003518	W	Oxalate by IC - Dionex 40001	ug/g	99.63	<1.05e-01	7.91e+03	9.79e+03	8.85e+03	21.2	n/a	1.89e+03	n/a

Drainable Liquid: Drainable Liquid

Sample#	R#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T003422	D	DSC Exotherm using Mettler	Joules/g	100.9	n/a	75.10	70.80	72.95	5.89	n/a	n/a	n/a
S95T003422	D	DSC Exotherm Dry Calculated	Joules/g Dry	n/a	n/a	1.40e+02	131.8	135.8	5.89	n/a	n/a	n/a
S95T003422	D	Specific Gravity	Sp.G.	99.10	n/a	1.410	1.400	1.405	0.71	n/a	1.00e-02	n/a
S95T003422	D	% Water by TGA on Perkin Elmer	%	100.8	n/a	41.35	37.32	39.34	10.2	n/a	n/a	n/a
S95T003422 1	D	% Water by TGA on Perkin Elmer	%	100.6	n/a	53.29	53.10	53.20	0.36	n/a	n/a	n/a
S95T003422	D	TOC by Persulfate/Coulometry	ug/mL	93.03	2.700	2.27e+03	2.22e+03	2.24e+03	2.23	n/a	40.00	n/a
S95T003422	D	Silver-ICP-Acid Dil.	ug/mL	101.0	<1.00e-02	< 4.010	<4.01e0	n/a	n/a	14.70	4.010	n/a
S95T003422	D	Aluminum-ICP-Acid Dil.	ug/mL	101.0	<5.00e-02	3.47e+04	3.33e+04	3.40e+04	4.12	n/a	20.10	n/a
S95T003422	D	Arsenic-ICP-Acid Dil.	ug/mL	103.0	<1.00e-01	< 40.10	<4.01e1	n/a	n/a	95.50	40.10	n/a
S95T003422	D	Boron-ICP-Acid Dil.	ug/mL	98.60	<5.00e-02	20.40	<2.00e1	n/a	n/a	95.70	20.10	n/a
S95T003422	D	Barium-ICP-Acid Dil.	ug/mL	100.6	<5.00e-02	< 20.00	<2.00e1	n/a	n/a	95.50	20.10	n/a
S95T003422	D	Beryllium-ICP-Acid Dil.	ug/mL	103.6	<5.00e-03	< 2.000	<2.00e0	n/a	n/a	103.0	2.000	n/a
S95T003422	D	Bismuth-ICP-Acid Dil.	ug/mL	100.2	<1.00e-01	< 40.10	<4.01e1	n/a	n/a	100.3	40.10	n/a
S95T003422	D	Calcium-ICP-Acid Dil.	ug/mL	102.6	<1.00e-01	< 40.10	<4.01e1	n/a	n/a	110.5	40.10	n/a
S95T003422	D	Cadmium-ICP-Acid Dil.	ug/mL	101.8	<5.00e-03	< 2.000	<2.00e0	n/a	n/a	101.5	2.000	n/a
S95T003422	D	Cerium-ICP-Acid Dil.	ug/mL	103.0	<1.00e-01	< 40.10	<4.01e1	n/a	n/a	100.0	40.10	n/a
S95T003422	D	Cobalt-ICP-Acid Dil.	ug/mL	98.20	<2.00e-02	< 8.020	<8.02e0	n/a	n/a	99.30	8.020	n/a
S95T003422	D	Chromium-ICP-Acid Dil.	ug/mL	103.0	<1.00e-02	1.42e+03	1.36e+03	1.39e+03	4.32	88.10	4.010	n/a
S95T003422	D	Copper-ICP-Acid Dil.	ug/mL	99.60	<1.00e-02	< 4.010	<4.01e0	n/a	n/a	96.80	4.010	n/a
S95T003422	D	Iron-ICP-Acid Dil.	ug/mL	102.4	<5.00e-02	< 20.00	<2.00e1	n/a	n/a	104.2	20.10	n/a
S95T003422	D	Potassium-ICP-Acid Dil.	ug/mL	98.40	<5.00e-01	4.24e+03	4.08e+03	4.16e+03	3.85	57.30	200.0	n/a
S95T003422	D	Lanthanum-ICP-Acid Dil.	ug/mL	101.4	<5.00e-02	< 20.00	<2.00e1	n/a	n/a	99.30	20.10	n/a
S95T003422	D	Lithium-ICP-Acid Dil.	ug/mL	101.4	<1.00e-02	< 4.010	<4.01e0	n/a	n/a	97.80	4.010	n/a
S95T003422	D	Magnesium-ICP-Acid Dil.	ug/mL	100.2	<1.00e-01	< 40.10	<4.01e1	n/a	n/a	97.30	40.10	n/a
S95T003422	D	Manganese-ICP-Acid Dil.	ug/mL	100.4	<1.00e-02	< 4.010	<4.01e0	n/a	n/a	96.50	4.010	n/a
S95T003422	D	Molybdenum-ICP-Acid Dil.	ug/mL	100.0	<5.00e-02	32.00	30.30	31.15	5.46	99.50	20.10	n/a
S95T003422	D	Sodium-ICP-Acid Dil.	ug/mL	101.2	<1.00e-01	2.12e+05	2.04e+05	2.08e+05	3.85	n/a	40.10	n/a
S95T003422	D	Neodymium-ICP-Acid Dil.	ug/mL	105.0	<1.00e-01	< 40.10	<4.01e1	n/a	n/a	102.5	40.10	n/a
S95T003422	D	Nickel-ICP-Acid Dil.	ug/mL	102.0	<2.00e-02	< 8.020	<8.02e0	n/a	n/a	99.80	8.020	n/a
S95T003422	D	Phosphorus-ICP-Acid Dil.	ug/mL	99.60	<2.00e-01	4.95e+02	459.0	477.0	7.55	98.80	80.20	n/a
S95T003422	D	Lead-ICP-Acid Dil.	ug/mL	102.4	<1.00e-01	91.80	85.90	88.85	6.64	100.3	40.10	n/a
S95T003422	D	Sulfur-ICP-Acid Dil.	ug/mL	98.40	<1.00e-01	6.89e+02	655.0	672.0	5.06	92.50	40.10	n/a
S95T003422	D	Antimony-ICP-Acid Dil.	ug/mL	94.00	<6.00e-02	< 24.10	<2.41e1	n/a	n/a	94.30	24.10	n/a
S95T003422	D	Selenium-ICP-Acid Dil.	ug/mL	101.6	<1.00e-01	< 40.10	<4.01e1	n/a	n/a	112.0	40.10	n/a
S95T003422	D	Silicon-ICP-Acid Dil.	ug/mL	98.40	<5.00e-02	97.80	103.0	100.4	5.18	98.30	20.10	n/a
S95T003422	D	Samarium-ICP-Acid Dil.	ug/mL	100.2	<1.00e-01	< 40.10	<4.01e1	n/a	n/a	100.8	40.10	n/a
S95T003422	D	Strontium-ICP-Acid Dil.	ug/mL	100.2	<1.00e-02	< 4.010	<4.01e0	n/a	n/a	98.50	4.010	n/a
S95T003422	D	Titanium-ICP-Acid Dil.	ug/mL	96.60	<1.00e-02	< 4.010	<4.01e0	n/a	n/a	94.80	4.010	n/a

note: Average of four TGA results is 46.27%; standard deviation is 8.17%.

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T003422	0		Thallium-ICP-Acid Dil.	ug/mL	100.4	<2.00e-01	< 80.20	<8.02e1	n/a	n/a	96.30	80.20	n/a
S95T003422	0		Uranium-ICP-Acid Dil.	ug/mL	98.70	<5.00e-01	<2.00e+02	<2.00e2	n/a	n/a	99.15	200.0	n/a
S95T003422	0		Vanadium-ICP-Acid Dil.	ug/mL	99.20	<5.00e-02	< 20.00	<2.00e1	n/a	n/a	98.50	20.10	n/a
S95T003422	0		Zinc-ICP-Acid Dil.	ug/mL	98.80	<1.00e-02	33.40	32.20	32.80	3.66	98.90	4.010	n/a
S95T003422	0		Zirconium-ICP-Acid Dil.	ug/mL	98.00	<1.00e-02	< 4.010	<4.01e0	n/a	n/a	97.50	4.010	n/a
S95T003422			Fluoride-IC-Dionex 4000i/4500	ug/mL	104.1	<1.30e-02	4.66e+02	457.0	461.4	1.95	n/a	66.96	n/a
S95T003422			Chloride-IC-Dionex 4000i/4500	ug/mL	97.97	<1.70e-02	3.94e+03	3.99e+03	3.96e+03	1.26	n/a	87.57	n/a
S95T003422			Nitrite-IC - Dionex 4000i/4500	ug/mL	97.04	<1.07e-01	4.84e+04	4.99e+04	4.92e+04	3.05	n/a	551.2	n/a
S95T003422			Bromide by Ion Chromatograph	ug/mL	99.13	<1.26e-01	6.85e+02	673.0	679.1	1.77	n/a	649.0	n/a
S95T003422			Nitrate-IC - Dionex 4000i/4500	ug/mL	100.2	1.82e-01	1.98e+05	2.02e+05	2.00e+05	2.00	n/a	721.1	n/a
S95T003422			Phosphate-IC-Dionex 4000i/4500	ug/mL	100.4	<1.19e-01	9.15e+02	953.0	933.8	4.07	n/a	618.1	n/a
S95T003422			Sulfate by IC-Dionex4000i/4500	ug/mL	101.1	<1.36e-01	1.58e+03	1.65e+03	1.62e+03	4.33	n/a	700.5	n/a
S95T003422			Oxalate by IC - Dionex 4000i	ug/mL	103.5	<1.05e-01	2.60e+03	<5.41e2	n/a	n/a	n/a	540.9	n/a
S95T003422			Alpha in Liquid Samples	uCi/mL	110.9	<6.63e-03	<3.27e-03	<4.91E-3	n/a	n/a	97.99	6.00e-03	5.00E+02

Laboratory Results for Core 108.
BY-105 (R)

CORE NUMBER: 108
SEGMENT #: 2R

SEGMENT PORTION: W Whole Segment

Sample#	R	AF	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T003408			Bulk Density of Sample	g/mL	n/a	n/a	1.840	1.850	1.845	0.54	n/a	5.00E-01	n/a
S95T003420			DSC Exotherm using Mettler	Joules/g	99.12	n/a	14.70	14.60	14.65	0.68	n/a	n/a	n/a
S95T003420			DSC Exotherm Dry Calculated	Joules/g Dry	n/a	n/a	19.85	19.72	19.79	0.66	n/a	n/a	n/a
S95T003420			% Water by TGA using Mettler	%	101.3	n/a	32.35	22.61	27.48	35.4	n/a	n/a	n/a
S95T003420			TOC by Persulfate/Coulometry	ug/g	93.70	9.00E-01	5.16E+03	4.50E+03	4.83E+03	13.7	n/a	40.00	n/a
S95T003425	F		Alpha of Digested Solid	uCi/g	105.2	<3.50E-03	2.04E-02	6.66E-03	1.35E-02	102	93.88	1.00E-02	4.50E+01
S95T003508	A		Silver -ICP-Acid Digest	ug/g	92.50	<1.00E-02	14.90	15.50	15.20	3.95	n/a	4.560	n/a
S95T003508	A		Aluminium -ICP-Acid Digest	ug/g	98.40	1.39E-01	3.62E+04	3.62E+04	3.62E+04	0.00	n/a	22.80	n/a
S95T003508	A		Arsenic -ICP-Acid Digest	ug/g	96.00	<1.00E-01	< 45.60	<4.72E1	n/a	n/a	n/a	45.60	n/a
S95T003508	A		Boron -ICP-Acid Digest	ug/g	101.4	4.74E-01	35.80	25.20	30.50	34.8	n/a	22.80	n/a
S95T003508	A		Barium -ICP-Acid Digest	ug/g	97.80	<5.00E-02	< 22.80	<2.36E1	n/a	n/a	n/a	22.80	n/a
S95T003508	A		Beryllium -ICP-Acid Digest	ug/g	107.0	<5.00E-03	< 2.280	<2.36E0	n/a	n/a	n/a	2.280	n/a
S95T003508	A		Bismuth -ICP-Acid Digest	ug/g	94.80	<1.00E-01	< 45.60	<4.72E1	n/a	n/a	n/a	45.60	n/a
S95T003508	A		Calcium -ICP-Acid Digest	ug/g	97.40	3.71E-01	2.55E+02	290.0	272.5	12.8	n/a	45.60	n/a
S95T003508	A		Cadmium -ICP-Acid Digest	ug/g	92.20	<5.00E-03	11.10	11.70	11.40	5.26	n/a	2.280	n/a
S95T003508	A		Cerium -ICP-Acid Digest	ug/g	100.0	<1.00E-01	< 45.60	<4.72E1	n/a	n/a	n/a	45.60	n/a
S95T003508	A		Cobalt -ICP-Acid Digest	ug/g	94.20	<2.00E-02	9.120	12.00	10.56	27.3	n/a	9.120	n/a
S95T003508	A		Chromium -ICP-Acid Digest	ug/g	95.20	<1.00E-02	4.03E+02	433.0	418.0	7.18	n/a	4.560	n/a
S95T003508	A		Copper -ICP-Acid Digest	ug/g	96.40	<1.00E-02	9.100	8.870	8.985	2.56	n/a	4.560	n/a
S95T003508	A		Iron -ICP-Acid Digest	ug/g	97.00	1.36E-01	1.01E+03	1.55E+03	1.28E+03	42.2	n/a	22.80	n/a
S95T003508	A		Potassium -ICP-Acid Digest	ug/g	100.4	<5.00E-01	8.08E+02	842.0	825.0	4.12	n/a	228.0	n/a
S95T003508	A		Lanthanum -ICP-Acid Digest	ug/g	99.20	<5.00E-02	< 22.80	<2.36E1	n/a	n/a	n/a	22.80	n/a
S95T003508	A		Lithium -ICP-Acid Digest	ug/g	99.20	<1.00E-02	41.40	40.80	41.10	1.46	n/a	4.560	n/a
S95T003508	A		Magnesium -ICP-Acid Digest	ug/g	93.60	<1.00E-01	< 45.60	<4.72E1	n/a	n/a	n/a	45.60	n/a
S95T003508	A		Manganese -ICP-Acid Digest	ug/g	93.00	<1.00E-02	42.20	48.80	45.50	14.5	n/a	4.560	n/a
S95T003508	A		Molybdenum -ICP-Acid Digest	ug/g	95.40	<5.00E-02	< 22.80	<2.36E1	n/a	n/a	n/a	22.80	n/a
S95T003508	A		Sodium -ICP-Acid Digest	ug/g	107.6	7.60E-01	1.81E+05	1.97E+05	1.89E+05	8.47	n/a	45.60	n/a
S95T003508	A		Neodymium -ICP-Acid Digest	ug/g	97.00	<1.00E-01	< 45.60	<4.72E1	n/a	n/a	n/a	45.60	n/a
S95T003508	A		Nickel -ICP-Acid Digest	ug/g	94.40	<2.00E-02	1.09E+02	122.0	115.5	11.3	n/a	9.120	n/a
S95T003508	A		Phosphorus -ICP-Acid Digest	ug/g	94.20	<1.00E-01	1.98E+03	1.98E+03	1.98E+03	0.00	n/a	91.20	n/a
S95T003508	A		Lead -ICP-Acid Digest	ug/g	91.40	<1.00E-01	72.00	87.20	79.60	19.1	n/a	45.60	n/a
S95T003508	A		Sulfur -ICP-Acid Digest	ug/g	91.00	<1.00E-01	5.17E+03	4.79E+03	4.98E+03	7.63	n/a	45.60	n/a
S95T003508	A		Antimony -ICP-Acid Digest	ug/g	88.80	<6.00E-02	< 27.30	<2.83E1	n/a	n/a	n/a	27.30	n/a
S95T003508	A		Selenium -ICP-Acid Digest	ug/g	94.20	<1.00E-01	< 45.60	<4.72E1	n/a	n/a	n/a	45.60	n/a
S95T003508	A		Silicon -ICP-Acid Digest	ug/g	149.2	1.11E-01	3.74E+02	298.0	336.0	22.6	n/a	22.80	n/a
S95T003508	A		Samarium -ICP-Acid Digest	ug/g	96.80	<1.00E-01	< 45.60	<4.72E1	n/a	n/a	n/a	45.60	n/a
S95T003508	A		Strontium -ICP-Acid Digest	ug/g	97.60	<1.00E-02	1.33E+02	147.0	140.0	10.0	n/a	4.560	n/a
S95T003508	A		Titanium -ICP-Acid Digest	ug/g	94.20	<1.00E-02	< 4.560	<4.72E0	n/a	n/a	n/a	4.560	n/a
S95T003508	A		Thallium -ICP-Acid Digest	ug/g	92.00	<2.00E-01	< 91.20	<9.45E1	n/a	n/a	n/a	91.20	n/a
S95T003508	A		Uranium -ICP-Acid Digest	ug/g	93.50	<5.00E-01	3.00E+02	359.0	329.5	17.9	n/a	228.0	n/a
S95T003508	A		Vanadium -ICP-Acid Digest	ug/g	93.40	<5.00E-02	< 22.80	<2.36E1	n/a	n/a	n/a	22.80	n/a
S95T003508	A		Zinc -ICP-Acid Digest	ug/g	89.00	<1.00E-02	65.80	78.30	72.05	17.3	n/a	4.560	n/a
S95T003508	A		Zirconium -ICP-Acid Digest	ug/g	94.60	<1.00E-02	5.160	7.030	6.095	30.7	n/a	4.560	n/a

note: A triplicate TGA was run. Result was 22.89%. Average of three TGA results is 25.95%; standard deviation is 5.54%.

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MHC-SP-WM-DP-102, REV. 1

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T003517	W		Fluoride-IC-Dionex 4000i/4500	ug/g	92.88	<1.30e-02	7.69e+03	8.85e+03	8.27e+03	14.0	98.04	239.6	n/a
S95T003517	W		Chloride-IC-Dionex 4000i/4500	ug/g	95.32	<1.70e-02	1.33e+03	1.27e+03	1.30e+03	4.62	88.77	313.3	n/a
S95T003517	W		Nitrite-IC - Dionex 4000i/4500	ug/g	95.19	<1.07e-01	1.32e+04	1.29e+04	1.30e+04	2.30	94.04	1.97e+03	n/a
S95T003517	W		Bromide by Ion Chromatograph	ug/g	96.52	<1.26e-01	<2.32e+03	3.28e+03	n/a	n/a	94.78	2.32e+03	n/a
S95T003517	W		Nitrate by IC-Dionex4000i/4500	ug/g	96.42	8.36e-01	3.57e+05	3.78e+05	3.67e+05	5.71	106.8	2.58e+03	n/a
S95T003517	W		Phosphate-IC-Dionex 4000i/4500	ug/g	97.62	<1.20e-01	1.34e+04	1.32e+04	1.33e+04	1.50	95.90	2.21e+03	n/a
S95T003517	W		Sulfate by IC-Dionex4000i/4500	ug/g	95.56	<1.36e-01	1.80e+04	1.82e+04	1.81e+04	1.10	94.38	2.50e+03	n/a
S95T003517	W		Oxalate by IC - Dionex 4000i	ug/g	99.63	<1.05e-01	1.70e+04	1.79e+04	1.74e+04	5.16	97.97	1.94e+03	n/a

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WHC-SD-WM-OP-162, REV. 1

Laboratory Results for Core 108.
BY-105 (R)

CORE NUMBER: 108
SEGMENT #: 1

SEGMENT PORTION: W Whole Segment

Sample#	R A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T003379		Bulk Density of Sample	g/mL	n/a	n/a	1.970	1.900	1.935	3.62	n/a	5.00e-01	n/a
S95T003393		DSC Exotherm using Mettler	Joules/g	98.07	n/a	27.90	26.80	27.35	4.02	n/a	n/a	n/a
S95T003393		DSC Exotherm Dry Calculated	Joules/g Dry	n/a	n/a	37.36	35.89	36.62	4.01	n/a	n/a	n/a
S95T003393		% Water by TGA using Mettler	%	101.4	n/a	29.00	19.88	24.44	37.3	n/a	n/a	n/a
S95T003393		% Water by TGA on Perkin Elmer	%	100.6	n/a	27.11	n/a	n/a	n/a	n/a	n/a	n/a
S95T003393		TOC by Persulfate/Coulometry	ug/g	93.03	2.700	3.46e+03	3.47e+03	3.46e+03	0.29	n/a	80.00	n/a
S95T003400	F	Alpha of Digested Solid	uCi/g	96.88	<6.21e-03	1.12e-02	9.84e-03	1.05e-02	12.9	88.01	1.40e-02	9.22E+01
S95T003501	A	Silver - ICP-Acid Digest	ug/g	93.90	<1.00e-02	13.10	14.10	13.60	7.35	80.30	4.320	n/a
S95T003501	A	Aluminum - ICP-Acid Digest	ug/g	96.00	<5.00e-02	2.04e+04	2.29e+04	2.16e+04	11.5	9.180	21.60	n/a
S95T003501	A	Arsenic - ICP-Acid Digest	ug/g	96.60	<1.00e-01	< 43.20	<3.91e1	n/a	n/a	84.40	43.20	n/a
S95T003501	A	Boron - ICP-Acid Digest	ug/g	107.0	8.20e-02	< 21.60	<1.96e1	n/a	n/a	83.00	21.60	n/a
S95T003501	A	Barium - ICP-Acid Digest	ug/g	94.60	<5.00e-02	< 21.60	<1.96e1	n/a	n/a	80.20	21.60	n/a
S95T003501	A	Beryllium - ICP-Acid Digest	ug/g	103.4	<5.00e-03	< 2.160	<1.96e0	n/a	n/a	84.20	2.160	n/a
S95T003501	A	Bismuth - ICP-Acid Digest	ug/g	95.20	<1.00e-01	47.60	63.10	55.35	28.0	78.80	43.20	n/a
S95T003501	A	Calcium - ICP-Acid Digest	ug/g	98.00	<1.00e-01	2.01e+02	252.0	226.5	22.5	81.64	43.20	n/a
S95T003501	A	Cadmium - ICP-Acid Digest	ug/g	94.40	<5.00e-03	5.450	6.620	6.035	19.4	80.90	2.160	n/a
S95T003501	A	Cerium - ICP-Acid Digest	ug/g	97.60	<1.00e-01	< 43.20	<3.91e1	n/a	n/a	82.80	43.20	n/a
S95T003501	A	Cobalt - ICP-Acid Digest	ug/g	96.40	<2.00e-02	< 8.650	<7.83e0	n/a	n/a	82.00	8.650	n/a
S95T003501	A	Chromium - ICP-Acid Digest	ug/g	96.40	<1.00e-02	2.40e+02	266.0	253.0	10.3	81.42	4.320	n/a
S95T003501	A	Copper - ICP-Acid Digest	ug/g	94.20	<1.00e-02	5.170	4.100	4.635	23.1	79.72	4.320	n/a
S95T003501	A	Iron - ICP-Acid Digest	ug/g	95.60	<5.00e-02	3.57e+02	354.0	355.5	0.84	75.34	21.60	n/a
S95T003501	A	Potassium - ICP-Acid Digest	ug/g	94.40	<5.00e-01	6.46e+02	652.0	649.0	0.92	80.58	216.0	n/a
S95T003501	A	Lanthanum - ICP-Acid Digest	ug/g	96.40	<5.00e-02	< 21.60	<1.96e1	n/a	n/a	82.40	21.60	n/a
S95T003501	A	Lithium - ICP-Acid Digest	ug/g	94.00	<1.00e-02	< 4.320	<3.91e0	n/a	n/a	81.20	4.320	n/a
S95T003501	A	Magnesium - ICP-Acid Digest	ug/g	92.80	<1.00e-01	< 43.20	<3.91e1	n/a	n/a	79.20	43.20	n/a
S95T003501	A	Manganese - ICP-Acid Digest	ug/g	94.20	<1.00e-02	20.20	22.50	21.35	10.8	78.52	43.20	n/a
S95T003501	A	Molybdenum - ICP-Acid Digest	ug/g	96.40	<5.00e-02	< 21.60	<1.96e1	n/a	n/a	82.40	21.60	n/a
S95T003501	A	Sodium - ICP-Acid Digest	ug/g	109.8	1.53e-01	1.89e+05	1.85e+05	1.87e+05	2.14	1.92e+03	43.20	n/a
S95T003501	A	Neodymium - ICP-Acid Digest	ug/g	93.80	<1.00e-01	< 43.20	<3.91e1	n/a	n/a	79.80	43.20	n/a
S95T003501	A	Nickel - ICP-Acid Digest	ug/g	96.00	<2.00e-02	56.40	62.20	59.30	9.78	80.58	8.650	n/a
S95T003501	A	Phosphorus - ICP-Acid Digest	ug/g	97.60	<2.00e-01	1.21e+03	1.43e+03	1.32e+03	16.7	74.28	86.50	n/a
S95T003501	A	Lead - ICP-Acid Digest	ug/g	94.80	<1.00e-01	49.30	53.10	51.20	7.42	80.44	43.20	n/a
S95T003501	A	Sulfur - ICP-Acid Digest	ug/g	92.60	<1.00e-01	2.67e+03	3.01e+03	2.84e+03	12.0	75.00	43.20	n/a
S95T003501	A	Antimony - ICP-Acid Digest	ug/g	90.00	<6.00e-02	< 25.90	<2.35e1	n/a	n/a	77.80	25.90	n/a
S95T003501	A	Selenium - ICP-Acid Digest	ug/g	94.40	<1.00e-01	< 43.20	<3.91e1	n/a	n/a	82.80	43.20	n/a
S95T003501	A	Silicon - ICP-Acid Digest	ug/g	143.8	<5.00e-02	2.01e+02	249.0	225.0	21.3	74.04	21.60	n/a
S95T003501	A	Samarium - ICP-Acid Digest	ug/g	93.00	<1.00e-01	< 43.20	<3.91e1	n/a	n/a	79.40	43.20	n/a
S95T003501	A	Strontium - ICP-Acid Digest	ug/g	94.80	<1.00e-02	74.60	81.10	77.85	8.35	80.10	4.320	n/a
S95T003501	A	Titanium - ICP-Acid Digest	ug/g	93.20	<1.00e-02	< 4.320	<3.91e0	n/a	n/a	79.60	4.320	n/a
S95T003501	A	Thallium - ICP-Acid Digest	ug/g	91.20	<2.00e-01	< 86.50	<7.83e1	n/a	n/a	75.80	86.50	n/a
S95T003501	A	Uranium - ICP-Acid Digest	ug/g	91.20	<5.00e-01	<2.16e+02	213.0	n/a	n/a	85.90	216.0	n/a
S95T003501	A	Vanadium - ICP-Acid Digest	ug/g	94.00	<5.00e-02	< 21.60	<1.96e1	n/a	n/a	79.80	21.60	n/a
S95T003501	A	Zinc - ICP-Acid Digest	ug/g	93.00	<1.00e-02	25.20	28.20	26.70	11.2	80.26	4.320	n/a

note: Average of three TGA results is 25.33%; standard deviation is 4.81%.

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count	Err%
S95T003501	A		Zirconium-ICP-Acid Digest	ug/g	94.00	<1.00e-02	< 4.320	4.090	n/a	n/a	81.00	4.320	n/a	n/a
S95T003510	W		Fluoride-IC-Dionex 4000i/4500	ug/g	102.4	<1.30e-02	5.42e+03	5.63e+03	5.52e+03	3.80	103.4	249.9	n/a	n/a
S95T003510	W		Chloride-IC-Dionex 4000i/4500	ug/g	104.6	<1.70e-02	5.30e+02	791.0	660.8	39.5	134.4	326.7	n/a	n/a
S95T003510	W		Nitrite-IC - Dionex 4000i/4500	ug/g	99.44	<1.07e-01	1.10e+04	1.05e+04	1.07e+04	4.65	97.68	2.06e+03	n/a	n/a
S95T003510	W		Bromide by Ion Chromatograph	ug/g	100.3	<1.26e-01	<2.42e+03	<2.29e3	n/a	n/a	96.87	2.42e+03	n/a	n/a
S95T003510	W		Nitrate by IC-Dionex4000i/4500	ug/g	102.8	1.65e-01	5.21e+05	5.47e+05	5.34e+05	4.87	111.1	2.69e+03	n/a	n/a
S95T003510	W		Phosphate-IC-Dionex 4000i/4500	ug/g	102.2	<1.19e-01	5.25e+03	5.48e+03	5.37e+03	4.29	99.89	2.29e+03	n/a	n/a
S95T003510	W		Sulfate by IC-Dionex4000i/4500	ug/g	101.0	<1.36e-01	1.23e+04	1.18e+04	1.20e+04	4.15	98.51	2.61e+03	n/a	n/a
S95T003510	W		Oxalate by IC - Dionex 4000i	ug/g	105.2	<1.05e-01	1.54e+04	1.57e+04	1.56e+04	1.93	103.4	2.02e+03	n/a	n/a

Drainable Liquid: Drainable Liquid

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count	Err%
S95T003394			DSC Exotherm using Mettler	Joules/g	102.3	n/a	1.20e+02	105.2	112.7	13.3	n/a	n/a	n/a	n/a
S95T003394			DSC Exotherm Dry Calculated	Joules/g Dry	n/a	n/a	2.63e+02	229.8	246.2	13.3	n/a	n/a	n/a	n/a
S95T003394			Specific Gravity	Sp.G.	99.10	n/a	1.390	1.390	1.390	0.00	n/a	1.00e-02	n/a	n/a
S95T003394			% Water by TGA using Mettler	%	101.0	n/a	54.03	54.41	54.22	0.70	n/a	n/a	n/a	n/a
S95T003394			TOC by Persulfate/Coulometry	ug/ml	93.03	2.700	1.93e+03	1.92e+03	1.92e+03	0.52	n/a	40.00	n/a	n/a
S95T003394	D		Silver-ICP-Acid Dil.	ug/ml	101.0	<1.00e-02	< 4.010	<4.010	n/a	n/a	42.60	4.010	n/a	n/a
S95T003394	D		Aluminum-ICP-Acid Dil.	ug/ml	101.0	<5.00e-02	1.38e+04	1.43e+04	1.40e+04	3.56	145.0	20.10	n/a	n/a
S95T003394	D		Arsenic-ICP-Acid Dil.	ug/ml	103.0	<1.00e-01	< 40.10	<4.01e1	n/a	n/a	97.30	40.10	n/a	n/a
S95T003394	D		Boron-ICP-Acid Dil.	ug/ml	98.60	<5.00e-02	< 22.70	<25.30	24.00	10.8	96.30	20.10	n/a	n/a
S95T003394	D		Barium-ICP-Acid Dil.	ug/ml	100.6	<5.00e-02	< 20.00	<2.00e1	n/a	n/a	97.00	20.10	n/a	n/a
S95T003394	D		Beryllium-ICP-Acid Dil.	ug/ml	103.6	<5.00e-02	< 2.000	<2.00e0	n/a	n/a	103.8	2.000	n/a	n/a
S95T003394	D		Bismuth-ICP-Acid Dil.	ug/ml	103.6	<1.00e-01	< 40.10	<4.01e1	n/a	n/a	101.8	40.10	n/a	n/a
S95T003394	D		Calcium-ICP-Acid Dil.	ug/ml	102.6	<1.00e-01	< 40.10	<4.01e1	n/a	n/a	111.2	40.10	n/a	n/a
S95T003394	D		Cadmium-ICP-Acid Dil.	ug/ml	101.8	<5.00e-03	< 2.000	<2.00e0	n/a	n/a	103.5	2.000	n/a	n/a
S95T003394	D		Cerium-ICP-Acid Dil.	ug/ml	103.0	<1.00e-01	< 40.10	<4.01e1	n/a	n/a	100.5	40.10	n/a	n/a
S95T003394	D		Cobalt-ICP-Acid Dil.	ug/ml	98.20	<2.00e-02	< 8.020	<8.02e0	n/a	n/a	101.0	8.020	n/a	n/a
S95T003394	D		Chromium-ICP-Acid Dil.	ug/ml	103.0	<1.00e-02	1.22e+03	1.27e+03	1.24e+03	4.02	110.7	4.010	n/a	n/a
S95T003394	D		Copper-ICP-Acid Dil.	ug/ml	99.60	<1.00e-02	< 4.010	<4.01e0	n/a	n/a	97.80	4.010	n/a	n/a
S95T003394	D		Iron-ICP-Acid Dil.	ug/ml	102.4	<5.00e-02	< 20.00	<2.00e1	n/a	n/a	104.5	20.10	n/a	n/a
S95T003394	D		Potassium-ICP-Acid Dil.	ug/ml	98.40	<5.00e-01	3.27e+03	3.42e+03	3.34e+03	4.48	100.2	200.0	n/a	n/a
S95T003394	D		Lanthanum-ICP-Acid Dil.	ug/ml	101.4	<5.00e-02	< 2.000	<2.00e1	n/a	n/a	100.3	20.10	n/a	n/a
S95T003394	D		Lithium-ICP-Acid Dil.	ug/ml	101.4	<1.00e-02	< 4.010	<4.01e0	n/a	n/a	98.50	4.010	n/a	n/a
S95T003394	D		Magnesium-ICP-Acid Dil.	ug/ml	100.2	<1.00e-01	< 40.10	<4.01e1	n/a	n/a	96.50	40.10	n/a	n/a
S95T003394	D		Manganese-ICP-Acid Dil.	ug/ml	100.4	<1.00e-02	< 4.010	<4.01e0	n/a	n/a	97.80	4.010	n/a	n/a
S95T003394	D		Molybdenum-ICP-Acid Dil.	ug/ml	100.0	<5.00e-02	< 25.10	<26.80	25.95	6.55	101.7	20.10	n/a	n/a
S95T003394	D		Sodium-ICP-Acid Dil.	ug/ml	101.2	<1.00e-01	1.94e+05	1.98e+05	1.96e+05	2.04	n/a	n/a	n/a	n/a
S95T003394	D		Neodymium-ICP-Acid Dil.	ug/ml	105.0	<1.00e-01	< 40.10	<4.01e1	n/a	n/a	103.0	40.10	n/a	n/a
S95T003394	D		Nickel-ICP-Acid Dil.	ug/ml	102.0	<2.00e-02	< 8.020	<8.02e0	n/a	n/a	103.3	8.020	n/a	n/a
S95T003394	D		Phosphorus-ICP-Acid Dil.	ug/ml	99.60	<2.00e-01	4.74e+02	488.0	481.0	2.91	106.0	80.20	n/a	n/a
S95T003394	D		Lead-ICP-Acid Dil.	ug/ml	102.4	<1.00e-01	< 68.00	<73.90	70.95	8.32	107.0	40.10	n/a	n/a
S95T003394	D		Sulfur-ICP-Acid Dil.	ug/ml	98.40	<1.00e-01	6.47e+02	676.0	661.5	4.38	105.5	40.10	n/a	n/a
S95T003394	D		Antimony-ICP-Acid Dil.	ug/ml	94.00	<6.00e-02	< 26.10	<2.61e1	n/a	n/a	96.00	24.10	n/a	n/a
S95T003394	D		Selenium-ICP-Acid Dil.	ug/ml	101.6	<1.00e-01	< 40.10	<4.01e1	n/a	n/a	109.7	40.10	n/a	n/a
S95T003394	D		Silicon-ICP-Acid Dil.	ug/ml	98.40	<5.00e-02	1.49e+02	152.0	150.5	1.99	108.2	20.10	n/a	n/a
S95T003394	D		Samarium-ICP-Acid Dil.	ug/ml	100.2	<1.00e-01	< 40.10	<4.01e1	n/a	n/a	101.0	40.10	n/a	n/a
S95T003394	D		Strontium-ICP-Acid Dil.	ug/ml	100.2	<1.00e-02	< 4.010	<4.01e0	n/a	n/a	99.30	4.010	n/a	n/a
S95T003394	D		Titanium-ICP-Acid Dil.	ug/ml	96.60	<1.00e-02	< 4.010	<4.01e0	n/a	n/a	96.30	4.010	n/a	n/a

WHC-SD-WM-DP-162, REV. 1)

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count	Err%
S95T003394	D		Thallium-ICP-Acid Dil.	ug/mL	100.4	<2.00e-01	< 80.20	<8.02e1	n/a	n/a	101.5	80.20	n/a	
S95T003394	D		Uranium-ICP-Acid Dil.	ug/mL	98.70	<5.00e-01	<2.00e+02	<2.00e2	n/a	n/a	98.65	200.0	n/a	
S95T003394	D		Vanadium-ICP-Acid Dil.	ug/mL	99.20	<5.00e-02	< 20.00	<2.00e1	n/a	n/a	99.50	20.10	n/a	
S95T003394	D		Zinc-ICP-Acid Dil.	ug/mL	98.80	<1.00e-02	26.60	31.80	29.20	17.8	101.6	4.010	n/a	
S95T003394	D		Zirconium-ICP-Acid Dil.	ug/mL	98.00	<1.00e-02	< 4.010	<4.01e0	n/a	n/a	98.30	4.010	n/a	
S95T003394			Fluoride-IC-Dionex 4000i/4500	ug/mL	92.88	<1.30e-02	6.02e+02	648.0	624.9	7.36	n/a	66.96	n/a	
S95T003394			Chloride-IC-Dionex 4000i/4500	ug/mL	92.28	<1.70e-02	3.08e+03	3.21e+03	3.14e+03	4.13	n/a	87.57	n/a	
S95T003394			Nitrite-IC - Dionex 4000i/4500	ug/mL	91.31	<1.07e-01	4.02e+04	4.15e+04	4.09e+04	3.18	109.0	551.2	n/a	
S95T003394			Bromide by Ion Chromatograph	ug/mL	92.35	<1.26e-01	<6.49e+02	<6.49e2	n/a	n/a	n/a	649.0	n/a	
S95T003394			Nitrate-IC - Dionex 4000i/4500	ug/mL	94.62	<1.40e-01	2.44e+05	2.49e+05	2.46e+05	2.03	127.1	721.1	n/a	
S95T003394			Phosphate-IC-Dionex 4000i/4500	ug/mL	93.22	<1.19e-01	9.95e+02	777.0	886.0	24.6	n/a	618.1	n/a	
S95T003394			Sulfate by IC-Dionex4000i/4500	ug/mL	92.87	<1.36e-01	1.90e+03	1.85e+03	1.88e+03	2.67	n/a	700.5	n/a	
S95T003394			Oxalate by IC - Dionex 4000i	ug/mL	90.35	1.08e-01	5.87e+02	554.0	570.7	5.78	n/a	540.9	n/a	
S95T003394			Alpha in Liquid Samples	uci/mL	94.53	3.00e-03	<3.71e-03	4.11e-03	n/a	n/a	93.53	4.00e-03	2.25E+02	

Laboratory Results for Core 108.
BY-105 (R)

CORE NUMBER: 108
SEGMENT #: 2

SEGMENT PORTION: W Whole Segment

Sample#	R A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
* S95T003384		Bulk Density of Sample	g/ml	n/a	n/a	< 5.00	n/a	n/a	n/a	n/a	5.00e-01	n/a
S95T003398		DSC Exotherm using Mettler	Joules/g	96.31	n/a	15.50	17.30	16.40	11.0	n/a	n/a	n/a
S95T003398		DSC Exotherm Dry Calculated	Joules/g Dry	n/a	n/a	18.63	20.79	19.71	11.0	n/a	n/a	n/a
S95T003398		% Water by TGA using Mettler	%	101.4	n/a	16.46	17.10	16.78	3.81	n/a	n/a	n/a
S95T003398		TOC by Persulfate/Coulometry	ug/g	93.70	9.00e-01	4.03e+03	4.12e+03	4.08e+03	2.21	n/a	40.00	n/a
S95T003403	F	Alpha of Digested Solid	uCi/g	94.79	<5.85e-03	2.94e-02	3.30e-02	3.12e-02	11.5	78.83	8.00e-03	2.86e+01
S95T003504	A	Silver - ICP-Acid Digest	ug/g	93.90	<1.00e-02	20.60	22.20	21.40	7.48	n/a	4.430	n/a
S95T003504	A	Aluminum - ICP-Acid Digest	ug/g	96.00	<5.00e-02	5.67e+03	5.75e+03	5.71e+03	1.40	n/a	22.10	n/a
S95T003504	A	Arsenic - ICP-Acid Digest	ug/g	96.60	<1.00e-01	< 44.30	<4.69e1	n/a	n/a	n/a	44.30	n/a
S95T003504	A	Boron - ICP-Acid Digest	ug/g	107.0	8.20e-02	< 22.10	<2.35e1	n/a	n/a	n/a	22.10	n/a
S95T003504	A	Barium - ICP-Acid Digest	ug/g	94.60	<5.00e-02	< 22.10	<2.35e1	n/a	n/a	n/a	22.10	n/a
S95T003504	A	Beryllium - ICP-Acid Digest	ug/g	103.4	<5.00e-03	< 2.210	<2.35e0	n/a	n/a	n/a	2.210	n/a
S95T003504	A	Bismuth - ICP-Acid Digest	ug/g	95.20	<1.00e-01	< 44.30	128.0	n/a	n/a	n/a	44.30	n/a
S95T003504	A	Calcium - ICP-Acid Digest	ug/g	98.00	<1.00e-01	2.00e+02	232.0	216.0	14.8	n/a	44.30	n/a
S95T003504	A	Cadmium - ICP-Acid Digest	ug/g	94.40	<5.00e-03	5.610	6.280	5.945	11.3	n/a	2.210	n/a
S95T003504	A	Cerium - ICP-Acid Digest	ug/g	97.60	<1.00e-01	< 44.30	<4.69e1	n/a	n/a	n/a	44.30	n/a
S95T003504	A	Cobalt - ICP-Acid Digest	ug/g	96.40	<2.00e-02	< 8.850	<9.39e0	n/a	n/a	n/a	8.850	n/a
S95T003504	A	Chromium - ICP-Acid Digest	ug/g	96.40	<1.00e-02	3.61e+02	382.0	371.5	5.65	n/a	4.430	n/a
S95T003504	A	Copper - ICP-Acid Digest	ug/g	94.20	<1.00e-02	< 4.430	<4.69e0	n/a	n/a	n/a	4.430	n/a
S95T003504	A	Iron - ICP-Acid Digest	ug/g	95.60	<5.00e-02	3.16e+02	495.0	405.5	44.1	n/a	22.10	n/a
S95T003504	A	Potassium - ICP-Acid Digest	ug/g	94.40	<5.00e-01	8.81e+02	929.0	905.0	5.30	n/a	221.0	n/a
S95T003504	A	Lanthanum - ICP-Acid Digest	ug/g	96.40	<5.00e-02	< 22.10	24.90	n/a	n/a	n/a	22.10	n/a
S95T003504	A	Lithium - ICP-Acid Digest	ug/g	94.00	<1.00e-02	< 4.430	<4.69e0	n/a	n/a	n/a	4.430	n/a
S95T003504	A	Magnesium - ICP-Acid Digest	ug/g	92.80	<1.00e-01	< 44.30	<4.69e1	n/a	n/a	n/a	44.30	n/a
S95T003504	A	Manganese - ICP-Acid Digest	ug/g	94.20	<1.00e-02	84.90	89.60	87.25	5.39	n/a	4.430	n/a
S95T003504	A	Molybdenum - ICP-Acid Digest	ug/g	96.40	<5.00e-02	< 22.10	<2.35e1	n/a	n/a	n/a	22.10	n/a
S95T003504	A	Sodium - ICP-Acid Digest	ug/g	109.8	1.53e-01	2.13e+05	2.36e+05	2.24e+05	10.2	n/a	44.30	n/a
S95T003504	A	Neodymium - ICP-Acid Digest	ug/g	93.80	<1.00e-01	< 44.30	<4.69e1	n/a	n/a	n/a	44.30	n/a
S95T003504	A	Nickel - ICP-Acid Digest	ug/g	96.00	<2.00e-02	69.50	75.30	72.40	8.01	n/a	8.850	n/a
S95T003504	A	Phosphorus - ICP-Acid Digest	ug/g	97.60	<2.00e-01	2.42e+02	394.0	318.0	47.8	n/a	88.50	n/a
S95T003504	A	Lead - ICP-Acid Digest	ug/g	94.80	<1.00e-01	< 44.30	<4.69e1	n/a	n/a	n/a	44.30	n/a
S95T003504	A	Sulfur - ICP-Acid Digest	ug/g	92.60	<1.00e-01	4.51e+03	4.93e+03	4.72e+03	8.90	n/a	44.30	n/a
S95T003504	A	Antimony - ICP-Acid Digest	ug/g	90.00	<6.00e-02	< 26.60	<2.82e1	n/a	n/a	n/a	26.60	n/a
S95T003504	A	Selenium - ICP-Acid Digest	ug/g	94.40	<1.00e-01	< 44.30	<4.69e1	n/a	n/a	n/a	44.30	n/a
S95T003504	A	Silicon - ICP-Acid Digest	ug/g	143.8	<5.00e-02	1.32e+02	221.0	176.5	50.4	n/a	22.10	n/a
S95T003504	A	Samarium - ICP-Acid Digest	ug/g	93.00	<1.00e-01	< 44.30	<4.69e1	n/a	n/a	n/a	44.30	n/a
S95T003504	A	Strontium - ICP-Acid Digest	ug/g	94.80	<1.00e-02	28.00	30.30	29.15	7.89	n/a	4.430	n/a
S95T003504	A	Titanium - ICP-Acid Digest	ug/g	93.20	<1.00e-02	< 4.430	<4.69e0	n/a	n/a	n/a	4.430	n/a
S95T003504	A	Thallium - ICP-Acid Digest	ug/g	91.20	<2.00e-01	< 88.50	<9.39e1	n/a	n/a	n/a	88.50	n/a
S95T003504	A	Uranium - ICP-Acid Digest	ug/g	91.20	<5.00e-01	2.24e+02	<2.35e2	n/a	n/a	n/a	221.0	n/a
S95T003504	A	Vanadium - ICP-Acid Digest	ug/g	94.00	<5.00e-02	< 22.10	<2.35e1	n/a	n/a	n/a	22.10	n/a
S95T003504	A	Zinc - ICP-Acid Digest	ug/g	93.00	<1.00e-02	29.70	19.20	24.45	42.9	n/a	4.430	n/a
S95T003504	A	Zirconium - ICP-Acid Digest	ug/g	94.00	<1.00e-02	4.580	<4.69e0	n/a	n/a	n/a	4.430	n/a

* Insufficient sample for bulk density measurement.

note: A triplicate DSC was run. Result is 10.5 J/g, wet weight basis. Average of three DSC results is 17 J/g, dry weight basis; standard deviation is 2 J/g.

MHC-SD-WM-DP-162, REV. 1

Sample#	R	Alt	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T003513	W		Fluoride-IC-Dionex 4000i/4500	ug/g	95.25	<1.30e-02	3.68e+03	3.77e+03	3.73e+03	2.42	n/a	53.84	n/a
S95T003513	W		Chloride-IC-Dionex 4000i/4500	ug/g	92.91	<1.70e-02	1.24e+03	848.0	1.04e+03	37.5	n/a	70.41	n/a
S95T003513	W		Nitrite-IC - Dionex 4000i/4500	ug/g	93.90	<1.07e-01	9.89e+03	1.05e+04	1.02e+04	5.98	n/a	443.2	n/a
S95T003513	W		Bromide by Ion Chromatograph	ug/g	93.91	<1.26e-01	<5.22e+02	<5.16e2	n/a	n/a	n/a	521.9	n/a
S95T003513	W		Nitrate by IC-Dionex4000i/4500	ug/g	95.28	<1.40e-01	2.78e+05	3.11e+05	2.95e+05	11.2	n/a	2.79e+03	n/a
S95T003513	W		Phosphate-IC-Dionex 4000i/4500	ug/g	96.70	<1.20e-01	9.59e+02	<4.91e2	n/a	n/a	n/a	496.6	n/a
S95T003513	W		Sulfate by IC-Dionex4000i/4500	ug/g	94.30	<1.36e-01	1.70e+04	1.76e+04	1.73e+04	3.47	n/a	562.9	n/a
S95T003513	W		Oxalate by IC - Dionex 4000i	ug/g	97.96	<1.05e-01	1.24e+04	1.26e+04	1.25e+04	1.60	n/a	434.9	n/a

Laboratory Results for Core 108.
BY-105 (R)

CORE NUMBER: 108
SEGMENT #: 3

SEGMENT PORTION: W Whole Segment

Sample#	R A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T003385		Bulk Density of Sample	g/mL	n/a	n/a	1.830	n/a	n/a	n/a	n/a	5.00e-01	n/a
S95T003399		Cyanide EDTA Addition	ug/g	100.7	1.00e-03	3.920	5.860	4.890	39.7	82.50	3.840	n/a
S95T003399		Cyanide Dry - Calculated w TGA	ug/g Dry Wt	n/a	n/a	4.160	6.220	5.190	39.7	n/a	2.00e-02	n/a
S95T003399		DSC Exotherm using Mettler	Joules/g	96.31	n/a	0.00e+00	760.0	380.0	200	n/a	n/a	n/a
S95T003399		DSC Exotherm Dry Calculated	Joules/g Dry	n/a	n/a	0.00e+00	806.2	403.1	200	n/a	n/a	n/a
S95T003399		% Water by TGA using Mettler	%	101.4	n/a	8.270	6.120	7.195	29.9	n/a	n/a	n/a
S95T003399		TOC by Persulfate/Coulometry	ug/g	93.70	9.00e-01	6.50e+02	687.0	668.5	5.53	n/a	40.00	n/a
S95T003404	F	Alpha of Digested Solid	uCi/g	115.1	<7.11e-03	1.29e-02	1.94e-02	1.62e-02	40.2	99.49	1.30e-02	6.83e+01
S95T003505	A	Silver -ICP-Acid Digest	ug/g	93.90	<1.00e-02	13.50	27.70	20.60	68.9	n/a	3.730	n/a
S95T003505	A	Aluminum -ICP-Acid Digest	ug/g	96.00	<5.00e-02	4.09e+03	4.96e+03	4.52e+03	19.2	n/a	18.60	n/a
S95T003505	A	Arsenic -ICP-Acid Digest	ug/g	96.60	<1.00e-01	< 37.30	<3.87e1	n/a	n/a	n/a	37.30	n/a
S95T003505	A	Boron -ICP-Acid Digest	ug/g	107.0	8.20e-02	< 18.60	<1.94e1	n/a	n/a	n/a	18.60	n/a
S95T003505	A	Barium -ICP-Acid Digest	ug/g	94.60	<5.00e-02	< 18.60	<1.94e1	n/a	n/a	n/a	18.60	n/a
S95T003505	A	Beryllium -ICP-Acid Digest	ug/g	103.4	<5.00e-03	< 1.860	<1.94e0	n/a	n/a	n/a	1.860	n/a
S95T003505	A	Bismuth -ICP-Acid Digest	ug/g	95.20	<1.00e-01	< 37.30	46.20	n/a	n/a	n/a	37.30	n/a
S95T003505	A	Calcium -ICP-Acid Digest	ug/g	98.00	<1.00e-01	1.36e+02	195.0	165.5	35.6	n/a	37.30	n/a
S95T003505	A	Cadmium -ICP-Acid Digest	ug/g	94.40	<5.00e-03	< 1.860	3.750	n/a	n/a	n/a	1.860	n/a
S95T003505	A	Cerium -ICP-Acid Digest	ug/g	97.60	<1.00e-01	< 37.30	<3.87e1	n/a	n/a	n/a	37.30	n/a
S95T003505	A	Cobalt -ICP-Acid Digest	ug/g	96.40	<2.00e-02	< 7.450	<7.75e0	n/a	n/a	n/a	7.450	n/a
S95T003505	A	Chromium -ICP-Acid Digest	ug/g	96.40	<1.00e-02	1.62e+02	383.0	272.5	81.1	n/a	3.730	n/a
S95T003505	A	Copper -ICP-Acid Digest	ug/g	94.20	<1.00e-02	< 3.730	<3.87e0	n/a	n/a	n/a	3.730	n/a
S95T003505	A	Iron -ICP-Acid Digest	ug/g	95.60	<5.00e-02	1.17e+03	370.0	243.5	104	n/a	18.60	n/a
S95T003505	A	Potassium -ICP-Acid Digest	ug/g	94.40	<5.00e-01	5.69e+02	578.0	573.5	1.57	n/a	186.0	n/a
S95T003505	A	Lanthanum -ICP-Acid Digest	ug/g	96.40	<5.00e-02	< 18.60	<1.94e1	n/a	n/a	n/a	18.60	n/a
S95T003505	A	Lithium -ICP-Acid Digest	ug/g	94.00	<1.00e-02	< 3.730	<3.87e0	n/a	n/a	n/a	3.730	n/a
S95T003505	A	Magnesium -ICP-Acid Digest	ug/g	92.80	<1.00e-01	< 37.30	<3.87e1	n/a	n/a	n/a	37.30	n/a
S95T003505	A	Manganese -ICP-Acid Digest	ug/g	94.20	<1.00e-02	26.80	138.0	82.40	135	n/a	3.730	n/a
S95T003505	A	Molybdenum -ICP-Acid Digest	ug/g	96.40	<5.00e-02	< 18.60	<1.94e1	n/a	n/a	n/a	18.60	n/a
S95T003505	A	Sodium -ICP-Acid Digest	ug/g	109.8	1.53e-01	1.82e+05	2.29e+05	2.06e+05	22.9	n/a	37.30	n/a
S95T003505	A	Neodymium -ICP-Acid Digest	ug/g	93.80	<1.00e-01	< 37.30	<3.87e1	n/a	n/a	n/a	37.30	n/a
S95T003505	A	Nickel -ICP-Acid Digest	ug/g	96.00	<2.00e-02	21.10	75.30	48.20	112	n/a	7.450	n/a
S95T003505	A	Phosphorus -ICP-Acid Digest	ug/g	97.60	<2.00e-01	2.76e+02	163.0	219.5	51.5	n/a	74.50	n/a
S95T003505	A	Lead -ICP-Acid Digest	ug/g	94.80	<1.00e-01	< 37.30	39.50	n/a	n/a	n/a	37.30	n/a
S95T003505	A	Sulfur -ICP-Acid Digest	ug/g	92.60	<1.00e-01	4.42e+02	1.84e+03	1.14e+03	123	n/a	37.30	n/a
S95T003505	A	Antimony -ICP-Acid Digest	ug/g	90.00	<6.00e-02	< 22.50	<2.32e1	n/a	n/a	n/a	22.40	n/a
S95T003505	A	Selenium -ICP-Acid Digest	ug/g	94.40	<1.00e-01	< 37.30	<3.87e1	n/a	n/a	n/a	37.30	n/a
S95T003505	A	Silicon -ICP-Acid Digest	ug/g	143.8	<5.00e-02	74.90	98.70	86.80	27.4	n/a	18.60	n/a
S95T003505	A	Samarium -ICP-Acid Digest	ug/g	93.00	<1.00e-01	< 37.30	<3.87e1	n/a	n/a	n/a	37.30	n/a
S95T003505	A	Strontium -ICP-Acid Digest	ug/g	94.80	<1.00e-02	31.20	104.0	67.60	108	n/a	3.730	n/a
S95T003505	A	Titanium -ICP-Acid Digest	ug/g	93.20	<1.00e-02	< 3.730	<3.87e0	n/a	n/a	n/a	3.730	n/a
S95T003505	A	Thallium -ICP-Acid Digest	ug/g	91.20	<2.00e-01	< 74.50	<7.75e1	n/a	n/a	n/a	74.50	n/a
S95T003505	A	Uranium -ICP-Acid Digest	ug/g	91.20	<5.00e-01	<1.86e+02	251.0	n/a	n/a	n/a	186.0	n/a
S95T003505	A	Vanadium -ICP-Acid Digest	ug/g	94.00	<5.00e-02	< 18.60	<1.94e1	n/a	n/a	n/a	18.60	n/a

note: A triplicate TGA was run. Result is 2.8%. Average of three TGA results is 5.73%; standard deviation is 2.76%.
A triplicate DSC was run. Result is 0 J/g. Average of three DSC results is 269 J/g, dry weight basis;
standard deviation is 269 J/g.

WHC-SD-WM-DP-162, REV 1

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T003505	A		Zinc -ICP-Acid Digest	ug/g	93.00	<1.00e-02	12.80	16.60	14.70	25.9	n/a	3.730	n/a
S95T003505	A		Zirconium -ICP-Acid Digest	ug/g	94.00	<1.00e-02	< 3.730	5.510	n/a	n/a	n/a	3.730	n/a
S95T003514	W		Fluoride-IC-Dionex 4000i/4500	ug/g	95.25	<1.30e-02	3.91e+02	356.0	373.6	9.37	n/a	49.92	n/a
S95T003514	W		Chloride-IC-Dionex 4000i/4500	ug/g	92.91	<1.70e-02	5.51e+02	580.0	565.4	5.13	n/a	65.27	n/a
S95T003514	W		Nitrite-IC - Dionex 4000i/4500	ug/g	93.90	<1.07e-01	6.96e+03	6.84e+03	6.90e+03	1.74	n/a	410.9	n/a
S95T003514	W		Bromide by Ion Chromatograph	ug/g	93.91	<1.26e-01	<4.84e+02	<4.97e2	n/a	n/a	n/a	483.8	n/a
S95T003514	W		Nitrate by IC-Dionex4000i/4500	ug/g	95.28	<1.40e-01	6.20e+05	6.20e+05	6.20e+05	0.00	n/a	2.58e+03	n/a
S95T003514	W		Phosphate-IC-Dionex 4000i/4500	ug/g	96.70	<1.20e-01	<4.60e+02	<4.74e2	n/a	n/a	n/a	460.4	n/a
S95T003514	W		Sulfate by IC-Dionex4000i/4500	ug/g	94.30	<1.36e-01	1.85e+03	2.03e+03	1.94e+03	9.28	n/a	521.8	n/a
S95T003514	W		Oxalate by IC - Dionex 4000i	ug/g	97.96	<1.05e-01	1.40e+03	1.27e+03	1.34e+03	9.74	n/a	403.2	n/a

WHC-SD-WM-DP-162, REV. 1

CHAIN OF CUSTODY FORMS

WHC-SD-WM-DP-162, REV. 1

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509 373 432

022

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

(1) Shipments Number 2004-08-7F(2) Sample Number 95-197(3) Supervisor Joe Ferguson(4) Tank BY-105(5) Rise 1A8(6) Segment 1(7) Core 108(8) Cask Serial Number C1031

(1) Radiation Survey Data:

(2) FIELD

(3) LABORATORY

(4) Shipment Description

A. Work Package Number 65-95-00434B. Cask Seal Number 1391C. Sampler Serial Number 94-306D. Date and Time Sampler Unsealed 8/3/95 @ 1809E. Expected Liquid Content 70%F. Expected Solid Content 30%G. Dose Rate Through DRI Slab 450 mR/hrH. Expected Sample Length 9 1/2"

Smokeable Contamination

Bottom Dose Rate

Side Dose Rate

Over Top Dose Rate

RCT- (HPT)

1

2.5 dpm / liter

2.5 dpm / liter

2.5

7

< 5

< 5

RCT- (HPT)

2.5 dpm / liter

2.5 dpm / liter

2.5

1.8

4.5

4.5

4.5

(Signature)

(Initials)

(Date)

(Time)

(Location)

(Operator)

(Inspector)

(Reviewer)

C

(12) Field Comments
XPL shows 7.8" Recovery

(14) Laboratory Comments

WHC-SD-WM-DP-162, REV. 1

(13) Point of Origin

BY-105

(14) Destination

22.5

(15) Requisitioned By (Sign and PRINT)

DA KRAHN

(16) Requisitioned By (Sign and PRINT)

DA KRAHN

(17) Requisitioned By (Sign and PRINT)

DA KRAHN

(18) Requisitioned By (Sign and PRINT)

DA KRAHN

(19) Requisitioned By (Sign and PRINT)

DA KRAHN

(20) Requisitioned By (Sign and PRINT)

DA KRAHN

(21) Requisitioned By (Sign and PRINT)

DA KRAHN

(22) Requisitioned By (Sign and PRINT)

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(23) Requisitioned By (Sign and PRINT)

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(24) Requisitioned By (Sign and PRINT)

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(25) Requisitioned By (Sign and PRINT)

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(26) Requisitioned By (Sign and PRINT)

DA KRAHN

(27) Requisitioned By (Sign and PRINT)

DA KRAHN

(28) Requisitioned By (Sign and PRINT)

DA KRAHN

(31) Seal Intact Upon Receipt?

☒ Yes ☐ No

Shipment No.

☒ Yes ☐ No

Cask Seal No.

☒ Yes ☐ No

Sample No.

☒ Yes ☐ No

(32) Seal Date Consistent with the Record?

DC-6000-309 10:

Accidented - Tank Farm Operations, 54-43

Park - Core Sampling, 56-05

Yellow - Requisition of Sample

Office of Sample Management

DISTRIBUTION: White

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

COPY

(11) Shipment Number 200W-08-7F (12) Sample Number 95-197A (13) Supervisor Joe Ferguson (14) Tank 6Y-105 (5) Riser 12A (6) Segment 4-14-95 (7) Core 108 (8) Cask Serial Number Q1034

Radiation Survey Data:		(9) FIELD		(3) LABORATORY		(10) Shipment Description	
Over Top Dose Rate	< 5	4.05 mR/hr	5 mR/hr	A. Work Package Number	1392	ES-95-00434	
Side Dose Rate	2.2	0.3 mR/hr	0.3 mR/hr	B. Cask Seal Number	94-261		
Bottom Dose Rate	2.2	0.3 mR/hr	0.3 mR/hr	C. Sampler Serial Number	8-30-95/1953		
Removable Contamination	220 dpm/cm ²	120 dpm/cm ²	120 dpm/cm ²	D. Date and Time Sampler Unsealed	10%		
	5100 cpm/cm ²	21K-100-1100	21K-100-1100	E. Expected Liquid Content	30%		
	(Alpha)	(Alpha)	(Alpha)	F. Expected Solid Content	3.20 mR/hr		
	(Signature)	(Signature)	(Signature)	G. Dose Rate Through Drill String	9 1/2"		
RCT*	(HPT)	RCT*	(HPT)	H. Expected Sample Length			

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

(12) Field Comments ONLY PULSED 4 1/2" DOWN FOR 4" TO HIGH. XPL SHOWS 4" RECOVERY

(13) Laboratory Comments

(11) Point of Origin	(14) Destination	(15) Sender Name (Sign and PRINT)	(16) Date/Time	(17) Sender Comments	(18) Receiver Comments	(19) Date/Time	(20) Receiver Comments	(21) Date/Time	(22) Receiver Comments	(23) Date/Time	(24) Receiver Comments	(25) Date/Time	(26) Receiver Comments	(27) Date/Time	(28) Receiver Comments
6Y-105	200W-08-7F	DA KRAATZ	8/31/95			8/31/95		8/31/95		8/31/95		8/31/95		8/31/95	

(18) Seal Intact Upon Release?	(21) Seal Intact Upon Receipt?	Shipment No.	Cask Seal No.	Sample No.
☒ Yes	☒ Yes	☒ Yes	☒ Yes	☒ Yes
☐ No	☐ No	☐ No	☐ No	☐ No

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

COPY

6/125
5/11/05

Shipment Number

200W-08-TF

105-BY

(2) Sample Number

95-199

(3) Supervisor

William A Hall

9-1-95

(6) Segment

1B

(7) Core

108

(8) Cask Serial Number

C-1050

Station Survey (Date)

(9) FIELD

(10) LABORATORY

(11) Shipment Description

A. Work Package Number

B. Cask Seal Number

C. Sampler Serial Number

D. Date and Time Samples Unpacked

12:50 PM

E. Expected Liquid Content

20%

F. Expected Solid Content

80% Sudge

G. Dose Rate Through Drill String

120 M/R

H. Expected Sample Length

19"

Invertible Contamination

Bottom Dose Rate

Side Dose Rate

Over Top Dose Rate

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

RCT

(Signature)

RCT

(Date/Time)

 

RCT

 

RCT

 

RCT

 

RCT

 

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CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

9595002400

COPY

(1) Shipment Number 20041-08-TF	(2) Sample Number 95-18328 74145	(3) Supervisor J. J. Longman	(4) Tank BY105	(5) Riser 12A	(6) Segment 1C	(7) Core 108	(8) Cask Serial Number 1004-C
Radiation Survey Data: Over Top Dose Rate: 4.5 mR/hr Side Dose Rate: 4.5 mR/hr Bottom Dose Rate: 1 mR/hr Some arele's Contamination: 1 mR/hr @ 100cm (Alpha) 1.20 dpm/LNS (Beta Gamma) 1.1K/LNS (Signature) J. J. Longman (HPT) CBECS							
(3) LABORATORY 10.5 mR/hr 40.5 mR/hr 1 mR/hr 1.20 dpm/LNS (Alpha) 1.1K/LNS (Beta Gamma) 1.1K/LNS (Signature) CBECS							
(11) INFORMATION (Include statement of laboratory tests to be performed.) 1. Work Package Number: 95-95-00434/0 2. Cask Seal Number: 4432 3. Sampler Serial Number: 95-183 4. Date and Time Sampler Unsealed: 9-9-95 @ 1809 5. Expected Liquid Content: 100% 6. Expected Solid Content: 40% 7. Dose Rate Through Drill String: 4.5 mR/hr 8. Expected Sample Length: 19"							

(12) Right Comments	(14) Laboratory Comments
---------------------	--------------------------

WHC-SD-WM-DP-162, REV. 1

(13) Point of Origin BY105	(14) Destination 222-5	(15) Sender Name (Sign and PRINT) J. J. Longman	(16) Date/Time 9/12/95	(17) Sender Comments AT77
(18) Not Requested By (Sign and PRINT) J. J. Longman	(19) Requested By (Sign and PRINT) J. J. Longman	(20) Received By (Sign and PRINT) J. J. Longman	(21) Date/Time 9/12/95	(22) Receiver Comments 122
(23) Not Requested By (Sign and PRINT) J. J. Longman	(24) Requested By (Sign and PRINT) J. J. Longman	(25) Received By (Sign and PRINT) J. J. Longman	(26) Date/Time 9/12/95	(27) Receiver Comments 126
(28) Not Requested By (Sign and PRINT) J. J. Longman	(29) Requested By (Sign and PRINT) J. J. Longman	(30) Received By (Sign and PRINT) J. J. Longman	(31) Date/Time 9/12/95	(32) Receiver Comments 129
(31) Seal Intact Upon Receipt?		(32) Seal Intact Upon Receipt?		
☒ Yes ☐ No		☒ Yes ☐ No		
(18) Seal Intact Upon Release?		(32) Seal Intact Upon Release?		
☒ Yes ☐ No		☒ Yes ☐ No		
(19) Shipment No.		Cask Seal No.		
☒ Yes ☐ No		☒ Yes ☐ No		
(20) Distribution: White - Office of Sample Management Yellow - Recipient of Sample Pink - Core Sampling, SR-PS		Distribution: White - Office of Sample Management Yellow - Recipient of Sample Pink - Core Sampling, SR-PS		

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

COPY

Shipment Number 2001W-05-TF (2) Sample Number 95198 (3) Supervisor Tammy Pughman
 Fork BY-105 (5) Riser L2A (6) Segment 2 (7) Core 108 (8) Cask Serial Number 7396C1045

Station Survey Data:

(31) FIELD

(33) LABORATORY

vor Top Dose Rate

1.5 mR/hr @ C< 0.5 mR/hr

de Dose Rate

2 mR/hr @ C2 mR/hr

Bottom Dose Rate

2.2 mR/hr @ C2 mR/hr

measurable Contamination

< 20< 220 dpm/100 cm²

(Alpha)

(Alpha)

CLK< 100 dpm/100 cm²

(Beta-Gamma)

(Beta-Gamma)

RCT*

(HPT)

(Signature)

RCT*

(HPT)

(Signature)

(10) Shipment Description

A. Work Package Number

ES-95-00434/0

B. Cask Seal Number

1386

C. Sampler Serial Number

94-377

D. Date and Time Sampler Unsealed

9/4-95 @ 1940

E. Expected Liquid Content

1080

F. Expected Solid Content

20%

G. Dose Rate Through Drill String

20 mR/hr

H. Expected Sample Length

19"

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

Post-It Fax Note 7671

Date 9/15/95 # of pages 6To Lee A SasakiFrom Leslie

Co./Dept.

Co.

Phone #

Phone #

Fax #

Fax #

Field Comments

XR1 SHOWS < 13% Recovery

(34) Lab

WHC-SD-WM-DP-162, REV. I

Point of Origin	(14) Destination	(15) Transfer Party (Sign and PRINT)	(16) Date/Time	(17) Sender Comments
<u>1-105</u>	<u>222-S</u>	<u>DAKOT DA KRAHN</u>	<u>9-15-95</u>	
Relinquished By (Sign and PRINT)		(20) Received By (Sign and PRINT)	(21) Date/Time	(22) Receiver Comments
<u>DAKOT DA KRAHN</u>		<u>Christina S Parker, Christina S Parker</u>	<u>9-15-95</u>	
Relinquished By (Sign and PRINT)		(24) Received By (Sign and PRINT)	(25) Date/Time	(26) Receiver Comments
<u>Christina S Parker, Christina S Parker</u>		<u>EE Parker</u>	<u>9-15-95 1100</u>	
Relinquished By (Sign and PRINT)		(28) Received By (Sign and PRINT)	(29) Date/Time	(30) Receiver Comments

(18) Seal Intact Upon Release?

(31) Seal Intact Upon Receipt?

(32) Seal Data Consistent with this Record?

☒ Yes☐ No☒ Yes☐ No

Shipment I/O.

☒ Yes☐ No

Cask Seal No.

☒ Yes☐ No

Sample I/O.

☒ Yes☐ No

37

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

COPY

Shipment Number 200W-08-TF (2) Sample Number 95-199 (3) Supervisor James Langman
 Tank BY-105 (5) Riser 12A (6) Segment 3 (7) Core 108 (8) Cask Serial Number 1007C

15) on Survey Date:

(9) FIELD

(13) LABORATORY

(10) Shipment Description

16) Top Dose Rate

4.5 mR/HR @ C40.5 mR/HRA. Work Package Number ES-95-00434/0

17) Dose Rate

9 mR/HR @ C5 mR/HRB. Cask Seat Number 1397

18) on Dose Rate

4.5 mR/HR @ C4 mR/HRC. Sampler Serial Number 95-136

19) on Contamination

220220 dpm/100cm²D. Date and Time Sampler Unseated 9-14-95 @ 14:15

(Alpha)

(Alpha)

E. Expected Liquid Content 10%4/K400.2 dpm/100cm²F. Expected Solid Content 90%

(Beta-Gamma)

(Beta-Gamma)

G. Dose Rate Through Oil String 300 mR/HRRCT* [Signature]
(HPT)RCT* [Signature]
(HPT)H. Expected Sample Length 19"

(Signature)

(Signature)

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

Field Comments

XFI SHOWS 16% RECOVERY

(34) Laboratory Comments

WHC-SD-WM-DP-162, REV. I

(1) Point of Origin

(14) Destination

(15) Sender Name (Sign and PRINT)

(16) Date/Time

(17) Sender Comments

(18) Relinquished By (Sign and PRINT)

(20) Received By (Sign and PRINT)

(21) Date/Time

(22) Receiver Comments

(19) Relinquished By (Sign and PRINT)

(24) Received By (Sign and PRINT)

(25) Date/Time

(26) Receiver Comments

(2) Relinquished By (Sign and PRINT)

(28) Received By (Sign and PRINT)

(29) Date/Time

(30) Receiver Comments

(31) Seal Intact Upon Release?

(32) Seal Intact Upon Receipt?

(32) Seal Date Consistent with this Record?

Shipment No.

Cask Seat No.

Sample No.

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

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

BC-6000-305 (02/94)

LAB DATA NGMT

09/15/95 12:53 0309 373 0515

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

(1) Shipment Number 200W-08-TF (2) Sample Number 95-197R (3) Supervisor Zone Perryman
 (4) Tank By-105 (5) Riser 12A (6) Segment 1R (7) Core 108 (8) Cask Serial Number C-2018

Radiation Survey Data:		(9) FIELD	(33) LABORATORY	(10) Shipment Description
Over Top Dose Rate	<u>1.5</u>	<u>40.5 mR/hr</u>	<u>40.5 mR/hr</u>	A. Work Package Number <u>E5-95-00556</u>
Side Dose Rate	<u>5</u>	<u>5 mR/hr</u>	<u>5 mR/hr</u>	B. Cask Seal Number <u>4417</u>
Bottom Dose Rate	<u>2</u>	<u>2.5 mR/hr</u>	<u>2.5 mR/hr</u>	C. Sampler Serial Number <u>94-296</u>
Removable Contamination	<u>120 dpm/100cm²</u>	<u>120 dpm/100cm²</u>	<u>120 dpm/100cm²</u>	D. Date and Time Sampler Unseated <u>10-4-95 @ 1445</u>
	(Alpha)	(Alpha)	(Alpha)	E. Expected Liquid Content <u>70%</u>
	<u>1000 dpm/100cm²</u>	<u>115 dpm/100cm²</u>	<u>115 dpm/100cm²</u>	F. Expected Solid Content <u>30%</u>
	(Beta-Gamma)	(Beta-Gamma)	(Beta-Gamma)	G. Dose Rate Through Drill String <u>330 mR/hr</u>
RCT* <u>J Weiss</u>	(Signature)	RCT* <u>A Zeller</u>	(Signature)	H. Expected Sample Length <u>8 1/2"</u>
(HPT)		(HPT)		

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

Post-It™ brand fax transmittal memo 7671 # of pages +

To <u>Leela Sasaki</u>	From <u>Ernie</u>
Co.	Co.
Dept.	Phone #
Fax #	Fax #

(12) Field Comments XRI shows 100% recovery
70% liquid
30% sludge

(34) Latent

WHC-SD-WM-DP-162, REV. 1

(13) Point of Origin <u>By-105</u>	(14) Destination <u>222's Lab.</u>	(15) Sender Name (Sign and PRINT) <u>Zone Perryman</u>	(16) Date/Time <u>9/15/95</u>	(17) Sender Comments
(19) Relinquished By (Sign and PRINT) <u>Zone Perryman</u>	(20) Received By (Sign and PRINT) <u>James Sickel</u>	(21) Date/Time <u>10/6/95</u>	(22) Receiver Comments	
(23) Relinquished By (Sign and PRINT) <u>James Sickel</u>	(24) Received By (Sign and PRINT) <u>James L. Fubandt</u>	(25) Date/Time <u>11/6/95</u>	(26) Receiver Comments	
(27) Relinquished By (Sign and PRINT) <u>James L. Fubandt</u>	(28) Received By (Sign and PRINT) <u>N. L. APPIERS</u>	(29) Date/Time <u>10-6-98/1045</u>	(30) Receiver Comments	
(18) Seal Intact Upon Release? ☒ Yes ☐ No	(31) Seal Intact Upon Receipt? ☒ Yes ☐ No	(32) Seal is Consistent with this Record: ☒ Yes ☐ No		

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

(1) Shipment Number 200W-08-TF (2) Sample Number 95-197AR (3) Supervisor R. Lank **COPY**
 (4) Tank Ry-105 (5) Riser 12A (6) Segment 1AR ¹⁹⁻¹⁰⁻⁹⁵ ~~12A~~ Core 108 (8) Cask Serial Number C-20116

Radiation Survey Data:		(9) FIELD	(33) LABORATORY	(10) Shipment Description
Over Top Dose Rate	<u>4.5</u>	<u>4.5</u>		A. Work Package Number <u>E5-95-00556</u>
Side Dose Rate	<u>11</u>	<u>11</u>		B. Cask Seal Number <u>4415</u>
Bottom Dose Rate	<u>4.0</u>	<u>4</u>		C. Sampler Serial Number <u>95-123</u>
Smearable Contamination	<u>420 dpm/100cm²</u> (Alpha)	<u>420 dpm/100cm²</u> (Alpha)		D. Date and Time Sampler Unseated <u>10-5-95</u> <u>1924</u>
	<u>4000 dpm/100cm²</u> (Beta-Gamma)	<u>415 dpm/100cm²</u> (Beta-Gamma)		E. Expected Liquid Content <u>100%</u>
RCT* (HPT)	<u>J. Weiss</u> (Signature)	RCT* (HPT)	<u>Q. Feller</u> (Signature)	F. Expected Solid Content <u>700MR</u> <u>10-5-95</u>
				G. Dose Rate Through Drill String <u>700MR/MR</u>
				H. Expected Sample Length <u>1 1/2" 9 1/2" 1/2"</u>

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

RED 10-10-95
RAD 10/10/95

(12) Field Comments

222's Lab.
X-RAY shows 7/8" recovery
liquid contents

(34) Laboratory Comments

WHC-SD-WM-DP-162, REV. 1

(13) Point of Origin <u>Ry-105</u>	(14) Destination <u>222's Lab.</u>	(15) Sender Name (Sign and PRINT) <u>James Lank</u>	(16) Date/Time <u>10/5/95</u>	(17) Sender Comments
(19) Relinquished By (Sign and PRINT) <u>James Lank</u>	(20) Received By (Sign and PRINT) <u>James Sickels</u>	(21) Date/Time <u>10/6/95</u>	(22) Receiver Comments	
(23) Relinquished By (Sign and PRINT) <u>James Sickels</u>	(24) Received By (Sign and PRINT) <u>James Lank</u>	(25) Date/Time <u>10/6/95</u>	(26) Receiver Comments	
(27) Relinquished By (Sign and PRINT) <u>James Lank</u>	(28) Received By (Sign and PRINT) <u>N.L. APERS</u>	(29) Date/Time <u>10-6-95</u>	(30) Receiver Comments	
(18) Seal Intact Upon Release? ☒ Yes ☐ No	(31) Seal Intact Upon Receipt? ☒ Yes ☐ No	(32) Seal Data Consistent with this Record? ☒ Yes ☐ No		

595T002800

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

COPY

(1) Shipment Number 200W-08-TF (2) Sample Number 95-198R (3) Supervisor R. Louch
 (4) Tank By-105 (5) Riser 12A (6) Segment 2R (7) Core 108 (8) Cask Serial Number C-2017

Radiation Survey Data:		(9) FIELD	(33) LABORATORY	(10) Shipment Description
Over Top Dose Rate	<u>0.5</u>	<u>0.5</u>		A. Work Package Number <u>ES-95-00556</u>
Side Dose Rate	<u>4</u>	<u>8</u>		B. Cask Seal Number <u>4416 1376</u>
Bottom Dose Rate	<u>3.2</u>	<u>3.2</u>		C. Sampler Serial Number <u>94-259</u>
Smearable Contamination	<u>420 dpm/cm²</u> (Alpha)	<u>420 dpm/cm²</u> (Alpha)		D. Date and Time Sampler Unseated <u>10-5-95 2148</u>
	<u>4100 dpm/cm²</u> (Beta-Gamma)	<u>41K dpm/cm²</u> (Beta-Gamma)		E. Expected Liquid Content <u>90%</u>
RCT* (HPT)	<u>[Signature]</u> (Signature)	RCT* (HPT)	<u>[Signature]</u> (Signature)	F. Expected Solid Content <u>10%</u>
				G. Dose Rate Through Drill String <u>300 MR/HK</u>
				H. Expected Sample Length <u>41 1/2" 9 1/2"</u>

(11) INFORMATION (Include statement of laboratory tests to be performed.)
41

(12) Field Comments
222's LAB
X-RAY SHOWS - 75% recovery
liquid with some solids

(34) Laboratory Comments

WHC-SD-WM-OP-162, REV. 1

(13) Point of Origin <u>By-105</u>	(14) Destination <u>222's LAB</u>	(15) Sender Name (Sign and PRINT) <u>James L. Eubank</u>	(16) Date/Time <u>10/5/95</u>	(17) Sender Comments
(19) Relinquished By (Sign and PRINT) <u>James L. Eubank</u>	(20) Received By (Sign and PRINT) <u>James L. Eubank</u>	(21) Date/Time <u>10/6/95</u>	(22) Receiver Comments	
(23) Relinquished By (Sign and PRINT) <u>James L. Eubank</u>	(24) Received By (Sign and PRINT) <u>James L. Eubank</u>	(25) Date/Time <u>10/6/95</u>	(26) Receiver Comments	
(27) Relinquished By (Sign and PRINT) <u>James L. Eubank</u>	(28) Received By (Sign and PRINT) <u>James L. Eubank</u>	(29) Date/Time <u>10-6-95/1034</u>	(30) Receiver Comments	
(18) Seal Intact Upon Release? ☒ Yes ☐ No	(31) Seal Intact Upon Receipt? ☒ Yes ☐ No	(32) Seal Data Consistent with this Record? ☒ Yes ☐ No		

COPY

Radiation Survey Data:		(9) FIELD	(33) LABORATORY	(10) Shipment Description
Over Top Dose Rate		L.5	L0.5	A. Work Package Number
Side Dose Rate		20	20	B. Cask Seal Number.
Bottom Dose Rate		4	2.5	C. Sampler Serial Number
Smearable Contamination		L20	L20 / LAS	D. Date and Time Sampler Unseated
		(Alpha)	(Alpha)	E. Expected Liquid Content:
		L1000	L1K / LAS	F. Expected Solid Content
		(Beta-Gamma)	(Beta-Gamma)	G. Dose Rate Through Drill String
RCT* (HPT)		SWISS	CBW	H. Expected Sample Length:
		(Signature)	(Signature)	

42

WHC-SD-WM-DP-162, REV. 1

(13) Point of Origin 241-B4-105	(14) Destination 222S	(15) Sender Name (Sign and PRINT) M.C. Jones	(16) Date/Time 10-9-95 9:45	(17) Sender Comments
(19) Relinquished By (Sign and PRINT) M.C. Jones	(20) Received By (Sign and PRINT) James E. Smith	(21) Date/Time 10-9-95 11:00	(22) Receiver Comments	
(23) Relinquished By (Sign and PRINT) James E. Smith	(24) Received By (Sign and PRINT) James E. Smith	(25) Date/Time 10-9-95/1113	(26) Receiver Comments	
(27) Relinquished By (Sign and PRINT) James E. Smith	(28) Received By (Sign and PRINT) James E. Smith	(29) Date/Time 10-9-95/1144	(30) Receiver Comments	
(18) Seal Intact Upon Release? ☒ Yes ☐ No		(32) Seal Data Consistent with this Record? ☒ Yes ☐ No		
(31) Seal Intact Upon Receipt? ☒ Yes ☐ No		Shipment No. ☒ Yes ☐ No		
		Cask Seal No. ☒ Yes ☐ No		
		Sample No. ☒ Yes ☐ No		

NO Sample # added

CHAIN-OF-CUSTODY RECORD FOR CORE SAMPLING

10/16/75

(1) Shipment Number 200W-08-TF (2) Sample Number 44A-3R 95-199R (3) Supervisor Tommy
 (4) Tank BY105 (5) Riser 12A (6) Segment 44A 3R (7) Core 108 (8) Cask Serial Number 1562

Radiation Survey Data:		(9) FIELD	(33) LABORATORY	(10) Shipment Description
Over Top Dose Rate	<u>4.5</u>	<u>4.5</u>		A. Work Package Number <u>ES-95-00556</u>
Side Dose Rate	<u>3</u>	<u>3</u>		B. Cask Seal Number <u>1377</u>
Bottom Dose Rate	<u>5</u>	<u>6</u>		C. Sampler Serial Number <u>44A</u>
Smearable Contamination	<u>420 dpm/100cm²</u> (Alpha)	<u>420 dpm/100cm²</u> (Alpha)		D. Date and Time Sampler Unseated <u>44A 10/16/75</u>
	<u>41000 dpm/100cm²</u> (Beta-Gamma)	<u>41K dpm/100cm²</u> (Beta-Gamma)		E. Expected Liquid Content <u>44A 10% 88.11/6/75</u>
ECT* (HPT)	<u>W. Weiss</u> (Signature)	ECT* (HPT)	<u>W. Weiss</u> (Signature)	F. Expected Solid Content <u>44A</u>
				G. Dose Rate Through Drill String <u>44A</u>
				H. Expected Sample Length <u>44A 4.5 SE Core</u>

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

WHC-SD-WM-OP-162, REV. 1

(12) Field Comments

Sampler WAS installed & THEN removed. Residual Liquid in Bottom of Liner. Amount of Liquid UNKNOWN

(34) Laboratory Comments

Received cask - No sampler - will load in the liner, clean in the hot cells then load out and transfer to T-Plant.
 RM 7u10i 10/16/75

(13) Point of Origin <u>BY105</u>	(14) Destination <u>2225</u>	(15) Sender Name (Sign and PRINT) <u>James Sickels</u>	(16) Date/Time <u>10/16 0902</u>	(17) Sender Comments
(19) Relinquished By (Sign and PRINT) <u>James Sickels</u>	(20) Received By (Sign and PRINT) <u>James Sickels</u>	(21) Date/Time <u>10/16/75 0905</u>	(22) Receiver Comments	
(23) Relinquished By (Sign and PRINT) <u>James Sickels</u>	(24) Received By (Sign and PRINT) <u>Subal Helms</u>	(25) Date/Time <u>10/16/75</u>	(26) Receiver Comments	
(27) Relinquished By (Sign and PRINT) <u>Subal Helms</u>	(28) Received By (Sign and PRINT) <u>Subal Helms</u>	(29) Date/Time <u>10-16-75</u>	(30) Receiver Comments	

(18) Seal Intact Upon Release?

(31) Seal Intact Upon Receipt?

(32) Seal Data Consistent with this Record?

☒ Yes ☐ No

☒ Yes ☐ No

Shipment No.
☒ Yes ☐ No

Cask Seal No.
☒ Yes ☐ No

Sample No.
☒ Yes ☐ No

WHC-SD-WM-DP-162, REV. 1

PHOTOGRAPHS

WHC-SD-WM-DP-162, REV. 1

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BY-105 Core 108 Segment #1

9-11-95

BEST AVAILABLE COPY

BEST AVAILABLE COPY

9-11-95
BX-105 Core 108 Segment #21A

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BY-105 Core 108 Segment #1B

9-11-95

BY-105 Core 108 Segment #1C

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BY-105 Core 108 Segment #2

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WHC-SD-WM-OP-162, REV. 1

9-21-95

BY-105 Core 108 Segment #3

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BY-105 CORE 108 SEGMENT 1R

10-12-85

WHC-SD-WM-OP-162, REV. 1

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BY-105 Core 108 Segment #1AR

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BY-105 CORE 108 SEGMENT #2R

10-12-95

WHC-SD-WM-DP-162, REV. 1

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BY-105 CORE 108 SEGMENT 2AR

10-12-95

WHC-SD-WM-OP-162, REV. 1

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WHC-SD-WM-DP-162, REV. 1

SAMPLE HANDLING

WHC-SD-WM-DP-162, REV. 1

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LABCORE Data Entry Template for Worklist#

2245

Analyst: EC Instrument: BA000 Book # NA

Method: LO-160-103 Rev/Mod A-7

Worklist Comment: BY-105 C108 Segment #1 Riser 12A Extrusion

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 INSTCHK01			EXTRUD01	SOLID	<u>20</u>	<u>19.99</u>	<u>N/A</u>	
		2 INSTCHK02			EXTRUD01	SOLID	<u>500</u>	<u>499.73</u>	<u>N/A</u>	
95000125	BY-105 (R)	3 SAMPLE	S95T001996	0	DLIQVOL1	SOLID	<u>N/A</u>	<u>90</u>		ml
95000125	BY-105 (R)	4 SAMPLE	S95T001996	0	DLIQWT01	SOLID	<u>N/A</u>	<u>123.0</u>		g
95000125	BY-105 (R)	5 SAMPLE	S95T001996	0	EST.G/ML	SOLID	<u>N/A</u>	<u>1.4</u>		g/ml
95000125	BY-105 (R)	6 SAMPLE	S95T001996	0	EXTRUD01	SOLID	<u>N/A</u>	<u>complete</u>		
95000125	BY-105 (R)	7 SAMPLE	S95T001996	0	LLIQWT01	SOLID	<u>N/A</u>	<u>0</u>		g
95000125	BY-105 (R)	8 SAMPLE	S95T001996	0	NOTEBOOK	SOLID	<u>N/A</u>	<u>N-995</u>		
95000125	BY-105 (R)	9 SAMPLE	S95T001996	0	SLDVOL01	SOLID	<u>N/A</u>	<u>NA</u>		ml
95000125	BY-105 (R)	10 SAMPLE	S95T001996	0	SLDWT-01	SOLID	<u>N/A</u>	<u>56.2</u>		g
95000125	BY-105 (R)	11 SAMPLE	S95T001996	0	ORGVOL01	SOLID	<u>N/A</u>	<u>0</u>		ml

Final page for worklist #

2245

EC 9-13-95
Analyst Signature Date

EC 9-13-95
Analyst Signature Date

Reviewed by Arthur B. Bandy 9-14-95

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist#

2246

Analyst: CC Instrument: BA000 Book # NA

Method: LO-160-103 Rev/Mod A-7

Worklist Comment: BY-105 C108 Segment # ^{1A} 2 Riser 12A Extrusion

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	INSTCHK01				EXTRUD01	SOLID	<u>20</u>	<u>19.99</u>	<u>N/A</u>	
		2	INSTCHK02				EXTRUD01	SOLID	<u>500</u>	<u>499.73</u>	<u>N/A</u>	
95000125	BY-105 (R)	3	SAMPLE	S95T001997	0		DLIQVOL1	SOLID	<u>N/A</u>	<u>40</u>		mL
95000125	BY-105 (R)	4	SAMPLE	S95T001997	0		DLIQWT01	SOLID	<u>N/A</u>	<u>50.8</u>		g
95000125	BY-105 (R)	5	SAMPLE	S95T001997	0		EST.G/ML	SOLID	<u>N/A</u>	<u>1.3</u>		g/mL
95000125	BY-105 (R)	6	SAMPLE	S95T001997	0		EXTRUD01	SOLID	<u>N/A</u>	<u>complete</u>		
95000125	BY-105 (R)	7	SAMPLE	S95T001997	0		LLIQWT01	SOLID	<u>N/A</u>	<u>0</u>		g
95000125	BY-105 (R)	8	SAMPLE	S95T001997	0		NOTEBOOK	SOLID	<u>N/A</u>	<u>995</u>		
95000125	BY-105 (R)	9	SAMPLE	S95T001997	0		SLDVOL01	SOLID	<u>N/A</u>	<u>NA</u>		
95000125	BY-105 (R)	10	SAMPLE	S95T001997	0		SLDWT-01	SOLID	<u>N/A</u>	<u>51.5</u>		g
95000125	BY-105 (R)	11	SAMPLE	S95T001997	0		ORGVOL01	SOLID	<u>N/A</u>	<u>0</u>		mL

Final page for worklist #

2246

Analyst Signature

Date

9-12-95

Analyst Signature

Date

9-13-95

Reviewed by John C. Benary 9-14-95

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist#

2247

Analyst: EL Instrument: BA000 Book # NA

Method: LO-160-103 Rev/Mod A-7

Worklist Comment: BY-105 C108 Segment #1B Riser 12A Extrusion

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	INSTCHK01				EXTRUD01	SOLID	<u>20</u>	<u>19.99</u>	<u>N/A</u>	
		2	INSTCHK02				EXTRUD01	SOLID	<u>500</u>	<u>499.72</u>	<u>N/A</u>	
95000125	BY-105 (R)	3	SAMPLE	S95T001998	0		DLIQVOL1	SOLID	<u>N/A</u>	<u>0</u>		mL
95000125	BY-105 (R)	4	SAMPLE	S95T001998	0		DLIQWT01	SOLID	<u>N/A</u>	<u>0</u>		g
95000125	BY-105 (R)	5	SAMPLE	S95T001998	0		EST.G/ML	SOLID	<u>N/A</u>	<u>0</u>		g/mL
95000125	BY-105 (R)	6	SAMPLE	S95T001998	0		EXTRUD01	SOLID	<u>N/A</u>	<u>complete</u>		
95000125	BY-105 (R)	7	SAMPLE	S95T001998	0		LLIQWT01	SOLID	<u>N/A</u>	<u>0</u>		g
95000125	BY-105 (R)	8	SAMPLE	S95T001998	0		NOTEBOOK	SOLID	<u>N/A</u>	<u>N-995</u>		
95000125	BY-105 (R)	9	SAMPLE	S95T001998	0		SLDVOL01	SOLID	<u>N/A</u>	<u>NA</u>		mL
95000125	BY-105 (R)	10	SAMPLE	S95T001998	0		SLDWT-01	SOLID	<u>N/A</u>	<u>72.1</u>		g
95000125	BY-105 (R)	11	SAMPLE	S95T001998	0		ORGVOL01	SOLID	<u>N/A</u>	<u>0</u>		mL

Final page for worklist #

2247

EL 9-13-95
Analyst Signature Date

EL 9-12-95
Analyst Signature Date

Reviewed by Arthur B. Bay 9-14-95

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist#

2402

Analyst: EC Instrument: BA000 Book # NA

Method: LO-160-103 Rev/Mod A-7

Worklist Comment: BY-105 C108 Seg 1C Riser 12A Extrusion

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 INSTCHK01			EXTRUD01	SOLID	<u>20</u>	<u>19.99</u>	<u>N/A</u>	
		2 INSTCHK02			EXTRUD01	SOLID	<u>500</u>	<u>499.72</u>	<u>N/A</u>	
95000125	BY-105 (R)	3 SAMPLE	S95T002400	0	DLIQVOL1	SOLID	<u>N/A</u>	<u><5</u>		mL
95000125	BY-105 (R)	4 SAMPLE	S95T002400	0	DLIQWT01	SOLID	<u>N/A</u>	<u>0</u>		g
95000125	BY-105 (R)	5 SAMPLE	S95T002400	0	EST.G/ML	SOLID	<u>N/A</u>	<u>0</u>		g/mL
95000125	BY-105 (R)	6 SAMPLE	S95T002400	0	EXTRUD01	SOLID	<u>N/A</u>	<u>complete</u>		
95000125	BY-105 (R)	7 SAMPLE	S95T002400	0	LLIQWT01	SOLID	<u>N/A</u>	<u>0</u>		g
95000125	BY-105 (R)	8 SAMPLE	S95T002400	0	NOTEBOOK	SOLID	<u>N/A</u>	<u>N-95</u>		
95000125	BY-105 (R)	9 SAMPLE	S95T002400	0	SLDVOL01	SOLID	<u>N/A</u>	<u>NA</u>		mL
95000125	BY-105 (R)	10 SAMPLE	S95T002400	0	SLDWT-01	SOLID	<u>N/A</u>	<u><2</u>		g
95000125	BY-105 (R)	11 SAMPLE	S95T002400	0	ORGVOL01	SOLID	<u>N/A</u>	<u>0</u>		mL

Final page for worklist #

2402

EC 9-19-95
Analyst Signature Date

EC 9-14-95
Analyst Signature Date

Reviewed by John B. Bue 9-20-95

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist#

2470

Analyst: EC Instrument: BA000 Book # NA

Method: LO-160-103 Rev/Mod A-7

Worklist Comment: BY-105 C108 Seg #2 Riser 12A Extrusion

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	INSTCHK01				EXTRUD01	SOLID	<u>20.00</u>	<u>19.98</u>	<u>N/A</u>	
		2	INSTCHK02				EXTRUD01	SOLID	<u>500</u>	<u>499.71</u>	<u>N/A</u>	
95000125	BY-105 (R)	3	SAMPLE	S95T002414	0		DLIQVOL1	SOLID	<u>N/A</u>	<u>0</u>		ml
95000125	BY-105 (R)	4	SAMPLE	S95T002414	0		DLIQWT01	SOLID	<u>N/A</u>	<u>0</u>		g
95000125	BY-105 (R)	5	SAMPLE	S95T002414	0		EST.G/ML	SOLID	<u>N/A</u>	<u>0</u>		g/ml
95000125	BY-105 (R)	6	SAMPLE	S95T002414	0		EXTRUD01	SOLID	<u>N/A</u>	<u>complete</u>		
95000125	BY-105 (R)	7	SAMPLE	S95T002414	0		LLIQWT01	SOLID	<u>N/A</u>	<u>0</u>		g
95000125	BY-105 (R)	8	SAMPLE	S95T002414	0		NOTEBOOK	SOLID	<u>N/A</u>	<u>N-995</u>		
95000125	BY-105 (R)	9	SAMPLE	S95T002414	0		SLDVOL01	SOLID	<u>N/A</u>	<u>NA</u>		ml
95000125	BY-105 (R)	10	SAMPLE	S95T002414	0		SLDWT-01	SOLID	<u>N/A</u>	<u>18.5</u>		g
95000125	BY-105 (R)	11	SAMPLE	S95T002414	0		ORGVOL01	SOLID	<u>N/A</u>	<u>0</u>		ml

Final page for worklist #

2470

EC 9-25-95
Analyst Signature Date

EC 9-25-95
Analyst Signature Date

Reviewed by RK 7/26/95

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist#

2471

Analyst: EC Instrument: BA000 Book # NA

Method: LO-160-103 Rev/Mod A-7

Worklist Comment: BY-105 C108 Seg #3 Riser 12A Extrusion

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 INSTCHK01			EXTRUD01	SOLID	<u>20.00</u>	<u>19.99</u>	<u>N/A</u>	
		2 INSTCHK02			EXTRUD01	SOLID	<u>500</u>	<u>499.72</u>	<u>N/A</u>	
95000125	BY-105 (R)	3 SAMPLE	S95T002415	0	DLIQVOL1	SOLID	<u>N/A</u>	<u>415</u>		mL
95000125	BY-105 (R)	4 SAMPLE	S95T002415	0	DLIQWT01	SOLID	<u>N/A</u>	<u>0</u>		g
95000125	BY-105 (R)	5 SAMPLE	S95T002415	0	EST.G/ML	SOLID	<u>N/A</u>	<u>0</u>		g/mL
95000125	BY-105 (R)	6 SAMPLE	S95T002415	0	EXTRUD01	SOLID	<u>N/A</u>	<u>complete</u>		
95000125	BY-105 (R)	7 SAMPLE	S95T002415	0	LLIQWT01	SOLID	<u>N/A</u>	<u>0</u>		g
95000125	BY-105 (R)	8 SAMPLE	S95T002415	0	NOTEBOOK	SOLID	<u>N/A</u>	<u>N-995</u>		
95000125	BY-105 (R)	9 SAMPLE	S95T002415	0	SLDVOL01	SOLID	<u>N/A</u>	<u>NA</u>		mL
95000125	BY-105 (R)	10 SAMPLE	S95T002415	0	SLDWT-01	SOLID	<u>N/A</u>	<u>43.0</u>		g
95000125	BY-105 (R)	11 SAMPLE	S95T002415	0	ORGVOL01	SOLID	<u>N/A</u>	<u>0</u>		mL

Final page for worklist #

2471

EC 9-25-95
Analyst Signature Date

EC 9-25-95
Analyst Signature Date

Reviewed by RK Fuller 9/26/95

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist#

2855

Analyst: EC Instrument: BA000 Book # NA

Method: LO-160-103 Rev/Mod A-7

Worklist Comment: BY-105 C108 SEG 1R RISER 12A EXTRUSION

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	INSTCHK01				EXTRUD01	SOLID	<u>20</u>	<u>19.99</u>	<u>N/A</u>	
		2	INSTCHK02				EXTRUD01	SOLID	<u>500</u>	<u>499.69</u>	<u>N/A</u>	
95000125	BY-105 (R)	3	SAMPLE	S95T002805	0		DLIQVOL1	SOLID	<u>N/A</u>	<u>0</u>		mL
95000125	BY-105 (R)	4	SAMPLE	S95T002805	0		DLIQWT01	SOLID	<u>N/A</u>	<u>0</u>		g
95000125	BY-105 (R)	5	SAMPLE	S95T002805	0		EST.G/ML	SOLID	<u>N/A</u>	<u>0</u>		g/mL
95000125	BY-105 (R)	6	SAMPLE	S95T002805	0		EXTRUD01	SOLID	<u>N/A</u>	<u>complete</u>		
95000125	BY-105 (R)	7	SAMPLE	S95T002805	0		LLIQWT01	SOLID	<u>N/A</u>	<u><5</u>		g
95000125	BY-105 (R)	8	SAMPLE	S95T002805	0		NOTEBOOK	SOLID	<u>N/A</u>	<u>N-995</u>		
95000125	BY-105 (R)	9	SAMPLE	S95T002805	0		SLDVOL01	SOLID	<u>N/A</u>	<u>NA</u>		mL
95000125	BY-105 (R)	10	SAMPLE	S95T002805	0		SLDWT-01	SOLID	<u>N/A</u>	<u>240.0</u>		g
95000125	BY-105 (R)	11	SAMPLE	S95T002805	0		ORGVOL01	SOLID	<u>N/A</u>	<u>0</u>		mL

Final page for worklist #

2855

EC 10-13-95
Analyst Signature Date

EC 10-13-95
Analyst Signature Date

Reviewed by Allen B. Berry 10-13-95

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist#

2856

Analyst: EC Instrument: BA000 Book # NA

Method: LO-160-103 Rev/Mod A-7

Worklist Comment: BY-105 C108 SEG 1AR RISER 12A EXTRUSION

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 INSTCHK01			EXTRUD01	SOLID	<u>20</u>	<u>19.99</u>	<u>N/A</u>	
		2 INSTCHK02			EXTRUD01	SOLID	<u>500</u>	<u>499.70</u>	<u>N/A</u>	
95000125	BY-105 (R)	3 SAMPLE	S95T002807	0	DLIQVOL1	SOLID	<u>N/A</u>	<u>110</u>		mL
95000125	BY-105 (R)	4 SAMPLE	S95T002807	0	DLIQWT01	SOLID	<u>N/A</u>	<u>149.5</u>		g
95000125	BY-105 (R)	5 SAMPLE	S95T002807	0	EST.G/ML	SOLID	<u>N/A</u>	<u>1.3</u>		g/mL
95000125	BY-105 (R)	6 SAMPLE	S95T002807	0	EXTRUD01	SOLID	<u>N/A</u>	<u>complete</u>		
95000125	BY-105 (R)	7 SAMPLE	S95T002807	0	LLIQWT01	SOLID	<u>N/A</u>	<u>0</u>		g
95000125	BY-105 (R)	8 SAMPLE	S95T002807	0	NOTEBOOK	SOLID	<u>N/A</u>	<u>N-995</u>		
95000125	BY-105 (R)	9 SAMPLE	S95T002807	0	SLDVOL01	SOLID	<u>N/A</u>	<u>NA</u>		mL
95000125	BY-105 (R)	10 SAMPLE	S95T002807	0	SLDWT-01	SOLID	<u>N/A</u>	<u>14.5</u>		g
95000125	BY-105 (R)	11 SAMPLE	S95T002807	0	ORGVOL01	SOLID	<u>N/A</u>	<u>0</u>		mL

Final page for worklist #

2856

Analyst Signature EC Date 10-13-95

Analyst Signature EC Date 10-13-95

Reviewed by John B. Berry 10-13-95

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.

Analyst: EC Instrument: BA000 Book # NA

Method: LO-160-103 Rev/Mod A-7

Worklist Comment: BY-105 C108 SEG 2AR RISER 12A EXTRUSION

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	INSTCHK01				EXTRUD01	SOLID	<u>20</u>	<u>19.98</u>	<u>N/A</u>	
		2	INSTCHK02				EXTRUD01	SOLID	<u>500</u>	<u>499.65</u>	<u>N/A</u>	
95000125	BY-105 (R)	3	SAMPLE	S95T002808	0		DLIQVOL1	SOLID	<u>N/A</u>	<u>230</u>		ml
95000125	BY-105 (R)	4	SAMPLE	S95T002808	0		DLIQWT01	SOLID	<u>N/A</u>	<u>306.8</u>		g
95000125	BY-105 (R)	5	SAMPLE	S95T002808	0		EST.G/ML	SOLID	<u>N/A</u>	<u>1.3</u>		g/ml
95000125	BY-105 (R)	6	SAMPLE	S95T002808	0		EXTRUD01	SOLID	<u>N/A</u>	<u>complete</u>		
95000125	BY-105 (R)	7	SAMPLE	S95T002808	0		LLIQWT01	SOLID	<u>N/A</u>	<u>0</u>		g
95000125	BY-105 (R)	8	SAMPLE	S95T002808	0		NOTEBOOK	SOLID	<u>N/A</u>	<u>N-995</u>		
95000125	BY-105 (R)	9	SAMPLE	S95T002808	0		SLDVOL01	SOLID	<u>N/A</u>	<u>NA</u>		ml
95000125	BY-105 (R)	10	SAMPLE	S95T002808	0		SLDWT-01	SOLID	<u>N/A</u>	<u>126.6</u>		g
95000125	BY-105 (R)	11	SAMPLE	S95T002808	0		ORGVOL01	SOLID	<u>N/A</u>	<u>0</u>		ml

Final page for worklist # 2857

EC 10-13-95
Analyst Signature Date

EC 10-13-95
Analyst Signature Date

Reviewed by Attilio B. Bony 10-13-95

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist#

2858

Analyst: SC Instrument: BA000 Book # NA

Method: LO-160-103 Rev/Mod A-7

Worklist Comment: BY-105 C108 SEG #2R RISER 12A EXTRUSION

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 INSTCHK01			EXTRUD01	SOLID	<u>20</u>	<u>19.98</u>	<u>N/A</u>	
		2 INSTCHK02			EXTRUD01	SOLID	<u>500</u>	<u>499.66</u>	<u>N/A</u>	
95000125	BY-105 (R)	3 SAMPLE	S95T002809	0	DLIQVOL1	SOLID	<u>N/A</u>	<u>0</u>		mL
95000125	BY-105 (R)	4 SAMPLE	S95T002809	0	DLIQWT01	SOLID	<u>N/A</u>	<u>0</u>		g
95000125	BY-105 (R)	5 SAMPLE	S95T002809	0	EST.G/ML	SOLID	<u>N/A</u>	<u>0</u>		g/mL
95000125	BY-105 (R)	6 SAMPLE	S95T002809	0	EXTRUD01	SOLID	<u>N/A</u>	<u>Complete</u>		
95000125	BY-105 (R)	7 SAMPLE	S95T002809	0	LLIQWT01	SOLID	<u>N/A</u>	<u>0</u>		g
95000125	BY-105 (R)	8 SAMPLE	S95T002809	0	NOTEBOOK	SOLID	<u>N/A</u>	<u>N-995</u>		
95000125	BY-105 (R)	9 SAMPLE	S95T002809	0	SLDVOL01	SOLID	<u>N/A</u>	<u>NA</u>		mL
95000125	BY-105 (R)	10 SAMPLE	S95T002809	0	SLDWT-01	SOLID	<u>N/A</u>	<u>105.9</u>		g
95000125	BY-105 (R)	11 SAMPLE	S95T002809	0	ORGVOL01	SOLID	<u>N/A</u>	<u>0</u>		mL

Final page for worklist #

2858

SC 10-13-95
Analyst Signature Date

SC 10-13-95
Analyst Signature Date

Reviewed by AKB 10-13-95

Data Entry Comments:

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

WHC-SD-WM-DP-162, REV. 1

SAMPLE PREPARATIONS

WHC-SD-WM-DP-162, REV. 1

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LABCORE Data Entry Template for Worklist#

3766

Analyst: QAM Instrument: FUS01 SR16395 Book # _____

Method: LA-549-141 Rev/Mod B2105-40

Worklist Comment: BY-105 Fusion KOH 3393->3400, 3395->3401 dlh

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			FUSION01	SOLID	<u>2.50</u>	<u>2.50</u>	N/A	g/L
95000125	BY-105 (R)	2 SAMPLE	S95T003400 0 F		FUSION01	SOLID	N/A	<u>2.0536</u>		g/L
95000125	BY-105 (R)	3 SAMPLE	S95T003400 0		DOSE-02	SOLID	N/A	<u>2.4</u>		mrad/hour
95000125	BY-105 (R)	4 DUP	S95T003400 0 F		FUSION01	SOLID	<u>2.0536</u>	<u>2.0536</u>	N/A	g/L
95000125	BY-105 (R)	5 DUP	S95T003400 0		DOSE-02	SOLID		<u>2.5</u>	N/A	mrad/hour
95000125	BY-105 (R)	6 SAMPLE	S95T003401 0 F		FUSION01	SOLID	N/A	<u>2.0728</u>		g/L
95000125	BY-105 (R)	7 SAMPLE	S95T003401 0		DOSE-02	SOLID	N/A	<u>3.2</u>		mrad/hour
95000125	BY-105 (R)	8 DUP	S95T003401 0 F		FUSION01	SOLID	<u>2.0728</u>	<u>2.0728</u>	N/A	g/L
95000125	BY-105 (R)	9 DUP	S95T003401 0		DOSE-02	SOLID		<u>3.1</u>	N/A	mrad/hour

Final page for worklist #

3766

QAM 11-30-95
Analyst Signature Date

SLP 11-30-95
Analyst Signature Date

3393 - BY105 C108 1(solid) cell #23

3395 - BY105 C108 1A(solid) cell #23

Reviewed by QK 12/1/95

Data Entry Comments:

All samples & QC - 20ml HCl, 30ml HNO₃, <10% solids
HPT was not valid

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#

3767

Analyst: QAM Instrument: FUS01 5806355 Book # _____

Method: LA-549-141 Rev/Mod D-2

Worklist Comment: BY-105 Fusion KOH 3397->3402, 3398->3403 dlh

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			FUSION01	SOLID	<u>2.50</u>	<u>2.50</u>	<u>N/A</u>	g/L
95000125	BY-105 (R)	2 SAMPLE	S95T003402	0 F	FUSION01	SOLID	<u>N/A</u>	<u>2.1300</u>		g/L
95000125	BY-105 (R)	3 SAMPLE	S95T003402	0	DOSE-02	SOLID	<u>N/A</u>	<u>2.8</u>		mrad/hour
95000125	BY-105 (R)	4 DUP	S95T003402	0 F	FUSION01	SOLID	<u>2.1300</u>	<u>2.3100</u>	<u>N/A</u>	g/L
95000125	BY-105 (R)	5 DUP	S95T003402	0	DOSE-02	SOLID		<u>3.5</u>	<u>N/A</u>	mrad/hour
95000125	BY-105 (R)	6 SAMPLE	S95T003403	0 F	FUSION01	SOLID	<u>N/A</u>	<u>2.4401</u>		g/L
95000125	BY-105 (R)	7 SAMPLE	S95T003403	0	DOSE-02	SOLID	<u>N/A</u>	<u>3.5</u>		mrad/hour
95000125	BY-105 (R)	8 DUP	S95T003403	0 F	FUSION01	SOLID	<u>2.4401</u>	<u>2.5500</u>	<u>N/A</u>	g/L
95000125	BY-105 (R)	9 DUP	S95T003403	0	DOSE-02	SOLID		<u>3.4</u>	<u>N/A</u>	mrad/hour

Final page for worklist #

3767

Analyst Signature QAM Date 11-30-95

Analyst Signature SLP Date 11-30-95

3397 - BY 105 C108 1B cell # 23
3398 - BY 105 C108 2 cell # 23

Reviewed by RK 12/1/95

Data Entry Comments:

All samples QC - 20 ml HCl, 30 ml HNO₃, <10% solids
HPT was not valid

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#

3768

Analyst:

QMM

Instrument: FUS01 *5006359*

Book #

Method: LA-549-141 Rev/Mod

B-2-105-10

Worklist Comment: BY-105 Fusion KOH 3399->3404,3417->3423 dlh

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			FUSION01	SOLID	<i>250</i>	<i>250</i>	N/A	g/L
95000125	BY-105 (R)	2 SAMPLE	S95T003404	0 F	FUSION01	SOLID	N/A	<i>2.1976</i>		g/L
95000125	BY-105 (R)	3 SAMPLE	S95T003404	0	DOSE-02	SOLID	N/A	<i>2</i>		mrad/hour
95000125	BY-105 (R)	4 DUP	S95T003404	0 F	FUSION01	SOLID	<i>2.1976</i>	<i>2.1976</i>	N/A	g/L
95000125	BY-105 (R)	5 DUP	S95T003404	0	DOSE-02	SOLID		<i>1.8</i>	N/A	mrad/hour
95000125	BY-105 (R)	6 SAMPLE	S95T003423	0 F	FUSION01	SOLID	N/A	<i>2.5</i>		g/L
95000125	BY-105 (R)	7 SAMPLE	S95T003423	0	DOSE-02	SOLID	N/A	<i>2.5</i>		mrad/hour
95000125	BY-105 (R)	8 DUP	S95T003423	0 F	FUSION01	SOLID	<i>2.5</i>	<i>2.5</i>	N/A	g/L
95000125	BY-105 (R)	9 DUP	S95T003423	0	DOSE-02	SOLID		<i>3.5</i>	N/A	mrad/hour

Final page for worklist #

3768

Analyst Signature

Date

11-30-95

Analyst Signature

Date

11-30-95

3379 BY 105 C 108

3417 BY 105 C 108

3

all #23

1R (solid) all #23

Reviewed by *QK Felle* 12/1/95

Data Entry Comments:

*All samples QC-20ml HCl, 30ml HNO₃, <1% solids
HPT was for Valding*

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#

3769

Analyst:

[Signature]

Instrument: FUS01 5906355

Book # _____

Method: LA-549-141 Rev/Mod

B-2 ^{DC} ₁₁₋₃₀₋₉₅

Worklist Comment: BY-105 Fusion KOH 3419->3424, 3420->3425 dlh

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			FUSION01	SOLID	<u>0.750</u>	<u>0.250</u>	<u>N/A</u>	g/L
95000125	BY-105 (R)	2 SAMPLE	S95T003424	0 F	FUSION01	SOLID	<u>N/A</u>	<u>2.5450</u>		g/L
			<u>0.350 g → 0.250 g</u>							
95000125	BY-105 (R)	3 SAMPLE	S95T003424	0	DOSE-02	SOLID	<u>N/A</u>	<u>3</u>		mrad/hour
95000125	BY-105 (R)	4 DUP	S95T003424	0 F	FUSION01	SOLID	<u>2.5450</u>	<u>2.1024</u>	<u>N/A</u>	g/L
			<u>0.0045 g → 0.250 g</u>							
95000125	BY-105 (R)	5 DUP	S95T003424	0	DOSE-02	SOLID		<u>2.5</u>	<u>N/A</u>	mrad/hour
95000125	BY-105 (R)	6 SAMPLE	S95T003425	0 F	FUSION01	SOLID	<u>N/A</u>	<u>2.1172</u>		g/L
			<u>0.5063 g → 0.250 g</u>							
95000125	BY-105 (R)	7 SAMPLE	S95T003425	0	DOSE-02	SOLID	<u>N/A</u>	<u>2.5</u>		mrad/hour
95000125	BY-105 (R)	8 DUP	S95T003425	0 F	FUSION01	SOLID	<u>2.1450</u>	<u>2.3248</u>	<u>N/A</u>	g/L
			<u>0.7777 g → 0.250 g</u>							
95000125	BY-105 (R)	9 DUP	S95T003425	0	DOSE-02	SOLID		<u>2.5</u>	<u>N/A</u>	mrad/hour

Final page for worklist #

3769

[Signature]
Analyst Signature

11-30-95
Date

[Signature]
Analyst Signature

11-30-95
Date

3419 BY105 C108 ^{Sy #} 1AR cell# 23
3420 BY105 C108 2R cell# 23

Reviewed by PK Fuller 12/1/95

Data Entry Comments:

20 samples & QC - 20ml HCl, 30ml HNO₃, <1% solids
HPT was in Vialing

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#

3770

Analyst: QAM Instrument: FUS01 3046355 Book # _____

Method: LA-549-141 Rev/Mod B-2 11/25/95

Worklist Comment: BY-105 Fusion KOH 3421->3426 dlh

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK-PREP				FUSION01	SOLID	<u>.250</u>	<u>.250</u>	N/A	g/L
95000125	BY-105 (R)	2	SAMPLE	S95T003426	0	F	FUSION01	SOLID	N/A	<u>2.4412</u>		g/L
				<u>.6103g</u>			<u>> .250g</u>					
95000125	BY-105 (R)	3	SAMPLE	S95T003426	0		DOSE-02	SOLID	N/A	<u>3.5</u>		mrad/hour
95000125	BY-105 (R)	4	DUP	S95T003426	0	F	FUSION01	SOLID	<u>2.4412</u>	<u>2.4412</u>	N/A	g/L
				<u>.5914g</u>			<u>> .250g</u>					
95000125	BY-105 (R)	5	DUP	S95T003426	0		DOSE-02	SOLID		<u>2.5</u>	N/A	mrad/hour

Final page for worklist #

3770

QAMurphy 11-30-95
Analyst Signature Date

St. Peter 11-30-95
Analyst Signature Date

Sample located in cell # 20.

Received by RK Filler 12/1/95

Data Entry Comments:

All samples @ GC - 20ml HCL, 30ml H₂O, <1% solids
HPT was not valid

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#

4393

Analyst: QJM Instrument: H2001 50116359 Book # _____

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

Worklist Comment: BY-105 Core 108 Seg 1 and 1A Water Digest rkf

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK-PREP				H2001G01	SOLID	<u>1</u>	<u>1.00</u>	N/A	g/L
95000125	BY-105 (R)	2	SAMPLE	S95T003510	0	W	H2001G01	SOLID	N/A	<u>5.2550</u>		g/L
			<u>5255g → 1.00g</u>									
95000125	BY-105 (R)	3	SAMPLE	S95T003510	0		DOSE-02	SOLID	N/A	<u>1.5</u>		mrad/hour
95000125	BY-105 (R)	4	DUP	S95T003510	0	W	H2001G01	SOLID	<u>5.2550</u>	<u>5.5500</u>	N/A	g/L
			<u>5550g → 1.00g</u>									
95000125	BY-105 (R)	5	DUP	S95T003510	0		DOSE-02	SOLID	<u>1.5</u>	<u>1.5</u>	N/A	mrad/hour
95000125	BY-105 (R)	6	SAMPLE	S95T003511	0	W	H2001G01	SOLID	N/A	<u>5.2290</u>		g/L
			<u>5229g → 1.00g</u>									
95000125	BY-105 (R)	7	SAMPLE	S95T003511	0		DOSE-02	SOLID	N/A	<u>1.1</u>		mrad/hour
95000125	BY-105 (R)	8	DUP	S95T003511	0	W	H2001G01	SOLID	<u>5.2290</u>	<u>5.2000</u>	N/A	g/L
			<u>5200g → 1.00g</u>									
95000125	BY-105 (R)	9	DUP	S95T003511	0		DOSE-02	SOLID	<u>1.1</u>	<u>1.1</u>	N/A	mrad/hour

Final page for worklist #

4393

QJM 12-23-95
Analyst Signature Date

J. L. H. A. 12-27-95
Analyst Signature Date

3393 → 3510 S1
3395 → 3511 S1A

Reviewed by R. K. Fuller 12/27/95

Data Entry Comments:
HPT was Sigflandor

LABCORE Data Entry Template for Worklist#

4395

Analyst: JAM

Instrument: H2001 SN16355

Book # _____

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

Worklist Comment: BY-105 Core 108 Seg 1B,2,3 Water Digest rkf

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			H2001G01	SOLID	<u>1</u>	<u>1.00</u>	N/A	g/L
95000125	BY-105 (R)	2 SAMPLE	S95T003512 0 W		H2001G01	SOLID	N/A	<u>5.0900</u>		g/L
			<u>.5090g → .1000</u>							
95000125	BY-105 (R)	3 SAMPLE	S95T003512 0		DOSE-02	SOLID	N/A	<u>1</u>		mrad/hour
95000125	BY-105 (R)	4 DUP	S95T003512 0 W		H2001G01	SOLID	<u>5.0900</u>	<u>5.2120</u>	N/A	g/L
			<u>.5212g → .1000</u>							
95000125	BY-105 (R)	5 DUP	S95T003512 0		DOSE-02	SOLID	<u>1</u>	<u>1</u>	N/A	mrad/hour
95000125	BY-105 (R)	6 SAMPLE	S95T003513 0 W		H2001G01	SOLID	N/A	<u>5.0700</u>		g/L
			<u>.5070g → .1000</u>							
95000125	BY-105 (R)	7 SAMPLE	S95T003513 0		DOSE-02	SOLID	N/A	<u>1.5</u>		mrad/hour
95000125	BY-105 (R)	8 DUP	S95T003513 0 W		H2001G01	SOLID	<u>5.0700</u>	<u>5.1260</u>	N/A	g/L
			<u>.5126g → .1000</u>							
95000125	BY-105 (R)	9 DUP	S95T003513 0		DOSE-02	SOLID	<u>1.5</u>	<u>1.6</u>	N/A	mrad/hour
95000125	BY-105 (R)	10 SAMPLE	S95T003514 0 W		H2001G01	SOLID	N/A	<u>5.4600</u>		g/L
			<u>.5469g → .1000</u>							
95000125	BY-105 (R)	11 SAMPLE	S95T003514 0		DOSE-02	SOLID	N/A	<u>1.3</u>		mrad/hour
95000125	BY-105 (R)	12 DUP	S95T003514 0 W		H2001G01	SOLID	<u>5.4600</u>	<u>5.3280</u>	N/A	g/L
			<u>.5328g → .1000</u>							
95000125	BY-105 (R)	13 DUP	S95T003514 0		DOSE-02	SOLID	<u>1.3</u>	<u>1.3</u>	N/A	mrad/hour

Final page for worklist #

4395

JAM 12-23-95
Analyst Signature Date

J. L. P. / 12-27-95
Analyst Signature Date

3397 → 3512 1B
3398 → 3513 1A
3399 → 3514 1B

Data Entry Comments:

HPT was Sig Standee

Reviewed by R. K. Fuller
12/27/95

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#

4399

Analyst: QAM Instrument: H2001 SN16355 Book # _____

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

Worklist Comment: BY-105 Core 108 Seg 1R and 1AR Water Digest rkf

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK-PREP				H20D1G01	SOLID	<u>1</u>	<u>.100</u>	<u>N/A</u>	g/L
95000125	BY-105 (R)	2	SAMPLE	S95T003515	0	W	H20D1G01	SOLID	<u>N/A</u>	<u>5.5950</u>		g/L
				<u>.5595g → .1000</u>								
95000125	BY-105 (R)	3	SAMPLE	S95T003515	0		DOSE-02	SOLID	<u>N/A</u>	<u>1.5</u>		mrad/hour
95000125	BY-105 (R)	4	DUP	S95T003515	0	W	H20D1G01	SOLID	<u>5.5950</u>	<u>5.5100</u>	<u>N/A</u>	g/L
				<u>.5510g → .1000</u>								
95000125	BY-105 (R)	5	DUP	S95T003515	0		DOSE-02	SOLID	<u>1.5</u>	<u>1.5</u>	<u>N/A</u>	mrad/hour
95000125	BY-105 (R)	6	SAMPLE	S95T003516	0	W	H20D1G01	SOLID	<u>N/A</u>	<u>5.5320</u>		g/L
				<u>.5532g → .1000</u>								
95000125	BY-105 (R)	7	SAMPLE	S95T003516	0		DOSE-02	SOLID	<u>N/A</u>	<u>1.8</u>		mrad/hour
95000125	BY-105 (R)	8	DUP	S95T003516	0	W	H20D1G01	SOLID	<u>5.5320</u>	<u>5.4090</u>	<u>N/A</u>	g/L
				<u>.5409g → .1000</u>								
95000125	BY-105 (R)	9	DUP	S95T003516	0		DOSE-02	SOLID	<u>1.8</u>	<u>2</u>	<u>N/A</u>	mrad/hour

Final page for worklist #

4399

Analyst Signature QAM Date 12-23-95

Analyst Signature J. L. Pitt Date 12-27-95

3417 → 3515 S 1R
3419 → 3516 S 1AR

Reviewed by QK Fuller 12/27/95

Data Entry Comments:

HPT was SigChander

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#

4400

Analyst: QAM

Instrument: H2001 SU6355

Book # _____

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

Worklist Comment: BY-105 Core 108 Segment 2R and 2AR Water Digest rkf

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			H2001G01	SOLID	<u>1</u>	<u>.100</u>	<u>N/A</u>	g/L
95000125	BY-105 (R)	2 SAMPLE	S95T003517 0 W		H2001G01	SOLID	<u>N/A</u>	<u>5.4800</u>		g/L
			<u>.5480g → .1000</u>							
95000125	BY-105 (R)	3 SAMPLE	S95T003517 0		DOSE-02	SOLID	<u>N/A</u>	<u>2</u>		mrad/hour
95000125	BY-105 (R)	4 DUP	S95T003517 0 W		H2001G01	SOLID	<u>5.4800</u>	<u>5.4680</u>	<u>N/A</u>	g/L
			<u>.5468g → .1000</u>							
95000125	BY-105 (R)	5 DUP	S95T003517 0		DOSE-02	SOLID	<u>2</u>	<u>2</u>	<u>N/A</u>	mrad/hour
95000125	BY-105 (R)	6 SAMPLE	S95T003518 0 W		H2001G01	SOLID	<u>N/A</u>	<u>5.6000</u>		g/L
			<u>.5600g → .1000</u>							
95000125	BY-105 (R)	7 SAMPLE	S95T003518 0		DOSE-02	SOLID	<u>N/A</u>	<u>1.8</u>		mrad/hour
95000125	BY-105 (R)	8 DUP	S95T003518 0 W		H2001G01	SOLID	<u>5.6000</u>	<u>5.6200</u>	<u>N/A</u>	g/L
			<u>.5620g → .1000</u>							
95000125	BY-105 (R)	9 DUP	S95T003518 0		DOSE-02	SOLID	<u>1.8</u>	<u>1.8</u>	<u>N/A</u>	mrad/hour

Final page for worklist #

4400

Analyst Signature QAM

Date 12-23-95

Analyst Signature Q. J. L. L.

Date _____

3420 → 3517 2R
3421 → 3518 2AR

Data Entry Comments:

HP T was Sig Glance

Reviewed by Qk Fuller
12/27/95

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#

3994

Analyst: QJM

Instrument: ACDON SN6355

Book # WHC 17/64 WHC 18/10
WHC 2/13 MWHC 2/15

Method: LA-505-159 Rev/Mod D-U

Worklist Comment: BY-105 Core 108 (Seg 1,1A,1B,2,3) Acid Digest. gl

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
95000125	BY-105 (R)	3 SAMPLE	S95T003501	0 A	ACIDIG01	SOLID	N/A	<u>4.6260</u>	N/A	g/L
95000125	BY-105 (R)	4 SAMPLE	S95T003501	0	DOSE-02	SOLID	N/A	<u>3</u>	N/A	mrad/hour
95000125	BY-105 (R)	5 DUP	S95T003501	0 A	ACIDIG01	SOLID	<u>4.6260</u>	<u>5.1100</u>	N/A	g/L
95000125	BY-105 (R)	6 DUP	S95T003501	0	DOSE-02	SOLID	<u>3</u>	<u>3</u>	N/A	mrad/hour
95000125	BY-105 (R)	7 SPK	S95T003501	0 A	ACIDIG01	SOLID	<u>20</u>	<u>20</u>	N/A	g/L
95000125	BY-105 (R)	8 SPK	S95T003501	0	DOSE-02	SOLID	N/A	<u>3</u>	N/A	mrad/hour
95000125	BY-105 (R)	9 SAMPLE	S95T003502	0 A	ACIDIG01	SOLID	N/A	<u>5.2000</u>	N/A	g/L
95000125	BY-105 (R)	10 SAMPLE	S95T003502	0	DOSE-02	SOLID	N/A	<u>3</u>	N/A	mrad/hour
95000125	BY-105 (R)	11 DUP	S95T003502	0 A	ACIDIG01	SOLID	<u>5.2000</u>	<u>5.1460</u>	N/A	g/L
95000125	BY-105 (R)	12 DUP	S95T003502	0	DOSE-02	SOLID	<u>3</u>	<u>4</u>	N/A	mrad/hour
95000125	BY-105 (R)	13 SAMPLE	S95T003503	0 A	ACIDIG01	SOLID	N/A	<u>5.4620</u>	N/A	g/L
95000125	BY-105 (R)	14 SAMPLE	S95T003503	0	DOSE-02	SOLID	N/A	<u>4</u>	N/A	mrad/hour
95000125	BY-105 (R)	15 DUP	S95T003503	0 A	ACIDIG01	SOLID	<u>5.4620</u>	<u>5.6160</u>	N/A	g/L
95000125	BY-105 (R)	16 DUP	S95T003503	0	DOSE-02	SOLID	<u>4</u>	<u>3.5</u>	N/A	mrad/hour
95000125	BY-105 (R)	17 SAMPLE	S95T003504	0 A	ACIDIG01	SOLID	N/A	<u>4.5180</u>	N/A	g/L
95000125	BY-105 (R)	18 SAMPLE	S95T003504	0	DOSE-02	SOLID	N/A	<u>2.5</u>	N/A	mrad/hour

Data Entry Comments:

PARENT/DAUGHTER RELATIONSHIPS: 3393 → 3501, 3395 → 3502,
5970 solids 3397 → 3503, 3398 → 3504,
HPT was Charlene Cooper 3399 → 3505.

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#

3994

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
95000125	BY-105 (R)	19 DUP	S95T003504	0 A	ACIDIG01	SOLID	4.5180	4.2426	N/A	g/L
			2131g → .0501							
95000125	BY-105 (R)	20 DUP	S95T003504	0	DOSE-02	SOLID	2.5	3	N/A	mrads/hour
95000125	BY-105 (R)	21 SAMPLE	S95T003505	0 A	ACIDIG01	SOLID	N/A	5.3680		g/L
			2634g → .0501							
95000125	BY-105 (R)	22 SAMPLE	S95T003505	0	DOSE-02	SOLID	N/A	2		mrads/hour
95000125	BY-105 (R)	23 DUP	S95T003505	0 A	ACIDIG01	SOLID	5.3680	5.1620	N/A	g/L
			2581g → .0501							
95000125	BY-105 (R)	24 DUP	S95T003505	0	DOSE-02	SOLID	2	4	N/A	mrads/hour

Final page for worklist #

3994

Q. Murphy 12-31-95
Analyst Signature Date

Jim L. Platt 1/2/96
Analyst Signature Date

Reviewed by RK Fuller 1/2/96

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist#

4024

Analyst: QJM

Instrument: ACD01

SN110355

Book #

WHC1694JWHC1616
WHC2133MWHC2115

Method: LA-505-159 Rev/Mod

D-0

Worklist Comment: BY-105 Core 108 (Seg 1R,1AR,2R,2AR) Acid Digest. gll

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
95000125	BY-105 (R)	3	SAMPLE	S95T003506	0	A	ACIDIG01	SOLID	N/A	<u>5.5760</u>		g/L
				<u>0.2788g</u>			<u>→ .0501</u>					D.F. 12-23-95
95000125	BY-105 (R)	4	SAMPLE	S95T003506	0		DOSE-02	SOLID	N/A	<u>3.5</u>		mrad/hour
95000125	BY-105 (R)	5	DUP	S95T003506	0	A	ACIDIG01	SOLID	<u>5.5760</u>	<u>5.6680</u>	N/A	g/L
				<u>0.2834g</u>			<u>→ .0501</u>					
95000125	BY-105 (R)	6	DUP	S95T003506	0		DOSE-02	SOLID	<u>3.5</u>	<u>3.5</u>	N/A	mrad/hour
95000125	BY-105 (R)	7	SPK	S95T003506	0	A	ACIDIG01	SOLID	<u>20</u>	<u>20</u>	N/A	g/L
				<u>0.2843g</u>			<u>→ .0501</u>					D.F. 12-23-95
95000125	BY-105 (R)	8	SPK	S95T003506	0		DOSE-02	SOLID	N/A	<u>3.5</u>	N/A	mrad/hour
95000125	BY-105 (R)	9	SAMPLE	S95T003507	0	A	ACIDIG01	SOLID	N/A	<u>4.2840</u>		g/L
				<u>0.2142g</u>			<u>→ .0501</u>					
95000125	BY-105 (R)	10	SAMPLE	S95T003507	0		DOSE-02	SOLID	N/A	<u>2.5</u>		mrad/hour
95000125	BY-105 (R)	11	DUP	S95T003507	0	A	ACIDIG01	SOLID	<u>4.2840</u>	<u>4.4320</u>	N/A	g/L
				<u>0.2216g</u>			<u>→ .0501</u>					
95000125	BY-105 (R)	12	DUP	S95T003507	0		DOSE-02	SOLID	<u>2.5</u>	<u>3</u>	N/A	mrad/hour
95000125	BY-105 (R)	13	SAMPLE	S95T003508	0	A	ACIDIG01	SOLID	N/A	<u>4.3880</u>		g/L
				<u>0.2194g</u>			<u>→ .0501</u>					
95000125	BY-105 (R)	14	SAMPLE	S95T003508	0		DOSE-02	SOLID	N/A	<u>3.5</u>		mrad/hour
95000125	BY-105 (R)	15	DUP	S95T003508	0	A	ACIDIG01	SOLID	<u>4.3880</u>	<u>4.2540</u>	N/A	g/L
				<u>0.2117g</u>			<u>→ .0501</u>					
95000125	BY-105 (R)	16	DUP	S95T003508	0		DOSE-02	SOLID	<u>3.5</u>	<u>3.5</u>	N/A	mrad/hour
95000125	BY-105 (R)	17	SAMPLE	S95T003509	0	A	ACIDIG01	SOLID	N/A	<u>5.4760</u>		g/L
				<u>0.2738g</u>			<u>→ .0501</u>					
95000125	BY-105 (R)	18	SAMPLE	S95T003509	0		DOSE-02	SOLID	N/A	<u>3.5</u>		mrad/hour

Data Entry Comments:

1 AR11 → DATAER RELATIONSHIPS: 3417 → 3506, 3419 → 3507

<190 DOIS

3420 → 3508, 3421 → 3509

HPT was Charlene Cooper

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#

4024

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
95000125	BY-105 (R)	19 DUP	S95T003509	0 A	ACIDIG01	SOLID	5.4760	5.7700	N/A	g/L
			2885g		.0501					
95000125	BY-105 (R)	20 DUP	S95T003509	0	DOSE-02	SOLID	3.5	4.5	N/A	mrads/hour

Final page for worklist #

4024

Q Murphy 12-31-95
Analyst Signature Date

J. L. Pitt 1-2-96
Analyst Signature Date

Reviewed by QK Feller 1/2/96

Data Entry Comments:

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

WHC-SD-WM-DP-162, REV. 1

INORGANIC ANALYSES

WHC-SD-WM-DP-162, REV. 1

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Bulk Density Worksheet

Requestor: L. SASAKI

Date: 11/10/95

Tank: BY105
Core: 108
Seg: 1
Auger: -

Tank: BY105
Core: 108
Seg: 1
Auger: -

Tank:
Core:
Seg:
Auger:

Tank:
Core:
Seg:
Auger:

Start Time: 5951303379
End Time:

Homogenization Time (Min.):
Jar#: 7616
Jar/Vial Size: 125 mL
Initial Weight: 4.5 g
Final Weight: 19.7 g
Net Weight: g

Start Time:
End Time:

Homogenization Time (Min.):
Jar#: 7616
Jar/Vial Size: 125 mL
Initial Weight: 7.6 g
Final Weight: 24.3 g
Net Weight: g

Start Time:
End Time:

Homogenization Time (Min.):
Jar#:
Jar/Vial Size: mL
Initial Weight: g
Final Weight: g
Net Weight: g

Start Time:
End Time:

Homogenization Time (Min.):
Jar#:
Jar/Vial Size: mL
Initial Weight: g
Final Weight: g
Net Weight: g

Core#: 7616
Final Vol: 10.0 mL
Initial Weight: 7.6 g
Final Weight: 27.3 g
Net Weight: 19.7 g

Core#: 7616
Final Vol: 8.8 mL
Initial Weight: 7.6 g
Final Weight: 24.3 g
Net Weight: 16.7 g

Core#:
Final Vol: mL
Initial Weight: g
Final Weight: g
Net Weight: g

Core#:
Final Vol: mL
Initial Weight: g
Final Weight: g
Net Weight: g

Appearance/Narrative: BULK DENSITY

Appearance/Narrative: BULK DENSITY

Appearance/Narrative:

Appearance/Narrative:

19.7/10.0 = 1.97 g/cc

16.7/8.8 = 1.90 g/cc

BEST AVAILABLE COPY

WHC-SD-WM-DP-162, REV. 1

Requestor: L. S. S. A. L.

Bulk Density Worksheet

Date: 11-10-95

Tank: 84105
Core: 108
Seg: 1A
Auger: -

Tank: 84105
Core: 108
Seg: 1A
Auger: -

Tank: _____
Core: _____
Seg: _____
Auger: _____

Tank: _____
Core: _____
Seg: _____
Auger: _____

Start Time: _____
End Time: _____
Homogenization Time (Min.): _____
Jar#: 7638
Jar/Vial Size: 5 mL
Initial Weight: 11.98 g
Final Weight: 19.7 g
Net Weight: 7.72 g
Cone#: 7638 ①
Final Vol: 10.0 mL
Initial Weight: 7.6 g
Final Weight: 27.3 g
Net Weight: 19.7 g

Start Time: _____
End Time: _____
Homogenization Time (Min.): _____
Jar#: 7638
Jar/Vial Size: 5 mL
Initial Weight: 11.98 g
Final Weight: 26.5 g
Net Weight: 14.52 g
Cone#: 7638 ②
Final Vol: 9.5 mL
Initial Weight: 7.6 g
Final Weight: 26.5 g
Net Weight: 18.9 g

Start Time: _____
End Time: _____
Homogenization Time (Min.): _____
Jar#: 7638
Jar/Vial Size: 5 mL
Initial Weight: 11.98 g
Final Weight: 26.5 g
Net Weight: 14.52 g
Cone#: _____
Final Vol: _____ mL
Initial Weight: _____ g
Final Weight: _____ g
Net Weight: _____ g

Start Time: _____
End Time: _____
Homogenization Time (Min.): _____
Jar#: 7638
Jar/Vial Size: 5 mL
Initial Weight: 11.98 g
Final Weight: 26.5 g
Net Weight: 14.52 g
Cone#: _____
Final Vol: _____ mL
Initial Weight: _____ g
Final Weight: _____ g
Net Weight: _____ g

Appearance/Narrative: Bulk Density

Appearance/Narrative: Bulk Density

Appearance/Narrative: _____

Appearance/Narrative: _____

19.7/10.0 = 1.97 g/cc

18.9/9.5 = 1.98 g/cc

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Bulk Density Worksheet

Date: 11-13-95Requestor: L. SARKI

004

Tank: B4105
 Core: 108
 Seg: 1B
 Auger: -

Tank: B4105
 Core: 108
 Seg: 1B
 Auger: -

Tank: _____
 Core: _____
 Seg: _____
 Auger: _____

Start Time: _____
 End Time: _____

Homogenization
Time (Min.): _____

Jar/Vial Size: 250 mL
 Initial Weight: 5.78 g
 Final Weight: 29.1 g
 Net Weight: 23.32 g

Jar/Vial Size: 250 mL
 Initial Weight: 5.78 g
 Final Weight: 29.1 g
 Net Weight: 23.32 g

Core#: 7637
 Final Vol: 11.5 mL
 Initial Weight: 7.6 g
 Final Weight: 29.1 g
 Net Weight: 21.5 g

Core#: 7637
 Final Vol: 11.5 mL
 Initial Weight: 7.6 g
 Final Weight: 29.1 g
 Net Weight: 21.5 g

Start Time: _____
 End Time: _____

Homogenization
Time (Min.): _____

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

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

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

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

Appearance/Narrative:

Bulk Density

215 / 11.5 = 18.7 g/L

Appearance/Narrative:

Bulk Density

18.0 / 9.5 = 1.89 g

Appearance/Narrative:

Bulk Density

Appearance/Narrative:

Bulk Density

509 373 1472

14:44

11/13/95

Bulk Density Worksheet

Requestor: _____

Date: 11-13-95

Tank: BY-105
Core: 108
Seg: 2
Auger: _____

Tank: BY-105
Core: 108
Seg: 2
Auger: _____

Tank: _____
Core: _____
Seg: _____
Auger: _____

Tank: _____
Core: _____
Seg: _____
Auger: _____

Start Time: _____
End Time: _____

Start Time: _____
End Time: _____

Start Time: _____
End Time: _____

Start Time: _____
End Time: _____

Homogenization
Time (Min.): _____

Homogenization
Time (Min.): _____

Homogenization
Time (Min.): _____

Homogenization
Time (Min.): _____

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

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

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

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

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

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

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

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

Appearance/Narrative: _____

Appearance/Narrative: _____

Appearance/Narrative: _____

Appearance/Narrative: _____

Insufficient Sample for
Bulk Density

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Requestor: _____

Bulk Density Worksheet

Date: 11-13-95

Tank: By-105
 Core: 108
 Seg: 3
 Auger: _____

Tank: By-105
 Core: 108
 Seg: 3
 Auger: _____

Tank: _____
 Core: _____
 Seg: _____
 Auger: _____

Tank: _____
 Core: _____
 Seg: _____
 Auger: _____

Start Time: _____
 End Time: _____
 Homogenization Time (Min.): _____
 Jar#: 7741
 Jar/Vial Size: _____ mL
 Initial Weight: _____ g
 Final Weight: _____ g
 Net Weight: _____ g
 Conc#: 7741 (A)
 Final Vol: 9.0 mL
 Initial Weight: 7.6 g
 Final Weight: 24.1 g
 Net Weight: 16.5 g

Start Time: _____
 End Time: _____
 Homogenization Time (Min.): _____
 Jar#: _____
 Jar/Vial Size: _____ mL
 Initial Weight: _____ g
 Final Weight: _____ g
 Net Weight: _____ g
 Conc#: _____
 Final Vol: _____ mL
 Initial Weight: _____ g
 Final Weight: _____ g
 Net Weight: _____ g

Start Time: _____
 End Time: _____
 Homogenization Time (Min.): _____
 Jar#: _____
 Jar/Vial Size: _____ mL
 Initial Weight: _____ g
 Final Weight: _____ g
 Net Weight: _____ g
 Conc#: _____
 Final Vol: _____ mL
 Initial Weight: _____ g
 Final Weight: _____ g
 Net Weight: _____ g

Start Time: _____
 End Time: _____
 Homogenization Time (Min.): _____
 Jar#: _____
 Jar/Vial Size: _____ mL
 Initial Weight: _____ g
 Final Weight: _____ g
 Net Weight: _____ g
 Conc#: _____
 Final Vol: _____ mL
 Initial Weight: _____ g
 Final Weight: _____ g
 Net Weight: _____ g

Appearance/Narrative: Approx. 16.5 g
Sample too small to work with
(Sample did not pack down completely)
 Appearance/Narrative: Insufficient sample for Q.C.

Appearance/Narrative: _____
 Appearance/Narrative: _____

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Bulk Density Worksheet

Requestor: L. SAKI

Date: 11-13-95

Tank: BY-105
Core: 108
Seg: 1R
Auger: -

Tank: BY-105
Core: 108
Seg: 1R
Auger: -

Tank: _____
Core: _____
Seg: _____
Auger: _____

Tank: _____
Core: _____
Seg: _____
Auger: _____

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

Jar#: 8158
Jar/Vial Size: 250 mL
Initial Weight: _____
Final Weight: 11.32 g
Net Weight: 11.32 g

Cone#: 8158
Final Vol: 10.0 mL
Initial Weight: 7.6 g
Final Weight: 26.6 g
Net Weight: 19.0 g

Appearance/Narrative:

BLK DENS

19.0/10.0 = 1.90 g/mL

Start Time: _____
End Time: _____

Homogenization
Time (Min.): _____

Jar#: 8158
Jar/Vial Size: 250 mL
Initial Weight: _____
Final Weight: 11.32 g
Net Weight: 11.32 g

Cone#: 8158
Final Vol: 9.8 mL
Initial Weight: 7.6 g
Final Weight: 25.8 g
Net Weight: 18.2 g

Appearance/Narrative:

BLK DENS

18.2/9.8 = 1.86 g/mL

Start Time: _____
End Time: _____

Homogenization
Time (Min.): _____

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

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

Appearance/Narrative:

Start Time: _____
End Time: _____

Homogenization
Time (Min.): _____

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

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

Appearance/Narrative:

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WHC-SD-WM-DP-162, REV. 1

002

505 373 1432

05

10:20

11/13/95

Requestor: L. SASAKI

Bulk Density Worksheet

Date: 11-13-95

Tank: BY105
Core: 108
Seg: 10K
Auger: —

Tank: _____
Core: _____
Seg: _____
Auger: _____

Tank: _____
Core: _____
Seg: _____
Auger: _____

Tank: _____
Core: _____
Seg: _____
Auger: _____

Start Time: _____
End Time: _____
595780 3406
Homogenization
Time (Min.): _____

Jar#: 80321
Jar/Vial Size: 40 mL
Initial Weight: _____ g
Final Weight: 11.14 g
Net Weight: _____ g

Core#: 8034
Final Vol: _____ mL
Initial Weight: _____ g
Final Weight: _____ g
Net Weight: _____ g

Appearance/Narrative: _____

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

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

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

Appearance/Narrative: _____

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

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

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

Appearance/Narrative: _____

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

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

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

Appearance/Narrative: _____

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Requestor: _____

Bulk Density Worksheet

Date: 11-13-95

Tank: B4-105
Core: 108
Seg: 2R
Auger: —

Tank: B4-105
Core: 108
Seg: 2R
Auger: —

Tank: _____
Core: _____
Seg: _____
Auger: _____

Tank: _____
Core: _____
Seg: _____
Auger: _____

Start Time: _____
End Time: _____
S957083408
Homogenization
Time (Min.): _____
Jar#: 7746
Jar/Vial Size: _____ mL
Initial Weight: _____ g
Final Weight: _____ g
Net Weight: _____ g
Cone#: 7746 (A)
Final Vol: 10.0 mL
Initial Weight: 7.6 g
Final Weight: 26.0 g
Net Weight: 18.4 g

26

Start Time: _____
End Time: _____
Homogenization
Time (Min.): _____
Jar#: 7746
Jar/Vial Size: _____ mL
Initial Weight: _____ g
Final Weight: _____ g
Net Weight: _____ g
Cone#: 7746 (B)
Final Vol: 10.5 mL
Initial Weight: 7.6 g
Final Weight: 27.1 g
Net Weight: 19.5 g

Start Time: _____
End Time: _____
Homogenization
Time (Min.): _____
Jar#: _____
Jar/Vial Size: _____ mL
Initial Weight: _____ g
Final Weight: _____ g
Net Weight: _____ g
Cone#: _____
Final Vol: _____ mL
Initial Weight: _____ g
Final Weight: _____ g
Net Weight: _____ g

Start Time: _____
End Time: _____
Homogenization
Time (Min.): _____
Jar#: _____
Jar/Vial Size: _____ mL
Initial Weight: _____ g
Final Weight: _____ g
Net Weight: _____ g
Cone#: _____
Final Vol: _____ mL
Initial Weight: _____ g
Final Weight: _____ g
Net Weight: _____ g

Appearance/Narrative:
81K Dew = 18.4/10.0 =

Appearance/Narrative:
81K Dew = 19.5/10.5 =

Appearance/Narrative:

Appearance/Narrative:

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1.84 g/mL

1.85 g/mL

placed remaining 1 sample into
Archive Jar # 8641

WHC-SD-WM-DP-162-REV.

Bulk Density Worksheet

Requestor: L. Sistrup

Date: 11-18-85

Tank: BY105
Core: 103
Seg: 202
Auger: -

Tank: BY105
Core: 103
Seg: 202
Auger: -

Tank: BY105
Core: 103
Seg: 202
Auger: -

Start Time: 5:57:00
End Time: 5:40:30
Homogenization Time (Min.): 16

Jar/Vial Size: 100 mL
Initial Weight: 29.3 g
Final Weight: 20.7 g
Net Weight: 8.6 g

93

Conc: 516.0
Final Vol: 11.0 mL
Initial Weight: 7.6 g
Final Weight: 29.3 g
Net Weight: 20.7 g

Start Time: 5:57:00
End Time: 5:40:30
Homogenization Time (Min.): 16

Jar/Vial Size: 100 mL
Initial Weight: 29.3 g
Final Weight: 20.7 g
Net Weight: 8.6 g

Conc: 516.0
Final Vol: 11.0 mL
Initial Weight: 7.6 g
Final Weight: 22.1 g
Net Weight: 14.5 g

Start Time: 5:57:00
End Time: 5:40:30
Homogenization Time (Min.): 16

Jar/Vial Size: 100 mL
Initial Weight: 29.3 g
Final Weight: 20.7 g
Net Weight: 8.6 g

Conc: 516.0
Final Vol: 11.0 mL
Initial Weight: 7.6 g
Final Weight: 22.1 g
Net Weight: 14.5 g

Start Time: 5:57:00
End Time: 5:40:30
Homogenization Time (Min.): 16

Jar/Vial Size: 100 mL
Initial Weight: 29.3 g
Final Weight: 20.7 g
Net Weight: 8.6 g

Conc: 516.0
Final Vol: 11.0 mL
Initial Weight: 7.6 g
Final Weight: 22.1 g
Net Weight: 14.5 g

Appearance/Narrative: 3162-081

Appearance/Narrative: 3162-081

Appearance/Narrative: 3162-081

Appearance/Narrative: 3162-081

$$\frac{20.7}{11.0} = 1.88 \text{ g/mL}$$

$$\frac{14.5}{8.0} = 1.81 \text{ g/mL}$$

BEST AVAILABLE COPY

LABCORE Data Entry Template for Worklist#

3683

Analyst: Kim Thomas Instrument: BA001 Book # 134116B

Method: LA-510-112 Rev/Mod C3

Worklist Comment: SpG BY-105 (Do not run in replicate)

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			SPG-01	LIQUID	<u>1.1081</u>	<u>1.100</u>	<u>N/A</u>	Sp.G.
95000125	BY-105 (R)	2 SAMPLE	S95T003394 0		SPG-01	LIQUID	<u>N/A</u>	<u>1.391</u>	<u>.01</u>	Sp.G.
95000125	BY-105 (R)	3 DUP	S95T003394 0		SPG-01	LIQUID	<u>1.391</u>	<u>1.385</u>	<u>N/A</u>	Sp.G.
95000125	BY-105 (R)	4 SAMPLE	S95T003396 0		SPG-01	LIQUID	<u>N/A</u>	<u>1.403</u>	<u>.01</u>	Sp.G.
95000125	BY-105 (R)	5 DUP	S95T003396 0		SPG-01	LIQUID	<u>1.403</u>	<u>1.392</u>	<u>N/A</u>	Sp.G.
95000125	BY-105 (R)	6 SAMPLE	S95T003418 0		SPG-01	LIQUID	<u>N/A</u>	<u>1.406</u>	<u>.01</u>	Sp.G.
95000125	BY-105 (R)	7 DUP	S95T003418 0		SPG-01	LIQUID	<u>1.406</u>	<u>1.405</u>	<u>N/A</u>	Sp.G.
95000125	BY-105 (R)	8 SAMPLE	S95T003422 0		SPG-01	LIQUID	<u>N/A</u>	<u>1.406</u>	<u>.01</u>	Sp.G.
95000125	BY-105 (R)	9 DUP	S95T003422 0		SPG-01	LIQUID	<u>1.406</u>	<u>1.403</u>	<u>N/A</u>	Sp.G.

Final page for worklist #

3683

Kim Thomas 12-3-95
Analyst Signature Date

Simla Corbin 12/4/95
Analyst Signature Date

Calibrated Pipette 150.17

STD
G. 2.02926
T. 1.86383

3394
G. 2.11745
T. 1.90854

3396
G. 2.12121
T. 1.91046

3418
G. 2.02736
T. 1.81628

3422
G. 2.05392
T. 1.84277

STD DUP
G. 2.10949
T. 1.94465

3394 DUP
G. 2.03751
T. 1.82956

3396 DUP
G. 2.07073
T. 1.86162

3418 DUP
G. 2.11420
T. 1.90322

3422 DUP
G. 2.09742
T. 1.88671

Data Entry Comments:

Reviewed by H. Anastos 12-5-95

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHO-SD-WM-DP-162, REV. 1

STD

T 1.86383 g

G 2.92926 g

T 1.94445 g

G 2.10945 g

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		STANDARD	STANDARD
STANDARD	Gross Weight (W2)	2.0293	2.1095
Work List	Tare Weight (W1)	1.8638	1.9447
3683	Weight of Solution (W2-W1)	0.16543	0.16484
Test Code	Volume of Solution μ L	150.1700	150.1700
SPG-01	Specific Gravity	1.1016	1.0977
Matrix	Specific Gravity (Average)	1.0997	
LIQUID			
Sample #			
134N16B			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
K THOMAS			
Date			
12/03/95	$\checkmark$ RESULT $\checkmark$		
Time	Specific Gravity Average =	1.100	

Data Entry by:

Date:

12/04/95

Approved by:

Date:

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-162, REV. 1

S95T003394

T 1.90854 g

G 2.11745 g

SAM

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMPLE	REPLICATE
SAMPLE	Gross Weight (W2)	2.1175	
Work List	Tare Weight (W1)	1.9085	
3683	Weight of Solution (W2-W1)	0.20891	0
Test Code	Volume of Solution μ L	150.1700	
SPG-01	Specific Gravity	1.3912	NA
Matrix			
LIQUID			
Sample #			
S95T003394			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
K THOMAS	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
Date			
12/03/95	v RESULT v		
Time	Specific Gravity =	1.391	

Data Entry by:

Frank Conlin

Date:

12/04/95

Approved by:

Date:

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-162, REV. 1

T 1.82956 g
G 2.83751 g } DUP

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMPLE	REPLICATE
SAMPLE	Gross Weight (W2)	2.0375	
Work List	Tare Weight (W1)	1.8296	
3683	Weight of Solution (W2-W1)	0.20795	0
Test Code	Volume of Solution μ L	150.1700	
SPG-01	Specific Gravity	1.3848	NA
Matrix			
LIQUID			
Sample #			
S95T003394 DUP			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst	Specific Gravity = $[(W2-W1) \cdot 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} \cdot 1.000 \text{ g/mL}]$		
K THOMAS			
Date			
12/03/95	v RESULT v		
Time	Specific Gravity =	1.385	

Data Entry by: *Leah Contin* Date: 12/04/95
Approved by: Date:

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-162, REV. 1

S95T003396

T 1.91846 g

G 2.12121 g

SAM

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMPLE	REPLICATE
SAMPLE	Gross Weight (W2)	2.1212	
Work List	Tare Weight (W1)	1.9105	
3683	Weight of Solution (W2-W1)	0.21075	0
Test Code	Volume of Solution μ L	150.1700	
SPG-01	Specific Gravity	1.4034	NA
Matrix			
LIQUID			
Sample #			
S95T003396			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
K THOMAS	Specific Gravity = $[(W2-W1) \cdot 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} \cdot 1.000 \text{ g/mL}]$		
Date			
12/03/95	v RESULT v		
Time	Specific Gravity =	1.403	

Data Entry by:	<i>Franka Coulter</i>	Date:	12/04/95
Approved by:		Date:	

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-OP-162, REV. 1

T 1.86162 g
G 2.07073 g } DUP

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMPLE	REPLICATE
SAMPLE	Gross Weight (W2)	2.0707	
Work List	Tare Weight (W1)	1.8616	
3683	Weight of Solution (W2-W1)	0.20911	0
Test Code	Volume of Solution μ L	150.1700	
SPG-01	Specific Gravity	1.3925	NA
Matrix			
LIQUID			
Sample #			
S95T003396 DUP			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
K THOMAS			
Date			
12/03/95	$\checkmark$ RESULT $\checkmark$		
Time	Specific Gravity =	1.392	

Data Entry by:	<i>Linda Conlin</i>	Date:	12/04/95
Approved by:		Date:	

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-OP-162, REV. I

S95T003418

T 1.81628 g

G 2.02736 g } SAM

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMPLE	REPLICATE
SAMPLE	Gross Weight (W2)	2.0274	
Work List	Tare Weight (W1)	1.8163	
3683	Weight of Solution (W2-W1)	0.21108	0
Test Code	Volume of Solution μ L	150.1700	
SPG-01	Specific Gravity	1.4056	NA
Matrix			
LIQUID			
Sample #			
S95T003418			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
K THOMAS	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L}/\text{mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
Date			
12/03/95	v RESULT v		
Time	Specific Gravity =	1.406	

Data Entry by:	Date:	12/04/95
Approved by:	Date:	

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-162, REV. 1

T 1.90322 g
G 2.11422 g → DUP

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMPLE	REPLICATE
SAMPLE	Gross Weight (W2)	2.1142	
Work List	Tare Weight (W1)	1.9032	
3683	Weight of Solution (W2-W1)	0.21098	0
Test Code	Volume of Solution μ L	150.1700	
SPG-01	Specific Gravity	1.4049	NA
Matrix			
LIQUID			
Sample #			
S95T003418 DUP			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst	Specific Gravity = $[(W2-W1) * 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} * 1.000 \text{ g/mL}]$		
K THOMAS			
Date			
12/03/95	v RESULT v		
Time	Specific Gravity =	1.405	

Data Entry by: *Linda Conlin* Date: 12/04/95
 Approved by: _____ Date: _____

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-162, REV. I

S95T003422

T 1.84277 g

G 2.0539 g

SAM

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMPLE	REPLICATE
SAMPLE	Gross Weight (W2)	2.0539	
Work List	Tare Weight (W1)	1.8428	
3683	Weight of Solution (W2-W1)	0.21115	0
Test Code	Volume of Solution μ L	150.1700	
SPG-01	Specific Gravity	1.4061	NA
Matrix			
LIQUID			
Sample #			
S95T003422			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst	Specific Gravity = $[(W2-W1) \cdot 1000 \mu\text{L/mL}] / [\text{Vol. of Solution } \mu\text{L} \cdot 1.000 \text{ g/mL}]$		
K THOMAS			
Date			
12/03/95	$\checkmark$ RESULT $\checkmark$		
Time	Specific Gravity =	1.406	

Data Entry by:	<i>Jimie Conlin</i>	Date:	12/04/95
Approved by:		Date:	

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-OP-162, REV. 1

T 1.88671 g
G 2.09742 g } DUP

SPECIFIC GRAVITY : LA-510-112 (C-3)

Type		SAMPLE	REPLICATE
SAMPLE	Gross Weight (W2)	2.0974	
Work List	Tare Weight (W1)	1.8867	
3683	Weight of Solution (W2-W1)	0.21071	0
Test Code	Volume of Solution μ L	150.1700	
SPG-01	Specific Gravity	1.4031	NA
Matrix			
LIQUID			
Sample #			
S95T003422 DUP			
Instrument Code	Gross Weight (W2) = Wt. of vial + cap + cotton + solution		
BA001	Tare Weight (W1) = Wt. of vial + cap + cotton		
Analyst			
K THOMAS	Specific Gravity = [(W2-W1) * 1000 μ L/mL] / [Vol. of Solution μ L * 1.000 g/mL]		
Date			
12/03/95	v RESULT v		
Time	Specific Gravity =	1.403	

Data Entry by:	<i>Jackie Conlon</i>	Date:	12/04/95
Approved by:		Date:	

LABCORE Data Entry Template for Worklist#

5673

Analyst: KRM Instrument: CN01 301 Book # 71N86

Method: LA-695-103 Rev/Mod A.0

Worklist Comment: BY-105 CN. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK			CN-01	LIQUID	<u>1</u>	<u><1.10e-2</u>	<u>N/A</u>	ug/mL
		2 STD			CN-01	LIQUID	<u>915</u>	<u>912</u>	<u>N/A</u>	ug/mL
95000125	BY-105 (R)	3 SAMPLE	S95T003418	0	CN-01	LIQUID	<u>N/A</u>	<u>1.01e1</u>	<u>2.20e-1</u>	ug/mL
95000125	BY-105 (R)	4 DUP	S95T003418	0	CN-01	LIQUID	<u>1.01e1</u>	<u>1.13e1</u>	<u>N/A</u>	ug/mL
95000125	BY-105 (R)	5 SPK	S95T003418	0	CN-01	LIQUID	<u>100</u>	<u>101.5</u>	<u>N/A</u>	ug/mL
		6 CCV			CN-01	LIQUID	<u>915</u>	<u>877</u>	<u>N/A</u>	ug/mL
		7 CCB			CN-01	LIQUID	<u>1</u>	<u><1.10e-2</u>	<u>N/A</u>	ug/mL

Final page for worklist #

5673

Analyst Signature

Date

3-7-96

Analyst Signature

Date

3-11-96

Reviewed RW Schuchman

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.

CYANIDE ANALYSIS

500NM 0.022 A
500NM 0.007 A
500NM 0.165 A
500NM 0.406 A
500NM 0.690 A
500NM 0.656 A
500NM 0.005 A

WHC-SD-WM-DP-162, REV. 1

CN- DETERMINATION : LA-695-102 (E-0) BLANK, LIQUID, SOLID

Type	SAMPLE	
Blank		
Work List		
5673	Blank Aliquot in mL (SS)	5.00000
Test Code	Absorbance of Instrument Blank	0.000
CN-01	Absorbance of Blank (Reagent, Prep)	0.002
Matrix	Digest Dilution Factor	1
Liquid	Y-Intercept Value	0.000194
Sample #	Slope Value	0.143424
Reagent Blank	µg of Cyanide	0.013
Instrument Code	µg CN- /mL	2.52E-03
301		
Analyst	µg of Cyanide = [Absorb. of Blank - Absorb. of Inst. Blank - (Y-Intercept)] / Slope Value	
JTK	µg/mL of Cyanide = µg Cyanide * Digest Dilution Factor / SS (mL)	
Date		
03/07/96	Detection Limit = 0.055 µg Cyanide / SS (mL) * Digest Dilution Factor	
Time	v RESULTS v	
	Cyanide Concentration (µg/mL)	< Detection Limit
Calibration Date		Detection Limit
02/23/96		µg CN- / mL
		1.10E-02

Data Entry by:

RW Schmedley
RW Schmedley

Date: 03/11/96

Approved by:

Date: 3/12/96

Form 695102C1 Rev. 1.7

Page 1 of 1

PLACE ANALYTICAL CARD IN BOX BELOW-DO NOT WRITE IN SPACE

WHC-SD-WM-DP-162, REV. 1

CN- DETERMINATION : LA-695-102 (E-0) SPIKE, STANDARD

Type	NA	STANDARD
Standard	Standard Aliquot in mL	0.250
Work List	Diluent + Standard Volume	25.00
5673	Diluted Standard in mL to be Analyzed	0.500
Test Code	True Value CN- Concentration (µg/mL)	915
CN-01	Absorbance of Blank	0.002
Matrix	Absorbance of Standard	0.656
Liquid	Y-Intercept Value	0.000194
Sample #	Slope Value	0.143424
71N8G-CCV	µg of CN in Standard	4.559
Instrument Code		
301		
Analyst		
JTK		
Date	µg of CN-/mL in Standard	912
03/07/96		
Time	Standard % Recovery	99.6%
Calibration Date	Slope and Y-Intercept calculated from working curve calibration	
02/23/96	Original Sample Calculation from Form 695102C1	

µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value

µg/mL of CN- = µg of CN- in Standard / Diluted Standard * Dilution Factor

Dilution Factor = Flask Volume / Standard Aliquot

Standard % Recovery = (µg of CN-/mL in Standard / True Value CN- Concentration (µg/mL)) * 100

Data Entry by:	<i>R.W. Schuerder</i>	Date:	03/11/96
Approved by:	<i>R.W. Schuerder</i>	Date:	3/12/96

WHC-SD-WM-DP-162, REV. 1

CN- DETERMINATION : LA-695-102 (E-0) BLANK, LIQUID, SOLID

Type	SAMPLE	
Liquid	Sample Aliquot in mL	0.25000
Work List	Sample Dilution Volume in mL (Sample+H2O Vol.)	0.25000
5673	Sample Aliquot Taken from dilution in mL (SS)	0.25000
Test Code	Absorbance of Blank	0.002
CN-01	Absorbance of Sample	0.365
Matrix	Digest Dilution Factor	1
Liquid	Y-Intercept Value	0.000194
Sample #	Slope Value	0.143424
S95T003418	µg of Cyanide	2.530
Instrument Code	µg CN- /mL	1.01E+01
301		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
JTK	µg/mL of Cyanide = µg Cyanide / SS (mL) * Dilution Factor * Digest Dilution Factor	
Date	Dilution Factor = Flask Volume (mL) / Sample Aliquot (mL)	
03/07/96	Detection Limit = 0.055 µg Cyanide / SS (mL) * Dilution Factor * Digest Dilution Factor	
Time	v RESULTS v	
	Cyanide Concentration (µg/mL)	1.01E+01
Calibration Date	Detection Limit	
02/23/96		µg CN- / mL
		2.20E-01

Data Entry by:

RW Schneider

Date: 03/11/96

Approved by:

RW Schneider

Date: 3/12/96

Form 695102C1 Rev. 1.7

Page 1 of 1

WHC-SD-WM-DP-162, REV. I

CN- DETERMINATION : LA-695-102 (E-0) BLANK, LIQUID, SOLID

Type		SAMPLE
Liquid	Sample Aliquot in mL	0.25000
Work List	Sample Dilution Volume in mL (Sample+H2O Vol.)	0.25000
5673	Sample Aliquot Taken from dilution in mL (SS)	0.25000
Test Code	Absorbance of Blank	0.002
CN-01	Absorbance of Sample	0.406
Matrix	Digest Dilution Factor	1
Liquid	Y-Intercept Value	0.000194
Sample #	Slope Value	0.143424
S95T003418-DUP	µg of Cyanide	2.815
Instrument Code	µg CN- /mL	1.13E+01

301
 Analyst µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value
 JTK µg/mL of Cyanide = µg Cyanide / SS (mL) * Dilution Factor * Digest Dilution Factor

Date Dilution Factor = Flask Volume (mL) / Sample Aliquot (mL)
 03/07/96 Detection Limit = 0.055 µg Cyanide / SS (mL) * Dilution Factor * Digest Dilution Factor

Time v RESULTS v

Calibration Date	Cyanide Concentration (µg/mL)	1.13E+01	Detection Limit
02/23/96			µg CN- / mL
			2.20E-01

Data Entry by:

RW Schneider

Date: 03/11/96

Approved by:

RW Schneider

Date: 3/12/96

Form 695102C1 Rev. 1.7

Page 1 of 1

WHC-SD-WM-DP-162, REV. 1

CN- DETERMINATION : LA-695-102 (E-0) SPIKE, STANDARD

Type		SPIKE	NA
Spike	Spike Aliquot in mL	0.250	
Work List	Diluent + Spike Standard Volume	25.00	
5673	Diluted Spike Standard in mL	0.250	
Test Code	True Value CN- Concentration (µg/mL)	915	
CN-01	Absorbance of Blank	0.002	
Matrix	Absorbance of Sample+Spike	0.698	
Liquid	Y-Intercept Value	0.000194	
Sample #	Slope Value	0.143424	
S95T003418	µg of CN- in Sample+Spike	4.851	ERR
Instrument Code			
301			
Analyst	Known µg of CN- in Original Sample	2.5300	
JTK			
Date	µg of CN- in Spike	2.2875	
03/07/96			
Time	Spike % Recovery	101.5%	
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/23/96	Original Sample Calculation from Form 695102C1		

$$\mu\text{g of CN- in Sample (Corrected)} = \text{Known } \mu\text{g of CN- in Original Sample} * \text{g of Sample in Spike} / \text{g Used in Original Sample}$$

$$\mu\text{g of CN- in Sample+Spike} = [(\text{Absorbance of Sample+Spike} - \text{Absorbance of Blank}) - (\text{Y-Intercept})] / \text{Slope Value}$$

$$\mu\text{g of CN- in Spike} = \text{LMCS Value (ppm)} / \text{Dilution Factor} * \text{Diluted Spike Standard}$$

$$\text{Dilution Factor} = \text{Spike Dilution Volume} / \text{Spike Aliquot}$$

$$\text{Spike \% Recovery} = (\mu\text{g of CN- in Sample+Spike}) - (\mu\text{g of CN- in Sample}) / (\mu\text{g of CN- in Spike}) * 100\%$$

Data Entry by:	<i>RW Schneider</i>	Date:	03/11/96
Approved by:	<i>RW Schneider</i>	Date:	3/12/96

PLACE ANALYTICAL CARD IN BOX BELOW-DO NOT WRITE IN SPACE

WHC-SD-WM-OP-162, REV. 1

CN- DETERMINATION : LA-695-102 (E-0) SPIKE, STANDARD

Type	NA	STANDARD
Standard	Standard Aliquot in mL	0.250
Work List	Diluent + Standard Volume	25.00
5673	Diluted Standard in mL to be Analyzed	0.500
Test Code	True Value CN- Concentration (µg/mL)	915
CN-01	Absorbance of Blank	0.002
Matrx	Absorbance of Standard	0.656
Liquid	Y-Intercept Value	0.007237
Sample #	Slope Value	0.147420
71N8G	µg of CN in Standard	4.387
Instrument Code		
301		
Analyst		
JTK		
Date	µg of CN-/mL in Standard	877
03/07/96		
Time	Standard % Recovery	95.9%
Calibration Date	Slope and Y-Intercept calculated from working curve calibration	
02/25/96	Original Sample Calculation from Form 695102C1	

µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value

µg/mL of CN- = µg of CN- in Standard / Diluted Standard * Dilution Factor

Dilution Factor = Flask Volume / Standard Aliquot

Standard % Recovery = (µg of CN-/mL in Standard / True Value CN- Concentration (µg/mL)) * 100

Data Entry by:	<i>RW Schneider</i>	Date:	03/11/96
Approved by:	<i>RW Schneider</i>	Date:	3/12/96

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-162, REV. 1

CN- DETERMINATION : LA-695-102 (E-0) BLANK, LIQUID, SOLID

Type		SAMPLE
Blank		
Work List		
5673	Blank Aliquot in mL (SS)	5.00000
Test Code	Absorbance of Instrument Blank	0.002
CN-01	Absorbance of Blank (Reagent, Prep)	0.005
Matrix	Digest Dilution Factor	1
Liquid	Y-Intercept Value	0.007237
Sample #	Slope Value	0.147420
CCB	µg of Cyanide	-0.029
Instrument Code	µg CN- /mL	-5.75E-03

301	Analyst	µg of Cyanide = [(Absorb. of Blank - Absorb. of Inst. Blank) - (Y-Intercept)] / Slope Value
JTK	Date	µg/mL of Cyanide = µg Cyanide * Digest Dilution Factor / SS (mL)

03/07/96	Detection Limit = 0.055 µg Cyanide / SS (mL) * Digest Dilution Factor
----------	---

Time: v RESULTS v

Calibration Date	Cyanide Concentration (µg/mL)	< Detection Limit	Detection Limit µg CN- / mL
02/25/96			1.10E-02

Data Entry by: *RW Schrader* Date: 03/11/96

Approved by: *RW Schrader* Date: 3/12/96

Form 695102C1 Rev. 1.7

Page 1 of 1

LABCORE Data Entry Template for Worklist#

5674

Analyst: sdls Instrument: CN01 Book # 71N8A

Method: LA-695-102 Rev/Mod E-0

Worklist Comment: BY-105 CN. RCJ

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK			CN-01	SOLID	<u>1</u>	<u>2.201</u>	<u>3/2/96</u>	ug/g
		2 STD			CN-01	SOLID	<u>947</u>	<u>954</u>	<u>N/A</u>	ug/g
95000125	BY-105 (R)	3 SAMPLE	S95T003399	0	CN-01	SOLID	<u>N/A</u>	<u>392</u>	<u>3.84</u>	ug/g
95000125	BY-105 (R)	4 DUP	S95T003399	0	CN-01	SOLID	<u>3.92</u>	<u>5.06</u>	<u>N/A</u>	ug/g
95000125	BY-105 (R)	5 SPK	S95T003399	0	CN-01	SOLID	<u>100</u>	<u>825</u>	<u>N/A</u>	ug/g
		6 CCV			CN-01	SOLID	<u>1</u>	<u>0.0</u>	<u>N/A</u>	ug/g
		7 CCB			CN-01	SOLID	<u>947</u>	<u>872</u>	<u>N/A</u>	ug/g

Final page for worklist #

5674

Analyst Signature [Signature] Date 3/6/96

Analyst Signature [Signature] Date 3/8/96

Data Entry Comments:

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

PLACE ANALYTICAL CARD IN BOX BELOW-DO NOT WRITE IN SPACE

WHC-SD-WM-DP-162, REV. 1

CN- DETERMINATION : LA-695-102 (D-0) SPIKE, STANDARD

Type	NA	STANDARD
STANDARD	Standard Aliquot in mL	0.250
Work List	Diluent + Standard Volume	25.00
5674	Diluted Standard in mL to be Analyzed	0.500
Test Code	True Value CN- Concentration (µg/mL)	947
CN-01	Absorbance of Blank	0.001
Matrix	Absorbance of Standard	0.685
LIQUID	Y-Intercept Value	0.000194
Sample #	Slope Value	0.143424
STD	µg of CN in Standard	4.768
Instrument Code		
CN01		
Analyst		
JD SPELLMAN		
Date	µg of CN-/mL in Standard	954
03/06/96		
Time	Standard % Recovery	100.7%
Calibration Date	Slope and Y-Intercept calculated from working curve calibration	
02/23/96	Original Sample Calculation from Form 695102C1	

$\mu\text{g of CN- in Sample+Spoke} = [(\text{Absorbance of Sample+Spoke} - \text{Absorbance of Blank}) - (\text{Y-Intercept})] / \text{Slope Value}$

$\mu\text{g/mL of CN-} = \mu\text{g of CN- in Standard} / \text{Diluted Standard} * \text{Dilution Factor}$

$\text{Dilution Factor} = \text{Flask Volume} / \text{Standard Aliquot}$

$\text{Standard \% Recovery} = (\mu\text{g of CN-/mL in Standard} / \text{True Value CN- Concentration } (\mu\text{g/mL})) * 100$

Data Entry by:	Date: 03/08/96
Approved by:	Date: 3/8/96

WHC-SD-WM-DP-162, REV. 1

CN- DETERMINATION : LA-695-102 (D-0) BLANK, LIQUID, SOLID

Type	SAMPLE	
BLANK		
Work List		
5674	Blank Aliquot in mL (SS)	5.00000
Test Code	Absorbance of Instrument Blank	0.000
CN-01	Absorbance of Blank (Reagent, Prep)	0.001
Matrix	Digest Dilution Factor	1
LIQUID	Y-Intercept Value	0.000194
Sample #	Slope Value	0.143424
BLNK	µg of Cyanide	0.006
Instrument Code	µg CN- /mL	1.12E-03
CN01		
Analyst	µg of Cyanide = [(Absorb. of Blank - Absorb. of Inst. Blank) - (Y-Intercept)] / Slope Value	
JD SPELLMAN	µg/mL of Cyanide = µg Cyanide * Digest Dilution Factor / SS (mL)	
Date		
03/06/96	Detection Limit = 0.055 µg Cyanide / SS (mL) * Digest Dilution Factor	
Time	v RESULTS v	
Calibration Date	Cyanide Concentration (µg/mL)	< Detection Limit
02/23/96		Detection Limit µg CN- / mL 1.10E-02

Data Entry by: *[Signature]* Date: 03/08/96
 Approved by: *[Signature]* Date: 3/8/96

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-162, REV. I

CN- DETERMINATION : LA-695-102 (D-0) BLANK, LIQUID, SOLID

Type	SAMPLE	
SOLID	Sample Weight in grams (SS)	0.33010
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
5674	Aliquot Analyzed from Dissolution (A)	0.75000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.001
Matrix	Absorbance of Sample	0.029
SOLID	Y-Intercept Value	0.000194
Sample #	Slope Value	0.143424
S95T003399	µg of Cyanide	0.194
Instrument Code	µg CN- /g	3.92E+00
CN01		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
JD SPELLMAN	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/06/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	
	Cyanide Concentration (µg/g)	3.92E+00
Calibration Date		Detection Limit
02/23/96		µg CN- / g
		3.84E+00
Data Entry by:	Date: 03/08/96	
Approved by:	Date: 3/8/96	

Form 695102C1 Rev. 1.1

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PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-162, REV. I

CN- DETERMINATION : LA-695-102 (D-0) BLANK, LIQUID, SOLID

Type	SAMPLE	
SOLID	Sample Weight in grams (SS)	0.33970
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
5674	Aliquot Analyzed from Dissolution (A)	0.75000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.001
Matrix	Absorbance of Sample	0.044
SOLID	Y-Intercept Value	0.000194
Sample #	Slope Value	0.143424
S95T003399 DUP	µg of Cyanide	0.298
Instrument Code	µg CN- /g	5.86E+00
CN01		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
JD SPELLMAN	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/06/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	
	Cyanide Concentration (µg/g)	5.86E+00
Calibration Date		Detection Limit
02/23/96		µg CN- / g
		3.73E+00

Data Entry by: *[Signature]* Date: 03/08/96

Approved by: *[Signature]* Date: 3/8/96

Form 695102C1 Rev. 1.7

Page 1 of 1

PLACE ANALYTICAL CARD IN BOX BELOW-DO NOT WRITE IN SPACE

WHC-SD-WM-DP-162, REV. 1

CN- DETERMINATION : LA-695-102 (D-0) SPIKE, STANDARD

Type	SPIKE	NA
Spike	Spike Aliquot in mL	0.250
Work List	Diluent + Spike Standard Volume	25.00
5674	Diluted Spike Standard in mL	0.250
Test Code	True Value CN- Concentration (µg/mL)	947
CN-01	Absorbance of Blank	0.001
Matrix	Absorbance of Sample+Spike	0.309
Solid	Y-Intercept Value	0.000194
Sample #	Slope Value	0.143424
S95T003399	µg of CN- in Sample+Spike	2.146
Instrument Code		
301		
Analyst	Known µg of CN- in Original Sample	0.1940
JDS		
Date	µg of CN- in Spike	2.3675
03/08/96		
Time	Spike % Recovery	82.5%
08:00 PM		
Calibration Date	Slope and Y-Intercept calculated from working curve calibration	
02/23/96	Original Sample Calculation from Form 695102C1	

$$\mu\text{g of CN- in Sample (Corrected)} = \text{Known } \mu\text{g of CN- in Original Sample} * \text{g of Sample in Spike} / \text{g Used in Original Sample}$$

$$\mu\text{g of CN- in Sample+Spike} = [(\text{Absorbance of Sample+Spike} - \text{Absorbance of Blank}) - (\text{Y-Intercept})] / \text{Slope Value}$$

$$\mu\text{g of CN- in Spike} = \text{LMCS Value (ppm)} / \text{Dilution Factor} * \text{Diluted Spike Standard}$$

$$\text{Dilution Factor} = \text{Spike Dilution Volume} / \text{Spike Aliquot}$$

$$\text{Spike \% Recovery} = (\mu\text{g of CN- in Sample+Spike}) - (\mu\text{g of CN- in Sample}) / (\mu\text{g of CN- in Spike}) * 100\%$$

Data Entry by:	Date: 03/08/96
Approved by:	Date: 3/8/96

Form X2 Rev. 1.0

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Page 1 of 1

WHC-SD-WM-OP-162, REV. 1

CN- DETERMINATION : LA-695-102 (D-0) BLANK, LIQUID, SOLID

Type	SAMPLE	
LIQUID	Sample Aliquot in mL	5.00000
Work List	Sample Dilution Volume in mL (Sample+H ₂ O Vol.)	5.00000
5674	Sample Aliquot Taken from dilution in mL (SS)	5.00000
Test Code	Absorbance of Blank	0.001
CN-01	Absorbance of Sample	0.000
Matrix	Digest Dilution Factor	1
LIQUID	Y-Intercept Value	0.007237
Sample #	Slope Value	0.147420
CCB	µg of Cyanide	
Instrument Code	µg CN- /mL	0.00E+00

CN01	Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value
JD SPELLMAN	Date	µg/mL of Cyanide = µg Cyanide / SS (mL) * Dilution Factor * Digest Dilution Factor
03/06/96	Time	Dilution Factor = Flask Volume (mL) / Sample Aliquot (mL)
		Detection Limit = 0.055 µg Cyanide / SS (mL) * Dilution Factor * Digest Dilution Factor
		✓ RESULTS ✓

Calibration Date	Cyanide Concentration (µg/mL)	< Detection Limit	Detection Limit µg CN- / mL
02/25/96			1.10E-02

Data Entry by:		Date:	03/08/96
Approved by:		Date:	3/4/96

PLACE ANALYTICAL CARD IN BOX BELOW-DO NOT WRITE IN SPACE

WHC-SD-WM-DF-162, REV. I

CN- DETERMINATION : LA-695-102 (D-0) SPIKE, STANDARD

Type	NA	STANDARD
STANDARD	Standard Aliquot in mL	0.250
Work List	Diluent + Standard Volume	25.00
5674	Diluted Standard in mL to be Analyzed	0.500
Test Code	True Value CN- Concentration (µg/mL)	947
CN-01	Absorbance of Blank	0.001
Matrix	Absorbance of Standard	0.651
LIQUID	Y-Intercept Value	0.007237
Sample #	Slope Value	0.147420
CCV	µg of CN in Standard	4.360
Instrument Code		
CN01		
Analyst		
JD SPELLMAN		
Date	µg of CN-/mL in Standard	872
03/06/96		
Time	Standard % Recovery	92.1%
Calibration Date	Slope and Y-Intercept calculated from working curve calibration	
02/25/96	Original Sample Calculation from Form 695102C1	

$\mu\text{g of CN- in Sample+Spoke} = [(\text{Absorbance of Sample+Spoke} - \text{Absorbance of Blank}) - (\text{Y-Intercept})] / \text{Slope Value}$

$\mu\text{g/mL of CN-} = \mu\text{g of CN- in Standard} / \text{Diluted Standard} * \text{Dilution Factor}$

$\text{Dilution Factor} = \text{Flask Volume} / \text{Standard Aliquot}$

$\text{Standard \% Recovery} = (\mu\text{g of CN-/mL in Standard} / \text{True Value CN- Concentration } (\mu\text{g/mL})) * 100$

Data Entry by: <i>[Signature]</i>	Date: 03/08/96
Approved by: <i>[Signature]</i>	Date: 3/8/96

LABCORE Data Entry Template for Worklist#

7803

Analyst: Hea Instrument: CN01 Book # N/A

Method: LA-695-103 Rev/Mod A-0

Worklist Comment: DRY CN Calcs for BY-105 4-19-96

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
95000171	BY-110	1 SAMPLE	S95T003188	0	CN-02	SOLID	<u>N/A</u>	<u>5.41</u>		ug/g Dry Wt
95000171	BY-110	2 DUP	S95T003188	0	CN-02	SOLID	<u>5.41</u>	<u>8.13</u>	<u>N/A</u>	ug/g Dry Wt
95000125	BY-105 (R)	3 SAMPLE	S95T003399	0	CN-02	SOLID	<u>N/A</u>	<u>4.16</u>		ug/g Dry Wt
95000125	BY-105 (R)	4 DUP	S95T003399	0	CN-02	SOLID	<u>4.16</u>	<u>6.22</u>	<u>N/A</u>	ug/g Dry Wt
95000171	BY-110	5 SAMPLE	S95T003430	0	CN-02	SOLID	<u>N/A</u>	<u><2.63</u>		ug/g Dry Wt
95000171	BY-110	6 DUP	S95T003430	0	CN-02	SOLID	<u><2.63</u>	<u><2.08</u>	<u>N/A</u>	ug/g Dry Wt
95000171	BY-110	7 SAMPLE	S95T003438	0	CN-02	SOLID	<u>N/A</u>	<u>9.10</u>		ug/g Dry Wt
95000171	BY-110	8 DUP	S95T003438	0	CN-02	SOLID	<u>9.10</u>	<u><3.69</u>	<u>N/A</u>	ug/g Dry Wt
95000171	BY-110	9 SAMPLE	S95T003446	0	CN-02	SOLID	<u>N/A</u>	<u><2.18</u>		ug/g Dry Wt
95000171	BY-110	10 DUP	S95T003446	0	CN-02	SOLID	<u><2.18</u>	<u>17.01</u>	<u>N/A</u>	ug/g Dry Wt
95000171	BY-110	11 SAMPLE	S95T003454	0	CN-02	SOLID	<u>N/A</u>	<u>15.44</u>		ug/g Dry Wt
95000171	BY-110	12 DUP	S95T003454	0	CN-02	SOLID	<u>15.44</u>	<u>8.78</u>	<u>N/A</u>	ug/g Dry Wt
95000171	BY-110	13 SAMPLE	S95T003470	0	CN-02	SOLID	<u>N/A</u>	<u>51.56</u>		ug/g Dry Wt
95000171	BY-110	14 DUP	S95T003470	0	CN-02	SOLID	<u>51.56</u>	<u>54.10</u>	<u>N/A</u>	ug/g Dry Wt
95000171	BY-110	15 SAMPLE	S95T003478	0	CN-02	SOLID	<u>N/A</u>	<u>22.64</u>		ug/g Dry Wt
95000171	BY-110	16 DUP	S95T003478	0	CN-02	SOLID	<u>22.64</u>	<u>36.78</u>	<u>N/A</u>	ug/g Dry Wt
95000171	BY-110	17 SAMPLE	S95T003486	0	CN-02	SOLID	<u>N/A</u>	<u>16.44</u>		ug/g Dry Wt
95000171	BY-110	18 DUP	S95T003486	0	CN-02	SOLID	<u>16.44</u>	<u>14.03</u>	<u>N/A</u>	ug/g Dry Wt

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist#

7803

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
95000171	BY-110	19 SAMPLE	S95T003494	0	CN-02	SOLID	N/A	12.07		ug/g Dry Wt
95000171	BY-110	20 DUP	S95T003494	0	CN-02	SOLID	12.07	8.97	N/A	ug/g Dry Wt
95000171	BY-110	21 SAMPLE	S95T003462	0	CN-02	SOLID	N/A	6.80		ug/g Dry Wt
95000171	BY-110	22 DUP	S95T003462	0	CN-02	SOLID	6.80	5.34	N/A	ug/g Dry Wt

Robert W. Schuch

Final page for worklist #

7803

4-22-96

H. Anastor

4-19-96

Analyst Signature

Date

R. H. Stubb

Analyst Signature

Date

13451

Approved by
H. Anastor 4-19-96

Data Entry Comments:

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

Calculated DRY CN

[illegible]

LABCORE Data Entry Template for Worklist# 4388

Analyst: VLM Instrument: IC01 IC02 Book# 122N9-D

Method: LA-533-105 Rev/Mod D-1 WHC-SD-WM-DP-162, REV. 1

Worklist Comment: BY-105 S95T003394-96 FOR IC RTS.

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC-QC	QC		
2 CCV			@IC-QC	QC		
3 SAMPLE	S95T003394 0		@IC-01	LIQUID	95000125	BY-105 (R)
	Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02					
4 DUP	S95T003394 0		@IC-01	LIQUID		
5 SPK	S95T003394 0		@IC-01	LIQUID		
6 SAMPLE	S95T003396 0		@IC-01	LIQUID	95000125	BY-105 (R)
	Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02					
7 DUP	S95T003396 0		@IC-01	LIQUID		

Final page for worklist # 4388

Valerie L. Massie 02-05-96
Analyst Signature Date

Analyst Signature Date

*in shell
loaded in labcore 11/27/96*

Data Entry Comments:

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

LABCORE Completed Worklist Report for Worklist# 4388

Analyst: vlm

Instrument: IC02

Book# 122A-19D

Method: LA 523-105 Rev/Mod D-1

Worklist Comment: BY-105 S95T003394-96 FOR IC RTS.

Seq Type	Sample# R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 CCB	0	•IC-QC F	QC	1	<1.30e-2		ug/mL
1 CCB	0	•IC-QC CL	QC	1	<1.70e-2		ug/mL
1 CCB	0	•IC-QC NO2	QC	1	<1.07e-1		ug/mL
1 CCB	0	•IC-QC BR	QC	1	<1.26e-1		ug/mL
1 CCB	0	•IC-QC NO3	QC	1	<1.40e-1		ug/mL
1 CCB	0	•IC-QC PO4	QC	1	<1.19e-1		ug/mL
1 CCB	0	•IC-QC SO4	QC	1	<1.36e-1		ug/mL
1 CCB	0	•IC-QC OXALATE2	QC	1	1.08e-01	0.110	ug/mL
2 CCV	0	•IC-QC F	QC	59	5.48e+01	92.880 % Recovery	
2 CCV	0	•IC-QC CL	QC	79	7.29e+01	92.280 % Recovery	
2 CCV	0	•IC-QC NO2	QC	541	4.94e+02	91.310 % Recovery	
2 CCV	0	•IC-QC BR	QC	575	5.31e+02	92.350 % Recovery	
2 CCV	0	•IC-QC NO3	QC	614	5.81e+02	94.630 % Recovery	
2 CCV	0	•IC-QC PO4	QC	546	5.09e+02	93.220 % Recovery	
2 CCV	0	•IC-QC SO4	QC	631	5.86e+02	92.870 % Recovery	
2 CCV	0	•IC-QC OXALATE2	QC	539	4.87e+02	90.350 % Recovery	
3 SAMPLE	S95T003394	•IC-01 F-02	LIQUID	N/A	6.017e+02	66.960	ug/mL
3 SAMPLE	S95T003394	•IC-01 CL-02	LIQUID	N/A	3.076e+03	87.570	ug/mL
3 SAMPLE	S95T003394	•IC-01 NO2-02	LIQUID	N/A	4.022e+04	551.200	ug/mL
3 SAMPLE	S95T003394	•IC-01 BR-02	LIQUID	N/A	6.490e+02	649.000	ug/mL
3 SAMPLE	S95T003394	•IC-01 NO3-02	LIQUID	N/A	2.436e+05	721.100	ug/mL
3 SAMPLE	S95T003394	•IC-01 PO4-02	LIQUID	N/A	9.951e+02	618.100	ug/mL
3 SAMPLE	S95T003394	•IC-01 SO4-02	LIQUID	N/A	1.903e+03	700.500	ug/mL
3 SAMPLE	S95T003394	•IC-01 OXALATE2	LIQUID	N/A	5.874e+02	540.900	ug/mL
4 DUP	S95T003394	•IC-01 F-02	LIQUID	6.02e+02	6.48e+02	7.360	RPD
4 DUP	S95T003394	•IC-01 CL-02	LIQUID	3.08e+03	3.21e+03	4.130	RPD
4 DUP	S95T003394	•IC-01 NO2-02	LIQUID	4.02e+04	4.15e+04	3.180	RPD
4 DUP	S95T003394	•IC-01 BR-02	LIQUID	<6.49e2	<6.49e2		RPD
4 DUP	S95T003394	•IC-01 NO3-02	LIQUID	2.44e+05	2.49e+05	2.030	RPD
4 DUP	S95T003394	•IC-01 PO4-02	LIQUID	9.95e+02	7.77e+02	24.600	RPD
4 DUP	S95T003394	•IC-01 SO4-02	LIQUID	1.90e+03	1.85e+03	2.670	RPD
4 DUP	S95T003394	•IC-01 OXALATE2	LIQUID	5.87e+02	5.54e+02	5.780	RPD
5 SPK	S95T003394	•IC-01 F-02	LIQUID	59	<6.70e1	% Recovery	
5 SPK	S95T003394	•IC-01 CL-02	LIQUID	79	<8.76e1	% Recovery	
5 SPK	S95T003394	•IC-01 NO2-02	LIQUID	541	589.587	108.980 % Recovery	
5 SPK	S95T003394	•IC-01 BR-02	LIQUID	575	<6.49e2	% Recovery	
5 SPK	S95T003394	•IC-01 NO3-02	LIQUID	614	780.595	127.130 % Recovery	
5 SPK	S95T003394	•IC-01 PO4-02	LIQUID	546	<6.18e2	% Recovery	
5 SPK	S95T003394	•IC-01 SO4-02	LIQUID	631	<7.00e2	% Recovery	
5 SPK	S95T003394	•IC-01 OXALATE2	LIQUID	539	<5.41e2	% Recovery	
6 SAMPLE	S95T003396	•IC-01 F-02	LIQUID	N/A	6.317e+02	66.960	ug/mL

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

WHC-SD-WM-09-162 REV J
LABCORE Completed Worklist Report for Worklist# 4388

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
6 SAMPLE	S95T003396	0	●IC-01	CL-02	LIQUID	N/A	3.061e+03	87.570 ug/mL
6 SAMPLE	S95T003396	0	●IC-01	NO2-02	LIQUID	N/A	3.947e+04	551.200 ug/mL
6 SAMPLE	S95T003396	0	●IC-01	BR-02	LIQUID	N/A	6.490e+02	649.000 ug/mL
6 SAMPLE	S95T003396	0	●IC-01	NO3-02	LIQUID	N/A	2.463e+05	721.100 ug/mL
6 SAMPLE	S95T003396	0	●IC-01	PO4-02	LIQUID	N/A	8.876e+02	618.100 ug/mL
6 SAMPLE	S95T003396	0	●IC-01	SO4-02	LIQUID	N/A	1.626e+03	700.500 ug/mL
6 SAMPLE	S95T003396	0	●IC-01	OxALATE2	LIQUID	N/A	5.639e+02	540.900 ug/mL
7 DUP	S95T003396	0	●IC-01	F-02	LIQUID	6.32e+02	6.30e+02	0.320 RPD
7 DUP	S95T003396	0	●IC-01	CL-02	LIQUID	3.06e+03	3.41e+03	10.820 RPD
7 DUP	S95T003396	0	●IC-01	NO2-02	LIQUID	3.95e+04	4.09e+04	3.480 RPD
7 DUP	S95T003396	0	●IC-01	BR-02	LIQUID	<6.49e2	<6.49e2	RPD
7 DUP	S95T003396	0	●IC-01	NO3-02	LIQUID	2.46e+05	2.52e+05	2.410 RPD
7 DUP	S95T003396	0	●IC-01	PO4-02	LIQUID	8.88e+02	<6.18e2	RPD
7 DUP	S95T003396	0	●IC-01	SO4-02	LIQUID	1.63e+03	1.80e+03	9.910 RPD
7 DUP	S95T003396	0	●IC-01	OxALATE2	LIQUID	5.64e+02	<5.41e2	RPD

Final page for worklist# 4388

Analyst Signature Date

Analyst Signature Date

John M. Fay 2/7/96

Reviewer Signature Date

A-0010-IC				DATA FILE/WORKLIST RESOLUTION				07-Feb-96	
Worklist#: 4388				Data File: 4388FEB.CSV					
	Seq	Type	Sample #	Seq#	Data File	Sample Name	Dilution		
-	=>	1 CCB		-	1 96020231.d01	INSTR BLANK	1.00		
	=>	2 CCV			2 96020231.d02	122N9-D STD	101.00		
	=>	3 SAMPLE	S95T003394		3 96050231.d04	S95T003394 SAMPL	5151.00		
	=>	4 DUP	S95T003394		4 96050231.d05	S95T003394 DUP	5151.00		
	=>	5 SPK	S95T003394		5 96050231.d06	S95T003394 SPIKE	5151.00		
	=>	6 SAMPLE	S95T003396		6 96050231.d08	S95T003396 SAMPL	5151.00		
	=>	7 DUP	S95T003396		7 96050231.d09	S95T003396 DUP	5151.00		
+				+					

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

2-5-96

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=====
Sample Name: INSTR BLANK      Date: 02/05/1996 09:19:13
Data File  : C:\DX\DATA\96020231.D01
Method     : C:\DX\METHOD\AS12A.MET      WHC-SD-WM-DP-162, REV. 1
ACI Address: 1 System: 1 Inject#: 1        Detector: CDM-1
Analyst    : Ed Colvin      Column: AG4A-SC, AS4A-SC, SRS
=====

```

Calculated Mass

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	5400	5Hz	0.00	18.00		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	3.68	CHLORIDE	0.014	37	343	1	-1.34
6	13.62		0.000	7	160	1	
7	15.35		0.000	9	108	1	
8	16.48	OXALATE	0.108	6	56	1	2.70
Totals			0.122	59	667		

File: 96020231.D01 Sample: INSTR BLANK

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 128 TO 141.

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=====
Sample Name: 122N9-D STD      5 m 02-05-96 Date: 02/05/1996 09:53:01
Data File   : C:\DX\DATA\96020231.D02
Method      : C:\DX\METHOD\AS12A.MET      WHC-SD-WM-DP-162, REV. 1
ACI Address: 1 System: 1 Inject#: 2         Detector: CDM-1
Analyst     : Ed Colvin 2-6-96 Column: AG4A-SC, AS4A-SC, SRS
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Valery L. Maslov

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=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
=====
External          1          101    5400   5Hz    0.00 18.00          50
=====

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.63		0.000	149	1793	1	
2	2.18	FLUORIDE	54.767	2267	15148	1	-1.65
3	3.67	CHLORIDE	72.881	1586	13377	1	-1.79
4	4.57	NITRITE	494.416	6618	68983	1	-1.44
5	7.20	BROMIDE	530.903	2969	45880	1	-0.92
6	8.43	NITRATE	580.554	3272	63493	1	0.40
7	10.02	PHOSPHATE	509.158	1218	27244	1	0.17
8	10.93		0.000	6	62	1	
9	12.13	SULFATE	585.599	3225	84994	1	0.69
10	16.17	OXALATE	487.214	1464	51172	1	0.73
Totals			3315.492	22776	372147		

File: 96020231.D02 Sample: 122N9-D STD

Sample Name: S95T003394 SAMPLE, m 2-7-96 Date: 02/05/1996 11:35:44
 Data File : C:\DX\DATA\96050231.D04
 Method : C:\DX\METHOD\AS12A.MET WHC-SD-WM-OP-162 REV.1
 ACI Address: 1 System: 1 Inject#: 4 Detector: CDM-1
 Analyst : Ed Colvin, m 2-5-96 Column: AG4A-SC, AS4A-SC, SRS

Calculated Mass

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	5151	5400	5Hz	0.00	18.00		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.63		0.000	441	4836	1	
2	2.18	FLUORIDE	601.738	381	3076	2	-1.65
3	2.52		0.000	237	1533	2	
4	2.78	FORMATE	-10297.909	59	378	2	4.38
5	3.65	CHLORIDE	3075.889	1306	11060	1	-2.23
6	4.53	NITRITE	40222.913	10490	111679	1	-2.16
7	8.03	NITRATE	243575.686	25452	603193	1	-4.37
8	10.03	PHOSPHATE	995.146	21	331	1	0.33
9	12.18	SULFATE	1902.631	128	3546	1	1.11
11	16.10	OXALATE	587.352	11	122	1	0.31
Totals			280663.445	38525	739754		

File: 96050231.D04 Sample: S95T003394 SAMPLE

Sample Name: S95T003394 DUP *96050231* Date: 02/05/1996 13:03:28
 Data File : C:\DX\DATA\96050231.D05
 Method : C:\DX\METHOD\AS12A.MET WHC-SD-WM-DP-162, REV. 1
 ACI Address: 1 System: 1 Inject#: 5 Detector: CDM-1
 Analyst : *Ed Colvin* Column: AG4A-SC, AS4A-SC, SRS
Valerie Masson

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	5151	5400	5Hz	0.00	18.00		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.63		0.000	482	5290	2	
2	2.18	FLUORIDE	647.532	375	3326	2	-1.65
3	2.52		0.000	277	2035	2	
4	2.78	FORMATE	-10881.311	82	595	2	4.38
5	3.67	CHLORIDE	3212.601	1387	11554	1	-1.79
6	4.55	NITRITE	41526.303	11020	115398	1	-1.80
7	8.05	NITRATE	249180.922	26003	619385	1	-4.17
8	9.97	PHOSPHATE	777.474	10	100	1	-0.33
9	12.22	SULFATE	1845.813	132	3382	1	1.38
11	15.37		0.000	7	65	1	
12	15.72	OXALATE	554.248	5	53	1	-2.08
Totals			286863.583	39782	761182		

File: 96050231.D05 Sample: S95T003394 DUP

Sample Name: S95T003394 SPIKE Date: 02/05/1996 13:26:29
 Data File : C:\DX\DATA\96050831.D06 WHC-SD-WM-OP-162, REV. I
 Method : C:\DX\METHOD\AS12A.MET
 ACI Address: 1 System: 1 Inject#: 6 Detector: CDM-1
 Analyst : Ed Colvin
 Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	5151	5400	5Hz	0.00	18.00		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.63		0.000	621	6939	1	
2	2.18	FLUORIDE	3446.212	2764	18807	2	-1.65
3	2.52		0.000	290	2054	2	
4	2.77	FORMATE	-10734.681	71	532	2	3.75
5	3.65	CHLORIDE	7225.632	3087	26250	1	-2.23
6	4.53	NITRITE	69975.177	18834	197032	1	-2.16
7	7.13	BROMIDE	28427.051	3326	48277	2	-1.83
8	7.98	NITRATE	282586.137	29067	718890	2	-4.96
9	10.00	PHOSPHATE	27955.735	1293	29424	2	0.00
10	12.12	SULFATE	31686.779	3452	90383	1	0.55
11	13.83		0.000	10	83	1	
12	16.15	OXALATE	25947.607	1519	53509	1	0.62
Totals			466515.648	64331	1192181		

File: 96050231.D06 Sample: S95T003394 SPIKE

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=====
Sample Name: S95T003396 SAMPLE 2-7-96 Date: 02/05/1996 14:38:10
Data File : C:\DX\DATA\96050X31.D08
Method : C:\DX\METHOD\AS12A.ME
ACI Address: 1 System: 1 Inject#: 8 WHC-SD-WM-DP-162-REV-1
Analyst : Ed Colvin VM Column: AG4A-SC,AS4A-SC, SRS Detector: CDM-1
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Calvin Masau

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=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
=====
External 1 5151 5400 5Hz 0.00 18.00 50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.62		0.000	441	5126	1	
2	2.18	FLUORIDE	631.745	399	3240	2	-1.65
3	2.50		0.000	219	1531	2	
4	2.77	FORMATE	-10417.350	59	416	2	3.75
5	3.65	CHLORIDE	3060.521	1320	11005	1	-2.23
6	4.53	NITRITE	39466.235	10512	109521	1	-2.16
7	8.00	NITRATE	246284.768	25642	611002	1	-4.76
8	10.05	PHOSPHATE	887.636	15	217	1	0.50
10	12.18	SULFATE	1625.898	116	2751	1	1.11
11	13.65		0.000	9	96	1	
12	15.95	OXALATE	563.940	7	73	1	-0.62
Totals			282103.393	38739	744977		

File: 96050231.D08 Sample: S95T003396 SAMPLE

Sample Name: S95T003396 DUP *Syma-7-96* Date: 02/05/1996 15:10:06
 Data File : C:\DX\DATA\96050231.D09
 Method : C:\DX\METHOD\AS12A.MET WWC-SD-WM-DP-162, REV. 1
 ACI Address: 1 System: 1 Inject#: 9 Detector: CDM-1
 Analyst : *Ed Colvin* Column: AG4A-SC, AS4A-SC, SRS

Calibration Volume Dilution Points Rate Start Stop Area Reject
 External 1 5151 5400 5Hz 0.00 18.00 50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.62		0.000	466	5465	1	
2	2.18	FLUORIDE	629.997	399	3230	2	-1.65
3	2.50		0.000	247	1757	2	
4	2.77	FORMATE	-10821.789	75	568	2	3.75
5	3.65	CHLORIDE	3412.505	1444	12275	1	-2.23
6	4.53	NITRITE	40897.413	10905	113604	1	-2.16
7	7.98	NITRATE	252494.178	26340	629021	1	-4.96
8	12.15	SULFATE	1803.938	131	3262	1	0.83
9	14.50		0.000	5	62	1	
Totals			288416.242	40011	769245		

File: 96050231.D09 Sample: S95T003396 DUP

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=====
Sample Name: INSTR BLANK                      Date: 02/05/1996 09:19:13
Data File  : C:\DX\DATA\96020231.d01
Method     : C:\DX\METHOD\AS12A.MET          WHC-SD-WM-DP-162 REV.1
ACI Address: 1 System: 1 Inject#: 1           Detector: CDM-1
Analyst    : Ed Colvin                        Column: AG4A-SC,AS4A-SC, SRS
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=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
=====
External          1          1    5400   5Hz   0.00 18.00          50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	3.68	CHLORIDE	0.014	37	343	1	-1.34
6	13.62		0.000	7	160	1	
7	15.35		0.000	9	108	1	
8	16.48	OXALATE	0.108	6	56	1	2.70
Totals			0.122	59	667		

File: 96020231.d01 Sample: INSTR BLANK

Sample Name: 122N9-D STD	Date: 02/05/1996 09:53:01
Data File : C:\DX\DATA\96020231.d02	
Method : C:\DX\METHOD\AS12A.MET	WHC-SD-WM-DP-162, REV.1
ACI Address: 1 System: 1 Inject#: 2	Detector: CDM-1
Analyst : Ed Colvin	Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	101	5400	5Hz	0.00	18.00		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.63		0.000	149	1793	1	
2	2.18	FLUORIDE	54.767	2267	15148	1	-1.65
3	3.67	CHLORIDE	72.881	1586	13377	1	-1.79
4	4.57	NITRITE	494.416	6618	68983	1	-1.44
5	7.20	BROMIDE	530.903	2969	45880	1	-0.92
6	8.43	NITRATE	580.554	3272	63493	1	0.40
7	10.02	PHOSPHATE	509.158	1218	27244	1	0.17
8	10.93		0.000	6	62	1	
9	12.13	SULFATE	585.599	3225	84994	1	0.69
10	16.17	OXALATE	487.214	1464	51172	1	0.73
Totals			3315.492	22776	372147		

File: 96020231.d02 Sample: 122N9-D STD

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=====
Sample Name: S95T003394 SAMPLE                      Date: 02/05/1996 11:35:44
Data File  : C:\DX\DATA\96050231.d04
Method     : C:\DX\METHOD\AS12A.MET                 WHC-SD-WM DP-162, REV. I
ACI Address: 1 System: 1 Inject#: 4                  Detector: CDM-1
Analyst    : Ed Colvin                               Column: AG4A-SC,AS4A-SC, SRS
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=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          5151   5400  5Hz   0.00 18.00          50
=====

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.63		0.000	441	4836	1	
2	2.18	FLUORIDE	601.738	381	3076	2	-1.65
3	2.52		0.000	237	1533	2	
4	2.78	FORMATE	-10297.909	59	378	2	4.38
5	3.65	CHLORIDE	3075.889	1306	11060	1	-2.23
6	4.53	NITRITE	40222.913	10490	111679	1	-2.16
7	8.03	NITRATE	243575.686	25452	603193	1	-4.37
8	10.03	PHOSPHATE	995.146	21	331	1	0.33
9	12.18	SULFATE	1902.631	128	3546	1	1.11
11	16.10	OXALATE	587.352	11	122	1	0.31
Totals			280663.445	38525	739754		

File: 96050231.d04 Sample: S95T003394 SAMPLE.

Sample Name: S95T003394 DUP	Date: 02/05/1996 13:03:28
Data File : C:\DX\DATA\96050231.d05	WHC-SD-WM-DP-162, REV. 1
Method : C:\DX\METHOD\AS12A.MET	
ACI Address: 1 System: 1 Inject#: 5	Detector: CDM-1
Analyst : Ed Colvin	Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	5151	5400	5Hz	0.00	18.00		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.63		0.000	482	5290	2	
2	2.18	FLUORIDE	647.532	375	3326	2	-1.65
3	2.52		0.000	277	2035	2	
4	2.78	FORMATE	-10881.311	82	595	2	4.38
5	3.67	CHLORIDE	3212.601	1387	11554	1	-1.79
6	4.55	NITRITE	41526.303	11020	115398	1	-1.80
7	8.05	NITRATE	249180.922	26003	619385	1	-4.17
8	9.97	PHOSPHATE	777.474	10	100	1	-0.33
9	12.22	SULFATE	1845.813	132	3382	1	1.38
11	15.37		0.000	7	65	1	
12	15.72	OXALATE	554.248	5	53	1	-2.08
Totals			286863.583	39782	761182		

File: 96050231.d05 Sample: S95T003394 DUP

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=====
Sample Name: S95T003394 SPIKE          Date: 02/05/1996 13:26:29
Data File  : C:\DX\DATA\96050231.d06
Method     : C:\DX\METHOD\AS12A.MET   WQC-SD-WM-DP-162, REV. 1
ACI Address: 1 System: 1 Inject#: 6     Detector: CDM-1
Analyst    : Ed Colvin                  Column: AG4A-SC,AS4A-SC, SRS
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=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
=====
External          1          5151   5400  5Hz   0.00 18.00          50
=====

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.63		0.000	621	6939	1	
2	2.18	FLUORIDE	3446.212	2764	18807	2	-1.65
3	2.52		0.000	290	2054	2	
4	2.77	FORMATE	-10734.681	71	532	2	3.75
5	3.65	CHLORIDE	7225.632	3087	26250	1	-2.23
6	4.53	NITRITE	69975.177	18834	197032	1	-2.16
7	7.13	BROMIDE	28427.051	3326	48277	2	-1.83
8	7.98	NITRATE	282586.137	29067	718890	2	-4.96
9	10.00	PHOSPHATE	27955.735	1293	29424	2	0.00
10	12.12	SULFATE	31686.779	3452	90383	1	0.55
11	13.83		0.000	10	83	1	
12	16.15	OXALATE	25947.607	1519	53509	1	0.62
Totals			466515.648	64331	1192181		

File: 96050231.d06 Sample: S95T003394 SPIKE

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=====
Sample Name: S95T003396 SAMPLE                      Date: 02/05/1996 14:38:10
Data File  : C:\DX\DATA\96050231.d08                WHC-SD-WM-00P-162, REV. 1
Method     : C:\DX\METHOD\AS12A.MET
ACI Address: 1 System: 1 Inject#: 8                  Detector: CDM-1
Analyst    : Ed Colvin                               Column: AG4A-SC, AS4A-SC, SRS
=====

```

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 5151 5400 5Hz 0.00 18.00 50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.62		0.000	441	5126	1	
2	2.18	FLUORIDE	631.745	399	3240	2	-1.65
3	2.50		0.000	219	1531	2	
4	2.77	FORMATE	-10417.350	59	416	2	3.75
5	3.65	CHLORIDE	3060.521	1320	11005	1	-2.23
6	4.53	NITRITE	39466.235	10512	109521	1	-2.16
7	8.00	NITRATE	246284.768	25642	611002	1	-4.76
8	10.05	PHOSPHATE	887.636	15	217	1	0.50
10	12.18	SULFATE	1625.898	116	2751	1	1.11
11	13.65		0.000	9	96	1	
12	15.95	OXALATE	563.940	7	73	1	-0.62

Totals 282103.393 38739 744977

File: 96050231.d08 Sample: S95T003396 SAMPLE

```

=====
Sample Name: S95T003396 DUP                      Date: 02/05/1996 15:10:06
Data File  : C:\DX\DATA\96050231.d09              WHO-SD-WM-DP-162. REV. I
Method     : C:\DX\METHOD\AS12A.MET
ACI Address: 1 System: 1 Inject#: 9                Detector: CDM-1
Analyst    : Ed Colvin                            Column: AG4A-SC, AS4A-SC, SRS
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          5151  5400  5Hz  0.00 18.00          50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.62		0.000	466	5465	1	
2	2.18	FLUORIDE	629.997	399	3230	2	-1.65
3	2.50		0.000	247	1757	2	
4	2.77	FORMATE	-10821.789	75	568	2	3.75
5	3.65	CHLORIDE	3412.505	1444	12275	1	-2.23
6	4.53	NITRITE	40897.413	10905	113604	1	-2.16
7	7.98	NITRATE	252494.178	26340	629021	1	-4.96
8	12.15	SULFATE	1803.938	131	3262	1	0.83
9	14.50		0.000	5	62	1	
Totals			288416.242	40011	769245		

File: 96050231.d09 Sample: S95T003396 DUP

LABCORE Data Entry Template for Worklist# 4669

Analyst: RLK Instrument: IC01 _____ Book# 12219-0

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

Worklist Comment: BY-105 FOR IC RTS

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC-QC	QC		
2 CCV			@IC-QC	QC		
3 BLNK-PREP			@IC-01	SOLID		
4 SAMPLE	S95T003510 0 W	@IC-01	SOLID	95000125 BY-105 (R)		
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
5 DUP	S95T003510 0 W	@IC-01	SOLID			
6 SPK	S95T003510 0 W	@IC-01	SOLID			
7 SAMPLE	S95T003511 0 W	@IC-01	SOLID	95000125 BY-105 (R)		
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
8 DUP	S95T003511 0 W	@IC-01	SOLID			

Final page for worklist # 4669

Rob King 1/24/96
Analyst Signature Date

Analyst Signature Date

*corrected
analytical report 1/25/96 J. M. Siegel*

Data Entry Comments:

LABCORE Completed Worklist Report for Worklist# 4669

Analyst: rwk

Instrument: IC01

Book# 122040

Method: LA-S33/05 Rev/Mod D-1

Worklist Comment: BY-105 FOR IC RTS

Seq Type	Sample# R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 CCB	0	01C-QC F	QC	1	<1.30e-2		ug/mL
1 CCB	0	01C-QC CL	QC	1	<1.70e-2		ug/mL
1 CCB	0	01C-QC NO2	QC	1	<1.07e-1		ug/mL
1 CCB	0	01C-QC BR	QC	1	<1.26e-1		ug/mL
1 CCB	0	01C-QC NO3	QC	1	<1.40e-1		ug/mL
1 CCB	0	01C-QC PO4	QC	1	<1.19e-1		ug/mL
1 CCB	0	01C-QC SO4	QC	1	<1.36e-1		ug/mL
1 CCB	0	01C-QC OXALATE2	QC	1	<1.05e-1		ug/mL
2 CCV	0	01C-QC F	QC	59	6.04e+01	102.370 % Recovery	
2 CCV	0	01C-QC CL	QC	79	8.26e+01	104.560 % Recovery	
2 CCV	0	01C-QC NO2	QC	541	5.38e+02	99.450 % Recovery	
2 CCV	0	01C-QC BR	QC	575	5.77e+02	100.350 % Recovery	
2 CCV	0	01C-QC NO3	QC	614	6.31e+02	102.770 % Recovery	
2 CCV	0	01C-QC PO4	QC	546	5.58e+02	102.200 % Recovery	
2 CCV	0	01C-QC SO4	QC	631	6.37e+02	100.950 % Recovery	
2 CCV	0	01C-QC OXALATE2	QC	539	5.67e+02	105.190 % Recovery	
3 BLNK-PREP	0	01C-01 F-02	SOLID	1	<1.30e-2		ug/g
3 BLNK-PREP	0	01C-01 CL-02	SOLID	1	<1.70e-2		ug/g
3 BLNK-PREP	0	01C-01 NO2-02	SOLID	1	<1.07e-1		ug/g
3 BLNK-PREP	0	01C-01 BR-02	SOLID	1	<1.26e-1		ug/g
3 BLNK-PREP	0	01C-01 NO3-02	SOLID	1	1.65e-01	0.170	ug/g
3 BLNK-PREP	0	01C-01 PO4-02	SOLID	1	<1.19e-1		ug/g
3 BLNK-PREP	0	01C-01 SO4-02	SOLID	1	<1.36e-1		ug/g
3 BLNK-PREP	0	01C-01 OXALATE2	SOLID	1	<1.05e-1		ug/g
4 SAMPLE	S95T003510	0 W 01C-01 F-02	SOLID	N/A	5.420e+03	249.900	ug/g
4 SAMPLE	S95T003510	0 W 01C-01 CL-02	SOLID	N/A	5.305e+02	326.700	ug/g
4 SAMPLE	S95T003510	0 W 01C-01 NO2-02	SOLID	N/A	1.095e+04	2.057e+003	ug/g
4 SAMPLE	S95T003510	0 W 01C-01 BR-02	SOLID	N/A	2.422e+03	2.422e+003	ug/g
4 SAMPLE	S95T003510	0 W 01C-01 NO3-02	SOLID	N/A	5.210e+05	2.691e+003	ug/g
4 SAMPLE	S95T003510	0 W 01C-01 PO4-02	SOLID	N/A	5.253e+03	2.287e+003	ug/g
4 SAMPLE	S95T003510	0 W 01C-01 SO4-02	SOLID	N/A	1.226e+04	2.614e+003	ug/g
4 SAMPLE	S95T003510	0 W 01C-01 OXALATE2	SOLID	N/A	1.540e+04	2.018e+003	ug/g
5 DUP	S95T003510	0 W 01C-01 F-02	SOLID	5.42e+03	5.63e+03	3.800	RPD
5 DUP	S95T003510	0 W 01C-01 CL-02	SOLID	5.30e+02	7.91e+02	39.520	RPD
5 DUP	S95T003510	0 W 01C-01 NO2-02	SOLID	1.10e+04	1.05e+04	4.650	RPD
5 DUP	S95T003510	0 W 01C-01 BR-02	SOLID	<2.42e3	<2.29e3		RPD
5 DUP	S95T003510	0 W 01C-01 NO3-02	SOLID	5.21e+05	5.47e+05	4.870	RPD
5 DUP	S95T003510	0 W 01C-01 PO4-02	SOLID	5.25e+03	5.48e+03	4.290	RPD
5 DUP	S95T003510	0 W 01C-01 SO4-02	SOLID	1.23e+04	1.18e+04	4.150	RPD
5 DUP	S95T003510	0 W 01C-01 OXALATE2	SOLID	1.54e+04	1.57e+04	1.930	RPD
6 SPK	S95T003510	0 W 01C-01 F-02	SOLID	59	61.018	103.420 % Recovery	

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

LABCORE Completed Worklist Report for Worklist# 4669

Seq Type	Sample# R A	Test	Matrix	Actual	Found	DL or Yield	Unit
6 SPK	S95T003510 O W	QIC-01 CL-02	SOLID	79	106.212	134.450 % Recovery	
6 SPK	S95T003510 O W	QIC-01 NO2-02	SOLID	541	528.438	97.680 % Recovery	
6 SPK	S95T003510 O W	QIC-01 BR-02	SOLID	575	5.57+02	96.870 % Recovery	
6 SPK	S95T003510 O W	QIC-01 NO3-02	SOLID	614	682.240	111.110 % Recovery	
6 SPK	S95T003510 O W	QIC-01 PO4-02	SOLID	546	545.397	99.890 % Recovery	
6 SPK	S95T003510 O W	QIC-01 SO4-02	SOLID	631	621.581	98.510 % Recovery	
6 SPK	S95T003510 O W	QIC-01 OXALATE2	SOLID	539	557.093	103.360 % Recovery	
7 SAMPLE	S95T003511 O W	QIC-01 F-02	SOLID	N/A	9.486+03	168.200 ug/g	
7 SAMPLE	S95T003511 O W	QIC-01 CL-02	SOLID	N/A	4.282+02	220.000 ug/g	
7 SAMPLE	S95T003511 O W	QIC-01 NO2-02	SOLID	N/A	7.875+03	1.385+003 ug/g	
7 SAMPLE	S95T003511 O W	QIC-01 BR-02	SOLID	N/A	1.631+03	1.631+003 ug/g	
7 SAMPLE	S95T003511 O W	QIC-01 NO3-02	SOLID	N/A	5.281+05	1.812+003 ug/g	
7 SAMPLE	S95T003511 O W	QIC-01 PO4-02	SOLID	N/A	5.057+03	1.540+003 ug/g	
7 SAMPLE	S95T003511 O W	QIC-01 SO4-02	SOLID	N/A	2.110+04	1.760+003 ug/g	
7 SAMPLE	S95T003511 O W	QIC-01 OXALATE2	SOLID	N/A	2.549+04	1.359+003 ug/g	
8 DUP	S95T003511 O W	QIC-01 F-02	SOLID	9.49+03	9.97+03	4.930 RPD	
8 DUP	S95T003511 O W	QIC-01 CL-02	SOLID	4.28+02	3.92+02	8.780 RPD	
8 DUP	S95T003511 O W	QIC-01 NO2-02	SOLID	7.88+03	7.74+03	1.790 RPD	
8 DUP	S95T003511 O W	QIC-01 BR-02	SOLID	<1.63e3	<1.64e3	RPD	
8 DUP	S95T003511 O W	QIC-01 NO3-02	SOLID	5.28+05	5.10+05	3.470 RPD	
8 DUP	S95T003511 O W	QIC-01 PO4-02	SOLID	5.06+03	5.53+03	8.880 RPD	
8 DUP	S95T003511 O W	QIC-01 SO4-02	SOLID	2.11+04	2.17+04	2.800 RPD	
8 DUP	S95T003511 O W	QIC-01 OXALATE2	SOLID	2.55+04	2.68+04	4.970 RPD	

Final page for worklist# 4669

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Reviewer Signature

1/25/96
Date

A-0010-IC				DATA FILE/WORKLIST RESOLUTION				25-Jan-96	
Worklist#: 4669				Data File: 4669JAN.CSV					
	Seq	Type	Sample #	Seq#	Data File	Sample Name	Dilution		
-	=>	1 CCB		-	1 96012301.d06	INSTRA BLK	1.00		
	=>	2 CCV			2 96012301.d07	STD 122N9-D	101.00		
	=>	3 BLNK-PREP			3 96012301.d08	BLK PREP	1.00		
	=>	4 SAMPLE	S95T003510		4 96012301.d09	S95T003510	101.00		
	=>	5 DUP	S95T003510		96012301.d10	S95T003510	51.00		
	=>	6 SPK	S95T003510		5 96012301.d12	S95T003510 DUP	101.00		
	=>	7 SAMPLE	S95T003511		96012301.d13	S95T003510 DUP	67.67		
	=>	8 DUP	S95T003511		6 96012301.d14	S95T003510 SP.	101.00		
					96012301.d15	S95T003511	101.00		
					7 96012301.d16	S95T003511	67.67		
					8 96012301.d17	S95T003511 DUP	67.67		
+				+					

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

WHC-SD-WM-OP-162, REV. 1

=====

Sample Name: INSTRA BLK	Date: 01/23/1996 22:36:23
Data File : C:\DX\DATA\96012301.D06	
Method : C:\DX\METHOD\KIT.MET	WHC-SD-WM-DP-162, REV. 1
ACI Address: 1 System: 1 Inject#: 6	Detector: CDM-1
Analyst : <i>Rob King</i>	Column: AG4A/AS4A anion column

=====

6124-95

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	3150	5Hz	0.00	10.50		100

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

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

File: 96012301.D06 Sample: INSTRA BLK

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 146 TO 154.

Sample Name: STD 122N9-D Date: 01/23/1996 22:49:36
 Data File : C:\DX\DATA\96012301.D07 WHC-SD-WM-OP-162, REV. 1
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 7 Detector: CDM-1
 Analyst : *Rob King* Column: AG4A/AS4A anion column

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 101 3150 5Hz 0.00 10.50 100

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	57	267	2	
2	1.03	fluoride	60.414	102.40	2262	2	-0.32
3	1.63	chloride	82.607	104.56	1960	1	-0.81
4	1.98	nitrite	538.040	99.45	8461	1	-1.49
5	3.05	bromide	577.045	100.35	4864	1	1.44
6	3.49	nitrate	630.941	102.76	5646	1	3.35
7	4.96	phosphate	558.276	102.25	1863	1	-1.00
8	6.72	sulfate	637.311	101.00	4590	1	-1.61
9	8.91	oxalate	566.635	105.13	2284	1	-0.60
Totals			3651.267	31988	289852		

File: 96012301.D07 Sample: STD 122N9-D

```

=====
Sample Name: BLK PREP                      Date: 01/23/1996 23:05:39
Data File  : C:\DX\DATA\96012301.D08
Method     : C:\DX\METHOD\KIT.MET        WHC-SD-WM-DP-162, REV. 1
ACI Address: 1 System: 1 Inject#: 8        Detector: CDM-1
Analyst    : Rob King                   Column: AG4A/AS4A anion column
=====

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=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1           1 3150 5Hz 0.00 10.50          100
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.29		0.000	36	239	1	
2	3.57	nitrate	0.165	19	102	1	5.72
Totals			0.165	54	341		

File: 96012301.D08 Sample: BLK PREP

=====

Sample Name: S95T003510	Date: 01/23/1996 23:19:52
Data File : C:\DX\DATA\96012301.D09	
Method : C:\DX\METHOD\KIT.MET	WHC-SD-WM-OP-162, REV. 1
ACI Address: 1 System: 1 Inject#: 9	Detector: CDM-1
Analyst : <i>Rob King</i>	Column: AG4A/AS4A anion column

=====

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	101	3150	5Hz	0.00	10.50		100

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.87		0.000	52	263	2	
2	1.02	fluoride	28.482	1054	5602	2	-0.97
3	1.61	chloride	2.788	106	547	1	-2.03
4	1.95	nitrite	57.562	671	3995	1	-2.82
5	3.39	nitrate	2737.755	22603	230135	1	0.39
6	4.96	phosphate	27.603	71	832	1	-1.00
7	6.72	sulfate	64.419	376	5663	1	-1.61
8	8.96	oxalate	80.907	317	6080	1	0.00
Totals			2999.517	25250	253116		

File: 96012301.D09 Sample: S95T003510

Sample Name: S95T003510	Date: 01/23/1996 23:42:50
Data File : C:\DX\DATA\96012301.D10	
Method : C:\DX\METHOD\KIT.MET	WHC-SD-WM-DP-162, REV. 1
ACI Address: 1 System: 1 Inject#: 10	Detector: CDM-1
Analyst : <i>Not Run</i>	Column: AG4A/AS4A anion column

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

External	1	51	3150	5Hz	0.00	10.50	100	
----------	---	----	------	-----	------	-------	-----	--

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	98	485	2	
2	1.03	fluoride	30.250	2122	12021	2	0.32
3	1.62	chloride	4.001	208	1181	1	-1.22
4	1.97	nitrite	51.444	1337	8292	1	-1.82
5	3.34	nitrate	2773.040	42886	498707	1	-1.18
6	4.96	phosphate	24.595	134	1676	1	-1.00
7	6.72	sulfate	55.458	689	10346	1	-1.61
8	8.91	oxalate	79.449	586	12001	1	-0.60
Totals			3018.237	48058	544709		

File: 96012301.D10 Sample: S95T003510

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=====
Sample Name: S95T003510 DUP                               Date: 01/24/1996 01:57:12
Data File  : C:\DX\DATA\96012301.D13
Method     : C:\DX\METHOD\KIT.MET                       WHC-SD-WM-OP-162, REV. I
ACI Address: 1 System: 1 Inject#: 13                      Detector: CDM-1
Analyst    : Not King Column: AG4A/AS4A anion column
=====

```

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=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
=====
External          1          67.67   3150  5Hz   0.00 10.50          100
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.86		0.000	77	390	2	
2	1.02	fluoride	30.920	1672	9201	2	-0.97
3	1.61	chloride	3.257	153	803	1	-2.03
4	1.95	nitrite	52.549	968	6018	1	-2.82
5	3.34	nitrate	3001.734	35362	394792	1	-1.18
6	4.96	phosphate	26.136	107	1288	1	-1.00
7	6.72	sulfate	59.677	562	8204	1	-1.61
8	8.91	oxalate	83.732	486	9492	1	-0.60
Totals			3258.005	39387	430187		

File: 96012301.D13 Sample: S95T003510 DUP

```

=====
Sample Name: S95T003510 SP.                      Date: 01/24/1996 02:17:30
Data File  : C:\DX\DATA\96012301.D14
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 14              WHC-SD-WM-DP-162, REV. 1
Analyst    : Not King                          Detector: CDM-1
Column: AG4A/AS4A anion column
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          101    3150  5Hz   0.00 10.50          100
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	101	470	2	
2	1.03	fluoride	89.507	3366	18142	2	0.32
3	1.63	chloride	109.136	2544	13891	1	-0.81
4	1.97	nitrite	585.712	8977	55305	1	-1.82
5	3.04	bromide	556.741	4939	33505	1	1.00
6	3.39	nitrate	3416.163	27734	292341	1	0.20
7	4.96	phosphate	573.156	1895	22981	1	-1.00
8	6.67	sulfate	686.287	4346	70797	1	-2.39
9	8.91	oxalate	637.932	2549	49505	1	-0.60
Totals			6654.633	56450	556935		

File: 96012301.D14 Sample: S95T003510 SP.

Sample Name: S95T003511 Date: 01/24/1996 02:47:51
 Data File : C:\DX\DATA\96012301.D16
 Method : C:\DX\METHOD\KIT.MET WHC-SD-WM-DP-162, REV. 1
 ACI Address: 1 System: 1 Inject#: 16 Detector: CDM-1
 Analyst : *Nob. Kim* Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	67.67	3150	5Hz	0.00	10.50		100

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.87		0.000	71	343	2	
2	1.02	fluoride	49.601	2805	14932	2	-0.97
3	1.60	chloride	2.239	120	616	1	-2.44
4	1.95	nitrite	41.171	734	4372	1	-2.82
5	3.35	nitrate	2761.462	33103	359542	1	-0.99
6	4.96	phosphate	26.444	109	1306	1	-1.00
7	6.67	sulfate	110.341	974	16019	1	-2.39
8	8.91	oxalate	133.299	787	15230	1	-0.60
Totals			3124.557	38704	412359		

File: 96012301.D16 Sample: S95T003511

=====

Sample Name: S95T003511 DUP	Date: 01/24/1996 03:03:43
Data File : C:\DX\DATA\96012301.D17	
Method : C:\DX\METHOD\KIT.MET	WHC-SD-WM-DP-162, REV. I
ACI Address: 1 System: 1 Inject#: 17	Detector: CDM-1
Analyst : <i>Ng Ng</i>	Column: AG4A/AS4A anion column

=====

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	67.67	3150	5Hz	0.00	10.50		100

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	65	309	2	
2	1.03	fluoride	51.858	2905	15629	2	0.32
3	1.62	chloride	2.039	113	579	1	-1.22
4	1.97	nitrite	40.270	701	4241	1	-1.82
5	3.37	nitrate	2651.151	31607	343612	1	-0.20
6	4.96	phosphate	28.736	114	1443	1	-1.00
7	6.72	sulfate	112.612	1108	16370	1	-1.61
8	8.96	oxalate	139.217	830	15915	1	0.00
Totals			3025.883	37443	398098		

File: 96012301.D17 Sample: S95T003511 DUP

LABCORE Data Entry Template for Worklist# 4670

Analyst: SRM Instrument: IC01 IC02 Book# 122N'9D

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

Worklist Comment: BY-105 FOR IC RTS

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC-QC	QC		
2 CCV			@IC-QC	QC		
3 BLNK-PREP			@IC-01	SOLID		
4 SAMPLE	S95T003512 0 W		@IC-01	SOLID	95000125	BY-105 (R)
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
5 DUP	S95T003512 0 W		@IC-01	SOLID		
6 SPK	S95T003512 0 W		@IC-01	SOLID		
7 SAMPLE	S95T003513 0 W		@IC-01	SOLID	95000125	BY-105 (R)
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
8 DUP	S95T003513 0 W		@IC-01	SOLID		
9 SAMPLE	S95T003514 0 W		@IC-01	SOLID	95000125	BY-105 (R)
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
10 DUP	S95T003514 0 W		@IC-01	SOLID		

Final page for worklist # 4670

Sonja Nolas 2-5-96
Analyst Signature Date

Analyst Signature Date

Updated 2/8/96 JML

Data Entry Comments:

WHC-SD-WM-DP-162, REV. 1

LABCORE Completed Worklist Report for Worklist# 4670

Analyst: srm

Instrument: IC02

Book# 122N9D

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

Worklist Comment: BY-105 FOR IC RTS

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	CCB	0	⊗IC-QC F	QC	1	<1.30e-2		ug/mL
1	CCB	0	⊗IC-QC CL	QC	1	2.50e-02	3.000e-002	ug/mL
1	CCB	0	⊗IC-QC NO2	QC	1	<1.07e-1		ug/mL
1	CCB	0	⊗IC-QC BR	QC	1	<1.26e-1		ug/mL
1	CCB	0	⊗IC-QC NO3	QC	1	<1.40e-1		ug/mL
1	CCB	0	⊗IC-QC PO4	QC	1	<1.19e-1		ug/mL
1	CCB	0	⊗IC-QC SO4	QC	1	<1.36e-1		ug/mL
1	CCB	0	⊗IC-QC OXALATE2	QC	1	<1.05e-1		ug/mL
2	CCV	0	⊗IC-QC F	QC	59	5.62e+01	95.250 % Recovery	
2	CCV	0	⊗IC-QC CL	QC	79	7.34e+01	92.910 % Recovery	
2	CCV	0	⊗IC-QC NO2	QC	541	5.08e+02	93.900 % Recovery	
2	CCV	0	⊗IC-QC BR	QC	575	5.40e+02	93.910 % Recovery	
2	CCV	0	⊗IC-QC NO3	QC	614	5.85e+02	95.280 % Recovery	
2	CCV	0	⊗IC-QC PO4	QC	546	5.28e+02	96.700 % Recovery	
2	CCV	0	⊗IC-QC SO4	QC	631	5.95e+02	94.290 % Recovery	
2	CCV	0	⊗IC-QC OXALATE2	QC	539	5.28e+02	97.960 % Recovery	
3	BLNK-PREP	0	⊗IC-01 F-02	SOLID	1	<1.30e-2		ug/g
3	BLNK-PREP	0	⊗IC-01 CL-02	SOLID	1	<1.70e-2		ug/g
3	BLNK-PREP	0	⊗IC-01 NO2-02	SOLID	1	<1.07e-1		ug/g
3	BLNK-PREP	0	⊗IC-01 BR-02	SOLID	1	<1.26e-1		ug/g
3	BLNK-PREP	0	⊗IC-01 NO3-02	SOLID	1	<1.40e-1		ug/g
3	BLNK-PREP	0	⊗IC-01 PO4-02	SOLID	1	<1.20e-1		ug/g
3	BLNK-PREP	0	⊗IC-01 SO4-02	SOLID	1	<1.36e-1		ug/g
3	BLNK-PREP	0	⊗IC-01 OXALATE2	SOLID	1	<1.05e-1		ug/g
4	SAMPLE	S95T003512	0 W ⊗IC-01 F-02	SOLID	N/A	4.513e+03	53.630	ug/g
4	REJECT	S95T003512	0 W ⊗IC-01 F-02	SOLID	N/A	4.513e+03		ug/g
4	SAMPLE	S95T003512	0 W ⊗IC-01 CL-02	SOLID	N/A	8.399e+02	70.140	ug/g
4	REJECT	S95T003512	0 W ⊗IC-01 CL-02	SOLID	N/A	8.399e+02		ug/g
4	SAMPLE	S95T003512	0 W ⊗IC-01 NO2-02	SOLID	N/A	7.749e+03	441.500	ug/g
4	REJECT	S95T003512	0 W ⊗IC-01 NO2-02	SOLID	N/A	7.749e+03		ug/g
4	SAMPLE	S95T003512	0 W ⊗IC-01 BR-02	SOLID	N/A	5.198e+02	519.800	ug/g
4	REJECT	S95T003512	0 W ⊗IC-01 BR-02	SOLID	N/A	5.198e+02		ug/g
4	SAMPLE	S95T003512	0 W ⊗IC-01 NO3-02	SOLID	N/A	4.288e+05	2.776e+003	ug/g
4	REJECT	S95T003512	0 W ⊗IC-01 NO3-02	SOLID	N/A	4.288e+05		ug/g
4	SAMPLE	S95T003512	0 W ⊗IC-01 PO4-02	SOLID	N/A	3.553e+03	494.700	ug/g
4	REJECT	S95T003512	0 W ⊗IC-01 PO4-02	SOLID	N/A	3.553e+03		ug/g
4	SAMPLE	S95T003512	0 W ⊗IC-01 SO4-02	SOLID	N/A	9.391e+03	560.700	ug/g
4	REJECT	S95T003512	0 W ⊗IC-01 SO4-02	SOLID	N/A	9.391e+03		ug/g
4	SAMPLE	S95T003512	0 W ⊗IC-01 OXALATE2	SOLID	N/A	2.558e+04	433.200	ug/g
4	REJECT	S95T003512	0 W ⊗IC-01 OXALATE2	SOLID	N/A	2.558e+04		ug/g
5	DUP	S95T003512	0 W ⊗IC-01 F-02	SOLID	4.51e+03	3.93e+03	13.740	RPD

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

LABCORE Completed Worklist Report for Worklist# 4670

Seq Type	Sample# R A	Test	Matrix	Actual	Found	DL or Yield	Unit
5 DUP	895T003512	0 W EIC-01 CL-02	SOLID	8.40e+02	5.04e+02	50.000	RPD
5 DUP	895T003512	0 W EIC-01 NO2-02	SOLID	7.75e+03	6.50e+03	17.540	RPD
5 DUP	895T003512	0 W EIC-01 BR-02	SOLID	<5.20e2	<5.08e2		RPD
5 DUP	895T003512	0 W EIC-01 NO3-02	SOLID	4.29e+05	5.39e+05	22.730	RPD
5 DUP	895T003512	0 W EIC-01 PO4-02	SOLID	3.55e+03	2.25e+03	44.830	RPD
5 DUP	895T003512	0 W EIC-01 SO4-02	SOLID	9.39e+03	8.54e+03	9.480	RPD
5 DUP	895T003512	0 W EIC-01 OXALATE2	SOLID	2.56e+04	2.13e+04	18.340	RPD
6 SPK	895T003512	0 W EIC-01 F-02	SOLID	59	61.145	103.640	% Recovery
6 SPK	895T003512	0 W EIC-01 CL-02	SOLID	79	64.125	81.170	% Recovery
6 SPK	895T003512	0 W EIC-01 NO2-02	SOLID	541	502.790	92.940	% Recovery
6 SPK	895T003512	0 W EIC-01 BR-02	SOLID	575	535.000	93.040	% Recovery
6 SPK	895T003512	0 W EIC-01 NO3-02	SOLID	614	887.330	144.520	% Recovery
6 SPK	895T003512	0 W EIC-01 PO4-02	SOLID	546	499.570	91.500	% Recovery
6 SPK	895T003512	0 W EIC-01 SO4-02	SOLID	631	590.990	93.660	% Recovery
6 SPK	895T003512	0 W EIC-01 OXALATE2	SOLID	539	559.360	103.780	% Recovery
7 SAMPLE	895T003513	0 W EIC-01 F-02	SOLID	N/A	3.681e+03	53.840	ug/g
7 REJECT	895T003513	0 W EIC-01 F-02	SOLID	N/A	3.681e+03		ug/g
7 SAMPLE	895T003513	0 W EIC-01 CL-02	SOLID	N/A	1.242e+03	70.410	ug/g
7 REJECT	895T003513	0 W EIC-01 CL-02	SOLID	N/A	1.242e+03		ug/g
7 SAMPLE	895T003513	0 W EIC-01 NO2-02	SOLID	N/A	9.886e+03	443.200	ug/g
7 REJECT	895T003513	0 W EIC-01 NO2-02	SOLID	N/A	9.886e+03		ug/g
7 SAMPLE	895T003513	0 W EIC-01 BR-02	SOLID	N/A	5.219e+02	521.900	ug/g
7 REJECT	895T003513	0 W EIC-01 BR-02	SOLID	N/A	5.219e+02		ug/g
7 SAMPLE	895T003513	0 W EIC-01 NO3-02	SOLID	N/A	2.783e+05	2.787e+003	ug/g
7 REJECT	895T003513	0 W EIC-01 NO3-02	SOLID	N/A	2.783e+05		ug/g
7 SAMPLE	895T003513	0 W EIC-01 PO4-02	SOLID	N/A	9.592e+02	496.600	ug/g
7 REJECT	895T003513	0 W EIC-01 PO4-02	SOLID	N/A	9.592e+02		ug/g
7 SAMPLE	895T003513	0 W EIC-01 SO4-02	SOLID	N/A	1.696e+04	562.900	ug/g
7 REJECT	895T003513	0 W EIC-01 SO4-02	SOLID	N/A	1.696e+04		ug/g
7 SAMPLE	895T003513	0 W EIC-01 OXALATE2	SOLID	N/A	1.244e+04	434.900	ug/g
7 REJECT	895T003513	0 W EIC-01 OXALATE2	SOLID	N/A	1.244e+04		ug/g
8 DUP	895T003513	0 W EIC-01 F-02	SOLID	3.68e+03	3.77e+03	2.420	RPD
8 DUP	895T003513	0 W EIC-01 CL-02	SOLID	1.24e+03	8.48e+02	37.550	RPD
8 DUP	895T003513	0 W EIC-01 NO2-02	SOLID	9.89e+03	1.05e+04	5.980	RPD
8 DUP	895T003513	0 W EIC-01 BR-02	SOLID	<5.22e2	<5.16e2		RPD
8 DUP	895T003513	0 W EIC-01 NO3-02	SOLID	2.78e+05	3.11e+05	11.210	RPD
8 DUP	895T003513	0 W EIC-01 PO4-02	SOLID	9.59e+02	<4.91e2		RPD
8 DUP	895T003513	0 W EIC-01 SO4-02	SOLID	1.70e+04	1.76e+04	3.470	RPD
8 DUP	895T003513	0 W EIC-01 OXALATE2	SOLID	1.24e+04	1.26e+04	1.600	RPD
9 SAMPLE	895T003514	0 W EIC-01 F-02	SOLID	N/A	3.911e+02	49.920	ug/g
9 REJECT	895T003514	0 W EIC-01 F-02	SOLID	N/A	3.911e+02		ug/g
9 SAMPLE	895T003514	0 W EIC-01 CL-02	SOLID	N/A	5.507e+02	65.270	ug/g
9 REJECT	895T003514	0 W EIC-01 CL-02	SOLID	N/A	5.507e+02		ug/g
9 SAMPLE	895T003514	0 W EIC-01 NO2-02	SOLID	N/A	6.963e+03	410.900	ug/g
9 REJECT	895T003514	0 W EIC-01 NO2-02	SOLID	N/A	6.963e+03		ug/g
9 SAMPLE	895T003514	0 W EIC-01 BR-02	SOLID	N/A	4.838e+02	483.800	ug/g
9 REJECT	895T003514	0 W EIC-01 BR-02	SOLID	N/A	4.838e+02		ug/g
9 SAMPLE	895T003514	0 W EIC-01 NO3-02	SOLID	N/A	6.202e+05	2.584e+003	ug/g
9 REJECT	895T003514	0 W EIC-01 NO3-02	SOLID	N/A	6.202e+05		ug/g

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

WHC-SD-WM-DP-162, REV.1

LABCORE Completed Worklist Report for Worklist# 4670

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
9 SAMPLE	895T003514	0 W	QIC-01	PO4-02	SOLID	N/A <	4.604e+02	460.400 ug/g
9 REJECT	895T003514	0 W	QIC-01	PO4-02	SOLID	N/A <	4.604e+02	ug/g
9 SAMPLE	895T003514	0 W	QIC-01	SO4-02	SOLID	N/A	1.849e+03	521.800 ug/g
9 REJECT	895T003514	0 W	QIC-01	SO4-02	SOLID	N/A	1.849e+03	ug/g
9 SAMPLE	895T003514	0 W	QIC-01	OXALATE2	SOLID	N/A	1.405e+03	403.200 ug/g
9 REJECT	895T003514	0 W	QIC-01	OXALATE2	SOLID	N/A	1.405e+03	ug/g
10 DUP	895T003514	0 W	QIC-01	F-02	SOLID	3.91e+02	3.56e+02	9.370 RPD
10 DUP	895T003514	0 W	QIC-01	CL-02	SOLID	5.51e+02	5.80e+02	5.130 RPD
10 DUP	895T003514	0 W	QIC-01	NO2-02	SOLID	6.96e+03	6.84e+03	1.740 RPD
10 DUP	895T003514	0 W	QIC-01	BR-02	SOLID	<4.84e2	<4.97e2	RPD
10 DUP	895T003514	0 W	QIC-01	NO3-02	SOLID	6.20e+05	6.20e+05	0.000 RPD
10 DUP	895T003514	0 W	QIC-01	PO4-02	SOLID	<4.60e2	<4.74e2	RPD
10 DUP	895T003514	0 W	QIC-01	SO4-02	SOLID	1.85e+03	2.03e+03	9.280 RPD
10 DUP	895T003514	0 W	QIC-01	OXALATE2	SOLID	1.40e+03	1.27e+03	9.740 RPD

Final page for worklist# 4670

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

John Lyle 3/14/96
Reviewer Signature _____ Date _____

A-0010-IC				DATA FILE/WORKLIST RESOLUTION				08-Feb-96			
Worklist#: 4670				Data File: 4670FEB1.CSV							
	Seq	Type	Sample #	Seq#	Data File	Sample Name	Dilution				
-	=>	1 CCB		-	3 96020221.d01	PREP BLNK	1.00				
	=>	2 CCV			4 96020221.d02	S95T003512	101.00				
	=>	3 BLNK-PREP			4 96020201.d03	S95T003512	21.00				
	=>	4 SAMPLE	S95T003512		5 96020201.d04	S95T003512DUP	101.00				
	=>	5 DUP	S95T003512		5 96020201.d05	S95T003512DUP	21.00				
	=>	6 SPK	S95T003512		6 96020201.d06	S95T003512SPK	101.00				
	=>	7 SAMPLE	S95T003513		6 96020201.d07	S95T003512SPK	21.00				
	=>	8 DUP	S95T003513		7 96020201.d08	S95T003513	101.00				
	=>	9 SAMPLE	S95T003514		7 96020201.d09	S95T003513	21.00				
	=>	10 DUP	S95T003514		8 96020201.d10	S95T003513DUP	101.00				
					8 96020201.d11	S95T003513DUP	21.00				
					9 96020201.d12	S95T003514	101.00				
					9 96020201.d13	S95T003514	21.00				
					10 96020201.d14	S95T003514DUP	101.00				
+				+	10 96020201.d15	S95T003514DUP	21.00				

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

WHC-SD-WM-DP-162, REV.1

A-0010-IC				DATA FILE/WORKLIST RESOLUTION				08-Feb-96	
Worklist#: 4670				Data File: 4670FEB1.CSV					
	Seq	Type	Sample #	Seq#	Data File	Sample Name	Dilution		
-	=>	1 CCB		-	2 96020211.d02	122N9D	101.00		
	=>	2 CCV			1 96020211.d01	BLANK	1.00		
	=>	3 BLNK-PREP			3 96020221.d01	PREP BLNK	1.00		
	=>	4 SAMPLE	S95T003512		4 96020221.d02	S95T003512	101.00		
	=>	5 DUP	S95T003512		4 96020201.d03	S95T003512	21.00		
	=>	6 SPK	S95T003512		5 96020201.d04	S95T003512DUP	101.00		
	=>	7 SAMPLE	S95T003513		5 96020201.d05	S95T003512DUP	21.00		
	=>	8 DUP	S95T003513		6 96020201.d06	S95T003512SPK	101.00		
	=>	9 SAMPLE	S95T003514		6 96020201.d07	S95T003512SPK	21.00		
	=>	10 DUP	S95T003514		7 96020201.d08	S95T003513	101.00		
					7 96020201.d09	S95T003513	21.00		
					8 96020201.d10	S95T003513DUP	101.00		
					8 96020201.d11	S95T003513DUP	21.00		
					9 96020201.d12	S95T003514	101.00		
+				+	9 96020201.d13	S95T003514	21.00		

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

WHC-SD-WM-DP-162, REV 1

A-0010-12

SAMPLE ANALYTE RESOLUTION FOR S95T003512

08-Feb-96

Analyte		Samples Selected from Data File for Worklist Slot Number 4				
		[1]	[2]	[3]	[4]	[5]
		96020221.d02	96020201.d03			
		101.0000	21.0000			
F-02	2		65.5810			
CL-02	2		22.9710			
NO2-02	2		4.2750			
BR-02	2		39.4420			
NO3-02	2		0.0000			
P04-02	1	2.1827e+003				
S04-02	2		18.0860			
OXALATE2	2		47.8020			
	2		130.1280			

Done(F4) Abort(Shift-F3) UnPick(F7)

WHC-SD-WM-DP-162, REV.1

A-0010-12

SAMPLE ANALYTE RESOLUTION FOR S95T003512

08-Feb-96

Analyte		Samples Selected from Data File for Worklist Slot Number 5				
		[1]	[2]	[3]	[4]	[5]
		96020201.d04	96020201.d05			
		101.0000	21.0000			
F-02	2		57.6970			
CL-02	2		20.4830			
N02-02	2		2.6280			
BR-02	2		33.8860			
N03-02	2		0.0000			
P04-02	1	2.8074e+003				
S04-02	2		11.7160			
OXALATE2	2		44.4980			
			111.1720			

Done(F4) Abort(Shift-F3) UnPick(F7)

WHC-SD-WM-DP-162, REV. 1

A-0010-12		SAMPLE ANALYTE RESOLUTION FOR S95T003512				08-Feb-96
Analyte		Samples Selected from Data File for Worklist Slot Number 6				
		[1]	[2]	[3]	[4]	[5]
		96020201.d06	96020201.d07			
		101.0000	21.0000			
F-02	2	3.0674e+003	100.7640			
CL-02	2		35.2040			
N02-02	2		17.1280			
N02-02	2		140.4380			
BR-02	2		106.5400			
N03-02	1					
P04-02	2		117.7840			
S04-02	2		165.8200			
OXALATE2	2		242.4810			

Done(F4) Abort(Shift-F3) UnPick(F7)

WHC-SD-WM-DP-162, REV 1

A-0010-12

SAMPLE ANALYTE RESOLUTION FOR S95T003513

08-Feb-96

Analyte		Samples Selected from Data File for Worklist Slot Number 7				
		[1]	[2]	[3]	[4]	[5]
		96020201.d08	96020201.d09			
		101.0000	21.0000			
F-02	2		142.4190			
CL-02	2		18.6620			
NO2-02	2		6.2980			
BR-02	2		50.1220			
NO3-02	2		0.0000			
PO4-02	1	1.4111e+003				
S04-02	2		4.8630			
OxALATE2	2		85.9780			
			63.0670			

Done(F4) Abort(Shift-F3) UnPick(F7)

WHC-SD-WM-DP-162, REV. 1

A-0010-12

SAMPLE ANALYTE RESOLUTION FOR S95T003513

08-Feb-96

Analyte		Samples Selected from Data File for Worklist Slot Number 8				
		[1]	[2]	[3]	[4]	[5]
		96020201.d10	96020201.d11			
		101.0000	21.0000			
F-02	2		126.3630			
CL-02	2		19.3050			
N02-02	2		4.3480			
BR-02	2		53.6470			
N03-02	2		0.0000			
P04-02	1	1.5943e+003				
S04-02	2		0.0000			
OXALATE2	2		90.1920			
			64.8120			

Done(F4) Abort(Shift-F3) UnPick(F7)

WHC-SD-WM-DP-162, REV. 1

Analyte		Samples Selected from Data File for Worklist Slot Number 9				
		[1]	[2]	[3]	[4]	[5]
		96020201.d12	96020201.d13			
		101.0000	21.0000			
F-02	2		37.2270			
CL-02	2		2.1390			
NO2-02	2		3.0120			
BR-02	2		38.0830			
NO3-02	1	3.3917e+003	1.4895e+003			
PO4-02	2		0.0000			
S04-02	2		10.1110			
OXALATE2	2		7.6820			

Done(F4) Abort(Shift-F3) UnPick(F7)

WHC-SD-WM-DP-162, REV. 1

A-0010-12

SAMPLE ANALYTE RESOLUTION FOR S95T003514

08-Feb-96

Analyte		Samples Selected from Data File for Worklist Slot Number 10				
		[1]	[2]	[3]	[4]	[5]
		96020201.d14	96020201.d15			
		101.0000	21.0000			
F-02	2		67.1310			
CL-02	2		1.8960			
NO2-02	2		3.0900			
BR-02	2		36.4400			
NO3-02	2		0.0000			
PO4-02	1	3.3031e+003				
S04-02	2		0.0000			
OXALATE2	2		10.8200			
	2		6.7580			

Done(F4) Abort(Shift-F3) UnPick(F7)

WHC-SD-WM-DP-162, REV. 1

Sample Name: BLANK Date: 02/02/1996 09:06:54
 Data File : C:\DX\DATA\96020211.D01
 Method : C:\DX\METHOD\AS12A.MET WHC-SD-WM-DP-162 REV 1
 ACI Address: 1 System: 1 Inject#: 1 Detector: CDM-1
 Analyst : Ed Colvin Column: AG4A-SC, AS4A-SC, SRS

Ed Colvin for Sample Mous 3/14/96

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	5400	5Hz	0.00	18.00		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	2.63	FORMATE	-0.588	239	3010	1	-1.25
2	3.75	CHLORIDE	0.025	69	552	1	0.45
Totals			-0.563	307	3563		

File: 96020211.D01 Sample: BLANK

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 168 TO 184.

Sample Name: 122N9D	Date: 02/02/1996 09:45:07
Data File : C:\DX\DATA\96020211.D02	WHC-SD-WM-DP-162, REV. I
Method : C:\DX\METHOD\AS12A.MET	
ACI Address: 1 System: 1 Inject#: 2	Detector: CDM-1
Analyst : Ed Colvin	Column: AG4A-SC, AS4A-SC, SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	101	5400	5Hz	0.00	18.00		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.65		0.000	144	1683	1	
2	2.22	FLUORIDE	56.200	2358	15556	2	-0.15
3	2.63	FORMATE	-85.121	250	2853	2	-1.25
4	3.73	CHLORIDE	73.396	1619	13472	1	0.00
5	4.63	NITRITE	508.405	6542	71007	1	0.00
6	7.40	BROMIDE	540.303	2937	46731	1	1.83
7	8.65	NITRATE	585.497	3191	64059	2	2.98
8	10.12	PHOSPHATE	527.795	1228	28285	2	1.17
9	12.18	SULFATE	595.139	3271	86433	1	1.11
10	14.58		0.000	5	59	1	
11	16.23	OXALATE	528.357	1564	55633	1	1.14
Totals			3329.970	23109	385771		

File: 96020211.D02 Sample: 122N9D

```

=====
Sample Name: PREP BLNK                      Date: 02/02/1996 12:05:35
Data File  : c:\dx\data\96020221.D01       WHC-SD-WM-IP-162, REV, 1
Method     : C:\DX\METHOD\AS12A.MET
ACI Address: 1 System: 1 Inject#: 1         Detector: CDM-1
Analyst    : Ed Colvin                      Column: AG4A-SC,AS4A-SC, SRS
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1           1  5400  5Hz  0.00 18.00          50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
2	17.45		0.000	5	59	1	
Totals			0.000	5	59		

File: 96020221.D01 Sample: PREP BLNK

```

=====
Sample Name: S95T003512                      Date: 02/02/1996 12:26:18
Data File  : c:\dx\data\96020221.D02
Method     : C:\DX\METHOD\AS12A.MET        WHC-SD-WM-DP-162, REV.1
ACI Address: 1 System: 1 Inject#: 2          Detector: CDM-1
Analyst    : Ed Colvin                      Column: AG4A-SC, AS4A-SC, SRS
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          101    5400  5Hz   0.00 18.00          50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.63		0.000	115	1374	1	
2	2.18	FLUORIDE	21.859	853	5875	2	-1.65
3	2.60	FORMATE	5.817	273	3361.6w	2	-2.50
4	3.68	CHLORIDE	13.310	293	2492	1	-1.34
5	4.60	NITRITE	50.401	477	5002	1	-0.72
6	8.35	NITRATE	2182.672	12040	254398	2	-0.60
7	10.07	PHOSPHATE	23.031	25	521	2	0.67
8	12.13	SULFATE	59.894	266	6854	1	0.69
9	16.17	OXALATE	136.706	379	13463	1	0.73
Totals			2493.689	14720	293340		

File: 96020221.D02 Sample: S95T003512

```

=====
Sample Name: S95T003512                      Date: 02/02/1996 12:46:59
Data File  : c:\dx\data\96020201.D03
Method     : C:\DX\METHOD\AS12A.MET          WHC-SD-WM-DP-162, REV.1
ACI Address: 1 System: 1 Inject#: 3           Detector: CDM-1
Analyst    : Ed Colvin                        Column: AG4A-SC, AS4A-SC, SRS
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          21    5400  5Hz   0.00 18.00          50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.63		0.000	461	4746	2	
2	2.18	FLUORIDE	22.971	4398	31279	2	-1.65
3	2.58	FORMATE	65.581	318	4574	2	-3.13
4	3.68	CHLORIDE	4.275	451	3804	1	-1.34
5	4.58	NITRITE	39.442	2362	25017	1	-1.08
6	7.88	NITRATE	1898.894	46924	1412936	2	-6.15
7	10.05	PHOSPHATE	18.086	162	3990	2	0.50
8	12.10	SULFATE	47.802	1210	31885	1	0.41
9	16.08	OXALATE	130.128	1875	66236	1	0.21
Totals			2227.180	58162	1584468		

File: 96020201.D03 Sample: S95T003512

```

=====
Sample Name: S95T003512DUP      Date: 02/02/1996 13:07:41
Data File  : c:\dx\data\96020201.D04      WHC-SD-WM-DP-162, REV. I
Method     : C:\DX\METHOD\AS12A.MET
ACI Address: 1 System: 1 Inject#: 4      Detector: CDM-1
Analyst    : Ed Colvin      Column: AG4A-SC,AS4A-SC, SRS
=====

```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	101	5400	5Hz	0.00	18.00		50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.63		0.000	146	1717	2	
2	2.18	FLUORIDE	20.421	792	5474	2	-1.65
3	2.60	FORMATE	325.223	302	4605	2	-2.50
4	3.70	CHLORIDE	2.147	61	478	2	-0.89
5	4.60	NITRITE	45.849	413	4348	1	-0.72
6	8.30	NITRATE	2807.433	15289	333345	2	-1.19
7	10.05	PHOSPHATE	22.714	24	504	2	0.50
8	12.13	SULFATE	54.284	236	6032	1	0.69
10	16.15	OXALATE	113.957	322	11033	1	0.62
Totals			3392.026	17584	367538		

File: 96020201.D04 Sample: S95T003512DUP

```

=====
Sample Name: S95T003512DUP      Date: 02/02/1996 13:28:24
Data File  : c:\dx\data\96020201.D05      WHC-SD-WM-DP-162, REV. I
Method     : C:\DX\METHOD\AS12A.MET
ACI Address: 1 System: 1 Inject#: 5      Detector: CDM-1
Analyst    : Ed Colvin      Column: AG4A-SC,AS4A-SC, SRS
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
=====
External      1      21      5400 5Hz  0.00 18.00      50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.63		0.000	577	5959	2	
2	2.18	FLUORIDE	20.483	3982	27767	2	-1.65
3	2.58	FORMATE	57.697	316	4449	2	-3.13
4	3.68	CHLORIDE	2.628	285	2370	1	-1.34
5	4.58	NITRITE	33.886	2051	21174	1	-1.08
6	7.78	NITRATE	2194.183	57568	1864790	2	-7.34
7	10.03	PHOSPHATE	11.716	107	2327	2	0.33
8	12.10	SULFATE	44.498	1116	29536	1	0.41
9	16.08	OXALATE	111.172	1604	56320	1	0.21
Totals			2476.264	67607	2014692		

File: 96020201.D05 Sample: S95T003512DUP

```

=====
Sample Name: S95T003512SPK      Date: 02/02/1996 13:49:08
Data File  : c:\dx\data\96020201.D06
Method     : C:\DX\METHOD\AS12A.MET      WHC-SD-WM-DP-162, REV. I
ACI Address: 1 System: 1 Inject#: 6      Detector: CDM-1
Analyst    : Ed Colvin      Column: AG4A-SC, AS4A-SC, SRS
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          101    5400  5Hz   0.00 18.00          50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.63		0.000	275	2962	1	
2	2.18	FLUORIDE	81.356	3431	22777	2	-1.65
3	2.60	FORMATE	97.707	297	3778	2	-2.50
4	3.68	CHLORIDE	75.060	1681	13779	1	-1.34
5	4.58	NITRITE	555.726	7461	77859	1	-1.08
6	7.28	BROMIDE	548.482	3192	47471	2	0.23
7	8.27	NITRATE	3067.366	16466	367042	2	-1.59
8	10.00	PHOSPHATE	549.714	1291	29512	2	0.00
9	12.05	SULFATE	656.608	3655	95720	1	0.00
10	16.05	OXALATE	686.009	2066	72799	1	0.00
Totals			6318.028	39814	733699		

File: 96020201.D06 Sample: S95T003512SPK

```

=====
Sample Name: S95T003512SPK                      Date: 02/02/1996 14:09:50
Data File  : c:\dx\data\96020201.D07
Method     : C:\DX\METHOD\AS12A.MET             WHC-SD-WM-DP-162, REV. 1
ACI Address: 1 System: 1 Inject#: 7              Detector: CDM-1
Analyst    : Ed Colvin                           Column: AG4A-SC, AS4A-SC, SRS
=====

```

```

-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          21    5400   5Hz   0.00 18.00          50
-----

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.62		0.000	606	6385	2	
2	2.18	FLUORIDE	35.204	7092	48962	2	-1.65
3	2.58	FORMATE	100.764	348	5084	2	-3.13
4	3.67	CHLORIDE	17.128	1789	15134	1	-1.79
5	4.57	NITRITE	140.438	9133	95220	1	-1.44
6	7.20	BROMIDE	106.540	3253	44209	2	-0.92
7	7.83	NITRATE	2006.403	50479	1552822	2	-6.75
8	9.98	PHOSPHATE	117.784	1336	30451	2	-0.17
9	12.02	SULFATE	165.820	4488	117131	1	-0.28
10	15.95	OXALATE	242.481	3518	125791	1	-0.62
Totals			2932.562	82043	2041189		

File: 96020201.D07 Sample: S95T003512SPK

```

=====
Sample Name: S95T003513                      Date: 02/02/1996 14:30:33
Data File  : c:\dx\data\96020201.D08
Method     : C:\DX\METHOD\AS12A.MET        WHC-SD-WM-DP-162, REV. )
ACI Address: 1 System: 1 Inject#: 8          Detector: CDM-1
Analyst    : Bd Colvin                      Column: AG4A-SC, AS4A-SC, SRS
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          101    5400  5Hz   0.00 18.00          50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.62		0.000	161	2040	1	
2	2.18	FLUORIDE	17.347	701	4618	2	-1.65
3	2.60	FORMATE	103.183	301	3801	2	-2.50
4	3.67	CHLORIDE	3.920	95	797	1	-1.79
5	4.58	NITRITE	58.202	581	6121	1	-1.08
6	8.40	NITRATE	1411.083	7864	160532	1	0.00
7	12.07	SULFATE	95.460	445	12072	1	0.14
8	16.12	OXALATE	65.946	173	5914	1	0.42
Totals			1755.141	10321	195896		

File: 96020201.D08 Sample: S95T003513

Sample Name: S95T003513 Date: 02/02/1996 14:51:15
 Data File : c:\dx\data\96020201.D09
 Method : C:\DX\METHOD\AS12A.MET WHC-SD-WM-DP-162, REV.1
 ACI Address: 1 System: 1 Inject#: 9 Detector: CDM-1
 Analyst : Ed Colvin Column: AG4A-SC, AS4A-SC, SRS

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 21 5400 5Hz 0.00 18.00 50

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.62		0.000	680	7396	2	
2	2.17	FLUORIDE	18.662	3444	25213	2	-2.40
3	2.57	FORMATE	142.419	362	5615	2	-3.75
4	3.67	CHLORIDE	6.298	652	5571	1	-1.79
5	4.57	NITRITE	50.122	3014	32411	1	-1.44
6	8.00	NITRATE	1412.075	34367	925965	3	-4.76
7	10.02	PHOSPHATE	4.863	30	541	4	0.17
8	12.03	SULFATE	85.978	2267	59172	1	-0.14
9	16.07	OXALATE	63.067	878	31322	1	0.10
Totals			1783.484	45694	1093204		

File: 96020201.D09 Sample: S95T003513

```

=====
Sample Name: S95T003513DUP                      Date: 02/02/1996 15:11:58
Data File  : c:\dx\data\96020201.D10
Method     : C:\DX\METHOD\AS12A.MET             WHC-SD-WM-DP-162, REV. |
ACI Address: 1 System: 1 Inject#: 10              Detector: CDM-1
Analyst    : Ed Colvin                            Column: AG4A-SC,AS4A-SC, SRS
=====

```

```

-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External           1           101    5400   5Hz   0.00 18.00          50
-----

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.62		0.000	172	2087	1	
2	2.18	FLUORIDE	17.428	713	4641	1	-1.65
3	2.60	FORMATE	115.310	316	3851	1	-2.50
4	3.67	CHLORIDE	5.830	135	1141	1	-1.79
5	4.58	NITRITE	62.374	632	6720	1	-1.08
6	8.37	NITRATE	1594.280	8886	182478	1	-0.40
7	12.07	SULFATE	96.213	470	12183	1	0.14
8	16.08	OXALATE	68.925	179	6231	1	0.21
Totals			1960.360	11501	219333		

File: 96020201.D10 Sample: S95T003513DUP

```

=====
Sample Name: S95T003513DUP      Date: 02/02/1996 15:32:39
Data File  : c:\dx\data\96020201.D11      WHC-SD-WM-DP-162, REV. I
Method     : C:\DX\METHOD\AS12A.MET
ACI Address: 1 System: 1 Inject#: 11      Detector: CDM-1
Analyst    : Ed Colvin      Column: AG4A-SC,AS4A-SC, SRS
=====

```

```

-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          21    5400  5Hz   0.00 18.00          50
-----

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.62		0.000	724	7750	2	
2	2.17	FLUORIDE	19.305	3620	26113	2	-2.40
3	2.57	FORMATE	126.363	366	5418	2	-3.75
4	3.67	CHLORIDE	4.348	447	3868	1	-1.79
5	4.57	NITRITE	53.647	3331	34852	1	-1.44
6	7.95	NITRATE	1565.264	38428	1061623	1	-5.36
7	12.03	SULFATE	90.192	2373	62201	1	-0.14
8	16.05	OXALATE	64.812	909	32224	1	0.00
Totals			1923.930	50198	1234049		

File: 96020201.D11 Sample: S95T003513DUP

```

=====
Sample Name: S95T003514                      Date: 02/02/1996 15:53:22
Data File  : c:\dx\data\96020201.D12          WHC-SD-WM-DP-162, REV. 1
Method     : C:\DX\METHOD\AS12A.MET
ACI Address: 1 System: 1 Inject#: 12           Detector: CDM-1
Analyst    : Ed Colvin                        Column: AG4A-SC, AS4A-SC, SRS
=====

```

```

-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          101    5400  5Hz   0.00 18.00          50
-----

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.62		0.000	155	1813	1	
2	2.17	FLUORIDE	2.326	65	455	1	-2.40
3	2.60	FORMATE	229.462	322	4283	1	-2.50
4	3.67	CHLORIDE	3.594	96	739	1	-1.79
5	4.57	NITRITE	48.942	442	4792	1	-1.44
6	8.20	NITRATE	3391.747	18268	409847	1	-2.38
7	12.05	SULFATE	21.964	50	1300	1	0.00
Totals			3698.035	19398	423229		

File: 96020201.D12 Sample: S95T003514

```

=====
Sample Name: S95T003514                      Date: 02/02/1996 16:14:05
Data File  : C:\DX\DATA\96020201.D13
Method     : C:\DX\METHOD\AS12A.MET          WHC-SD-WM-DP-162, REV. I
ACI Address: 1 System: 1 Inject#: 13          Detector: CDM-1
Analyst    : Ed Colvin                        Column: AG4A-SC,AS4A-SC, SRS
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          21    5400    5Hz    0.00 18.00          50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.62		0.000	675	7192	2	
2	2.17	FLUORIDE	2.139	343	2658	2	-2.40
3	2.57	FORMATE	37.227	313	4100	2	-3.75
4	3.65	CHLORIDE	3.012	309	2705	1	-2.23
5	4.55	NITRITE	38.083	2288	24077	1	-1.80
6	7.63	NITRATE	2344.997	68577	2361066	1	-9.13
7	12.07	SULFATE	10.111	207	5204	1	0.14
8	16.08	OXALATE	7.682	87	2827	1	0.21
Totals			2443.252	72799	2409827		

File: 96020201.D13 Sample: S95T003514

```

=====
Sample Name: S95T003514DUP      Date: 02/02/1996 16:34:50
Data File  : c:\dx\data\96020201.D14
Method     : C:\DX\METHOD\AS12A.MET      WHC-SD-WM-DP-162, REV. 1
ACI Address: 1 System: 1 Inject#: 14      Detector: CDM-1
Analyst    : Ed Colvin           Column: AG4A-SC,AS4A-SC, SRS
=====

```

```

-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          101    5400   5Hz   0.00 18.00          50
-----

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.62		0.000	152	1931	1	
2	2.18	FLUORIDE	2.236	62	431	1	-1.65
3	2.60	FORMATE	222.128	324	4257	1	-2.50
4	3.67	CHLORIDE	5.225	117	1032	1	-1.79
5	4.57	NITRITE	46.381	413	4425	1	-1.44
6	8.20	NITRATE	3303.114	17773	398065	1	-2.38
7	12.10	SULFATE	17.969	36	716	1	0.41
Totals			3597.053	18877	410857		

File: 96020201.D14 Sample: S95T003514DUP

```

=====
Sample Name: S95T003514DUP                      Date: 02/02/1996 16:55:32
Data File  : C:\DX\DATA\96020201.D15
Method     : C:\DX\METHOD\AS12A.MET             WHC-SD-WM-DP-162, REV. /
ACI Address: 1 System: 1 Inject#: 15              Detector:CDM-1
Analyst    : Ed Colvin                           Column: AG4A-SC,AS4A-SC, SRS
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
=====
External          1          21    5400   5Hz   0.00 18.00          50
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.62		0.000	673	7181	2	
2	2.17	FLUORIDE	1.896	304	2334	2	-2.40
3	2.58	FORMATE	67.131	330	4598	2	-3.13
4	3.67	CHLORIDE	3.090	336	2772	1	-1.79
5	4.55	NITRITE	36.440	2158	22940	1	-1.80
6	7.63	NITRATE	2344.649	68631	2358213	1	0.04
7	12.05	SULFATE	10.820	215	5703	1	0.00
8	16.12	OXALATE	6.758	76	2354	1	0.42
Totals			2470.784	72725	2406095		

File: 96020201.D15 Sample: S95T003514DUP

LABCORE Data Entry Template for Worklist# 4671

Analyst: RK Instrument: IC01 Book# 12249-0

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

Worklist Comment: BY-105 FOR IC RTS

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC-QC	QC		
2 CCV			@IC-QC	QC		
3 BLNK-PREP			@IC-01	SOLID		
4 SAMPLE	S95T003515 0 W		@IC-01	SOLID	95000125	BY-105 (R)
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
5 DUP	S95T003515 0 W		@IC-01	SOLID		
6 SPK	S95T003515 0 W		@IC-01	SOLID		
7 SAMPLE	S95T003516 0 W		@IC-01	SOLID	95000125	BY-105 (R)
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
8 DUP	S95T003516 0 W		@IC-01	SOLID		

Final page for worklist # 4671

Rob King 1/25/96
Analyst Signature Date

Analyst Signature Date

*Installed but not uploaded
uploaded & posted 1/29/96 J.M. Luge
waited*

Data Entry Comments:

WHC-SD-WM-DP-162, REV. 1

LABCORE Completed Worklist Report for Worklist# 4671

Analyst: rwk

Instrument: IC01

Book# 12211912

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

Worklist Comment: BY-105 FOR IC RTS

Seq Type	Sample# R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 CCB	0	QIC-QC F	QC	1	<1.30e-2		ug/mL
1 CCB	0	QIC-QC CL	QC	1	<1.70e-2		ug/mL
1 CCB	0	QIC-QC NO2	QC	1	<1.07e-1		ug/mL
1 CCB	0	QIC-QC BR	QC	1	<1.26e-1		ug/mL
1 CCB	0	QIC-QC NO3	QC	1	<1.40e-1		ug/mL
1 CCB	0	QIC-QC PO4	QC	1	<1.19e-1		ug/mL
1 CCB	0	QIC-QC SO4	QC	1	<1.36e-1		ug/mL
1 CCB	0	QIC-QC OXALATE2	QC	1	<1.05e-1		ug/mL
2 CCV	0	QIC-QC F	QC	59	6.14e+01	104.070 % Recovery	
2 CCV	0	QIC-QC CL	QC	79	8.45e+01	106.960 % Recovery	
2 CCV	0	QIC-QC NO2	QC	541	5.26e+02	97.230 % Recovery	
2 CCV	0	QIC-QC BR	QC	575	5.58e+02	97.040 % Recovery	
2 CCV	0	QIC-QC NO3	QC	614	5.91e+02	96.250 % Recovery	
2 CCV	0	QIC-QC PO4	QC	546	5.44e+02	99.630 % Recovery	
2 CCV	0	QIC-QC SO4	QC	631	6.17e+02	97.780 % Recovery	
2 CCV	0	QIC-QC OXALATE2	QC	539	5.49e+02	101.860 % Recovery	
3 BLNK-PREP	0	QIC-01 F-02	SOLID	1	<1.30e-2		ug/g
3 BLNK-PREP	0	QIC-01 CL-02	SOLID	1	<1.70e-2		ug/g
3 BLNK-PREP	0	QIC-01 NO2-02	SOLID	1	<1.07e-1		ug/g
3 BLNK-PREP	0	QIC-01 BR-02	SOLID	1	<1.26e-1		ug/g
3 BLNK-PREP	0	QIC-01 NO3-02	SOLID	1	<1.40e-1		ug/g
3 BLNK-PREP	0	QIC-01 PO4-02	SOLID	1	<1.19e-1		ug/g
3 BLNK-PREP	0	QIC-01 SO4-02	SOLID	1	<1.36e-1		ug/g
3 BLNK-PREP	0	QIC-01 OXALATE2	SOLID	1	<1.05e-1		ug/g
4 SAMPLE	S95T003515	QIC-01 F-02	SOLID	N/A	6.810e+03	68.720	ug/g
4 SAMPLE	S95T003515	QIC-01 CL-02	SOLID	N/A	6.173e+02	89.830	ug/g
4 SAMPLE	S95T003515	QIC-01 NO2-02	SOLID	N/A	8.556e+03	565.500	ug/g
4 SAMPLE	S95T003515	QIC-01 BR-02	SOLID	N/A	1.060e+03	665.900	ug/g
4 SAMPLE	S95T003515	QIC-01 NO3-02	SOLID	N/A	4.784e+05	2.527e+003	ug/g
4 SAMPLE	S95T003515	QIC-01 PO4-02	SOLID	N/A	3.407e+03	628.900	ug/g
4 SAMPLE	S95T003515	QIC-01 SO4-02	SOLID	N/A	1.354e+04	718.800	ug/g
4 SAMPLE	S95T003515	QIC-01 OXALATE2	SOLID	N/A	1.392e+04	554.900	ug/g
5 DUP	S95T003515	QIC-01 F-02	SOLID	6.81e+03	7.24e+03	6.120	RPD
5 DUP	S95T003515	QIC-01 CL-02	SOLID	6.17e+02	7.17e+02	14.990	RPD
5 DUP	S95T003515	QIC-01 NO2-02	SOLID	8.56e+03	9.26e+03	7.860	RPD
5 DUP	S95T003515	QIC-01 BR-02	SOLID	1.06e+03	1.12e+03	5.500	RPD
5 DUP	S95T003515	QIC-01 NO3-02	SOLID	4.78e+05	4.62e+05	3.400	RPD
5 DUP	S95T003515	QIC-01 PO4-02	SOLID	3.41e+03	3.65e+03	6.800	RPD
5 DUP	S95T003515	QIC-01 SO4-02	SOLID	1.35e+04	1.35e+04	0.000	RPD
5 DUP	S95T003515	QIC-01 OXALATE2	SOLID	1.39e+04	1.41e+04	1.430	RPD
6 SPK	S95T003515	QIC-01 F-02	SOLID	59	58.790	99.640 % Recovery	

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

LABCORE Completed Worklist Report for Worklist# 4671

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
6 SPK	895T003515	0 W	QIC-01	CL-02	SOLID	79	79.264	100.330 % Recovery
6 SPK	895T003515	0 W	QIC-01	NO2-02	SOLID	541	528.955	97.770 % Recovery
6 SPK	895T003515	0 W	QIC-01	BR-02	SOLID	575	479.735	83.430 % Recovery
6 SPK	895T003515	0 W	QIC-01	NO3-02	SOLID	614	<spkerror	% Recovery
6 SPK	895T003515	0 W	QIC-01	PO4-02	SOLID	546	531.780	97.400 % Recovery
6 SPK	895T003515	0 W	QIC-01	SO4-02	SOLID	631	616.808	97.750 % Recovery
6 SPK	895T003515	0 W	QIC-01	OXALATE2	SOLID	539	553.445	102.680 % Recovery
7 SAMPLE	895T003516	0 W	QIC-01	F-02	SOLID	N/A	3.489e+03	80.680 ug/g
7 SAMPLE	895T003516	0 W	QIC-01	CL-02	SOLID	N/A	8.908e+02	105.500 ug/g
7 SAMPLE	895T003516	0 W	QIC-01	NO2-02	SOLID	N/A	1.063e+04	664.000 ug/g
7 SAMPLE	895T003516	0 W	QIC-01	BR-02	SOLID	N/A	7.827e+02	781.900 ug/g
7 SAMPLE	895T003516	0 W	QIC-01	NO3-02	SOLID	N/A	5.162e+05	2.556e+003 ug/g
7 SAMPLE	895T003516	0 W	QIC-01	PO4-02	SOLID	N/A	2.440e+03	738.500 ug/g
7 SAMPLE	895T003516	0 W	QIC-01	SO4-02	SOLID	N/A	8.639e+03	844.000 ug/g
7 SAMPLE	895T003516	0 W	QIC-01	OXALATE2	SOLID	N/A	1.753e+04	651.600 ug/g
8 DUP	895T003516	0 W	QIC-01	F-02	SOLID	3.49e+03	4.17e+03	17.750 RPD
8 DUP	895T003516	0 W	QIC-01	CL-02	SOLID	8.91e+02	1.06e+03	17.320 RPD
8 DUP	895T003516	0 W	QIC-01	NO2-02	SOLID	1.06e+04	1.25e+04	16.450 RPD
8 DUP	895T003516	0 W	QIC-01	BR-02	SOLID	7.83e+02	8.17e+02	4.250 RPD
8 DUP	895T003516	0 W	QIC-01	NO3-02	SOLID	5.16e+05	4.72e+05	8.910 RPD
8 DUP	895T003516	0 W	QIC-01	PO4-02	SOLID	2.44e+03	3.30e+03	29.970 RPD
8 DUP	895T003516	0 W	QIC-01	SO4-02	SOLID	8.64e+03	9.80e+03	12.580 RPD
8 DUP	895T003516	0 W	QIC-01	OXALATE2	SOLID	1.75e+04	1.99e+04	12.830 RPD

Final page for worklist# 4671

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Reviewer Signature _____ Date 1/29/96

A-0010-IC				DATA FILE/WORKLIST RESOLUTION				29-Jan-96	
Worklist#: 4671				Data File: 4671JAN.CSV					
	Seq	Type	Sample #	Seq#	Data File	Sample Name	Dilution		
-	=>	1 CCB		-	1 96012411.d01	INSTRA BLK	1.00		
	=>	2 CCV			2 96012411.d02	STD 122N9-D	101.00		
	=>	3 BLNK-PREP			3 96012411.d03	PREP BLK	1.00		
	=>	4 SAMPLE	S95T003515		4 96012411.d16	S95T003510	101.00		
	=>	5 DUP	S95T003515		96012411.d17	S95T003510	67.67		
	=>	6 SPK	S95T003515	5	96012411.d18	S95T003515 DUP	101.00		
	=>	7 SAMPLE	S95T003516		96012411.d19	S95T003515 DUP	67.67		
	=>	8 DUP	S95T003516		96012411.d20	S95T003515 DUP	34.33		
				5	96012411.d21	S95T003515 DUP	29.57		
				4	96012411.d22	S95T003515	29.57		
				6	96012411.d23	S95T003515 SP.	29.57		
				7	96012411.d24	S95T003516	101.00		
				7	96012411.d25	S95T003516	34.33		
				8	96012411.d26	S95T003516 DUP	34.33		
+				8	96012411.d27	S95T003516 DUP	101.00		

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

WHC-SD-WM DP-162, REV.1

A-0010-12		SAMPLE ANALYTE RESOLUTION FOR S95T003515				29-Jan-96
Analyte		Samples Selected from Data File for Worklist Slot Number 4				
		[1]	[2]	[3]	[4]	[5]
		96012411.d16	96012411.d22			
		101.0000	29.5700			
F-02	2		38.1030			
CL-02	2		3.4530			
N02-02	2		47.8700			
BR-02	2		5.9330			
N03-02	1	2.6768e+003				
P04-02	2		19.0630			
S04-02	2		75.7690			
OXALATE2	2		77.8730			

Done(F4) Abort(Shift-F3) UnPick(F7)

WHC-SD-WM-OP-162, REV.1

A-0010-12		SAMPLE ANALYTE RESOLUTION FOR S95T003515				29-Jan-96
Analyte		Samples Selected from Data File for Worklist Slot Number 5				
		[1]	[2]	[3]	[4]	[5]
		96012411.d18	96012411.d21			
		101.0000	29.5700			
F-02	2	2.5456e+003	39.9060			
CL-02	2		3.9480			
N02-02	2		51.0140			
BR-02	2		6.1800			
N03-02	1					
P04-02	2		20.1240			
S04-02	2		74.6510			
OXALATE2	2		77.9080			

Done(F4) Abort(Shift-F3) UnPick(F7)

WHC-SD-WM-OP-162, REV.1

A-0010-12

SAMPLE ANALYTE RESOLUTION FOR S95T003516

29-Jan-96

Analyte	Samples Selected from Data File for Worklist Slot Number 7				
	[1]	[2]	[3]	[4]	[5]
	96012411.d24	96012411.d25			
	101.0000	34.3300			
F-02 CL-02 N02-02 BR-02 N03-02 P04-02	20.6250	22.5680			
	20.6250	22.5680			
	20.6250	22.5680			
	20.6250	22.5680			
	20.6250	22.5680			
	20.6250	22.5680			
	20.6250	22.5680			
	20.6250	19.3010			
	3.3640	4.9280			
	70.1150	58.7880			
	0.0000	4.3300			
	2.8555e+003	2.6882e+003			
	17.2420	13.4900			

Done(F4) Abort(Shift-F3) UnPick(F7)

WHC-SD-WM-DP-162, REV. 1

A-0010-12

SAMPLE ANALYTE RESOLUTION FOR S95T003516

29-Jan-96

Analyte		Samples Selected from Data File for Worklist Slot Number 7				
		[1]	[2]	[3]	[4]	[5]
		96012411.d24	96012411.d25			
		101.0000	34.3300			
		20.6250	22.5680			
		20.6250	22.5680			
		20.6250	22.5680			
		20.6250	22.5680			
		20.6250	22.5680			
F-02	2		19.3010			
CL-02	2		4.9280			
NO2-02	2		58.7880			
BR-02	2		4.3300			
NO3-02	1	2.8555e+003				
PO4-02	2		13.4900			
SO4-02	2		47.7910			
OXALATE2	2		96.9910			

Done(F4) Abort(Shift-F3) UnPick(F7)

WHC-SN WML-00 162, REV. 1

A-0010-12

SAMPLE ANALYTE RESOLUTION FOR S95T003516

29-Jan-96

Analyte		Samples Selected from Data File for Worklist Slot Number 7				
		[1]	[2]	[3]	[4]	[5]
		96012411.d24	96012411.d25			
		101.0000	34.3300			
	2		22.5680			
	2		22.5680			
	2		22.5680			
	2		22.5680			
	2		22.5680			
	2		22.5680			
F-02	2		19.3010			
CL-02	2		4.9280			
NO2-02	2		58.7880			
BR-02	2		4.3300			
NO3-02	1	2.8555e+003				
PO4-02	2		13.4900			

Done(F4) Abort(Shift-F3) UnPick(F7)

WHC-SIN.MWJ.DD.162, REV.1

A-0010-12

SAMPLE ANALYTE RESOLUTION FOR S95T003516

29-Jan-96

Analyte		Samples Selected from Data File for Worklist Slot Number 8				
		[1]	[2]	[3]	[4]	[5]
		96012411.d26	96012411.d27			
		34.3300	101.0000			
F-02	1	22.5680	2.5540e+003			
CL-02	1	5.7180				
NO2-02	1	67.6440				
BR-02	1	4.4170				
NO3-02	2					
PO4-02	1	17.8500				
SO4-02	1	53.0200				
OXALATE2	1	107.3980				

Done(F4) Abort(Shift-F3) UnPick(F7)

WHC-S95T003516-162 REV.1

I

 PROTOCOL DETAIL INFORMATION

Seq: 4 Type: SAMPLE

Sample#: S95T003515 Aliquot: W Rep: 0

Code	Name	Raw Result	R	Result	Dil/Conc	D	C	Det Limit
- F-02	Fluoride by	38.103		6.810e+03	29.5700	*		68.7060
CL-02	Chloride by	38.103		6.810e+03	29.5700	*		89.8463
NO2-02	Nitrite by I	38.103		6.810e+03	29.5700	*		565.5031
BR-02	Bromide by I	38.103		6.810e+03	29.5700	*		665.9196
NO3-02	Nitrate by I	2676.84		4.784e+05	101.0000	*		2527.2565
PO4-02	Phosphate by	38.103		6.810e+03	29.5700	*		628.9240
SO4-02	Sulfate by I	38.103		6.810e+03	29.5700	*		718.7703
OXALATE2	Oxalate by I	38.103		6.810e+03	29.5700	*		554.9330
+								

<Alt-Enter> Clear from cursor/move to next

<Tab> Move to next

Defaults(F5) ClearRow(F6) Save(F3)

WHC-SD-WM-DP-162, REV. /

```

=====
Sample Name: INSTRA BLK                      Date: 01/24/1996 18:49:53
Data File  : C:\DX\DATA\96012411.D01
Method     : C:\DX\METHOD\KIT.MET          WHC-SD-WM-DP-162, REV. 1
ACI Address: 1 System: 1 Inject#: 1          Detector: CDM-1
Analyst    : Not King                     Column: AG4A/AS4A anion column
=====

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12596

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=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
=====
External          1          1    3150  5Hz   0.00 10.50      100
=====

```

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

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

File: 96012411.D01 Sample: INSTRA BLK

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 196 TO 209.

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=====
Sample Name: STD 122N9-D                      Date: 01/24/1996 19:02:32
Data File  : C:\DX\DATA\96012411.D02
Method     : C:\DX\METHOD\KIT.MET           WHC-SD-WM-DP-162, REV. 1
ACI Address: 1 System: 1 Inject#: 2          Detector: CDM-1
Analyst    : Rob King                      Column: AG4A/AS4A anion column
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          101    3150  5Hz   0.00 10.50          100
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.87		0.000	40	189	2	
2	1.03	fluoride	61.446 <i>104.15</i>	2184	12337	2	-0.32
3	1.61	chloride	84.483 <i>106.94</i>	1902	10756	1	-1.63
4	1.97	nitrite	525.564 <i>97.15</i>	8000	49450	1	-2.16
5	3.03	bromide	557.563 <i>96.97</i>	4672	33556	1	0.78
6	3.47	nitrate	599.585 <i>97.65</i>	5362	47081	1	2.76
7	4.93	phosphate	544.024 <i>99.64</i>	1767	21781	1	-1.53
8	6.61	sulfate	616.506 <i>97.70</i>	4466	63378	1	-3.17
9	8.75	oxalate	548.953	2095	42525	1	-2.38
Totals			3538.124	30487	281053		

File: 96012411.D02 Sample: STD 122N9-D

```

=====
Sample Name: PREP BLK                      Date: 01/24/1996 19:20:01
Data File  : C:\DX\DATA\96012411.D03
Method     : C:\DX\METHOD\KIT.MET        WHC-SD-WM-DP-162, REV. 1
ACI Address: 1 System: 1 Inject#: 3        Detector: CDM-1
Analyst    : Ngt King                   Column: AG4A/AS4A anion column
=====

```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	3150	5Hz	0.00	10.50		100

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

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

Totals			0.000	0	0		
--------	--	--	-------	---	---	--	--

File: 96012411.D03 Sample: PREP BLK

ms 1/15/96

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Sample Name: S95T003510	Date: 01/24/1996 23:34:31
Data File : C:\DX\DATA\96012411.D16	
Method : C:\DX\METHOD\KIT.MET	WHC-SD-WM DP-162, REV. 1
ACI Address: 1 System: 1 Inject#: 16	Detector: CDM-1
Analyst : <i>Not King</i>	Column: AG4A/AS4A anion column

=====

Calibration Volume Dilution Points Rate Start Stop Area Reject

External	1	101	3150	5Hz	0.00	10.50	100
----------	---	-----	------	-----	------	-------	-----

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.87		0.000	40	204	2	
2	1.03	fluoride	38.911	1365	7723	2	0.32
3	1.62	chloride	2.663	104	532	1	-1.22
4	1.96	nitrite	58.173	673	4054	1	-2.49
5	3.04	bromide	13.635	29	174	1	1.00
6	3.38	nitrate	2676.841	22206	224657	1	0.00
7	4.93	phosphate	23.532	52	669	1	-1.53
8	6.61	sulfate	83.183	515	7597	1	-3.17
9	8.80	oxalate	79.437	316	5966	1	-1.79
Totals			2976.375	25301	251576		

File: 96012411.D16 Sample: S95T003510 ¹⁵ *2ms* _{7/17/96}

3515

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=====
Sample Name: S95T003510 PC 1/15/96 Date: 01/24/1996 23:59:22
Data File : C:\DX\DATA\96012411.D17
Method : C:\DX\METHOD\KIT.MET WHG-SD-WM-DP-162, REV. 1
ACI Address: 1 System: 1 Inject#: 17 Detector: CDM-1
Analyst : Not Done Column: AG4A/AS4A anion column
=====

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-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External 1 67.67 3150 5Hz 0.00 10.50 100
-----

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	65	313	2	
2	1.03	fluoride	38.490	2033	11515	2	0.32
3	1.62	chloride	3.058	144	766	1	-1.22
4	1.96	nitrite	53.260	1002	6121	1	-2.49
5	3.04	bromide	10.347	45	283	1	1.00
6	3.35	nitrate	2721.179	32482	353707	1	-0.99
7	4.93	phosphate	21.600	78	1017	1	-1.53
8	6.61	sulfate	79.359	772	11236	1	-3.17
9	8.80	oxalate	78.767	472	8918	1	-1.79
Totals			3006.060	37093	393877		

File: 96012411.D17 Sample: S95T003510 *15*
7/17/96

1350-10

Sample Name: S95T003515	Date: 01/25/1996 02:44:42
Data File : C:\DX\DATA\96012411.D22	
Method : C:\DX\METHOD\KIT.MET	WHC-SD-WM-OP-162, REV. 1
ACI Address: 1 System: 1 Inject#: 22	Detector: CDM-1
Analyst : <i>Not Name</i>	Column: AG4A/AS4A anion column

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 29.57 3150 5Hz 0.00 10.50 100

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	152	711	2	
2	1.03	fluoride	38.103	4767	26669	2	0.32
3	1.61	chloride	3.453	299	1659	1	-1.63
4	1.96	nitrite	47.870	2314	14269	1	-2.49
5	3.01	bromide	5.933	105	575	1	0.11
6	3.25	nitrate	2537.198	69267	886777	1	-3.94
7	4.93	phosphate	19.063	184	2333	1	-1.53
8	6.61	sulfate	75.769	1789	25789	1	-3.17
9	8.75	oxalate	77.873	1048	20438	1	-2.38
Totals			2805.262	79926	979220		

File: 96012411.D22 Sample: S95T003515

Sample Name: S95T003515 DUP Date: 01/25/1996 01:25:51
 Data File : C:\DX\DATA\96012411.D18 WHC-SD-WM-DP-162, REV. I
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 18 Detector: CDM-1
 Analyst : *Not King* Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	101	3150	5Hz	0.00	10.50		100

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	35	168	2	
2	1.03	fluoride	40.337	1401	8014	2	0.32
3	1.62	chloride	2.939	109	566	1	-1.22
4	1.97	nitrite	61.135	715	4341	1	-2.16
5	3.04	bromide	13.755	30	181	1	1.00
6	3.39	nitrate	2545.589	21103	212911	1	0.39
7	4.93	phosphate	25.193	59	735	1	-1.53
8	6.61	sulfate	83.155	522	7594	1	-3.17
9	8.80	oxalate	83.180	317	6255	1	-1.79
Totals			2855.283	24291	240766		

File: 96012411.D18 Sample: S95T003515 DUP

Sample Name: S95T003515 DUP	Date: 01/25/1996 01:42:58
Data File : C:\DX\DATA\96012411.D19	
Method : C:\DX\METHOD\KIT.MET	WHC-SD-WM-DP-162, REV. 1
ACI Address: 1 System: 1 Inject#: 19	Detector: CDM-1
Analyst : <i>Nob. Noy</i>	Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	67.67	3150	5Hz	0.00	10.50		100

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	63	303	2	
2	1.03	fluoride	38.796	2051	11609	2	0.32
3	1.61	chloride	3.522	159	852	1	-1.63
4	1.97	nitrite	54.618	1052	6317	1	-2.16
5	3.04	bromide	10.445	46	292	1	1.00
6	3.35	nitrate	2535.798	30299	327117	1	-0.79
7	4.93	phosphate	22.225	83	1054	1	-1.53
8	6.61	sulfate	77.951	759	11019	1	-3.17
9	8.75	oxalate	77.565	422	8779	1	-2.38
Totals			2820.920	34933	367343		

File: 96012411.D19 Sample: S95T003515 DUP

.350-10

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Sample Name: S95T003515 DUP          Date: 01/25/1996 02:25:33
Data File  : C:\DX\DATA\96012411.D21    WGC-SD-WM-DP-162, REV. 1
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 21      Detector: CDM-1
Analyst    : Nat. Korte                Column: AG4A/AS4A anion column
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-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1      29.57   3150  5Hz   0.00 10.50      100
-----
```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	162	786	2	
2	1.03	fluoride	39.906	4835	27974	2	0.32
3	1.61	chloride	3.948	305	1869	1	-1.63
4	1.96	nitrite	51.014	2429	15311	1	-2.49
5	3.02	bromide	6.180	112	625	1	0.33
6	3.26	nitrate	2399.252	65273	820990	1	-3.55
7	4.93	phosphate	20.124	199	2478	1	-1.53
8	6.61	sulfate	74.651	1770	25391	1	-3.17
9	8.75	oxalate	77.908	1039	20447	1	-2.38
Totals			2672.984	76124	915873		

File: 96012411.D21 Sample: S95T003515 DUP

.350-10

Sample Name: S95T003515 SP. Date: 01/25/1996 03:01:25
Data File : C:\DX\DATA\96012411.D23
Method : C:\DX\METHOD\KIT.MET WHC-SID-WM-DF-162, REV. I
ACI Address: 1 System: 1 Inject#: 23 Detector: CDM-1
Analyst : *Rob. Krog* Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	29.57	3150	5Hz	0.00	10.50		100

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.87		0.000	201	908	2	
2	1.01	fluoride	54.891	7084	38959	2	-1.62
3	1.59	chloride	26.122	1996	11357	1	-2.85
4	1.94	nitrite	198.842	10459	64408	1	-3.48
5	2.97	bromide	143.352	5082	29327	1	-1.22
6	3.21	nitrate	2645.519	73364	941332	1	-4.93
7	4.91	phosphate	171.385	1938	23486	1	-2.06
8	6.56	sulfate	252.465	6297	89642	1	-3.95
9	8.69	oxalate	236.156	3275	62782	1	-2.98
Totals			3728.733	109697	1262200		

File: 96012411.D23 Sample: S95T003515 SP.

Sample Name: S95TOO3516 Date: 01/25/1996 03:22:47
 Data File : C:\DX\DATA\96012411.D24 WHC-SD-WM-DR-162, REV. 1
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 24 Detector: CDM-1
 Analyst : *Not Run* Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	101	3150	5Hz	0.00	10.50		100

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	37	192	2	
2	1.03	fluoride	20.625	673	4010	2	0.32
3	1.61	chloride	3.364	119	618	1	-1.63
4	1.96	nitrite	70.115	859	5212	1	-2.49
5	3.37	nitrate	2855.479	23622	240771	1	-0.20
6	4.93	phosphate	17.242	35	418	1	-1.53
7	6.61	sulfate	56.788	327	4877	1	-3.17
8	8.75	oxalate	102.205	370	7728	1	-2.38
Totals			3125.818	26043	263826		

File: 96012411.D24 Sample: S95TOO3516

300-10

Sample Name: S95TOO3516 Date: 01/25/1996 03:40:06
 Data File : C:\DX\DATA\96012411.D25
 Method : C:\DX\METHOD\KIT.MET WHC-SD-WM-OP-162, REV. I
 ACI Address: 1 System: 1 Inject#: 25 Detector: CDM-1
 Analyst : *Not Kmo* Column: AG4A/AS4A anion column

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 34.33 3150 5Hz 0.00 10.50 100

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.87		0.000	138	720	2	
2	1.01	fluoride	19.301	1923	11379	2	-1.62
3	1.59	chloride	4.928	326	1994	1	-2.85
4	1.94	nitrite	58.788	2503	15186	1	-3.48
5	3.00	bromide	4.330	24	120	1	-0.33
6	3.24	nitrate	2688.214	62779	782791	1	-4.14
7	4.91	phosphate	13.490	104	1315	1	-2.06
8	6.56	sulfate	47.791	857	13526	1	-3.95
9	8.75	oxalate	96.991	1155	21944	1	-2.38
Totals			2933.831	69810	848975		

File: 96012411.D25 Sample: S95TOO3516

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Sample Name: S95TOO3516 DUP                      Date: 01/25/1996 04:24:06
Data File  : C:\DX\DATA\96012411.D26              WHC-SD-WM-DP-162, REV. I
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 26                Detector: CDM-1
Analyst    :                                     Column: AG4A/AS4A anion column
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Calibration Volume Dilution Points Rate Start Stop Area Reject
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External          1      34.33   3150 5Hz   0.00 10.50      100
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***** Peak Report: All Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.87		0.000	125	605	2	
2	1.02	fluoride	22.568	2285	13356	2	-0.97
3	1.59	chloride	5.718	386	2282	1	-2.85
4	1.94	nitrite	67.644	2854	17714	1	-3.48
5	3.01	bromide	4.417	26	135	1	-0.11
6	3.25	nitrate	2512.468	58239	716672	1	-3.75
7	4.91	phosphate	17.850	145	1829	1	-2.06
8	6.56	sulfate	53.020	976	15118	1	-3.95
9	8.75	oxalate	107.398	1282	24327	1	-2.38
Totals			2791.083	66318	792039		

File: 96012411.D26 Sample: S95TOO3516 DUP

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Sample Name: S95TOO3516 DUP	Date: 01/25/1996 04:49:21
Data File : C:\DX\DATA\96012411.D27	WHC-SD-WM-DP-162, REV. I
Method : C:\DX\METHOD\KIT.MET	
ACI Address: 1 System: 1 Inject#: 27	Detector: CDM-1
Analyst : <i>Not King</i>	Column: AG4A/AS4A anion column

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Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	101	3150	5Hz	0.00	10.50		100

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.89		0.000	32	148	2	
2	1.03	fluoride	23.093	761	4510	2	0.32
3	1.61	chloride	4.012	132	698	1	-1.63
4	1.96	nitrite	76.958	947	5875	1	-2.49
5	3.39	nitrate	2553.956	21167	213657	1	0.20
6	4.93	phosphate	23.677	51	675	1	-1.53
7	6.61	sulfate	60.051	358	5213	1	-3.17
8	8.75	oxalate	109.813	405	8318	1	-2.38
Totals			2851.561	23853	239093		

File: 96012411.D27 Sample: S95TOO3516 DUP

LABCORE Data Entry Template for Worklist# 4672

Analyst: DPB Instrument: IC01 _____ Book# 122N9-D

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

Worklist Comment: BY-105 FOR IC RTS

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	CCB				@IC-QC	QC		
2	CCV				@IC-QC	QC		
3	BLNK-PREP				@IC-01	SOLID		
4	SAMPLE	S95T003517	0	W	@IC-01	SOLID	95000125	BY-105 (R)
		Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
5	DUP	S95T003517	0	W	@IC-01	SOLID		
6	SPK	S95T003517	0	W	@IC-01	SOLID		
7	SAMPLE	S95T003518	0	W	@IC-01	SOLID	95000125	BY-105 (R)
		Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
8	DUP	S95T003518	0	W	@IC-01	SOLID		

Final page for worklist # 4672

Devin P. Brandy 7/3/96 0440
Analyst Signature Date

Analyst Signature Date

Data Entry Comments:

LABCORE Completed Worklist Report for Worklist# 4672

Analyst: dpb

Instrument: IC01

Book# 122A9D

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

Worklist Comment: BY-105 FOR IC RTS

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	CCB	0	IC-QC	F	QC	1	<1.30e-2	ug/mL
1	CCB	0	IC-QC	CL	QC	1	8.30e-02	8.000e-002 ug/mL
1	CCB	0	IC-QC	NO2	QC	1	<1.07e-1	ug/mL
1	CCB	0	IC-QC	BR	QC	1	<1.26e-1	ug/mL
1	CCB	0	IC-QC	NO3	QC	1	<1.40e-1	ug/mL
1	CCB	0	IC-QC	PO4	QC	1	<1.19e-1	ug/mL
1	CCB	0	IC-QC	SO4	QC	1	1.88e-01	0.190 ug/mL
1	CCB	0	IC-QC	OXALATE2	QC	1	<1.05e-1	ug/mL
2	CCV	0	IC-QC	F	QC	59	5.48e+01	92.880 % Recovery
2	CCV	0	IC-QC	CL	QC	79	7.53e+01	95.320 % Recovery
2	CCV	0	IC-QC	NO2	QC	541	5.15e+02	95.190 % Recovery
2	CCV	0	IC-QC	BR	QC	575	5.55e+02	96.520 % Recovery
2	CCV	0	IC-QC	NO3	QC	614	5.92e+02	96.420 % Recovery
2	CCV	0	IC-QC	PO4	QC	546	5.33e+02	97.620 % Recovery
2	CCV	0	IC-QC	SO4	QC	631	6.03e+02	95.560 % Recovery
2	CCV	0	IC-QC	OXALATE2	QC	539	5.37e+02	99.630 % Recovery
3	BLNK-PREP	0	IC-01	F-02	SOLID	1	<1.30e-2	ug/g
3	BLNK-PREP	0	IC-01	CL-02	SOLID	1	<1.70e-2	ug/g
3	BLNK-PREP	0	IC-01	NO2-02	SOLID	1	<1.07e-1	ug/g
3	BLNK-PREP	0	IC-01	BR-02	SOLID	1	<1.26e-1	ug/g
3	BLNK-PREP	0	IC-01	NO3-02	SOLID	1	8.36e-01	0.840 ug/g
3	BLNK-PREP	0	IC-01	PO4-02	SOLID	1	<1.20e-1	ug/g
3	BLNK-PREP	0	IC-01	SO4-02	SOLID	1	<1.36e-1	ug/g
3	BLNK-PREP	0	IC-01	OXALATE2	SOLID	1	<1.05e-1	ug/g
4	SAMPLE	S95T003517	0 W	IC-01	F-02	SOLID	N/A	7.693e+03 239.600 ug/g
4	SAMPLE	S95T003517	0 W	IC-01	CL-02	SOLID	N/A	1.328e+03 313.300 ug/g
4	SAMPLE	S95T003517	0 W	IC-01	NO2-02	SOLID	N/A	1.318e+04 1.972e+003 ug/g
4	SAMPLE	S95T003517	0 W	IC-01	BR-02	SOLID	N/A	2.322e+03 2.322e+003 ug/g
4	SAMPLE	S95T003517	0 W	IC-01	NO3-02	SOLID	N/A	3.566e+05 2.578e+003 ug/g
4	SAMPLE	S95T003517	0 W	IC-01	PO4-02	SOLID	N/A	1.339e+04 2.210e+003 ug/g
4	SAMPLE	S95T003517	0 W	IC-01	SO4-02	SOLID	N/A	1.796e+04 2.505e+003 ug/g
4	SAMPLE	S95T003517	0 W	IC-01	OXALATE2	SOLID	N/A	1.696e+04 1.935e+003 ug/g
5	DUP	S95T003517	0 W	IC-01	F-02	SOLID	7.69e+03	8.85e+03 14.030 RPD
5	DUP	S95T003517	0 W	IC-01	CL-02	SOLID	1.33e+03	1.27e+03 4.620 RPD
5	DUP	S95T003517	0 W	IC-01	NO2-02	SOLID	1.32e+04	1.29e+04 2.300 RPD
5	DUP	S95T003517	0 W	IC-01	BR-02	SOLID	<2.32e3	3.28e+03 RPD
5	DUP	S95T003517	0 W	IC-01	NO3-02	SOLID	3.57e+05	3.78e+05 5.710 RPD
5	DUP	S95T003517	0 W	IC-01	PO4-02	SOLID	1.34e+04	1.32e+04 1.500 RPD
5	DUP	S95T003517	0 W	IC-01	SO4-02	SOLID	1.80e+04	1.82e+04 1.100 RPD
5	DUP	S95T003517	0 W	IC-01	OXALATE2	SOLID	1.70e+04	1.79e+04 5.160 RPD
6	SPK	S95T003517	0 W	IC-01	F-02	SOLID	59	57.842 98.040 % Recovery

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

LABCORE Completed Worklist Report for Worklist# 4672

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
6 SPK	S95T003517	0 W	QIC-01	CL-02	SOLID	79	70.125	88.770 % Recovery
6 SPK	S95T003517	0 W	QIC-01	NO2-02	SOLID	541	508.778	94.040 % Recovery
6 SPK	S95T003517	0 W	QIC-01	BR-02	SOLID	575	5.45e+02	94.780 % Recovery
6 SPK	S95T003517	0 W	QIC-01	NO3-02	SOLID	614	655.610	106.780 % Recovery
6 SPK	S95T003517	0 W	QIC-01	PO4-02	SOLID	546	523.624	95.900 % Recovery
6 SPK	S95T003517	0 W	QIC-01	SO4-02	SOLID	631	595.559	94.380 % Recovery
6 SPK	S95T003517	0 W	QIC-01	OXALATE2	SOLID	539	528.083	97.970 % Recovery
7 SAMPLE	S95T003518	0 W	QIC-01	F-02	SOLID	N/A	4.386e+03	234.400 ug/g
7 SAMPLE	S95T003518	0 W	QIC-01	CL-02	SOLID	N/A	2.911e+03	306.600 ug/g
7 SAMPLE	S95T003518	0 W	QIC-01	NO2-02	SOLID	N/A	1.293e+04	1.930e+003 ug/g
7 SAMPLE	S95T003518	0 W	QIC-01	BR-02	SOLID	N/A	2.272e+03	2.272e+003 ug/g
7 SAMPLE	S95T003518	0 W	QIC-01	NO3-02	SOLID	N/A	4.142e+05	2.523e+003 ug/g
7 SAMPLE	S95T003518	0 W	QIC-01	PO4-02	SOLID	N/A	6.359e+03	2.163e+003 ug/g
7 SAMPLE	S95T003518	0 W	QIC-01	SO4-02	SOLID	N/A	1.491e+04	2.451e+003 ug/g
7 SAMPLE	S95T003518	0 W	QIC-01	OXALATE2	SOLID	N/A	7.913e+03	1.894e+003 ug/g
8 DUP	S95T003518	0 W	QIC-01	F-02	SOLID	4.39e+03	6.71e+03	42.090 RPD
8 DUP	S95T003518	0 W	QIC-01	CL-02	SOLID	2.91e+03	1.10e+03	90.270 RPD
8 DUP	S95T003518	0 W	QIC-01	NO2-02	SOLID	1.29e+04	1.32e+04	2.300 RPD
8 DUP	S95T003518	0 W	QIC-01	BR-02	SOLID	<2.27e3	<2.26e3	RPD
8 DUP	S95T003518	0 W	QIC-01	NO3-02	SOLID	4.14e+05	3.70e+05	11.220 RPD
8 DUP	S95T003518	0 W	QIC-01	PO4-02	SOLID	6.36e+03	2.68e+04	123.280 RPD
8 DUP	S95T003518	0 W	QIC-01	SO4-02	SOLID	1.49e+04	1.54e+04	3.300 RPD
8 DUP	S95T003518	0 W	QIC-01	OXALATE2	SOLID	7.91e+03	9.79e+03	21.240 RPD

Comments Section:

Comments for sample# S95T003518 and test @IC-01 .
Dup rpd's are high

Final page for worklist# 4672

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Reviewer Signature Date 3/13/96

A-0010-IC				DATA FILE/WORKLIST RESOLUTION				13-Feb-96			
Worklist#: 4672				Data File: 4672FEB.CSV							
	Seq	Type	Sample #	Seq#	Data File	Sample Name	Dilution				
-	=>	1 CCB	S95T003517 S95T003517 S95T003517 S95T003518 S95T003518	-	96020211.d01	ELUENT BLANK	1.00				
	=>	2 CCV		1	96020211.d02	ELUENT BLANK	1.00				
	=>	3 BLNK-PREP			96020211.d03	ELUENT BLANK	1.00				
	=>	4 SAMPLE		2	96020211.d04	STD 122N9-D	101.00				
	=>	5 DUP		3	96020211.d05	BLANK PREP	1.00				
	=>	6 SPK			96020211.d06	S95T003517 SAM	5151.00				
	=>	7 SAMPLE		4	96020211.d07	S95T003517 SAM	101.00				
	=>	8 DUP		5	96020211.d08	S95T003517 DUP	101.00				
				6	96020221.d09	S95T003517SPK	101.00				
				7	96020221.d10	S95T003518 SAM	101.00				
				8	96020221.d11	S95T003518 DUP	101.00				
+				+							

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

Sample Name: ELUENT BLANK Date: 02/02/1996 19:56:24
 Data File : C:\DX\DATA\96020211.D02
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 2 Detector: CDM-2
 Analyst : *John L. Lyle* Column: AG4A/AS4A anion column

for plan B only 3/17/96

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	3150	5Hz	0.00	10.50	20000	

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.86		0.000	10382	58174	1	
2	1.40		0.000	16682	115040	1	
3	1.59	chloride	0.083	214239	987358	1	1.06
4	3.40		0.000	24527	158526	1	
5	6.45	sulfate	0.188	10755	136970	1	4.25
Totals			0.271	276585	1456068		

File: 96020211.D02 Sample: ELUENT BLANK

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

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=====
Sample Name: STD 122N9-D                      Date: 02/02/1996 22:19:58
Data File  : C:\DX\DATA\96020211.D04
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 4           Detector: CDM-2
Analyst    :                               Column: AG4A/AS4A anion column
=====

```

```

-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          101    3150  5Hz   0.00 10.50    20000
-----

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.85		0.000	92322	429795	2	
2	1.01	fluoride	54.804	2541636	11551174	2	-0.33
3	1.57	chloride	75.255	2162119	9954244	1	0.21
4	1.90	nitrite	514.589	9414161	49235670	1	-0.52
5	2.90	bromide	554.874	5321385	34435138	1	2.84
6	3.32	nitrate	591.938	6180125	47548908	1	5.40
7	4.83	phosphate	532.791	1724093	21153582	1	2.91
8	6.35	sulfate	603.350	4394346	63409308	1	2.53
9	8.43	oxalate	536.577	2213794	42251592	1	3.90
Totals			3464.178	34043981	279969412		

File: 96020211.D04 Sample: STD 122N9-D

Sample Name: BLANK PREP Date: 02/02/1996 23:31:26
 Data File : C:\DX\DATA\96020211.D05
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 5 Detector: CDM-2
 Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	3150	5Hz	0.00	10.50	20000	

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.31		0.000	47800	379200	1	
2	3.04	nitrate	0.836	14026	5119913	1	-3.49
3	3.41		0.000	26993	179304	1	
Totals			0.836	88819	5678417		

File: 96020211.D05 Sample: BLANK PREP

Sample Name: S95T003517 SAM Date: 02/02/1996 23:43:50
 Data File : C:\DX\DATA\96020211.D06
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 6 Detector: CDM-2
 Analyst : Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	5151	3150	5Hz	0.00	10.50	20000	

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.87		0.000	6697	27532	2	
2	1.03	fluoride	150.790	53043	281731	2	2.31
3	1.39		0.000	23710	155124	1	
4	1.59	chloride	167.790	70566	305086	1	1.06
5	1.92	nitrite	844.929	19577	98748	1	0.52
6	3.39		0.000	389550	2844500	1	
7	6.40	sulfate	1028.526	18029	262172	1	3.39
Totals			2192.035	581171	3974893		

File: 96020211.D06 Sample: S95T003517 SAM

```

=====
Sample Name: S95T003517 SAM                               Date: 02/02/1996 23:55:14
Data File  : C:\DX\DATA\96020211.D07
Method     : C:\DX\METHOD\KIT.MET                       WFO-SD-WM-DP-162 REV 1
ACI Address: 1 System: 1 Inject#: 7                       Detector: CDM-2
Analyst    :                                             Column: AG4A/AS4A anion column
=====

```

```

-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          101    3150 5Hz   0.00 10.50    20000
-----

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.87		0.000	68288	300028	2	
2	1.03	fluoride	42.158	1925656	8797010	2	1.65
3	1.39		0.000	9920	54488	1	
4	1.59	chloride	7.275	182516	835360	1	1.49
5	1.93	nitrite	72.222	1063462	5573452	1	0.87
6	2.95		0.000	10506	56312	1	
7	3.29	nitrate	1954.389	19552775	166612550	1	4.55
8	4.88	phosphate	73.376	197463	2441144	1	4.05
9	6.40	sulfate	98.441	583031	8622288	1	3.39
10	8.48	oxalate	92.917	367671	7107034	1	4.56
Totals			2340.777	23961286	200399666		

File: 96020211.D07 Sample: S95T003517 SAM

```

=====
Sample Name: S95T003517 DUP                      Date: 02/03/1996 01:45:06
Data File  : C:\DX\DATA\96020211.D08
Method     : C:\DX\METHOD\KIT.MET                WHC-SD-WM-DP-162, REV. 1
ACI Address: 1 System: 1 Inject#: 8                Detector: CDM-2
Analyst    :                                     Column: AG4A/AS4A anion column
=====

```

```

-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          101    3150 5Hz   0.00 10.50    20000
-----

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.85		0.000	84007	390342	2	
2	1.01	fluoride	48.396	2191634	10155114	2	-0.33
3	1.57	chloride	6.939	168100	790698	1	-0.21
4	1.89	nitrite	70.681	989160	5421828	1	-0.87
5	2.91	bromide	17.961	8099	43292	1	3.07
6	3.25	nitrate	2065.338	20505399	176671818	1	3.28
7	4.83	phosphate	72.199	188036	2393852	1	2.91
8	6.35	sulfate	99.499	534136	8735550	1	2.53
9	8.43	oxalate	97.833	382547	7494266	1	3.90
Totals			2478.846	25051119	212096760		

File: 96020211.D08 Sample: S95T003517 DUP

```

=====
Sample Name: S95T003517SPK                      Date: 02/03/1996 01:57:09
Data File  : C:\DX\DATA\96020221.D09
Method     : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 9              WHC-SD-WM-DP-162 REV. I
Analyst    :                               Detector: CDM-2
Column: AG4A/AS4A anion column
=====

```

```

-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          101    3150  5Hz   0.00 10.50    20000
-----

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.85		0.000	158780	704383	2	
2	1.01	fluoride	100.032	4715033	21429898	2	-0.33
3	1.57	chloride	77.434	2194561	10248898	1	-0.21
4	1.89	nitrite	589.569	10573860	56662322	1	-0.87
5	2.89	bromide	545.120	5454935	33800064	1	2.60
6	3.24	nitrate	2608.825	25543318	226824334	1	2.86
7	4.83	phosphate	597.108	1939810	23814878	1	2.91
8	6.35	sulfate	694.482	5223667	73462486	1	2.53
9	8.37	oxalate	621.115	2445499	48995310	1	3.25
Totals			5833.686	58249465	495942572		

File: 96020221.D09 Sample: S95T003517SPK

```

=====
Sample Name: S95T003518 SAM                      Date: 02/03/1996 02:08:39
Data File  : C:\DX\DATA\96020221.D10
Method     : C:\DX\METHOD\KIT.MET                WHC-SD-WM-DP-162, REV. I
ACI Address: 1 System: 1 Inject#: 10              Detector: CDM-2
Analyst    :                                     Column: AG4A/AS4A anion column
=====

```

```

-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          101    3150  5Hz   0.00 10.50    20000
-----

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.87		0.000	70155	317612	2	
2	1.03	fluoride	24.560	1045817	4970246	2	1.65
3	1.59	chloride	16.299	431377	2038062	1	1.06
4	1.92	nitrite	72.388	1028117	5589756	1	0.52
5	3.27	nitrate	2319.489	22887132	199939744	1	3.92
6	4.85	phosphate	35.609	75457	925276	1	3.48
7	6.40	sulfate	83.483	488774	7021968	1	3.39
8	8.48	oxalate	44.314	168975	3281782	1	4.56
Totals			2596.141	26195805	224084446		

File: 96020221.D10 Sample: S95T003518 SAM

```

=====
Sample Name: S95T003518 DUP                      Date: 02/03/1996 02:20:45
Data File  : C:\DX\DATA\96020221.D11
Method     : C:\DX\METHOD\KIT.MET                WHC-SD-WM-DP-162, REV. I
ACI Address: 1 System: 1 Inject#: 11              Detector: CDM-2
Analyst    :                                     Column: AG4A/AS4A anion column
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          101    3150  5Hz   0.00 10.50    20000
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.85		0.000	72464	332608	2	
2	1.01	fluoride	37.801	1676482	7849082	2	0.33
3	1.57	chloride	6.179	146147	689508	1	-0.21
4	1.90	nitrite	74.030	1053650	5751406	1	-0.52
5	3.25	nitrate	2081.577	20573455	178149074	1	3.28
6	4.83	phosphate	150.395	429881	5542770	1	2.91
7	6.35	sulfate	86.337	454069	7327266	1	2.53
8	8.43	oxalate	55.003	204253	4122592	1	3.90
Totals			2491.322	24610401	209764306		

File: 96020221.D11 Sample: S95T003518 DUP

LABCORE Data Entry Template for Worklist# 4390

Analyst: KK Instrument: IC01 Book# 12219-0
Method: LA-533-105 Rev/Mod D1 WHC-SD-WM-DP-162, REV. 1
Worklist Comment: BY-105 S95T003418-22 FOR IC RTS.

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 CCB			@IC-QC	QC		
2 CCV			@IC-QC	QC		
3 SAMPLE	S95T003418 0		@IC-01	LIQUID	95000125	BY-105 (R)
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
4 DUP	S95T003418 0		@IC-01	LIQUID		
5 SPK	S95T003418 0		@IC-01	LIQUID		
6 SAMPLE	S95T003422 0		@IC-01	LIQUID	95000125	BY-105 (R)
Analytes Requested: BR-02 , CL-02 , F-02 , NO2-02 , NO3-02 , OXALATE2, PO4-02 , SO4-02						
7 DUP	S95T003422 0		@IC-01	LIQUID		

Final page for worklist # 4390

Rob King 1/26/96
Analyst Signature Date
Trusell

Analyst Signature Date

uploaded & posted. 2/2/96 G. McEug
There may be a problem with how the spike
went in on this one. I will need to talk with
lab core folks about it. G. McEug
printed

Data Entry Comments:

WHC-SD-WM-DP-162, REV. 1
LABCORE Completed Worklist Report for Worklist# 4390

Analyst: rwk

Instrument: IC01

Book# 122192

Method: LA-533-108 Rev/Mod D-1

Worklist Comment: BY-105 S95T003418-22 FOR IC RTS.

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	CCB	0	QIC-QC F	QC	1	<1.30e-2		ug/mL
1	CCB	0	QIC-QC CL	QC	1	<1.70e-2		ug/mL
1	CCB	0	QIC-QC NO2	QC	1	<1.07e-1		ug/mL
1	CCB	0	QIC-QC BR	QC	1	<1.26e-1		ug/mL
1	CCB	0	QIC-QC NO3	QC	1	1.82e-01	0.180	ug/mL
1	CCB	0	QIC-QC PO4	QC	1	<1.19e-1		ug/mL
1	CCB	0	QIC-QC SO4	QC	1	<1.36e-1		ug/mL
1	CCB	0	QIC-QC OXALATE2	QC	1	<1.05e-1		ug/mL
2	CCV	0	QIC-QC F	QC	59	6.14e+01	104.070	% Recovery
2	CCV	0	QIC-QC CL	QC	79	7.74e+01	97.970	% Recovery
2	CCV	0	QIC-QC NO2	QC	541	5.25e+02	97.040	% Recovery
2	CCV	0	QIC-QC BR	QC	575	5.70e+02	99.130	% Recovery
2	CCV	0	QIC-QC NO3	QC	614	6.15e+02	100.160	% Recovery
2	CCV	0	QIC-QC PO4	QC	546	5.48e+02	100.370	% Recovery
2	CCV	0	QIC-QC SO4	QC	631	6.38e+02	101.110	% Recovery
2	CCV	0	QIC-QC OXALATE2	QC	539	5.58e+02	103.530	% Recovery
3	SAMPLE	S95T003418	QIC-01 F-02	LIQUID	N/A	5.131e+02	66.960	ug/mL
3	SAMPLE	S95T003418	QIC-01 CL-02	LIQUID	N/A	3.283e+03	87.570	ug/mL
3	SAMPLE	S95T003418	QIC-01 NO2-02	LIQUID	N/A	3.861e+04	551.200	ug/mL
3	SAMPLE	S95T003418	QIC-01 BR-02	LIQUID	N/A	1.113e+03	649.000	ug/mL
3	SAMPLE	S95T003418	QIC-01 NO3-02	LIQUID	N/A	2.142e+05	721.100	ug/mL
3	SAMPLE	S95T003418	QIC-01 PO4-02	LIQUID	N/A	9.190e+02	618.100	ug/mL
3	SAMPLE	S95T003418	QIC-01 SO4-02	LIQUID	N/A	1.624e+03	700.500	ug/mL
3	SAMPLE	S95T003418	QIC-01 OXALATE2	LIQUID	N/A	5.409e+02	540.900	ug/mL
4	DUP	S95T003418	QIC-01 F-02	LIQUID	5.13e+02	6.15e+02	18.090	RPD
4	DUP	S95T003418	QIC-01 CL-02	LIQUID	3.28e+03	4.07e+03	21.500	RPD
4	DUP	S95T003418	QIC-01 NO2-02	LIQUID	3.86e+04	4.23e+04	9.150	RPD
4	DUP	S95T003418	QIC-01 BR-02	LIQUID	1.11e+03	1.15e+03	3.540	RPD
4	DUP	S95T003418	QIC-01 NO3-02	LIQUID	2.14e+05	2.29e+05	6.770	RPD
4	DUP	S95T003418	QIC-01 PO4-02	LIQUID	9.19e+02	9.24e+02	0.540	RPD
4	DUP	S95T003418	QIC-01 SO4-02	LIQUID	1.62e+03	1.67e+03	3.040	RPD
4	DUP	S95T003418	QIC-01 OXALATE2	LIQUID	<5.41e2	<5.41e2		RPD
5	SPK	S95T003418	QIC-01 F-02	LIQUID	59	71.202	120.680	% Recovery
5	SPK	S95T003418	QIC-01 CL-02	LIQUID	79	<8.76e1		% Recovery
5	SPK	S95T003418	QIC-01 NO2-02	LIQUID	541	690.889	127.710	% Recovery
5	SPK	S95T003418	QIC-01 BR-02	LIQUID	575	<6.49e2		% Recovery
5	SPK	S95T003418	QIC-01 NO3-02	LIQUID	614	1341.905	218.550	% Recovery
5	SPK	S95T003418	QIC-01 PO4-02	LIQUID	546	<6.18e2		% Recovery
5	SPK	S95T003418	QIC-01 SO4-02	LIQUID	631	<7.00e2		% Recovery
5	SPK	S95T003418	QIC-01 OXALATE2	LIQUID	539	550.360	103.590	% Recovery
6	SAMPLE	S95T003422	QIC-01 F-02	LIQUID	N/A	4.657e+02	66.960	ug/mL

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

LABCORE Completed Worklist Report for Worklist# 4390

Seq Type	Sample# R A	Test	Matrix	Actual	Found	DL or Yield	Unit
6 SAMPLE	895T003422 0	QIC-01 CL-02	LIQUID	N/A	3.939e+03	87.570 ug/mL	
6 SAMPLE	895T003422 0	QIC-01 NO2-02	LIQUID	N/A	4.840e+04	551.200 ug/mL	
6 SAMPLE	895T003422 0	QIC-01 BR-02	LIQUID	N/A	6.853e+02	649.000 ug/mL	
6 SAMPLE	895T003422 0	QIC-01 NO3-02	LIQUID	N/A	1.979e+05	721.100 ug/mL	
6 SAMPLE	895T003422 0	QIC-01 PO4-02	LIQUID	N/A	9.146e+02	618.100 ug/mL	
6 SAMPLE	895T003422 0	QIC-01 SO4-02	LIQUID	N/A	1.583e+03	700.500 ug/mL	
6 SAMPLE	895T003422 0	QIC-01 OXALATE2	LIQUID	N/A	2.602e+03	540.900 ug/mL	
7 DUP	895T003422 0	QIC-01 F-02	LIQUID	4.66e+02	4.57e+02	1.950 RPD	
7 DUP	895T003422 0	QIC-01 CL-02	LIQUID	3.94e+03	3.99e+03	1.260 RPD	
7 DUP	895T003422 0	QIC-01 NO2-02	LIQUID	4.84e+04	4.99e+04	3.050 RPD	
7 DUP	895T003422 0	QIC-01 BR-02	LIQUID	6.85e+02	6.73e+02	1.770 RPD	
7 DUP	895T003422 0	QIC-01 NO3-02	LIQUID	1.98e+05	2.02e+05	2.000 RPD	
7 DUP	895T003422 0	QIC-01 PO4-02	LIQUID	9.15e+02	9.53e+02	4.070 RPD	
7 DUP	895T003422 0	QIC-01 SO4-02	LIQUID	1.58e+03	1.65e+03	4.330 RPD	
7 DUP	895T003422 0	QIC-01 OXALATE2	LIQUID	2.60e+03	<5.41e2	RPD	

Final page for worklist# 4390

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Reviewer Signature _____ Date 2/2/96

A-0010-IC				DATA FILE/WORKLIST RESOLUTION				02-Feb-96			
Worklist#: 4390				Data File: 4390JAN.CSV							
		Seq	Type	Sample #	Seq#		Data File	Sample Name	Dilution		
-	=>	1	CCB	S95T003418 S95T003418 S95T003418 S95T003418 S95T003422 S95T003422	-	1	96012521.d15	INSTRA BLK	1.00		
	=>	2	CCV			2	96012521.d16	STD 122N9-D	101.00		
	=>	3	SAMPLE				96012521.d17	S95T003418	10201.00		
	=>	4	DUP			3	96012521.d18	S95T003418	5151.00		
	=>	5	SPK				96012521.d19	S95T003418	2121.00		
	=>	6	SAMPLE			4	96012521.d20	S95T003418 DUP	5151.00		
	=>	7	DUP			5	96012521.d21	S95T003418 SPK	5151.00		
						96012521.d22	S95T003422	10201.00			
						96012521.d23	S95T003422	2626.00			
						96012521.d24	S95T003422	2345.44			
						96012521.d25	S95T003422 DUP	2626.00			
					6	96012521.d26	S95T003422	5151.00			
					7	96012521.d27	S95T003422 DUP	5151.00			
+					+						

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

WHC-SD-WM-OP-162, REV.1

-PROTOCOL DETAIL INFORMATION-

I Seq: 5 Type: SPK

Sample#: S95T003418 Aliquot:

Rep: 0

Code	Name	Actual	Raw Found	Found	Yield	Q
- F-02	Fluoride-IC-Di	59	4105.23	71.202	120.681	*
CL-02	Chloride-IC-Di	79	7607.53	8.76e1	110.886	N
N02-02	Nitrite-IC - D	541	73476.6	690.889	127.706	*
BR-02	Bromide by Ion	575	28052.7	6.49e2	112.870	N
N03-02	Nitrate-IC - D	614	282216	1341.905	218.551	*
P04-02	Phosphate-IC-D	546	27652.5	6.18e2	113.187	N
S04-02	Sulfate by IC-	631	33331.6	7.00e2	110.935	N
OXALATE2	Oxalate by IC	539	28160.8	558.360	103.592	
+						

<Alt-Enter> Clear from cursor/move to next

<Tab> Move to next

QC Chart(F5) Defaults(F6) ClearRow(F7) Delete Row(F8) >

*I don't think it should be
putting these < on the
spikes. I need to
talk to Gayle about this one*

WHC-SD-WM-PP-162. REV. 1

=====

Sample Name: INSTRA BLK	Date: 01/26/1996 01:16:53
Data File : C:\DX\DATA\96012521.D15	
Method : C:\DX\METHOD\KIT.MET	WHC-SD-WM-DP-162, REV. 1
ACI Address: 1 System: 1 Inject#: 15	Detector: CDM-1
Analyst : <i>Rob Kemp</i>	Column: AG4A/AS4A anion column

=====

012696

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	3150	5Hz	0.00	10.50		100

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
2	1.39		0.000	52	383	1	
3	1.61	chloride	-0.006	29	128	1	-1.63
4	3.52	nitrate	0.182	33	237	1	4.14
Totals			0.176	114	748		

File: 96012521.D15 Sample: INSTRA BLK

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 226 TO 237.

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=====
Sample Name: STD 122N9-D                      Date: 01/26/1996 01:34:16
Data File : C:\DX\DATA\96012521.D16          WHC-SD-WM-()P-162, REV.1
Method    : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 16          Detector: CDM-1
Analyst   : Rob King                      Column: AG4A/AS4A anion column
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
=====
External          1          101    3150  5Hz   0.00 10.50          100
=====

```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.86		0.000	50	235	2	
2	1.02	fluoride	61.436 <i>104.13</i>	2220	12335	2	-0.97
3	1.37		0.000	96	633	1	
4	1.60	chloride	77.441 <i>98.03</i>	1908	9865	1	-2.44
5	1.94	nitrite	524.650 <i>46.48</i>	8305	49361	1	-3.48
6	2.99	bromide	569.746 <i>99.09</i>	4761	34317	1	-0.78
7	3.43	nitrate	614.651 <i>100.11</i>	5569	48310	1	1.38
8	4.88	phosphate	548.313 <i>100.43</i>	1776	21958	1	-2.59
9	6.51	sulfate	638.462 <i>101.18</i>	4612	65709	1	-4.73
10	8.64	oxalate	557.583 <i>103.45</i>	2287	43201	1	-3.57
Totals			3592.283	31584	285925		

File: 96012521.D16 Sample: STD 122N9-D

1-10-1-10

Sample Name: S95T003418 Date: 01/26/1996 01:50:40
 Data File : C:\DX\DATA\96012521.D17
 Method : C:\DX\METHOD\KIT.MET WHC-SD-WM-DP-162, REV. I
 ACI Address: 1 System: 1 Inject#: 17 Detector: CDM-1
 Analyst : *Ref. Km* Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	10201	3150	5Hz	0.00	10.50		100

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	106	598	2	
2	1.04	fluoride	704.252	221	1255	2	0.97
3	1.16		0.000	194	1476	2	
4	1.61	chloride	4218.995	932	5385	1	-1.63
5	1.97	nitrite	47514.161	7042	44087	1	-2.16
6	3.03	bromide	1711.152	62	374	1	0.78
7	3.38	nitrate	257019.871	21160	212836	1	0.00
8	4.93	phosphate	1287.003	22	238	1	-1.53
9	6.56	sulfate	2350.816	100	1429	1	-3.95
Totals			314806.249	29838	267677		

File: 96012521.D17 Sample: S95T003418

1-10-2-10

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Sample Name: S95T003418                      Date: 01/26/1996 02:09:27
Data File  : C:\DX\DATA\96012521.D18
Method     : C:\DX\METHOD\KIT.MET           WHC-SD-WM OP-162, REV. I
ACI Address: 1 System: 1 Inject#: 18         Detector: CDM-1
Analyst    : Rob Norm                      Column: AG4A/AS4A anion column
=====
  
```

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-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          5151   3150  5Hz   0.00 10.50      100
  
```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	175	952	2	
2	1.04	fluoride	513.958	340	1880	2	0.97
3	1.15		0.000	319	2546	2	
4	1.61	chloride	3282.593	1376	8217	1	-2.03
5	1.96	nitrite <i>OK</i>	38606.634	11726	71993	1	-2.49
6	3.01	bromide	1112.512	106	668	1	0.11
7	3.33	nitrate <i>OK</i>	214226.921	33592	367236	1	-1.58
8	4.91	phosphate	919.038	38	449	1	-2.06
9	6.51	sulfate	1624.210	145	2310	1	-4.73
Totals			260285.864	47817	456251		

File: 96012521.D18 Sample: S95T003418

. 1-10-2-10

```
=====
Sample Name: S95T003418 DUP                      Date: 01/26/1996 02:44:29
Data File  : C:\DX\DATA\96012521.D20
Method     : C:\DX\METHOD\KIT.MET                WHC-SD-WM-OP-162, REV. 1
ACI Address: 1 System: 1 Inject#: 20              Detector: CDM-1
Analyst    : Rob King                          Column: AG4A/AS4A anion column
=====
```

```
-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          1          5151   3150  5Hz   0.00 10.50         100
-----
```

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.87		0.000	183	1025	2	
2	1.04	fluoride	614.604	401	2278	2	0.97
3	1.15		0.000	352	2761	2	
4	1.61	chloride	4066.679	1733	10156	1	-2.03
5	1.96	nitrite <i>OK</i>	42323.742	12604	79102	1	-2.49
6	3.01	bromide	1147.121	113	709	1	0.11
7	3.32	nitrate <i>OK</i>	229258.867	35830	396291	1	-1.78
8	4.91	phosphate	924.014	39	453	1	-2.06
9	6.51	sulfate	1671.719	150	2406	1	-4.73
Totals			280006.746	51404	495181		

File: 96012521.D20 Sample: S95T003418 DUP

1-10-2-10

Sample Name: S95T003418 SPK Date: 01/26/1996 02:58:11
 Data File : C:\DX\DATA\96012521.D21
 Method : C:\DX\METHOD\KIT.MET WHC-SD-WM-DP-162, REV. I
 ACI Address: 1 System: 1 Inject#: 21 Detector: CDM-1
 Analyst : *Not King* Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	5151	3150	5Hz	0.00	10.50		100

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.86		0.000	230	1178	2	
2	1.01	fluoride	4105.233	2448	16270	2	-1.62
3	1.59	chloride	7607.526	3294	19038	1	-3.25
4	1.94	nitrite	73476.567	22689	138850	1	-3.48
5	2.97	bromide	28052.735	5036	33088	1	-1.22
6	3.27	nitrate	282216.403	43583	503174	1	-3.16
7	4.88	phosphate	27652.526	1782	21706	1	-2.59
8	6.45	sulfate	33331.636	4026	67314	1	-5.51
9	8.64	oxalate	28160.849	2233	42778	1	-3.57
Totals			484603.475	85323	843396		

File: 96012521.D21 Sample: S95T003418 SPK

$$\frac{10.2}{(1)(5151)} = .0198$$

1-10-1-10

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Sample Name: S95T003422	Date: 01/26/1996 03:13:40
Data File : C:\DX\DATA\96012521.D22	
Method : C:\DX\METHOD\KIT.MET	WHC-SD-WM-DP-162, REV. 1
ACI Address: 1 System: 1 Inject#: 22	Detector: CDM-1
Analyst : <i>Not King</i>	Column: AG4A/AS4A anion column

=====

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	10201	3150	5Hz	0.00	10.50		100

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	115	652	2	
2	1.04	fluoride	522.817	162	894	2	0.97
3	1.15		0.000	203	1596	2	
4	1.61	chloride	4308.761	977	5496	1	-1.63
5	1.96	nitrite	52553.862	8051	48941	1	-2.49
7	3.39	nitrate	219058.884	18200	179624	1	0.20
8	6.51	sulfate	2220.030	78	1296	1	-4.73
Totals			278664.354	27785	238499		

File: 96012521.D22 Sample: S95T003422

.1-10-.2-10

Sample Name: S95T003422 Date: 01/26/1996 04:20:31
Data File : C:\DX\DATA\96012521.D26 WHC-SD-WM-DP-162, REV. 1
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 26 Detector: CDM-1
Analyst : *Not King* Column: AG4A/AS4A anion column

Calibration Volume Dilution Points Rate Start Stop Area Reject

External 1 5151 3150 5Hz 0.00 10.50 100

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	229	1364	2	
2	1.05	fluoride	465.741	300	1690	2	1.62
3	1.16		0.000	386	3190	2	
4	1.61	chloride	3938.926	1689	9839	1	-1.63
5	1.97	nitrite	48398.342	14790	90728	1	-2.16
6	3.04	bromide	685.274	28	162	1	1.00
7	3.35	nitrate	197902.423	31202	336262	1	-0.99
8	4.21		0.000	23	218	1	
9	4.93	phosphate	914.571	36	445	1	-1.53
10	6.51	sulfate	1583.294	129	2228	1	-4.73
11	8.16	oxalate	2601.571	89	3767	1	-8.93
Totals			256490.144	48901	449893		

File: 96012521.D26 Sample: S95T003422

.1-10-2-10

Sample Name: S95T003422 DUP Date: 01/26/1996 04:56:45
Data File : C:\DX\DATA\96012521.D27 WHC-SD-WM-DP-162, REV. I
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 27 Detector: CDM-1
Analyst : *Kof. Rom* Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	5151	3150	5Hz	0.00	10.50		100

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	229	1316	2	
2	1.04	fluoride	456.563	289	1654	2	0.97
3	1.15		0.000	366	2854	2	
4	1.61	chloride	3993.091	1700	9973	1	-2.03
5	1.96	nitrite	49911.765	15047	93627	1	-2.49
6	3.03	bromide	672.606	27	147	1	0.78
7	3.34	nitrate	201925.783	31673	343842	1	-1.18
8	4.91	phosphate	953.109	38	475	1	-2.06
9	6.51	sulfate	1653.469	149	2369	1	-4.73
Totals			259566.385	49517	456257		

File: 96012521.D27 Sample: S95T003422 DUP

1-10-1995-10

Sample Name: S95T003422 Date: 01/26/1996 03:52:01
 Data File : C:\DX\DATA\96012521.D24 WHC-SD-WM-DP-162, REV. 1
 Method : C:\DX\METHOD\KIT.MET
 ACI Address: 1 System: 1 Inject#: 24 Detector: CDM-1
 Analyst : *Not Known* Column: AG4A/AS4A anion column

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	2345.44	3150	5Hz	0.00	10.50		100

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	599	3612	2	
2	1.05	fluoride	423.811	665	3530	2	1.62
3	1.15		0.000	932	7701	2	
4	1.59	chloride	4269.225	3885	23555	1	-2.85
5	1.95	nitrite	54343.610	34807	227390	1	-2.82
6	3.00	bromide	395.086	72	378	1	-0.33
7	3.23	nitrate	201465.438	68907	888136	1	-4.34
8	4.20		0.000	56	506	1	
9	4.91	phosphate	764.462	85	1044	1	-2.06
10	6.51	sulfate	1372.485	325	5115	1	-4.73
11	8.69	oxalate	190.113	26	457	1	-2.98
Totals			263224.230	110359	1161425		

File: 96012521.D24 Sample: S95T003422

LABCORE Data Entry Template for Worklist# 4378

Analyst: B. GORDON Instrument: ICP01 _____ Book# 4564183

Method: LA-505-161/161 Rev/Mod 2-3
2-10-95

Worklist Comment: ICP BY-105 (DIRECT)

S Type	Sample#	R A	Test	Matrix	Group#	Project
1	ICV		@ICP-QC	QC		
2	ICB		@ICP-QC	QC		
3	ICSA		@ICP-QC	QC		
4	ICSAB		@ICP-QC	QC		
5	SAMPLE	S95T003394	0 D	@ICP-D01	LIQUID	95000125 BY-105 (R)
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						
6	DUP	S95T003394	0 D	@ICP-D01	LIQUID	
7	SPK	S95T003394	0 D	@ICP-D01	LIQUID	
8	SAMPLE	S95T003396	0 D	@ICP-D01	LIQUID	95000125 BY-105 (R)
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	S95T003396	0 D	@ICP-D01	LIQUID	
10	SPK	S95T003396	0 D	@ICP-D01	LIQUID	
11	CCV		@ICP-QC	QC		
12	CCB		@ICP-QC	QC		

Data Entry Comments:

LABCORE Data Entry Template for Worklist# 4378

S Type	Sample#	R A	Test	Matrix	Group#	Project
13 SAMPLE	S95T003418	0 D	@ICP-D01	LIQUID	95000125	BY-105 (R)
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						
14 DUP	S95T003418	0 D	@ICP-D01	LIQUID		
15 SPK	S95T003418	0 D	@ICP-D01	LIQUID		
16 SAMPLE	S95T003422	0 D	@ICP-D01	LIQUID	95000125	BY-105 (R)
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	S95T003422	0 D	@ICP-D01	LIQUID		
18 SPK	S95T003422	0 D	@ICP-D01	LIQUID		
19 ICSA			@ICP-QC	QC		
20 ICSAB			@ICP-QC	QC		
21 CCV			@ICP-QC	QC		
22 CCB			@ICP-QC	QC		

Final page for worklist # 4378

Analyst Signature

Date

Analyst Signature

Date

Data Entry Comments:

WHC-SD-WM-DP-162, REV. 1

		DE
SSFTW 3384-L	.025-in-10-in-2-in-f-l	2005
SSFTW 3384	.025-in-10-in	401
SSFTW 3384-B	.025-in-10-in	401
SSFTW 3384-A	.025-in-2-in-f-l	401
SSFTW 3386-L	.025-in-10-in-2-in-f-l	2005
SSFTW 3386	.025-in-10-in	401
SSFTW 3386-B	.025-in-10-in	401
SSFTW 3386-A	.025-in-2-in-f-l	401
SSFTW 3418-L	.025-in-10-in-2-in-f-l	2005
SSFTW 3418	.025-in-10-in	401
SSFTW 3418-B	.025-in-10-in	401
SSFTW 3418-A	.025-in-2-in-f-l	401
SSFTW 3422-L	.025-in-10-in-2-in-f-l	2005
SSFTW 3422	.025-in-10-in	401
SSFTW 3422-B	.025-in-10-in	401
SSFTW 3422-A	.025-in-2-in-f-l	401

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#	Sample Name	File	Method	Date	Time	OpID	Type	Mode
1	ICV	960102B	ICP2	01/02/96	09:11	BJG	Q	CONC
2	ICB	960102B	ICP2	01/02/96	09:13	BJG	Q	CONC
3	ICSA	960102B	ICP2	01/02/96	09:16	BJG	Q	CONC
4	ICSA _B	960102B	ICP2	01/02/96	09:19	BJG	Q	CONC
5	S95T003394-L	960102B	ICP2	01/02/96	09:24	BJG	S	CONC
6	S95T003394-	960102B	ICP2	01/02/96	09:29	BJG	S	CONC
7	S95T003394-D	960102B	ICP2	01/02/96	09:32	BJG	S	CONC
8	S95T003394-A	960102B	ICP2	01/02/96	09:36	BJG	S	CONC
9	S95T003396-L	960102B	ICP2	01/02/96	09:39	BJG	S	CONC
10	S95T003396-	960102B	ICP2	01/02/96	09:43	BJG	S	CONC
11	S95T003396-D	960102B	ICP2	01/02/96	09:46	BJG	S	CONC
12	S95T003396-A	960102B	ICP2	01/02/96	09:50	BJG	S	CONC
13	CCV	960102B	ICP2	01/02/96	10:43	BJG	Q	CONC
14	CCB	960102B	ICP2	01/02/96	10:46	BJG	Q	CONC
15	S95T003418-L	960102B	ICP2	01/02/96	10:49	BJG	S	CONC
16	S95T003418-	960102B	ICP2	01/02/96	10:52	BJG	S	CONC
17	S95T003418-D	960102B	ICP2	01/02/96	10:55	BJG	S	CONC
18	S95T003418-A	960102B	ICP2	01/02/96	10:59	BJG	S	CONC
19	S95T003422-L	960102B	ICP2	01/02/96	11:03	BJG	S	CONC
20	S95T003422-	960102B	ICP2	01/02/96	11:06	BJG	S	CONC
21	S95T003422-D	960102B	ICP2	01/02/96	11:10	BJG	S	CONC
22	S95T003422-A	960102B	ICP2	01/02/96	11:13	BJG	S	CONC
23	ICSA	960102B	ICP2	01/02/96	11:16	BJG	Q	CONC
24	ICSA _B	960102B	ICP2	01/02/96	11:19	BJG	Q	CONC
25	CCV_1	960102B	ICP2	01/02/96	11:23	BJG	Q	CONC
26	CCB_1	960102B	ICP2	01/02/96	11:26	BJG	Q	CONC

WPC-SID.WAY.DP.162, REV.1

by Gack-
1-2-96
by 101
S95T003394, 3396
S95T003418, 3422
CCV-1, CCB-1

 SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
 COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 241 TO 245.

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#	Sample Name	Ag	Al	As	B	Ba	Be
1	ICV	5.049	5.049	5.153	4.927	5.026	5.182
2	ICB	-.0001	-.0053	-.0082	-.0052	.0000	.0001
3	ICSA	-.0130	243.9	-.0777	.0002	.0030	.0001
4	IC SAB	9413	243.2	-.0907	.0054	.4666	.4783
5	S95T003394 L	1.184	14110	-.38.05	33.81	-.1103	.3303
6	S95T003394	-.1014	13820	-.36.33	22.70	-.0264	.2914
7	S95T003394 D	.1005	14280	-.31.70	25.27	.0192	.3183
8	S95T003394 A	170.8	14400	389.8	408.7	389.0	415.6
9	S95T003396 L	2.141	14650	-.48.48	28.18	-.0874	.3294
10	S95T003396	.0041	14480	-.29.51	32.52	-.0298	.3044
11	S95T003396 D	.0891	13890	-.26.60	29.14	-.0050	.3036
12	S95T003396 A	144.5	14080	390.5	415.3	387.3	413.0
13	CCV	5.151	5.118	5.325	5.007	5.089	5.343
14	CCB	.0004	.0029	-.0103	.0052	.0000	.0002
15	S95T003418 L	.2504	22470	-.55.36	22.55	-.0864	.7260
16	S95T003418	-.0023	22320	-.32.58	22.70	.0237	.3827
17	S95T003418 D	.6719	21990	-.35.52	23.34	.0754	.3704
18	S95T003418 A	34.50	22340	393.4	413.5	389.5	416.8
19	S95T003422 L	.2529	35060	-.57.19	21.75	-.0905	.5941
20	S95T003422	-.1388	34730	-.45.63	20.45	-.0034	.4492
21	S95T003422 D	-.2371	33330	-.37.62	19.00	-.0050	.4625
22	S95T003422 A	58.83	34140	383.1	403.7	382.6	413.0
23	ICSA	-.0125	244.7	-.0587	.0036	.0031	.0001
24	IC SAB	.9511	244.8	-.0398	.0020	.4649	.4882
25	CCV 1	5.140	5.085	5.346	4.996	5.040	5.371
26	CCB 1	.0002	-.0013	-.0070	.0040	.0000	.0002

#	Sample Name	Bi	Ca	Cd	Ce	Co	Cr
1	ICV	5.005	5.128	5.093	5.145	4.995	5.154
2	ICB	-.0137	-.0000	-.0001	-.0019	-.0002	.0010
3	ICSA	.0084	247.8	.0004	.0096	.0005	-.0038
4	IC SAB	.0039	250.0	.9495	.0055	.4671	.4721
5	S95T003394 L	19.17	47.43	1.421	-4.439	5.477	1248.
6	S95T003394	-.0044	17.99	1.655	-3.267	2.771	1216.
7	S95T003394 D	3.176	21.85	1.733	-2.808	3.530	1269.
8	S95T003394 A	407.9	446.5	414.6	402.7	405.2	1660.
9	S95T003396 L	-.1742	47.93	.8932	-1.514	5.081	1311.
10	S95T003396	1.502	14.32	1.611	-1.763	3.620	1287.
11	S95T003396 D	5.613	16.89	1.412	-1.084	3.201	1231.
12	S95T003396 A	403.1	440.3	409.4	402.4	400.4	1619.
13	CCV	5.151	5.407	5.280	5.234	5.154	5.329
14	CCB	.0019	-.0005	-.0001	-.0025	.0011	.0013
15	S95T003418 L	34.80	43.46	.0789	-7.118	6.758	1276.
16	S95T003418	-.1550	19.56	.9572	.7334	3.790	1262.
17	S95T003418 D	3.331	17.99	1.734	3.418	4.120	1233.
18	S95T003418 A	398.2	458.3	410.0	406.1	400.1	1629.
19	S95T003422 L	34.95	36.54	1.133	-3.242	3.404	1437.
20	S95T003422	-.3353	17.38	1.054	.3891	4.544	1417.
21	S95T003422 D	8.008	16.88	.6510	-1.535	4.039	1356.
22	S95T003422 A	402.2	443.3	407.1	401.1	397.9	1774.
23	ICSA	-.0062	255.7	.0001	.0084	.0011	-.0045

WHC-SID-WM-TP-162, REV. 1

#	Sample Name	Bi	Ca	Cd	Ce	Co	Cr
24	ICSAB	-.0053	257.9	.9669	.0071	.4745	.4787
25	CCV_1	-.140	5.491	5.304	5.194	5.178	5.344
26	CCB_1	-.0041	-.0000	.0002	-.0033	-.0014	-.0001

#	Sample Name	Cu	Eu	Fe	K	La	Li
1	ICV	4.985	.0088	5.121	4.916	5.067	5.067
2	ICB	.0006	.0006	.0000	-.1008	.0000	.0010
3	ICSA	-.0053	-.0003	92.81	.0948	-.0044	.0039
4	ICSAB	.4729	-.0021	93.02	.0695	-.0038	.9524
5	S95T003394_L	1.928	1.558	8.404	3581.	.6061	1.762
6	S95T003394_-	-.1480	.2217	7.428	3268.	-.5562	.3522
7	S95T003394_D	-.0847	.4111	10.04	3425.	.0962	.5092
8	S95T003394_A	392.0	1.217	419.0	3666.	401.7	395.1
9	S95T003396_L	1.101	2.219	13.23	3501.	.3073	3.133
10	S95T003396_-	.0617	.6031	8.923	3501.	-.0203	.7437
11	S95T003396_D	.0729	.5228	12.93	3198.	-.0111	.6649
12	S95T003396_A	391.0	1.103	416.8	3637.	400.4	397.1
13	CCV	5.058	.0091	5.300	4.891	5.165	5.074
14	CCB	.0009	.0015	-.0002	-.0960	-.0001	.0016
15	S95T003418_L	3.445	2.523	13.86	3624.	-.2534	5.290
16	S95T003418_-	1.226	.7743	12.62	3544.	-.1787	2.273
17	S95T003418_D	.8556	.5920	9.976	3541.	.5955	2.196
18	S95T003418_A	393.9	1.078	421.0	3896.	403.9	402.9
19	S95T003422_L	2.613	2.256	14.32	3920.	-.3536	3.132
20	S95T003422_-	1.030	.7536	13.96	4240.	.0641	1.214
21	S95T003422_D	.8947	.7073	14.02	4084.	-.2372	1.214
22	S95T003422_A	387.7	1.325	418.1	4471.	398.3	392.3
23	ICSA	-.0062	-.0163	94.40	1.136	-.0032	.0050
24	ICSAB	.4735	-.0166	94.76	-.1061	-.0039	.9494
25	CCV_1	5.028	.0100	5.289	4.927	5.119	5.008
26	CCB_1	-.0004	.0018	-.0004	-.0676	-.0006	.0019

#	Sample Name	Mg	Mn	Mo	Na	Nd	Ni
1	ICV	5.014	5.021	5.002	5.062	5.248	5.097
2	ICB	.0031	.0005	-.0009	.0039	-.0007	-.0044
3	ICSA	241.6	-.0072	-.0123	193.3	.0111	-.0195
4	ICSAB	241.2	.4448	-.0143	192.6	.0103	.9032
5	S95T003394_L	-2.071	.4543	23.94	201300.	-1.090	6.256
6	S95T003394_-	-2.083	.0430	25.09	193700.	-.1216	1.535
7	S95T003394_D	.2724	.1523	26.78	198100.	-.5187	1.857
8	S95T003394_A	387.5	392.3	433.3	193100.	413.0	414.3
9	S95T003396_L	19.41	1.018	29.21	211700.	2.763	7.673
10	S95T003396_-	1.001	.3693	27.54	203700.	.2823	1.367
11	S95T003396_D	1.136	.4023	25.04	195900.	.0928	.8399
12	S95T003396_A	386.2	388.2	426.8	194000.	413.5	404.1
13	CCV	5.109	5.167	5.169	5.093	5.340	5.288
14	CCB	.0034	.0008	-.0003	.0139	.0001	.0070
15	S95T003418_L	29.13	1.150	26.00	205600.	8.365	12.69
16	S95T003418_-	1.920	.2633	27.72	198500.	.6755	-.0053
17	S95T003418_D	-1.433	.1930	27.77	196600.	-.6088	2.057

WHC-SD WM 00.162, REV. 1

#	Sample Name	Mg	Mn	Mo	Na	Nd	Ni
18	S95T003418_A	392.0	389.3	430.0	197400.	417.1	406.5
19	S95T003422-L	3.921	1.290	33.31	220900.	-2.785	3.032
20	S95T003422	2.283	.4257	31.98	211800.	.4225	-1.252
21	S95T003422_D	2.038	.5361	30.28	203800.	.5360	.7994
22	S95T003422-A	389.9	387.0	430.6	206700.	411.0	400.3
23	ICSA	244.2	-.0069	-.0145	191.5	.0103	-.0164
24	ICSA_B	243.9	.4511	-.0121	192.0	.0065	.9251
25	CCV_1	5.078	5.160	5.173	5.022	5.275	5.264
26	CCB_1	-.0124	.0007	.0002	.0121	-.0038	.0026

#	Sample Name	P	Pb	S	Sb	Se	Si
1	ICV	4.981	5.117	4.925	4.701	5.078	4.918
2	ICB	-.0044	.0172	.0038	-.0019	.0113	.0303
3	ICSA	.0334	.0631	-.0351	.0025	-.0008	.0249
4	ICSA_B	.0092	1.018	-.0226	.0015	-.0177	.0247
5	S95T003394_L	473.5	93.23	640.1	-1.833	37.45	150.4
6	S95T003394	474.2	68.00	646.8	-1.031	11.35	149.0
7	S95T003394_D	488.2	73.94	675.8	1.895	13.74	152.3
8	S95T003394-A	898.8	496.9	1071.	384.7	440.0	583.2
9	S95T003396-L	526.0	91.24	678.8	5.433	44.03	222.6
10	S95T003396	487.7	68.86	697.5	4.753	17.04	306.0
11	S95T003396_D	468.5	66.29	661.2	2.470	19.21	238.6
12	S95T003396-A	873.6	471.8	1060.	379.4	450.1	714.3
13	CCV	5.407	5.302	5.103	4.828	5.257	5.005
14	CCB	.0203	.0270	-.0030	.0018	.0463	.0113
15	S95T003418_L	460.6	107.9	682.9	-2.966	100.3	135.4
16	S95T003418	483.0	79.55	702.3	-.9579	22.62	143.5
17	S95T003418_D	467.3	78.30	690.2	3.319	16.68	139.3
18	S95T003418-A	895.9	482.6	1084.	381.9	451.6	556.4
19	S95T003422-L	519.5	100.5	694.4	-1.820	99.65	93.86
20	S95T003422	494.9	91.77	689.2	-1.147	27.04	97.75
21	S95T003422_D	458.8	85.89	655.2	-1.356	25.38	102.7
22	S95T003422-A	890.9	494.1	1062.	378.2	449.5	491.9
23	ICSA	.0286	.0592	-.0240	-.0016	.0293	.0136
24	ICSA_B	.0589	1.048	-.0257	-.0062	.0220	.0156
25	CCV_1	5.382	5.316	5.158	4.821	5.301	5.013
26	CCB_1	.0161	.0155	.0104	-.0031	.0478	.0141

#	Sample Name	Sm	Sr	Th	Ti	Tl	U
1	ICV	5.095	5.013	-.0442	4.827	5.021	9.872
2	ICB	.0085	.0001	-.0029	.0002	-.0054	.0279
3	ICSA	.0012	-.0025	-.0228	.0012	.0011	.1774
4	ICSA_B	.0010	-.0025	-.0312	.0013	.0089	.1680
5	S95T003394_L	15.60	.9507	-1.921	.3746	-20.30	58.59
6	S95T003394	.2010	.9554	.0161	.1478	-7.846	16.34
7	S95T003394_D	3.969	1.003	1.064	.2365	-6.520	14.56
8	S95T003394-A	404.7	398.1	-5.591	385.6	406.9	791.2
9	S95T003396-L	31.15	.9462	-1.335	.3738	-46.56	109.3
10	S95T003396	6.919	.9862	-1.836	.2204	-3.443	31.16
11	S95T003396_D	5.634	.9535	-1.974	.0582	-2.791	38.64

WILLIAMSON 162, REV. 1

#	Sample Name	Sm	Sr	Th	Ti	Tl	U
12	S95T003396_A	403.0	397.2	-6.522	382.8	396.7	802.0
13	CCV	5.172	5.121	-.0498	4.938	5.195	10.04
14	CCB	.0150	.0003	.0010	.0000	-.0262	.0605
15	S95T003418_L	31.82	1.105	-4.437	1.523	-14.99	124.7
16	S95T003418	7.015	.9211	-1.054	.5294	-7.910	42.93
17	S95T003418_D	5.910	.9071	1.648	.1602	-4.808	21.78
18	S95T003418_A	406.8	400.2	-4.672	385.0	397.6	805.7
19	S95T003422_L	29.07	.9462	-3.644	-.0310	-47.28	114.4
20	S95T003422	6.736	1.193	-1.971	.4506	-13.43	36.46
21	S95T003422_D	5.639	1.145	-2.668	.2910	-1.587	34.91
22	S95T003422_A	404.5	395.0	-5.055	380.3	385.5	795.5
23	ICSA	.0119	-.0028	-.0333	.0015	.0347	.1611
24	ICSA_B	.0075	-.0027	-.0284	.0012	-.0217	.1402
25	CCV_1	5.143	5.074	-.0373	4.939	5.222	9.964
26	CCB_1	.0166	.0004	-.0038	-.0004	-.0128	.0676

#	Sample Name	V	Y	Zn	Zr
1	ICV	4.960	.0102	4.938	4.899
2	ICB	.0018	.0005	.0006	.0018
3	ICSA	-.0003	.0119	.0053	.0008
4	ICSA_B	.4647	.0119	.9691	.0012
5	S95T003394_L	2.606	.9183	30.70	2.251
6	S95T003394	.4845	.0559	26.62	.2946
7	S95T003394_D	.9085	.2453	31.75	.2106
8	S95T003394_A	399.0	1.173	434.3	394.3
9	S95T003396_L	4.943	1.526	105.6	1.593
10	S95T003396	1.677	.3326	98.47	1.063
11	S95T003396_D	1.422	.3609	107.4	.7429
12	S95T003396_A	396.5	1.043	509.0	392.2
13	CCV	5.110	.0108	5.085	5.023
14	CCB	.0034	.0010	.0004	.0015
15	S95T003418_L	6.753	1.991	169.0	3.444
16	S95T003418	1.774	.4533	159.6	1.423
17	S95T003418_D	1.563	.3995	149.7	.5810
18	S95T003418_A	397.3	1.041	552.7	395.0
19	S95T003422_L	6.153	1.523	50.53	1.778
20	S95T003422	1.843	.4247	33.37	1.510
21	S95T003422_D	1.667	.3310	32.21	1.457
22	S95T003422_A	394.8	1.234	430.0	391.1
23	ICSA	.0025	.0126	.0041	.0030
24	ICSA_B	.4747	.0125	.9886	.0025
25	CCV_1	5.112	.0112	5.097	4.996
26	CCB_1	.0041	.0011	-.0005	.0027

WHC-SN-WMA-ND-162, REV. 1

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WHC-SD-WM-OP-162, REV.1

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LABCORE Data Entry Template for Worklist# 4600

Analyst: B. Coyle Instrument: ICP01 Book# 508481
ICP01
*On 1-5-96*Method: LA-505-151/161 Rev/Mod B-C
Rev 4-96

Worklist Comment: ICP BY-105 (ACID DIGEST)

S Type	Sample#	R A	Test	Matrix	Group#	Project
1	ICV		@ICP-QC	QC		
2	ICB		@ICP-QC	QC		
3	ICSA		@ICP-QC	QC		
4	ICSAB		@ICP-QC	QC		
5	PREPSTDJTJA		@ICP-A01	SOLID		
6	PREPBKLTJA		@ICP-A01	SOLID		
7	SAMPLE	S95T003501 0 A	@ICP-A01	SOLID	95000125	BY-105 (R)
	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					
8	DUP	S95T003501 0 A	@ICP-A01	SOLID		
9	SPK-PREDIG	S95T003501 0 A	@ICP-A01	SOLID		
10	CCV		@ICP-QC	QC		
11	CCB		@ICP-QC	QC		
12	SAMPLE	S95T003502 0 A	@ICP-A01	SOLID	95000125	BY-105 (R)
	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					

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 4600

S Type	Sample#	R	A	Test	Matrix	Group#	Project
13 DUP	S95T003502	0	A	@ICP-A01	SOLID		
14 SAMPLE	S95T003503	0	A	@ICP-A01	SOLID	95000125	BY-105 (R)
Analytes Requested: AG-A-01 , AL-A-01 , AS-A-01 , B-A-01 , BA-A-01 , BE-A-01 , BI-A-01 , CA-A-01 , CD-A-01 , CE-A-01 , CO-A-01 , CR-A-01 , CU-A-01 , FE-A-01 , K-A-01 , LA-A-01 , LI-A-01 , MG-A-01 , MN-A-01 , MO-A-01 , NA-A-01 , ND-A-01 , NI-A-01 , P-A-01 , PB-A-01 , S-A-01 , SB-A-01 , SE-A-01 , SI-A-01 , SM-A-01 , SR-A-01 , TI-A-01 , TL-A-01 , U-A-01 , V-A-01 , ZN-A-01 , ZR-A-01							
15 DUP	S95T003503	0	A	@ICP-A01	SOLID		
16 SAMPLE	S95T003504	0	A	@ICP-A01	SOLID	95000125	BY-105 (R)
Analytes Requested: AG-A-01 , AL-A-01 , AS-A-01 , B-A-01 , BA-A-01 , BE-A-01 , BI-A-01 , CA-A-01 , CD-A-01 , CE-A-01 , CO-A-01 , CR-A-01 , CU-A-01 , FE-A-01 , K-A-01 , LA-A-01 , LI-A-01 , MG-A-01 , MN-A-01 , MO-A-01 , NA-A-01 , ND-A-01 , NI-A-01 , P-A-01 , PB-A-01 , S-A-01 , SB-A-01 , SE-A-01 , SI-A-01 , SM-A-01 , SR-A-01 , TI-A-01 , TL-A-01 , U-A-01 , V-A-01 , ZN-A-01 , ZR-A-01							
17 DUP	S95T003504	0	A	@ICP-A01	SOLID		
18 CCV				@ICP-QC	QC		
19 CCB				@ICP-QC	QC		
20 SAMPLE	S95T003505	0	A	@ICP-A01	SOLID	95000125	BY-105 (R)
Analytes Requested: AG-A-01 , AL-A-01 , AS-A-01 , B-A-01 , BA-A-01 , BE-A-01 , BI-A-01 , CA-A-01 , CD-A-01 , CE-A-01 , CO-A-01 , CR-A-01 , CU-A-01 , FE-A-01 , K-A-01 , LA-A-01 , LI-A-01 , MG-A-01 , MN-A-01 , MO-A-01 , NA-A-01 , ND-A-01 , NI-A-01 , P-A-01 , PB-A-01 , S-A-01 , SB-A-01 , SE-A-01 , SI-A-01 , SM-A-01 , SR-A-01 , TI-A-01 , TL-A-01 , U-A-01 , V-A-01 , ZN-A-01 , ZR-A-01							
21 DUP	S95T003505	0	A	@ICP-A01	SOLID		
22 ICSA				@ICP-QC	QC		
23 ICSAB				@ICP-QC	QC		

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 4600

S Type	Sample#	R A	Test	Matrix	Group#	Project
24 CCV			@ICP-QC	QC		
25 CCB			@ICP-QC	QC		

Final page for worklist # 4600

[Signature]
Analyst Signature 1-28-96
Date

Revised by:
[Signature] 1-31-96
Analyst Signature Date

PREPSTSA 10
PREP BUA TA 1
SSTW SSTL 10
SSTW SSTL 2
SSTW SSTL-D 2
SSTW SSTL-S 2
SSTW SSTL-L 10
SSTW SSTL 2
SSTW SSTL-D 2
SSTW SSTL-L 10
SSTW SSTL 2
SSTW SSTL-D 2
SSTW SSTL-L 10
SSTW SSTL 2
SSTW SSTL-D 2
SSTW SSTL-L 10
SSTW SSTL 2
SSTW SSTL-D 2
SSTW SSTL-L 10
SSTW SSTL 2
SSTW SSTL-D 2

Data Entry Comments:

#	Sample Name	File	Method	Date	Time	OpID	Type	Mode
1	ICV	960129B	ICP2	01/29/96	13:01	BJG	Q	CONC
2	ICB	960129B	ICP2	01/29/96	13:04	BJG	Q	CONC
3	ICSA	960129B	ICP2	01/29/96	13:07	BJG	Q	CONC
4	ICSAB	960129B	ICP2	01/29/96	13:10	BJG	Q	CONC
5	PREPSTDJTJA	960129B	ICP2	01/29/96	13:15	BJG	S	CONC
6	PREPBLKTJA	960129B	ICP2	01/29/96	13:18	BJG	S	CONC
7	S95T003501-L	960129B	ICP2	01/29/96	13:24	BJG	S	CONC
8	S95T003501-D	960129B	ICP2	01/29/96	13:28	BJG	S	CONC
9	S95T003501-S	960129B	ICP2	01/29/96	13:32	BJG	S	CONC
10	S95T003501-S	960129B	ICP2	01/29/96	13:35	BJG	S	CONC
11	CCV	960129B	ICP2	01/29/96	13:45	BJG	Q	CONC
12	CCB	960129B	ICP2	01/29/96	13:51	BJG	Q	CONC
13	S95T003502-L	960129B	ICP2	01/29/96	13:55	BJG	S	CONC
14	S95T003502-L	960129B	ICP2	01/29/96	14:01	BJG	S	CONC
15	S95T003502-D	960129B	ICP2	01/29/96	14:05	BJG	S	CONC
16	S95T003503-L	960129B	ICP2	01/29/96	14:09	BJG	S	CONC
17	S95T003503	960129B	ICP2	01/29/96	14:12	BJG	S	CONC
18	S95T003503-D	960129B	ICP2	01/29/96	14:16	BJG	S	CONC
19	S95T003504-L	960129B	ICP2	01/29/96	14:20	BJG	S	CONC
20	S95T003504	960129B	ICP2	01/29/96	14:25	BJG	S	CONC
21	S95T003504-D	960129B	ICP2	01/29/96	14:28	BJG	S	CONC
22	CCV	960129B	ICP2	01/29/96	14:33	BJG	Q	CONC
23	CCB	960129B	ICP2	01/29/96	14:36	BJG	Q	CONC
24	S95T003505-L	960129B	ICP2	01/29/96	14:40	BJG	S	CONC
25	S95T003505	960129B	ICP2	01/29/96	14:47	BJG	S	CONC
26	S95T003505-D	960129B	ICP2	01/29/96	14:50	BJG	S	CONC
27	ICSA	960129B	ICP2	01/29/96	15:03	BJG	Q	CONC
28	ICSAB	960129B	ICP2	01/29/96	15:06	BJG	Q	CONC
29	CCV	960129B	ICP2	01/29/96	15:10	BJG	Q	CONC
30	CCB	960129B	ICP2	01/29/96	15:13	BJG	Q	CONC

WHC-SD-WM-00 152 REV. 1

Signature
1-29-96
BY: [Signature] M. J. Jester
Date: 1-29-96
S95T003501-05

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 249 TO 254.

#	Sample Name	Ag	Al	As	B	Ba	Be
1	ICV	4.988	4.869	5.134	4.942	4.990	5.110
2	ICB	.0016	.0024	-.0031	.0061	.0002	.0001
3	ICSA	.0017	239.5	-.0407	-.0014	.0033	.0003
4	ICSAB	.9758	240.5	-.0247	.0112	.4866	.4808
5	PREPSTD TJJA	.9389	4.800	4.826	5.348	4.735	5.170
6	PREPBLKTJA	.0007	.0247	.0000	.0815	.0003	.0000
7	S95T003501 L	.0636	100.3	-.0420	.0621	.0101	.0011
8	S95T003501	.0646	94.44	-.0159	.0717	.0095	.0007
9	S95T003501 D	.0719	116.3	-.0115	.0990	.0118	.0014
10	S95T003501 S	.8681	94.90	4.220	4.154	4.015	4.295
11	CCV	4.992	4.851	5.145	4.979	4.947	5.119
12	CCB	.0008	-.0026	-.0006	.0061	.0001	.0002
13	S95T003502 L	.0756	159.5	.0081	.1810	.0192	.0006
14	S95T003502	.0744	151.8	-.0479	.1713	.0174	.0015
15	S95T003502 D	.0740	129.5	-.0035	.0962	.0180	.0013
16	S95T003503 L	.0870	110.0	-.0431	.1329	.0220	.0014
17	S95T003503	.0800	103.4	-.0434	.0890	.0202	.0009
18	S95T003503 D	.0886	99.76	-.0266	.1153	.0240	.0013
19	S95T003504 L	.0879	26.86	.1880	.1366	.0084	.0018
20	S95T003504	.0931	25.63	-.0151	.0857	.0084	.0004
21	S95T003504 D	.0940	24.51	-.0148	.0920	.0095	.0005
22	CCV	5.031	4.908	5.202	4.949	5.019	5.134
23	CCB	.0015	.0067	-.0044	.0026	.0001	.0002
24	S95T003505 L	.0847	22.53	.0752	.0617	.0060	-.0000
25	S95T003505	.0726	21.95	-.0233	.0494	.0060	.0003
26	S95T003505 D	.1432	25.61	-.0217	.0368	.0176	.0003
27	ICSA	-.0007	238.5	-.0234	-.0022	.0033	.0001
28	ICSAB	.9585	231.6	-.0184	.0070	.4710	.4708
29	CCV	4.954	4.787	5.120	4.894	4.912	5.071
30	CCB	.0010	-.0015	.0020	.0053	.0003	-.0000

#	Sample Name	Bi	Ca	Cd	Ce	Co	Cr
1	ICV	5.097	5.024	5.032	5.123	5.097	5.106
2	ICB	-.0217	.0030	-.0002	.0027	.0017	.0011
3	ICSA	.0214	244.6	.0015	.0165	.0034	-.0025
4	ICSAB	.0132	250.4	.9610	.0135	.4799	.4843
5	PREPSTD TJJA	4.765	4.901	4.719	4.878	4.822	4.824
6	PREPBLKTJA	.0122	.0407	-.0001	.0083	.0034	.0026
7	S95T003501 L	.0870	.9793	.0253	-.0400	.0362	1.165
8	S95T003501	.2201	.9283	.0252	.0120	.0303	1.109
9	S95T003501 D	.3225	1.287	.0338	.0121	.0366	1.359
10	S95T003501 S	4.161	5.012	4.066	4.137	4.100	5.182
11	CCV	5.129	5.136	5.023	5.058	5.106	5.116
12	CCB	-.0169	-.0007	.0005	-.0033	.0012	.0009
13	S95T003502 L	.4948	1.278	.0529	-.0058	.0651	1.425
14	S95T003502	.5381	1.224	.0502	.0080	.0496	1.348
15	S95T003502 D	.2252	1.308	.0455	.0215	.0477	1.277
16	S95T003503 L	.3286	1.777	.0530	-.0762	.0844	1.748
17	S95T003503	.2031	1.707	.0468	.0129	.0520	1.640
18	S95T003503 D	.1026	1.305	.0473	.0349	.0526	1.654
19	S95T003504 L	.0665	1.137	.0407	-.0058	.0555	1.742

WHC-SD-WM-DP-162, REV. 1

Analysis Report

Averages

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#	Sample Name	Bi	Ca	Cd	Ce	Co	Cr
20	S95T003504	.1897	.8969	.0254	.0196	.0332	1.629
21	S95T003504_D	.5456	.9899	.0268	.0292	.0341	1.622
22	CCV	5.143	5.147	5.052	5.134	5.134	5.150
23	CCB	-.0128	.0014	-.0001	.0072	.0039	.0028
24	S95T003505_L	-.5500	.7564	.0080	-.0104	.0122	.9380
25	S95T003505_	.1695	.7288	.0064	.0080	.0145	.9101
26	S95T003505_D	.2384	1.005	.0184	-.0108	.0323	1.978
27	ICSA	.0025	.246.6	.0003	.0054	.0020	-.0040
28	ICSAB	-.0257	.248.1	.9429	.0178	.4675	.4780
29	CCV	5.054	5.167	5.014	4.999	5.077	5.092
30	CCB	-.0346	.0026	.0005	.0062	.0013	.0010

#	Sample Name	Cu	Eu	Fe	K	La	Li
1	ICV	5.091	-.0006	5.065	4.915	5.047	4.961
2	ICB	.0013	.0016	.0002	.2357	.0012	.0013
3	ICSA	-.0078	-.0252	94.37	.1972	-.0032	.0031
4	ICSAB	.4802	-.0308	95.21	-.0706	-.0044	.9698
5	PREPSTDITJA	4.710	-.0010	4.783	4.720	4.816	4.698
6	PREPBLKTJA	.0088	-.0003	.0188	-.0289	.0010	.0001
7	S95T003501_L	.0374	.0070	1.734	3.409	.0230	.0044
8	S95T003501_	.0239	.0002	1.653	2.991	.0198	-.0003
9	S95T003501_D	.0209	.0007	1.809	3.334	.0343	.0004
10	S95T003501-S	4.009	-.0003	5.419	7.024	4.119	4.060
11	CCV	5.047	.0002	5.085	4.970	4.960	4.942
12	CCB	.0004	.0010	-.0007	-.0387	-.0002	.0008
13	S95T003502_L	.0411	.0042	2.922	4.276	.0237	.0044
14	S95T003502_D	.2945	.0001	2.804	2.424	.0179	.0004
15	S95T003502_	.0246	.0003	3.476	3.046	.0446	.0010
16	S95T003503-L	.0452	.0048	3.084	2.534	.0061	.0077
17	S95T003503_	.0318	.0013	2.903	3.104	.0126	.0014
18	S95T003503_D	.0194	.0017	2.928	3.692	.0165	.0019
19	S95T003504-L	.0255	.0112	1.499	3.271	.0077	.0111
20	S95T003504_	.0177	.0010	1.429	4.019	.0186	.0008
21	S95T003504_D	.0100	-.0011	2.111	3.961	.1061	-.0007
22	CCV	5.104	-.0006	5.122	5.189	5.033	4.988
23	CCB	.0011	.0011	-.0007	.1329	.0021	.0012
24	S95T003505_L	.0219	.0080	.6527	3.711	.0198	.0089
25	S95T003505_	.0148	.0024	.6259	3.057	.0154	.0031
26	S95T003505_D	.0088	.0021	1.908	2.984	.0168	.0028
27	ICSA	-.0094	-.0329	94.37	-.0814	-.0059	.0040
28	ICSAB	.4643	-.0347	93.33	.1960	-.0034	.9462
29	CCV	4.992	.0004	5.048	5.115	4.923	4.843
30	CCB	.0004	.0027	-.0002	-.1703	.0022	.0029

#	Sample Name	Mg	Mn	Mo	Na	Nd	Ni
1	ICV	4.861	4.946	5.076	4.970	5.098	5.036
2	ICB	.0149	.0006	-.0046	.0130	.0035	-.0014
3	ICSA	240.4	-.0062	-.0133	194.4	.0168	-.0088
4	ICSAB	241.9	.4560	-.0105	196.1	.0179	.9313
5	PREPSTDITJA	4.640	4.707	4.819	5.488	4.694	4.796

W/C-SD-WM-PP-162, REV.1

#	Sample Name	Mg	Mn	Mo	Na	Nd	Ni
6	PREPBLKTJA	.0108	.0005	-.0005	.1532	.0026	.0020
7	S95T003501 L	.1485	.1025	.0073	940.6	.0314	.2856
8	S95T003501-	.1190	.0936	.0186	873.8	.0147	.2609
9	S95T003501 D	.1534	.1151	.0294	944.7	.0190	.3180
10	S95T003501-S	3.963	4.021	4.121	970.4	3.994	4.291
11	CCV	4.860	4.954	5.069	4.919	5.014	5.023
12	CCB	.0051	.0008	.0010	.0088	.0021	-.0041
13	S95T003502 L	.2343	.1793	.0145	1020	.0247	.4650
14	S95T003502-	.1639	.1675	.0210	957.1	.0192	.5435
15	S95T003502 D	.1672	.1633	.0167	946.5	.0175	.5136
16	S95T003503-L	.2604	.2033	.0215	1125	.0504	.6268
17	S95T003503-	.1611	.1877	.0203	1047	.0202	.6165
18	S95T003503 D	.1741	.1968	.0157	1110	.0312	.6478
19	S95T003504-L	.1011	.4109	.0192	1015	.0378	.3356
20	S95T003504-	.1199	.3834	.0199	960.5	.0281	.3141
21	S95T003504 D	.1577	.3817	.0212	1004	.0275	.3208
22	CCV	4.920	4.982	5.113	4.957	5.083	5.069
23	CCB	.0081	.0006	.0014	.0071	.0033	-.0007
24	S95T003505 L	.0684	.1505	-.0415	1024	.0462	.0673
25	S95T003505-	.0634	.1437	.0143	978.5	.0214	.1133
26	S95T003505 D	.0942	.7110	.0181	1182	.0424	.3886
27	ICSA	240.1	-.0059	-.0133	193.2	.0089	.0001
28	ICSA B	237.4	.4468	-.0155	190.5	.0026	.9133
29	CCV	4.812	4.928	5.059	4.848	4.969	5.018
30	CCB	.0003	.0011	-.0018	.0231	.0013	.0056

#	Sample Name	P	Pb	S	Sb	Se	Si
1	ICV	5.196	5.084	4.892	4.793	4.893	4.751
2	ICB	-.0049	-.0008	-.0005	-.0040	.0338	.0091
3	ICSA	.0212	.0438	-.0257	.0005	.0088	.0104
4	ICSA B	.0013	1.056	-.0297	-.0009	-.0204	.0222
5	PREPSTDTJA	4.876	4.737	4.634	4.500	4.725	7.187
6	PREPBLKTJA	.0063	.0079	.0534	.0041	.0412	.0404
7	S95T003501 L	5.772	.1371	13.04	.0024	.1222	.9833
8	S95T003501-	5.616	.2282	12.35	.0003	.0766	.9282
9	S95T003501 D	7.287	.2714	15.37	.0190	.0950	1.273
10	S95T003501-S	9.332	4.251	16.09	3.890	4.137	4.627
11	CCV	5.230	5.086	4.924	4.799	4.959	4.784
12	CCB	-.0047	.0104	-.0196	.0022	.0400	.0125
13	S95T003502 L	10.77	.3193	27.66	-.0311	.2772	1.763
14	S95T003502-	10.63	.2830	26.43	-.0049	.0547	1.675
15	S95T003502 D	11.31	.2814	26.47	-.0010	.0367	1.627
16	S95T003503-L	6.563	.4293	18.21	.0295	.3577	1.262
17	S95T003503-	6.225	.2786	17.19	-.0032	.0849	1.182
18	S95T003503 D	6.475	.3175	18.93	.0052	.0750	1.472
19	S95T003504-L	1.222	.3015	20.99	.0925	.4291	.6913
20	S95T003504-	1.093	.1842	20.38	.0110	.0796	.5975
21	S95T003504 D	1.678	.1403	21.01	-.0011	.0622	.9438
22	CCV	5.247	5.118	4.918	4.803	4.968	4.801
23	CCB	-.0067	.0270	-.0194	-.0010	.0449	.0081
24	S95T003505 L	1.528	.0870	2.326	.0305	.2842	.4230
25	S95T003505-	1.484	.1272	2.370	.0142	.0987	.4020

WHC-SP-WM-DP-162, REV. 1

#	Sample Name	P	Pb	S	Sb	Se	Si
26	S95T003505_D	.8420	.2040	9.497	.0013	.0658	.5096
27	ICSA	.0134	.0464	-.0403	.0021	-.0217	.0116
28	ICSAB	-.0019	1.031	-.0371	.0030	.0275	.0196
29	CCV	5.193	5.095	4.885	4.772	4.874	4.740
30	CCB	-.0038	.0024	-.0106	.0007	.0424	.0138

#	Sample Name	Sm	Sr	Th	Ti	Tl	U
1	ICV	4.916	4.974	.0088	4.901	4.830	9.549
2	ICB	.0187	.0002	-.0013	.0007	-.0031	.0658
3	ICSA	.0150	-.0021	.0090	.0024	-.0216	.1753
4	ICSAB	.0183	-.0020	.0243	.0024	-.0107	.1390
5	PREPSTDITJA	4.654	4.740	.0083	4.660	4.562	9.121
6	PREPBLKTJA	-.0031	.0000	.0034	.0010	-.0114	-.0045
7	S95T003501_L	.0594	.3618	-.0089	.0066	-.2052	1.231
8	S95T003501_S	-.0054	.3451	.0177	.0053	-.0140	.8939
9	S95T003501_D	-.0099	.4145	.0308	.0062	-.0109	1.088
10	S95T003501_S	3.972	4.354	.0340	3.984	3.790	8.589
11	CCV	4.836	4.909	.0160	4.862	4.808	9.460
12	CCB	.0123	.0003	-.0006	.0005	-.0177	.0658
13	S95T003502_L	.0432	.6828	.0394	.0135	-.3113	2.061
14	S95T003502_S	-.0152	.6595	.0420	.0074	-.0453	1.738
15	S95T003502_D	-.0100	.6547	.0422	.0060	-.0683	1.688
16	S95T003503_L	.1146	.7847	.0165	.0108	.1467	2.678
17	S95T003503_S	-.0017	.7491	.0447	.0086	.0235	2.212
18	S95T003503_D	.0209	.7712	.0553	.0110	-.0331	2.385
19	S95T003504_L	.1348	.1332	.0604	.0068	.1274	1.594
20	S95T003504_S	.0030	.1267	.0711	.0055	-.0126	1.012
21	S95T003504_D	-.0236	.1291	.0845	.0046	-.0232	.9294
22	CCV	4.892	4.975	.0234	4.908	4.839	9.556
23	CCB	.0139	.0001	.0066	.0007	.0116	.0689
24	S95T003505_L	.0698	.1720	.0503	.0047	-.0125	.6593
25	S95T003505_S	.0256	.1677	.0094	.0056	-.0153	.4357
26	S95T003505_D	.0278	.5382	.0363	.0043	-.0509	1.298
27	ICSA	.0218	-.0030	.0128	.0014	-.0099	.1758
28	ICSAB	.0289	-.0024	.0081	.0026	.0189	.1811
29	CCV	4.785	4.875	.0103	4.818	4.801	9.348
30	CCB	.0349	.0006	-.0014	.0005	.0021	.1308

#	Sample Name	V	Y	Zn	Zr
1	ICV	5.004	.0070	5.005	4.942
2	ICB	.0037	.0010	-.0001	.0034
3	ICSA	.0021	.0100	-.0040	-.0002
4	ICSAB	.4752	.0104	.9716	-.0016
5	PREPSTDITJA	4.697	.0056	4.645	4.702
6	PREPBLKTJA	.0004	-.0001	.0033	.0004
7	S95T003501_L	.0136	.0042	.2582	.0333
8	S95T003501_S	.0037	.0004	.1168	.0167
9	S95T003501_D	.0051	.0008	.1444	.0209
10	S95T003501_S	3.988	.0056	4.134	4.054
11	CCV	5.003	.0077	5.047	4.892

WHC-SD-WM-DD-162, REV.1

#	Sample Name	V	Y	Zn	Zr
12	CCB	.0022	.0007	.0018	.0020
13	S95T003502 L	.0136	.0038	.2405	.0492
14	S95T003502 -	.0106	.0014	.2255	.0344
15	S95T003502 D	.0134	.0015	.2020	.0330
16	S95T003503 -L	.0251	.0067	.2076	.0638
17	S95T003503 -	.0118	.0025	.1859	.0418
18	S95T003503 D	.0177	.0032	.1719	.0476
19	S95T003504 -L	.0183	.0111	.1270	.0412
20	S95T003504 -	.0013	.0038	.1344	.0207
21	S95T003504 -D	-.0028	.0023	.0820	.0156
22	CCV	5.038	.0074	5.064	4.944
23	CCB	.0026	.0007	.0024	.0014
24	S95T003505 L	.0148	.0060	.0809	.0227
25	S95T003505 -	.0055	.0020	.0686	.0110
26	S95T003505 D	.0036	.0052	.0855	.0284
27	ICSA	.0037	.0104	-.0051	-.0006
28	ICSAB	.4672	.0092	.9631	.0011
29	CCV	4.970	.0078	5.029	4.864
30	CCB	.0065	.0017	.0009	.0047

WHC-SN-WM-DP-162, REV. 1

SP
1/31/96

LABCORE Data Entry Template for Worklist# 4601

Analyst: B COCKE Instrument: ICPOT Book# 30849A

Method: LA-505-151/161 Rev/Mod 8-0 WHC-SD-WM-OP-162, REV. 1

Worklist Comment: ICP BY-105 (ACID DIGEST)

S Type	Sample#	R A	Test	Matrix	Group#	Project
1	ICV		@ICP-QC	QC		
2	ICB		@ICP-QC	QC		
3	ICSA		@ICP-QC	QC		
4	ICSAB		@ICP-QC	QC		
5	PREPSTDITJA		@ICP-A01	SOLID		
6	PREPBLKTJA		@ICP-A01	SOLID		
7	SAMPLE	S95T003506 0 A	@ICP-A01	SOLID	95000125	BY-105 (R)
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						
8	DUP	S95T003506 0 A	@ICP-A01	SOLID		
9	SPK-PREDIG	S95T003506 0 A	@ICP-A01	SOLID		
10	CCV		@ICP-QC	QC		
11	CCB		@ICP-QC	QC		
12	SAMPLE	S95T003507 0 A	@ICP-A01	SOLID	95000125	BY-105 (R)
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						

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 4601

S Type	Sample#	R A	Test	Matrix	Group#	Project
13 DUP	S95T003507	0 A	@ICP-A01	SOLID		
14 SAMPLE	S95T003508	0 A	@ICP-A01	SOLID	95000125	BY-105 (R)
Analytes Requested: AG-A-01 , AL-A-01 , AS-A-01 , B-A-01 , BA-A-01 , BE-A-01 , BI-A-01 , CA-A-01 , CD-A-01 , CE-A-01 , CO-A-01 , CR-A-01 , CU-A-01 , FE-A-01 , K-A-01 , LA-A-01 , LI-A-01 , MG-A-01 , MN-A-01 , MO-A-01 , NA-A-01 , ND-A-01 , NI-A-01 , P-A-01 , PB-A-01 , S-A-01 , SB-A-01 , SE-A-01 , SI-A-01 , SM-A-01 , SR-A-01 , TI-A-01 , TL-A-01 , U-A-01 , V-A-01 , ZN-A-01 , ZR-A-01						
15 DUP	S95T003508	0 A	@ICP-A01	SOLID		
16 SAMPLE	S95T003509	0 A	@ICP-A01	SOLID	95000125	BY-105 (R)
Analytes Requested: AG-A-01 , AL-A-01 , AS-A-01 , B-A-01 , BA-A-01 , BE-A-01 , BI-A-01 , CA-A-01 , CD-A-01 , CE-A-01 , CO-A-01 , CR-A-01 , CU-A-01 , FE-A-01 , K-A-01 , LA-A-01 , LI-A-01 , MG-A-01 , MN-A-01 , MO-A-01 , NA-A-01 , ND-A-01 , NI-A-01 , P-A-01 , PB-A-01 , S-A-01 , SB-A-01 , SE-A-01 , SI-A-01 , SM-A-01 , SR-A-01 , TI-A-01 , TL-A-01 , U-A-01 , V-A-01 , ZN-A-01 , ZR-A-01						
17 DUP	S95T003509	0 A	@ICP-A01	SOLID		
18 ICSA			@ICP-QC	QC		
19 IC SAB			@ICP-QC	QC		
20 CCV			@ICP-QC	QC		
21 CCB			@ICP-QC	QC		

Final page for worklist # 4601

Analyst Signature		Date	Reminded by: Saul M. Pary		Date
246, 250, 251	1-23-86	S95T003507-L	10	S95T003508-L	10
246, 248, 251	1	S95T003507	2	S95T003508	2
S95T003506-L	10	S95T003507-D	2	S95T003508-D	2
S95T003506	2	S95T003508-L	10		
S95T003506-D	2	S95T003508	2		
S95T003506-S	2	S95T003508-D	2		
Data Entry Comments:					

#	Sample Name	File	Method	Date	Time	OpID	Type	Mode
1	ICV	960130B	ICP2	01/30/96	12:03	DKS	Q	CONC
2	ICB	960130B	ICP2	01/30/96	12:07	DKS	Q	CONC
3	ICSA	960130B	ICP2	01/30/96	12:10	DKS	Q	CONC
4	ICSAB	960130B	ICP2	01/30/96	12:13	DKS	Q	CONC
5	PREPSTDTJA	960130B	ICP2	01/30/96	12:19	DKS	S	CONC
6	PREPBLKTJA	960130B	ICP2	01/30/96	12:23	DKS	S	CONC
7	S95T003506-L	960130B	ICP2	01/30/96	12:27	DKS	S	CONC
8	S95T003506-	960130B	ICP2	01/30/96	12:30	DKS	S	CONC
9	S95T003506-D	960130B	ICP2	01/30/96	12:34	DKS	S	CONC
10	S95T003506-S	960130B	ICP2	01/30/96	12:42	DKS	S	CONC
11	CCV	960130B	ICP2	01/30/96	12:48	DKS	Q	CONC
12	CCB	960130B	ICP2	01/30/96	12:52	DKS	Q	CONC
13	S95T003507-L	960130B	ICP2	01/30/96	12:56	DKS	S	CONC
14	S95T003507-	960130B	ICP2	01/30/96	12:59	DKS	S	CONC
15	S95T003507-D	960130B	ICP2	01/30/96	13:02	DKS	S	CONC
16	S95T003508-L	960130B	ICP2	01/30/96	13:05	DKS	S	CONC
17	S95T003508-	960130B	ICP2	01/30/96	13:09	DKS	S	CONC
18	S95T003508-D	960130B	ICP2	01/30/96	13:12	DKS	S	CONC
19	S95T003509-L	960130B	ICP2	01/30/96	13:15	DKS	S	CONC
20	S95T003509-	960130B	ICP2	01/30/96	13:19	DKS	S	CONC
21	S95T003509-D	960130B	ICP2	01/30/96	13:22	DKS	S	CONC
22	ICSA	960130B	ICP2	01/30/96	13:26	DKS	Q	CONC
23	ICSAB	960130B	ICP2	01/30/96	13:29	DKS	Q	CONC
24	CCV-1	960130B	ICP2	01/30/96	13:33	DKS	Q	CONC
25	CCB-1	960130B	ICP2	01/30/96	13:36	DKS	Q	CONC

WHC-SN-MM-PP-162, REV. 1

JK

01-30-96

BY-105 345T003506-345T003509

WORKLIST = 4401

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 257 TO 261.

#	Sample Name	Ag	Al	As	B	Ba	Be
1	ICV	5.006	4.974	5.142	5.015	5.130	5.245
2	ICB	.0009	.0057	-.0266	.0009	.0001	.0001
3	ICSA	.0016	.245.6	-.0818	.0067	.0033	.0002
4	ICSAB	.9782	.242.2	-.0959	.0070	.4999	.4854
5	PREPSTDJTJA	.9245	4.916	4.795	5.074	4.889	5.350
6	PREPBLKTJA	.0024	.1395	-.0165	.4744	.0012	.0005
7	S95T003506 L	.0915	93.27	-.1792	.0833	.0122	.0026
8	S95T003506	.0833	89.25	-.0833	.0739	.0114	.0015
9	S95T003506 D	.0951	129.9	-.0771	.0810	.0157	.0016
10	S95T003506 S	.9063	124.4	4.224	4.238	4.308	4.568
11	CCV	5.081	5.071	5.269	5.078	5.257	5.324
12	CCB	.0020	.0074	-.0042	.0022	.0001	.0001
13	S95T003507 L	.0673	74.16	-.1632	.0913	.0098	.0026
14	S95T003507	.0611	71.22	-.0506	.1088	.0091	.0018
15	S95T003507 D	.0688	103.6	-.0928	.1038	.0139	.0018
16	S95T003508 L	.0804	165.1	-.3087	.1187	.0163	.0044
17	S95T003508	.0656	158.9	-.0522	.1569	.0165	.0028
18	S95T003508 D	.0656	153.3	-.0633	.1066	.0181	.0033
19	S95T003509 L	.0879	269.3	-.1784	.0575	.0188	.0055
20	S95T003509	.0715	261.3	-.1034	.0715	.0181	.0039
21	S95T003509 D	.0814	256.4	-.0985	.0714	.0184	.0030
22	ICSA	.0028	248.6	-.0756	.0005	.0036	.0004
23	ICSAB	.9889	244.5	-.0825	-.0005	.5099	.4967
24	CCV 1	5.084	5.036	5.232	5.055	5.243	5.302
25	CCB 1	.0013	.0096	-.0064	.0013	.0001	.0002

#	Sample Name	Bi	Ca	Cd	Ce	Co	Cr
1	ICV	5.125	5.115	5.008	5.234	5.054	5.115
2	ICB	-.0057	.0011	.0008	.0045	-.0005	.0008
3	ICSA	-.0387	247.7	-.0002	.0181	.0000	-.0028
4	ICSAB	-.0261	248.6	.9439	.0204	.4661	.4820
5	PREPSTDJTJA	4.740	4.868	4.614	5.002	4.712	4.764
6	PREPBLKTJA	.0073	.3713	.0004	.0169	.0030	.0039
7	S95T003506 L	-.2282	1.096	.0332	.0719	.0487	1.734
8	S95T003506	.0209	1.042	.0296	.0151	.0298	1.654
9	S95T003506 D	.2720	1.166	.0393	.0214	.0452	1.996
10	S95T003506 S	4.231	6.184	4.141	4.423	4.186	5.952
11	CCV	5.209	5.220	5.088	5.345	5.134	5.200
12	CCB	-.0055	.0007	.0006	.0010	.0004	-.0005
13	S95T003507 L	-.0696	.8959	.0378	.0489	.0347	1.149
14	S95T003507	.1552	.8692	.0235	.0301	.0233	1.107
15	S95T003507 D	.9730	1.127	.0329	.0440	.0307	1.752
16	S95T003508 L	.0513	1.178	.0560	.1178	.0510	1.844
17	S95T003508	.1388	1.119	.0489	.0289	.0400	1.770
18	S95T003508 D	.1755	1.227	.0493	.0155	.0508	1.834
19	S95T003509 L	-.0407	1.542	.0743	.1563	.0698	2.107
20	S95T003509	.0614	1.445	.0643	.0026	.0559	2.048
21	S95T003509 D	.2289	1.480	.0627	.0261	.0563	2.587
22	ICSA	-.0390	254.4	-.0001	.0269	.0016	-.0045
23	ICSAB	-.0171	255.8	.9638	.0167	.4782	.4934
24	CCV 1	5.210	5.287	5.091	5.342	5.142	5.220

WHC-SPL-MMA-PP-162, REV.1

#	Sample Name	Bi	Ca	Cd	Ce	Co	Cr
25	CCB_1	.0032	.0000	.0005	.0026	.0002	-.0004

#	Sample Name	Cu	Eu	Fe	K	La	Li
1	ICV	5.182	-.0033	5.126	5.201	5.180	5.168
2	ICB	-.0002	-.0010	.0003	-.0099	.0012	-.0010
3	ICSA	-.0094	-.0281	95.31	.0323	-.0042	.0016
4	ICSAB	.4876	-.0263	94.87	-.0504	-.0036	1.026
5	PREPSTDITJA	4.816	-.0051	4.855	5.019	4.959	4.959
6	PREPBLKTJA	.0089	-.0026	.1355	-.0604	.0024	-.0029
7	S95T003506_L	.0531	-.0133	2.759	3.562	.0158	.3870
8	S95T003506	.0521	-.0022	2.636	4.235	.0061	.3860
9	S95T003506_D	.0688	-.0028	3.146	4.406	.0126	.4508
10	S95T003506_S	4.272	-.0058	6.716	8.158	4.403	4.863
11	CCV	5.285	-.0040	5.216	4.986	5.271	5.272
12	CCB	.0000	-.0014	.0005	-.0422	.0008	-.0015
13	S95T003507_L	.0332	-.0126	1.112	5.027	.0176	.0401
14	S95T003507	.0236	-.0019	1.063	3.271	.0123	.0538
15	S95T003507_D	.0185	-.0026	1.634	4.707	.1946	.0835
16	S95T003508_L	.0460	-.0134	4.604	3.512	.0758	.1705
17	S95T003508	.0400	-.0043	4.414	3.547	.0677	.1817
18	S95T003508_D	.0376	-.0035	6.572	3.567	.0153	.1726
19	S95T003509_L	.0613	-.0063	2.809	3.750	.0339	.0423
20	S95T003509	.0614	-.0028	2.699	4.183	.0109	.0496
21	S95T003509_D	.0476	-.0031	2.756	5.687	.0169	.0659
22	ICSA	-.0098	-.0351	97.39	.0749	-.0022	.0007
23	ICSAB	.4942	-.0328	96.96	.0774	-.0048	1.026
24	CCV_1	5.231	-.0024	5.205	5.294	5.266	5.199
25	CCB_1	-.0007	-.0007	.0012	-.0683	.0005	-.0013

#	Sample Name	Mg	Mn	Mo	Na	Nd	Ni
1	ICV	4.939	4.963	5.036	5.091	5.233	5.037
2	ICB	-.0024	-.0000	.0011	-.0076	.0012	-.0041
3	ICSA	245.7	-.0073	-.0105	201.8	.0168	-.0029
4	ICSAB	246.4	.4507	-.0114	203.7	.0044	.9220
5	PREPSTDITJA	4.675	4.651	4.767	5.384	4.851	4.716
6	PREPBLKTJA	.0585	.0005	.0025	.7602	.0020	-.0007
7	S95T003506_L	.1054	.1088	.0198	.1167	.0071	.3839
8	S95T003506	.0998	.1068	.0256	.1098	.0153	.3286
9	S95T003506_D	.1343	.1442	.0388	.1242	.0108	.4308
10	S95T003506_S	4.185	4.180	4.216	.1117	4.293	4.559
11	CCV	5.050	5.050	5.128	5.149	5.309	5.102
12	CCB	-.0056	-.0003	-.0012	-.0135	-.0013	-.0038
13	S95T003507_L	.1594	.0739	.0358	.824.0	.0222	.2333
14	S95T003507	.0641	.0741	.0244	.782.3	.0114	.2349
15	S95T003507_D	.1369	.1114	.0311	.852.9	.0124	.3509
16	S95T003508_L	.0919	.1924	.0200	.826.1	.0166	.4419
17	S95T003508	.1164	.1852	.0294	.792.2	.0126	.4801
18	S95T003508_D	.1415	.2068	.0285	.835.0	.0193	.5185
19	S95T003509_L	.2056	.1950	.0676	.930.7	.0077	.2845
20	S95T003509	.1218	.1865	.0357	.899.1	.0202	.3787

WHC-SP-WM-PP-162, REV.1

#	Sample Name	Mg	Mn	Mo	Na	Nd	Ni
21	S95T003509_D	.1525	.2027	.0490	1031.	.0216	.5935
22	ICSA	249.8	-.0074	-.0105	202.4	.0154	-.0038
23	ICSA	249.1	.4603	-.0093	203.6	.0092	.9351
24	CCV 1	5.005	5.065	5.133	5.103	5.299	5.130
25	CCB 1	-.0068	.0003	.0010	-.0089	-.0021	-.0001

#	Sample Name	P	Pb	S	Sb	Se	Si
1	ICV	5.035	5.004	4.842	4.783	5.002	4.798
2	ICB	.0073	.0130	.0070	.0100	.0170	-.0014
3	ICSA	.0111	.0356	-.0160	.0208	-.0256	.0073
4	ICSA	.0257	1.014	-.0213	.0030	-.0389	.0075
5	PREPSTDTJA	4.710	4.567	4.551	4.437	4.714	7.459
6	PREPBLKTJA	.0159	.0039	.0792	.0091	.0135	.1108
7	S95T003506_L	8.901	.2194	21.14	.0177	.0064	.6534
8	S95T003506_L	8.421	.2327	20.08	.0159	.0067	.6719
9	S95T003506_D	4.228	.3108	25.89	.0039	.0487	1.393
10	S95T003506_S	9.170	4.333	27.40	3.948	4.254	5.632
11	CCV	5.094	5.088	4.901	4.859	5.054	4.877
12	CCB	-.0051	-.0006	.0048	.0044	.0295	-.0022
13	S95T003507_L	7.972	.1504	8.635	.1279	.2313	.7077
14	S95T003507_L	7.851	.1554	8.271	.0230	.0448	.7156
15	S95T003507_D	3.858	.1913	12.66	.0271	.0514	1.031
16	S95T003508_L	8.911	.4211	23.56	.0783	.1456	1.681
17	S95T003508_L	8.669	.3159	22.70	.0218	.0275	1.641
18	S95T003508_D	8.371	.3693	20.30	.0166	.0503	1.264
19	S95T003509_L	10.44	.3971	25.52	.1719	.2901	.7852
20	S95T003509_L	10.14	.3376	24.50	.0123	.0662	.7672
21	S95T003509_D	10.84	.3424	26.65	-.0038	.0573	.9017
22	ICSA	.0090	.0260	-.0301	.0001	-.0348	.0056
23	ICSA	.0171	1.045	-.0129	.0028	-.0346	.0051
24	CCV 1	5.026	5.151	4.889	4.831	4.984	4.870
25	CCB 1	-.0047	.0048	-.0025	.0021	.0327	.0022

#	Sample Name	Sm	Sr	Th	Ti	Tl	U
1	ICV	5.052	5.108	.0082	4.937	4.833	Q9.780
2	ICB	-.0106	.0004	.0049	-.0004	-.0070	-.0377
3	ICSA	-.0104	.0030	.0155	.0009	-.0233	.1547
4	ICSA	-.0133	.0030	.0157	.0009	-.0141	.1348
5	PREPSTDTJA	4.841	4.882	.0194	4.713	4.601	9.353
6	PREPBLKTJA	-.0424	.0006	.0171	.0008	-.0108	-.1568
7	S95T003506_L	-.1641	.4213	.0830	-.0001	.0248	.5035
8	S95T003506_L	-.0321	.4070	.0346	.0052	.0182	.9869
9	S95T003506_D	-.0400	.5676	.0433	.0145	-.0524	1.392
10	S95T003506_S	4.218	4.818	.0664	4.145	3.979	9.470
11	CCV	5.167	5.191	.0244	5.032	4.989	9.942
12	CCB	-.0184	.0001	.0024	-.0009	-.0066	-.0742
13	S95T003507_L	-.1888	.2619	.0844	.0000	-.1076	.1357
14	S95T003507_L	-.0225	.2544	.0252	.0030	-.0180	.6521
15	S95T003507_D	-.0407	.3797	.0490	.0039	.0099	1.034
16	S95T003508_L	-.1572	.5891	.0883	.0044	-.1860	.9030

WQC-SN.WM.DP-162, REV. 1

#	Sample Name	Sm	Sr	Th	Ti	Tl	U
17	S95T003508	-.0635	.5816	.0551	.0079	-.0031	1.316
18	S95T003508 D	-.0402	.6236	.0457	.0078	-.0419	1.522
19	S95T003509 L	-.0712	.7074	.1236	.0020	.0311	1.547
20	S95T003509	-.0477	.6940	.0434	.0068	.0192	1.592
21	S95T003509 D	-.0522	.6782	.0611	.0064	-.0347	1.605
22	ICSA	-.0084	-.0032	.0175	.0005	.0175	.1114
23	ICSAB	-.0128	-.0028	.0211	.0007	-.0259	.0879
24	CCV 1	5.141	5.177	.0269	5.022	4.966	9.912
25	CCB 1	-.0026	.0004	.0067	-.0011	.0015	-.0267

#	Sample Name	V	Y	Zn	Zr
1	ICV	5.016	.0059	4.927	4.968
2	ICB	-.0023	-.0005	-.0007	-.0017
3	ICSA	-.0037	.0090	-.0001	-.0056
4	ICSAB	.4651	.0071	.9498	-.0057
5	PREPSTDTJA	4.667	.0035	4.448	4.726
6	PREPBLKTJA	-.0062	-.0017	.0081	-.0052
7	S95T003506 L	-.0177	-.0057	.2711	-.0001
8	S95T003506	.0050	-.0004	.2569	.0178
9	S95T003506 D	-.0034	-.0003	.3280	.0248
10	S95T003506 S	4.105	.0029	4.293	4.217
11	CCV	5.100	.0056	4.995	5.047
12	CCB	-.0031	-.0010	-.0015	-.0028
13	S95T003507 L	-.0238	-.0063	.1743	-.0201
14	S95T003507	.0052	-.0007	.1690	.0122
15	S95T003507 D	-.0000	-.0004	.2302	.0167
16	S95T003508 L	-.0206	-.0051	.2992	.0125
17	S95T003508	-.0003	-.0012	.2888	.0226
18	S95T003508 D	.0021	-.0000	.3316	.0298
19	S95T003509 L	-.0020	-.0022	.4697	.0362
20	S95T003509	.0038	-.0000	.4484	.0355
21	S95T003509 D	.0009	-.0001	.3576	.0327
22	ICSA	-.0023	.0092	-.0008	-.0059
23	ICSAB	.4770	.0074	.9659	-.0063
24	CCV 1	5.109	.0063	5.011	5.045
25	CCB 1	-.0009	-.0002	.0010	-.0018

WHC-SD-MM-DP-162, REV. 1

OK
01-30-96

LABCORE Data Entry Template for Worklist#

4568

Analyst: KRM Instrument: CARB2 Book # 16N12C

Method: LA-342-100 Rev/Mod C-0

Worklist Comment: TOC-02 BY-105 KRM

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK			TOC-02	SOLID	<u>1</u>	<u>-9</u>	<u>N/A</u>	ug/g
		2 STD			TOC-02	SOLID	<u>3.00E³</u>	<u>2.81E³</u>	<u>N/A</u>	ug/g
95000125	BY-105 (R)	3 SAMPLE	S95T003395	0	TOC-02	SOLID	<u>N/A</u>	<u>6.97E³</u>	<u>40.0</u>	ug/g
95000125	BY-105 (R)	4 DUP	S95T003395	0	TOC-02	SOLID	<u>6.97E³</u>	<u>6.80E³</u>	<u>N/A</u>	ug/g
95000125	BY-105 (R)	5 SAMPLE	S95T003397	0	TOC-02	SOLID	<u>N/A</u>	<u>7.60E³</u>	<u>40.0</u>	ug/g
95000125	BY-105 (R)	6 DUP	S95T003397	0	TOC-02	SOLID	<u>7.00E³</u>	<u>6.34E³</u>	<u>N/A</u>	ug/g
95000125	BY-105 (R)	7 SPK	S95T003397	0	TOC-02	SOLID	<u>100</u>	<u>105.9</u>	<u>N/A</u>	ug/g
95000125	BY-105 (R)	8 SAMPLE	S95T003398	0	TOC-02	SOLID	<u>N/A</u>	<u>4.03E³</u>	<u>40.0</u>	ug/g
95000125	BY-105 (R)	9 DUP	S95T003398	0	TOC-02	SOLID	<u>4.03E³</u>	<u>4.12E³</u>	<u>N/A</u>	ug/g
95000125	BY-105 (R)	10 SAMPLE	S95T003399	0	TOC-02	SOLID	<u>N/A</u>	<u>6.50E²</u>	<u>40.0</u>	ug/g
95000125	BY-105 (R)	11 DUP	S95T003399	0	TOC-02	SOLID	<u>6.50E²</u>	<u>6.87E²</u>	<u>N/A</u>	ug/g
95000125	BY-105 (R)	12 SAMPLE	S95T003417	0	TOC-02	SOLID	<u>N/A</u>	<u>4.03E³</u>	<u>40.0</u>	ug/g
95000125	BY-105 (R)	13 DUP	S95T003417	0	TOC-02	SOLID	<u>4.03E³</u>	<u>4.10E³</u>	<u>N/A</u>	ug/g
95000125	BY-105 (R)	14 SAMPLE	S95T003420	0	TOC-02	SOLID	<u>N/A</u>	<u>5.16E³</u>	<u>40.0</u>	ug/g
95000125	BY-105 (R)	15 DUP	S95T003420	0	TOC-02	SOLID	<u>5.16E³</u>	<u>4.50E³</u>	<u>N/A</u>	ug/g

Final page for worklist #

4568

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.

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT

TICTOC REV 2.0 WHC-SD-WM-DP-162, REV. 1
<<< BLANK ANALYSIS >>>

Sample: BLK

Date: 12/28/95

Time: 07:40:04

Sample Size = 1 uL
Dil Factor = 1
Blank ID # = BLK
Blank Value = N/AAnalyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading ==	== Analysis Time ==	== Coulometer ==	== % Difference ==
1	0.51	0.10	0.00
2	1.01	0.20	50.00
3	1.51	0.40	50.00
4	2.01	0.60	33.33
5	2.50	0.90	33.33
6	3.00	1.10	18.18
7	3.50	1.30	15.38
8	4.00	1.40	7.14
9	4.50	1.60	12.50
10	5.00	1.80	11.11
11	5.50	2.00	10.00
12	6.00	2.00	0.00
13	6.50	2.20	9.09
14	7.00	2.30	4.35
15	7.50	2.40	4.17
16	8.00	2.50	4.00
17	8.50	2.60	3.85
18	9.00	2.70	3.70
19	9.50	2.80	3.57
20	10.00	3.00	6.67
21	10.50	3.10	3.23
22	11.00	3.20	3.13

BLANK VALUE = 3.2 micrograms carbon

BLANK FACTOR = 3.2 / 10.99884 =

+2.9E-01 ug/min Carbon

Sample Run By:

KR MONTEITH

00000

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 263 TO 294

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT

TICTOC REV 2.0 WHC-SD-WM-DP-162, REV. 1
 <<< BLANK ANALYSIS >>>

Sample: BLK

Date: 12/28/95

Time: 07:52:20

Sample Size = 1 uL

Dil Factor = 1

Blank ID # = BLK

Blank Value = N/A

Analyst : KR MONTEITH

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==	==== Analysis Time ==	==== Coulometer ==	==== % Difference ==
1	0.51	0.10	0.00
2	1.01	0.80	87.50
3	1.50	5.00	84.00
4	2.00	11.30	55.75
5	2.50	15.50	27.10
6	3.00	18.10	14.36
7	3.50	19.40	6.70
8	4.00	20.10	3.48
9	4.50	20.60	2.43
10	5.00	20.90	1.44
11	5.50	21.20	1.42
12	6.00	21.50	1.40
13	6.50	21.70	0.92
14	7.00	21.90	0.91
15	7.50	22.20	1.35
16	8.00	22.40	0.89
17	8.50	22.60	0.88
18	9.00	22.80	0.88
19	9.50	23.00	0.87
20	10.00	23.20	0.86
21	10.50	23.40	0.85
22	11.00	23.60	0.85

BLANK VALUE = 23.6 micrograms carbon

BLANK FACTOR = 23.6 / 11.00067 = +2.15E+00 ug/min Carbon

<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

KR MONTEITH

00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-162, REV. 1

Sample: STD

Date: 12/28/95

Time: 08:04:20

Sample Size = 1000 uL

Dil Factor = 1

Blank ID # =

Blank Value = .29 ug/minute C

Analyst : KR MONTEITH

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==	Analysis Time ==	Coulometer ==	% Difference ==
1	0.51	0.10	0.00
2	1.01	22.90	99.56
3	1.50	154.90	85.22
4	2.00	302.90	48.86
5	2.50	416.40	27.26
6	3.00	491.70	15.31
7	3.50	530.60	7.33
8	4.00	547.20	3.03
9	4.50	553.80	1.19
10	5.00	556.30	0.45
11	5.50	557.60	0.23
12	6.00	558.30	0.13
13	6.50	558.70	0.07
14	7.00	559.10	0.07
15	7.50	559.40	0.05
16	8.00	559.70	0.05
17	8.50	560.00	0.05
18	9.00	560.30	0.05
19	9.50	560.50	0.04
20	10.00	560.70	0.04
21	10.50	560.90	0.04
22	11.00	561.10	0.04

USER INPUT BLANK VALUE

BLANK VALUE = 3.190195 micrograms carbon

BLANK FACTOR = 3.190195 / 11.00067 = +2.9E-01 ug/min Carbon

SAMPLE RESULTS:

(561.1 - 3.189664) (1)/(1000) = +5.579E-01 g/L Carbon
 (561.1 - 3.189664) (1)/(1000) (12) = +4.649E-02 Molar Carbon

Sample Run By:

KR MONTEITH

00000

$$\frac{561.1 - 3.2}{1.0} = 5.58e^2$$

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-162, REV. 1

Sample: STD

Date: 12/28/95

Time: 08:54:06

Sample Size = 200 uL

Dil Factor = 1

Blank ID # =

Blank Value = 2.15 ug/minute C

Analyst : KR MONTEITH

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==	Analysis Time	Coulometer	% Difference
1	0.51	0.10	0.00
2	1.00	3.30	96.97
3	1.50	50.10	93.41
4	2.00	176.00	71.53
5	2.50	339.90	48.22
6	3.00	465.10	26.92
7	3.50	535.50	13.15
8	4.00	564.70	5.17
9	4.50	575.30	1.84
10	5.00	579.30	0.69
11	5.50	580.90	0.28
12	6.00	581.90	0.17
13	6.50	582.60	0.12
14	7.00	583.20	0.10
15	7.50	583.70	0.09
16	8.00	584.20	0.09
17	8.50	584.50	0.05
18	9.00	584.80	0.05
19	9.50	585.20	0.07
20	10.00	585.50	0.05
21	10.50	585.80	0.05
22	11.00	586.00	0.03

USER INPUT BLANK VALUE

BLANK VALUE = 23.65145 micrograms carbon

BLANK FACTOR = 23.65145 / 11.00067 = +2.2E+00 ug/min Carbon

SAMPLE RESULTS:

(586 - 23.64921) (1)/(200) = +2.812E+00 g/L Carbon
 (586 - 23.64921) (1)/(200) (12) = +2.343E-01 Molar Carbon
 <<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>

Sample Run By:

KR MONTEITH

00000

$$\frac{586 - 23.6}{0.2} = 2.81e^3 \quad 266$$

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-162, REV. 1

Sample: R BLK

Date: 12/28/95

Time: 09:06:21

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .29 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading ==	Analysis Time	Coulometer	% Difference
1	0.51	0.10	0.00
2	1.01	1.50	93.33
3	1.51	3.40	55.88
4	2.01	4.00	15.00
5	2.50	4.40	9.09
6	3.00	4.70	6.38
7	3.50	4.90	4.08
8	4.00	5.00	2.00
9	4.50	5.20	3.85
10	5.00	5.40	3.70
11	5.50	5.50	1.82
12	6.00	5.60	1.79
13	6.50	5.70	1.75
14	7.00	5.90	3.39
15	7.50	6.00	1.67
16	8.00	6.00	0.00
17	8.50	6.20	3.23
18	9.00	6.30	1.59
19	9.50	6.50	3.08
20	10.00	6.60	1.52
21	10.50	6.70	1.49
22	11.00	6.80	1.47

USER INPUT BLANK VALUE

BLANK VALUE = 3.190195 micrograms carbon

BLANK FACTOR = 3.190195 / 11.00067 = +2.9E-01 ug/min Carbon

SAMPLE RESULTS:

(6.8 - 3.190478) (1)/(1) = +3.6E+00 g/L Carbon
(6.8 - 3.190478) (1)/(1) (12) = +3.0E-01 Molar Carbon

Sample Run By:

KR MONTEITH

00000

$$|3.2 - 6.8| = 3.6 \quad 267$$

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT

TICTOC REV 2.0

WHC-SD-WM-DP-162, REV. 1

Sample: R BLK

Date: 12/28/95

Time: 09:19:48

Sample Size = 1 uL

Analyst : KR MONTEITH

Dil Factor = 1

Min Readings = 22

Blank ID # =

Max Readings = 22

Blank Value = 2.15 ug/minute C

% Difference = 10

== Reading ==	==== Analysis Time ==	==== Coulometer ==	==== % Difference ==
1	0.51	0.00	0.00
2	1.01	0.00	0.00
3	1.51	4.30	100.00
4	2.00	11.00	60.91
5	2.50	15.50	29.03
6	3.00	18.00	13.89
7	3.50	19.40	7.22
8	4.00	20.10	3.48
9	4.50	20.60	2.43
10	5.00	20.80	0.96
11	5.50	21.10	1.42
12	6.00	21.20	0.47
13	6.50	21.20	0.00
14	7.00	21.40	0.93
15	7.50	21.60	0.93
16	8.00	21.70	0.46
17	8.50	21.90	0.91
18	9.00	22.10	0.90
19	9.50	22.20	0.45
20	10.00	22.30	0.45
21	10.50	22.30	0.00
22	11.00	22.70	1.76

USER INPUT BLANK VALUE

BLANK VALUE = 23.65145 micrograms carbon

BLANK FACTOR = 23.65145 / 11.00067 = +2.2E+00 ug/min Carbon

SAMPLE RESULTS:

(22.7 - 23.65131) (1)/(1) =

< 5.00 E-3 g/L Carbon

(22.7 - 23.65131) (1)/(1) (12) =

< 4.17 E-4 Molar Carbon

<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

KR MONTEITH

00000

$|23.6 - 22.7| = 0.9$ 268

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT

TICTOC REV 2.0

WHC-SD-WM-DP-162, REV. 1

Sample: 3395

Date: 12/28/95

Time: 14:55:23

Sample Size = 1 uL
 Dil Factor = 1
 Blank ID # =
 Blank Value = .29 ug/minute C

Analyst : KR MONTEITH
 Min Readings = 22
 Max Readings = 22
 % Difference = 10

== Reading ==	Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.00	0.00
2	1.01	0.00	0.00
3	1.50	12.50	100.00
4	2.00	42.70	70.73
5	2.50	76.10	43.89
6	3.00	104.10	26.90
7	3.50	122.80	15.23
8	4.00	133.40	7.95
9	4.50	138.70	3.82
10	5.00	141.50	1.98
11	5.50	143.10	1.12
12	6.00	144.10	0.69
13	6.50	144.90	0.55
14	7.00	145.50	0.41
15	7.50	146.30	0.55
16	8.00	146.60	0.20
17	8.50	147.30	0.48
18	9.00	147.70	0.27
19	9.50	148.10	0.27
20	10.00	148.70	0.40
21	10.50	149.10	0.27
22	11.00	149.50	0.27

USER INPUT BLANK VALUE

BLANK VALUE = 3.190195 micrograms carbon

BLANK FACTOR = 3.190195 / 11.00067 = +2.9E-01 ug/min Carbon

SAMPLE RESULTS:

(149.5 - 3.190442) (1)/(1) = +1.463E+02 g/L Carbon
 (149.5 - 3.190442) (1)/(1) (12) = +1.219E+01 Molar Carbon

Sample Run By:

KR MONTEITH

00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-OP-162, REV. 1

Sample: 3395

Date: 12/28/95

Time: 14:41:22

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.15 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading ==	==== Analysis Time ==	==== Coulometer ==	==== % Difference ==
1	0.51	0.10	0.00
2	1.01	26.00	99.62
3	1.51	381.20	93.18
4	2.00	810.40	52.96
5	2.50	993.80	18.45
6	3.00	1073.50	7.42
7	3.50	1123.80	4.48
8	4.00	1146.20	1.95
9	4.50	1152.00	0.50
10	5.00	1154.60	0.23
11	5.50	1156.40	0.16
12	6.00	1157.90	0.13
13	6.50	1159.00	0.09
14	7.00	1160.00	0.09
15	7.50	1160.90	0.08
16	8.00	1161.80	0.08
17	8.50	1162.60	0.07
18	9.00	1163.40	0.07
19	9.50	1164.10	0.06
20	10.00	1164.70	0.05
21	10.50	1165.30	0.05
22	11.00	1165.80	0.04

USER INPUT BLANK VALUE

BLANK VALUE = 23.65145 micrograms carbon

BLANK FACTOR = 23.65145 / 11.00067 = +2.2E+00 ug/min Carbon

SAMPLE RESULTS:

(1165.8 - 23.64921) (1)/(1) = +1.1422E+03 g/L Carbon
(1165.8 - 23.64921) (1)/(1) (12) = +9.5179E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

KR MONTEITH

00000

$$\frac{1142.2}{-1638} = 6.97 \times 10^{-3}$$

270

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-162, REV. 1

Sample: 3395

Date: 12/28/95

Time: 14:29:13

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .29 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading ==	Analysis Time ==	Coulometer ==	% Difference ==
1	0.51	0.00	0.00
2	1.01	0.00	0.00
3	1.50	12.80	100.00
4	2.00	48.40	73.55
5	2.50	95.40	49.27
6	3.00	137.70	30.72
7	3.50	167.70	17.89
8	4.00	186.40	10.03
9	4.50	197.60	5.67
10	5.00	203.30	2.80
11	5.50	206.60	1.60
12	6.00	208.60	0.96
13	6.50	210.00	0.67
14	7.00	211.00	0.47
15	7.50	211.70	0.33
16	8.00	212.70	0.47
17	8.50	213.60	0.42
18	9.00	214.40	0.37
19	9.50	215.10	0.33
20	10.00	215.70	0.28
21	10.50	216.30	0.28
22	11.00	217.00	0.32

USER INPUT BLANK VALUE

BLANK VALUE = 3.190195 micrograms carbon

BLANK FACTOR = 3.190195 / 11.00067 = +2.9E-01 ug/min Carbon

SAMPLE RESULTS:

(217 - 3.189398) (1)/(1) = +2.138E+02 g/L Carbon
(217 - 3.189398) (1)/(1)(12) = +1.782E+01 Molar Carbon

Sample Run By:

KR MONTEITH

00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-OP-162, REV. 1

Sample: 3395

Date: 12/28/95

Time: 15:53:57

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 2.15 ug/minute C

Analyst : KR MONTEITH

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==	Analysis Time	Coulometer	% Difference
1	0.51	0.00	0.00
2	1.01	19.30	100.00
3	1.51	255.80	92.46
4	2.00	500.30	48.87
5	2.50	603.80	17.14
6	3.01	667.70	9.57
7	3.50	706.70	5.52
8	4.00	719.40	1.77
9	4.50	723.00	0.50
10	5.00	725.00	0.28
11	5.50	726.40	0.19
12	6.00	727.50	0.15
13	6.50	728.50	0.14
14	7.00	729.40	0.12
15	7.50	730.10	0.10
16	8.00	730.80	0.10
17	8.50	731.40	0.08
18	9.00	732.00	0.08
19	9.50	732.50	0.07
20	10.00	732.90	0.05
21	10.50	733.50	0.08
22	11.00	733.90	0.05

USER INPUT BLANK VALUE

BLANK VALUE = 23.65145 micrograms carbon

BLANK FACTOR = 23.65145 / 11.00067 = +2.2E+00 ug/min Carbon

SAMPLE RESULTS:

(733.9 - 23.65525) (1)/(1) = +7.102E+02 g/L Carbon
 (733.9 - 23.65525) (1)/(1) (12) = +5.919E+01 Molar Carbon
 <<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

KR MONTEITH

00000

$\frac{710.2}{-1044} = -6.80 \times 10^{-3}$

272

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT

TICTOC REV 2.0

WHC-SD-WM-OP-162, REV. 1

Sample: 3397

Date: 12/28/95

Time: 09:41:49

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .29 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading ==	==== Analysis Time ==	==== Coulometer ==	==== % Difference ==
1	0.51	1.80	0.00
2	1.01	5.40	66.67
3	1.51	32.50	83.38
4	2.00	76.50	57.52
5	2.50	118.20	35.28
6	3.00	151.90	22.19
7	3.50	176.30	13.84
8	4.00	192.60	8.46
9	4.50	202.90	5.08
10	5.00	209.20	3.01
11	5.50	213.30	1.92
12	6.00	215.80	1.16
13	6.50	217.30	0.69
14	7.00	218.40	0.50
15	7.50	219.20	0.36
16	8.00	220.00	0.36
17	8.50	220.50	0.23
18	9.00	221.00	0.23
19	9.50	221.40	0.18
20	10.00	221.80	0.18
21	10.50	222.20	0.18
22	11.00	222.50	0.13

USER INPUT BLANK VALUE

BLANK VALUE = 3.190195 micrograms carbon

BLANK FACTOR = 3.190195 / 11.00067 = +2.9E-01 ug/min Carbon

SAMPLE RESULTS:

(222.5 - 3.190495) (1) / (1) = +2.193E+02 g/L Carbon
(222.5 - 3.190495) (1) / (1) (12) = +1.828E+01 Molar Carbon

Sample Run By:

KR MONTEITH

00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-OP-162, REV. I

Sample: 3397

Date: 12/28/95

Time: 09:53:52

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.15 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading ==	==== Analysis Time ==	==== Coulometer ==	==== % Difference ==
1	0.51	0.30	0.00
2	1.00	63.40	99.53
3	1.50	478.90	86.76
4	2.00	764.10	37.32
5	2.50	900.60	15.16
6	3.00	968.10	6.97
7	3.50	999.50	3.14
8	4.00	1010.90	1.13
9	4.50	1016.00	0.50
10	5.00	1018.40	0.24
11	5.50	1020.20	0.18
12	6.00	1021.60	0.14
13	6.50	1022.80	0.12
14	7.00	1023.80	0.10
15	7.50	1024.70	0.09
16	8.00	1025.40	0.07
17	8.50	1026.00	0.06
18	9.00	1026.80	0.08
19	9.50	1027.40	0.06
20	10.00	1027.80	0.04
21	10.50	1028.40	0.06
22	11.00	1029.00	0.06

USER INPUT BLANK VALUE

BLANK VALUE = 23.65145 micrograms carbon

BLANK FACTOR = 23.65145 / 11.00067 = +2.2E+00 ug/min Carbon

SAMPLE RESULTS:

(1029 - 23.65145) (1)/(1) = +1.0053E+03 g/L Carbon
(1029 - 23.65145) (1)/(1) (12) = +8.3779E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

KR MONTEITH

00000

$$\frac{1005.3}{.1322} = 7.60 \times 10^3$$

274

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-162, REV. 1

Sample: 3397

Date: 12/28/95

Time: 10:24:28

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .29 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading ==	Analysis Time ==	Coulometer ==	% Difference ==
1	0.51	0.60	0.00
2	1.01	3.40	82.35
3	1.51	25.50	86.67
4	2.00	61.40	58.47
5	2.50	96.20	36.17
6	3.00	123.40	22.04
7	3.50	141.90	13.04
8	4.00	153.00	7.25
9	4.50	158.60	3.53
10	5.00	161.50	1.80
11	5.50	163.00	0.92
12	6.00	163.90	0.55
13	6.50	164.50	0.36
14	7.00	165.00	0.30
15	7.50	165.50	0.30
16	8.00	165.80	0.18
17	8.50	166.20	0.24
18	9.00	166.60	0.24
19	9.50	166.90	0.18
20	10.00	167.20	0.18
21	10.50	167.50	0.18
22	11.00	167.90	0.24

USER INPUT BLANK VALUE

BLANK VALUE = 3.190195 micrograms carbon

BLANK FACTOR = 3.190195 / 11.00067 = +2.9E-01 ug/min Carbon

SAMPLE RESULTS:

(167.9 - 3.189947) (1)/(1)	=	+1.647E+02	g/L Carbon
(167.9 - 3.189947) (1)/(1) (12)	=	+1.373E+01	Molar Carbon

Sample Run By:

KR MONTEITH

00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-162, REV. 1

Sample: 3397

Date: 12/28/95

Time: 10:37:27

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.15 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading ==	Analysis Time	Coulometer	% Difference
1	0.51	0.20	0.00
2	1.01	47.40	99.58
3	1.51	350.80	86.49
4	2.01	544.10	35.53
5	2.51	634.60	14.26
6	3.01	683.90	7.21
7	3.51	703.30	2.76
8	4.01	710.50	1.01
9	4.50	713.20	0.38
10	5.00	714.90	0.24
11	5.50	716.20	0.18
12	6.00	717.20	0.14
13	6.50	718.00	0.11
14	7.00	718.80	0.11
15	7.50	719.30	0.07
16	8.00	720.00	0.10
17	8.50	720.50	0.07
18	9.00	721.10	0.08
19	9.50	721.50	0.06
20	10.00	722.00	0.07
21	10.50	722.40	0.06
22	11.00	722.80	0.06

USER INPUT BLANK VALUE

BLANK VALUE = 23.65145 micrograms carbon

BLANK FACTOR = 23.65145 / 11.00067 = +2.2E+00 ug/min Carbon

SAMPLE RESULTS:

(722.8 - 23.65315) (1) / (1) = +6.991E+02 g/L Carbon
(722.8 - 23.65315) (1) / (1) (12) = +5.826E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

KR MONTEITH

00000

$$\frac{699.1}{.1102} = 6.34 \times 10^3$$

276

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-OP-162, REV. 1

Sample: 3397 + SPK

Date: 12/28/95

Time: 10:49:43

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = .29 ug/minute C

Analyst : KR MONTEITH

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==== Analysis Time ==== Coulometer ==== % Difference ==

1	0.51	0.30	0.00
2	1.01	2.10	85.71
3	1.50	25.30	91.70
4	2.00	59.60	57.55
5	2.50	91.40	34.79
6	3.00	116.70	21.68
7	3.50	135.50	13.87
8	4.00	148.10	8.51
9	4.50	156.20	5.19
10	5.00	160.60	2.74
11	5.50	163.40	1.71
12	6.00	164.60	0.73
13	6.50	165.60	0.60
14	7.00	166.60	0.60
15	7.50	167.40	0.48
16	8.00	168.00	0.36
17	8.50	168.70	0.41
18	9.00	169.10	0.24
19	9.50	169.70	0.35
20	10.00	170.10	0.24
21	10.50	170.50	0.23
22	11.00	170.80	0.18

USER INPUT BLANK VALUE

BLANK VALUE = 3.190195 micrograms carbon

BLANK FACTOR = 3.190195 / 11.00067 = +2.9E-01 ug/min Carbon

SAMPLE RESULTS:

(170.8 - 3.189965) (1)/(1) = +1.676E+02 g/L Carbon
(170.8 - 3.189965) (1)/(1) (12) = +1.397E+01 Molar Carbon

Sample Run By:

KR MONTEITH

00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-162, REV. 1

Sample: 3397 + SPK

Date: 12/28/95

Time: 11:01:41

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 2.15 ug/minute C

Analyst : KR MONTEITH

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==	Analysis Time	Coulometer	% Difference
1	0.51	0.30	0.00
2	1.01	14.50	97.93
3	1.50	310.60	95.33
4	2.00	626.40	50.42
5	2.50	843.70	25.76
6	3.00	953.60	11.52
7	3.50	1013.30	5.89
8	4.00	1042.40	2.79
9	4.50	1052.30	0.94
10	5.00	1056.30	0.38
11	5.50	1058.20	0.18
12	6.00	1059.50	0.12
13	6.50	1060.70	0.11
14	7.00	1061.70	0.09
15	7.50	1062.70	0.09
16	8.00	1063.50	0.08
17	8.50	1064.30	0.08
18	9.00	1065.00	0.07
19	9.50	1065.60	0.06
20	10.00	1066.20	0.06
21	10.50	1066.70	0.05
22	11.00	1067.20	0.05

USER INPUT BLANK VALUE

BLANK VALUE = 23.65145 micrograms carbon

BLANK FACTOR = 23.65145 / 11.00067 = +2.2E+00 ug/min Carbon

SAMPLE RESULTS:

(1067.2 - 23.64751) (1)/(1) =

+1.0436E+03 g/L Carbon

(1067.2 - 23.64751) (1)/(1) (12) =

+8.6963E+01 Molar Carbon

<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!!>>>

Sample Run By:

KR MONTEITH

00000

$$\left[\left(\frac{1067.2}{1.022} \right) (0.0909) + 300 \right] = 105.9 \% \text{ REC. } 278$$

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-162, REV.)

Sample: 3398

Date: 12/28/95

Time: 11:13:29

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .29 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.50	0.00
2	1.01	23.00	97.83
3	1.51	633.90	96.37
4	2.01	1380.60	54.09
5	2.50	2025.30	31.83
6	3.00	2232.10	9.26
7	3.50	2348.50	4.96
8	4.00	2422.10	3.04
9	4.50	2466.20	1.79
10	5.00	2490.20	0.96
11	5.50	2502.00	0.47
12	6.00	2507.40	0.22
13	6.50	2510.00	0.10
14	7.00	2511.80	0.07
15	7.50	2513.20	0.06
16	8.00	2514.30	0.04
17	8.50	2515.20	0.04
18	9.00	2515.90	0.03
19	9.50	2516.60	0.03
20	10.00	2517.10	0.02
21	10.50	2517.80	0.03
22	11.00	2518.30	0.02

USER INPUT BLANK VALUE

BLANK VALUE = 3.190195 micrograms carbon

BLANK FACTOR = 3.190195 / 11.00067 = +2.9E-01 ug/min Carbon

SAMPLE RESULTS:

(2518.3 - 3.190726) (1)/(1) = +2.5151E+03 g/L Carbon
(2518.3 - 3.190726) (1)/(1) (12) = +2.0959E+02 Molar Carbon

Sample Run By:

KR MONTEITH

00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT

TICTOC REV 2.0

WHC-SD-WM OP-162, REV. 1

Sample: 3398

Date: 12/28/95

Time: 11:25:26

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 2.15 ug/minute C

Analyst : KR MONTEITH

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.50	0.00
2	1.01	6.60	92.42
3	1.50	104.80	93.70
4	2.00	200.90	47.83
5	2.50	259.90	22.70
6	3.00	289.80	10.32
7	3.51	302.20	4.10
8	4.00	307.00	1.56
9	4.50	309.60	0.84
10	5.00	311.30	0.55
11	5.50	312.50	0.38
12	6.00	313.40	0.29
13	6.50	314.20	0.25
14	7.00	314.90	0.22
15	7.50	315.50	0.19
16	8.00	316.20	0.22
17	8.50	316.70	0.16
18	9.00	317.10	0.13
19	9.50	317.60	0.16
20	10.00	318.00	0.13
21	10.50	318.40	0.13
22	11.00	318.80	0.13

USER INPUT BLANK VALUE

BLANK VALUE = 23.65145 micrograms carbon

BLANK FACTOR = 23.65145 / 11.00067 = +2.2E+00 ug/min Carbon

SAMPLE RESULTS:

(318.8 - 23.65131) (1)/(1) = +2.951E+02 g/L Carbon
 (318.8 - 23.65131) (1)/(1) (12) = +2.460E+01 Molar Carbon
 <<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

KR MONTEITH

00000

$$\frac{295.1}{.0732} = 4.03 \times 10^3$$

280

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-OP-162, REV. 1

Sample: 3398

Date: 12/28/95

Time: 11:37:27

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .29 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading ==	Analysis Time ==	Coulometer ==	% Difference ==
1	0.51	0.40	0.00
2	1.01	47.60	99.16
3	1.51	751.50	93.67
4	2.00	1498.10	49.84
5	2.50	2245.10	33.27
6	3.00	2991.90	24.96
7	3.50	3739.00	19.98
8	4.00	4174.10	10.42
9	4.50	4225.00	1.20
10	5.00	4245.70	0.49
11	5.50	4255.00	0.22
12	6.00	4260.00	0.12
13	6.50	4263.40	0.08
14	7.00	4265.70	0.05
15	7.50	4267.40	0.04
16	8.00	4269.10	0.04
17	8.50	4270.30	0.03
18	9.00	4271.40	0.03
19	9.50	4272.30	0.02
20	10.00	4273.10	0.02
21	10.50	4274.00	0.02
22	11.00	4274.70	0.02

USER INPUT BLANK VALUE

BLANK VALUE = 3.190195 micrograms carbon

BLANK FACTOR = 3.190195 / 11.00067 = +2.9E-01 ug/min Carbon

SAMPLE RESULTS:

(4274.7 - 3.189664) (1)/(1) = +4.2715E+03 g/L Carbon
(4274.7 - 3.189664) (1)/(1) (12) = +3.5596E+02 Molar Carbon

Sample Run By:

KR MONTEITH

00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-162, REV. 1

Sample: 3398

Date: 12/28/95

Time: 11:49:16

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.15 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading ==	Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.70	0.00
2	1.01	25.20	97.22
3	1.51	184.30	86.33
4	2.00	329.30	44.03
5	2.50	420.90	21.76
6	3.00	477.00	11.76
7	3.50	502.90	5.15
8	4.00	511.50	1.68
9	4.50	515.80	0.83
10	5.00	518.70	0.56
11	5.50	520.80	0.40
12	6.00	522.30	0.29
13	6.50	523.70	0.27
14	7.00	524.80	0.21
15	7.50	525.90	0.21
16	8.00	526.80	0.17
17	8.50	527.70	0.17
18	9.00	528.40	0.13
19	9.50	529.00	0.11
20	10.00	529.60	0.11
21	10.50	530.20	0.11
22	11.00	530.60	0.08

USER INPUT BLANK VALUE

BLANK VALUE = 23.65145 micrograms carbon

BLANK FACTOR = 23.65145 / 11.00067 = +2.2E+00 ug/min Carbon

SAMPLE RESULTS:

(530.6 - 23.64921) (1)/(1) = +5.070E+02 g/L Carbon
(530.6 - 23.64921) (1)/(1) (12) = +4.225E+01 Molar Carbon
<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>

Sample Run By:

KR MONTEITH

00000

507.0 = 4.12E³
-1232

282

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT

TICTOC REV 2.0

WHC-SD-WM-PP-162, REV. 1

Sample: 3399

Date: 12/28/95

Time: 12:01:46

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = .29 ug/minute C

Analyst : KR MONTEITH

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==	==== Analysis Time ==	==== Coulometer ==	==== % Difference ==
1	0.51	0.50	0.00
2	1.01	2.00	75.00
3	1.50	32.50	93.85
4	2.00	107.60	69.80
5	2.50	178.70	39.79
6	3.00	230.20	22.37
7	3.50	259.60	11.33
8	4.00	273.80	5.19
9	4.50	279.50	2.04
10	5.00	282.30	0.99
11	5.50	284.10	0.63
12	6.00	285.40	0.46
13	6.50	286.10	0.24
14	7.00	286.70	0.21
15	7.50	287.20	0.17
16	8.00	287.50	0.10
17	8.50	287.90	0.14
18	9.00	288.30	0.14
19	9.50	288.60	0.10
20	10.00	288.90	0.10
21	10.50	289.30	0.14
22	11.00	289.60	0.10

USER INPUT BLANK VALUE

BLANK VALUE = 3.190195 micrograms carbon

BLANK FACTOR = 3.190195 / 11.00067 = +2.9E-01 ug/min Carbon

SAMPLE RESULTS:

(289.6 - 3.190726) (1) / (1)	=	+2.864E+02	g/L Carbon
(289.6 - 3.190726) (1) / (1) (12)	=	+2.387E+01	Molar Carbon

Sample Run By:

KR MONTEITH

00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-162, REV. 1

Sample: 3399

Date: 12/28/95

Time: 12:59:08

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 2.15 ug/minute C

Analyst : KR MONTEITH

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.20	0.00
2	1.01	5.60	96.43
3	1.51	31.60	82.28
4	2.00	54.50	42.02
5	2.50	68.00	19.85
6	3.00	74.90	9.21
7	3.50	78.30	4.34
8	4.00	80.40	2.61
9	4.50	81.80	1.71
10	5.00	82.70	1.09
11	5.50	83.70	1.19
12	6.00	84.40	0.83
13	6.50	85.10	0.82
14	7.00	85.60	0.58
15	7.50	86.10	0.58
16	8.00	86.60	0.58
17	8.50	87.10	0.57
18	9.00	87.50	0.46
19	9.50	87.80	0.34
20	10.00	88.20	0.45
21	10.50	88.60	0.45
22	11.00	88.90	0.34

USER INPUT BLANK VALUE

BLANK VALUE = 23.65145 micrograms carbon

BLANK FACTOR = 23.65145 / 11.00067 = +2.2E+00 ug/min Carbon

SAMPLE RESULTS:

(88.9 - 23.64935) (1)/(1) =

+6.53E+01 g/L Carbon

(88.9 - 23.64935) (1)/(1) (12) =

+5.44E+00 Molar Carbon

<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

KR MONTEITH

00000

$$\frac{65.3}{.1004} = 6.50 \times 10^2$$

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT

TICTOC REV 2.0

WHC-SD-WM-DP-162, REV. 1

Sample: 3399

Date: 12/28/95

Time: 13:13:59

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = .29 ug/minute C

Analyst : KR MONTEITH

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==== Analysis Time ==== Coulometer ==== % Difference ==

1	0.51	0.00	0.00
2	1.01	9.70	100.00
3	1.50	112.80	91.40
4	2.00	282.30	60.04
5	2.50	438.10	35.56
6	3.00	536.00	18.26
7	3.50	605.20	11.43
8	4.00	654.20	7.49
9	4.50	683.80	4.33
10	5.00	695.20	1.64
11	5.50	699.70	0.64
12	6.00	702.10	0.34
13	6.50	704.00	0.27
14	7.00	705.30	0.18
15	7.50	706.50	0.17
16	8.00	707.60	0.16
17	8.50	708.50	0.13
18	9.00	709.30	0.11
19	9.50	710.10	0.11
20	10.00	710.70	0.08
21	10.50	711.30	0.08
22	11.00	711.80	0.07

USER INPUT BLANK VALUE

BLANK VALUE = 3.190195 micrograms carbon

BLANK FACTOR = 3.190195 / 11.00067 = +2.9E-01 ug/min Carbon

SAMPLE RESULTS:

(711.8 - 3.190442) (1)/(1)	=	+7.086E+02	g/L Carbon
(711.8 - 3.190442) (1)/(1) (12)	=	+5.905E+01	Molar Carbon

Sample Run By:

KR MONTEITH

00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT

TICTOC REV 2.0

WHC-SD-WM-DP-162, REV. 1

Sample: 3399

Date: 12/28/95

Time: 13:25:55

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 2.15 ug/minute C

Analyst : KR MONTEITH

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==	Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.50	0.00
2	1.01	4.30	88.37
3	1.51	42.60	89.91
4	2.01	91.10	53.24
5	2.51	125.70	27.53
6	3.01	143.90	12.65
7	3.51	152.50	5.64
8	4.01	156.70	2.68
9	4.50	159.60	1.82
10	5.00	161.60	1.24
11	5.50	163.40	1.10
12	6.00	165.00	0.97
13	6.50	166.30	0.78
14	7.00	167.50	0.72
15	7.50	168.60	0.65
16	8.00	169.50	0.53
17	8.50	170.30	0.47
18	9.00	171.00	0.41
19	9.50	171.60	0.35
20	10.00	172.20	0.35
21	10.50	172.80	0.35
22	11.00	173.40	0.35

USER INPUT BLANK VALUE

BLANK VALUE = 23.65145 micrograms carbon

BLANK FACTOR = 23.65145 / 11.00067 = +2.2E+00 ug/min Carbon

SAMPLE RESULTS:

(173.4 - 23.65748) (1)/(1) = +1.497E+02 g/L Carbon
 (173.4 - 23.65748) (1)/(1) (12) = +1.248E+01 Molar Carbon
 <<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>

Sample Run By:

KR MONTEITH

00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-162, REV. 1

Sample: 3417

Date: 12/28/95

Time: 16:11:16

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .29 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.00	0.00
2	1.01	9.50	100.00
3	1.50	263.80	96.40
4	2.00	573.00	53.96
5	2.50	757.70	24.38
6	3.00	868.50	12.76
7	3.50	947.80	8.37
8	4.00	1007.90	5.96
9	4.50	1049.60	3.97
10	5.00	1068.50	1.77
11	5.50	1073.90	0.50
12	6.00	1076.50	0.24
13	6.50	1078.20	0.16
14	7.00	1079.10	0.08
15	7.50	1079.90	0.07
16	8.00	1080.50	0.06
17	8.50	1081.10	0.06
18	9.00	1081.70	0.06
19	9.50	1082.30	0.06
20	10.00	1082.60	0.03
21	10.50	1083.10	0.05
22	11.00	1083.60	0.05

USER INPUT BLANK VALUE

BLANK VALUE = 3.190195 micrograms carbon

BLANK FACTOR = 3.190195 / 11.00067 = +2.9E-01 ug/min Carbon

SAMPLE RESULTS:

(1083.6 - 3.18961) (1)/(1) = +1.0804E+03 g/L Carbon
(1083.6 - 3.18961) (1)/(1) (12) = +9.0034E+01 Molar Carbon

Sample Run By:

KR MONTEITH

00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0 WHC-SD-WM-OP-162, REV. /

Sample: 3417

Date: 12/28/95

Time: 16:23:13

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 2.15 ug/minute C

Analyst : KR MONTEITH

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.00	0.00
2	1.01	4.20	100.00
3	1.51	150.00	97.20
4	2.00	293.20	48.84
5	2.50	367.70	20.26
6	3.00	416.50	11.72
7	3.50	441.50	5.66
8	4.00	447.80	1.41
9	4.50	450.60	0.62
10	5.00	452.20	0.35
11	5.50	453.40	0.26
12	6.00	454.60	0.26
13	6.50	455.50	0.20
14	7.00	456.20	0.15
15	7.50	457.00	0.18
16	8.00	457.60	0.13
17	8.50	458.10	0.11
18	9.00	458.80	0.15
19	9.50	459.00	0.04
20	10.00	459.60	0.13
21	10.50	460.20	0.13
22	11.00	460.50	0.07

USER INPUT BLANK VALUE

BLANK VALUE = 23.65145 micrograms carbon

BLANK FACTOR = 23.65145 / 11.00067 = +2.2E+00 ug/min Carbon

SAMPLE RESULTS:

(460.5 - 23.65145) (1)/(1) = +4.368E+02 g/L Carbon
 (460.5 - 23.65145) (1)/(1) (12) = +3.640E+01 Molar Carbon
 <<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

KR MONTEITH

00000

436.8
 .1083 = 4.03E³

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-162, REV.1

Sample: 3417

Date: 12/28/95

Time: 16:35:16

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .29 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading ==	Analysis Time	Coulometer	% Difference
1	0.51	0.00	0.00
2	1.01	6.00	100.00
3	1.51	293.90	97.96
4	2.01	637.30	53.88
5	2.51	838.20	23.97
6	3.01	961.40	12.81
7	3.50	1041.70	7.71
8	4.00	1103.30	5.58
9	4.50	1146.60	3.78
10	5.00	1165.80	1.65
11	5.50	1171.60	0.50
12	6.00	1174.10	0.21
13	6.50	1175.70	0.14
14	7.00	1176.70	0.08
15	7.50	1177.70	0.08
16	8.00	1178.50	0.07
17	8.50	1179.30	0.07
18	9.00	1179.90	0.05
19	9.50	1180.50	0.05
20	10.00	1181.10	0.05
21	10.50	1181.60	0.04
22	11.00	1182.10	0.04

USER INPUT BLANK VALUE

BLANK VALUE = 3.190195 micrograms carbon

BLANK FACTOR = 3.190195 / 11.00067 = +2.9E-01 ug/min Carbon

SAMPLE RESULTS:

(1182.1 - 3.190195) (1)/(1) = +1.1789E+03 g/L Carbon
(1182.1 - 3.190195) (1)/(1) (12) = +9.8242E+01 Molar Carbon

Sample Run By:

KR MONTEITH

00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-OP-162, REV. I

Sample: 3417

Date: 12/28/95

Time: 16:48:45

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 2.15 ug/minute C

Analyst : KR MONTEITH

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==	==== Analysis Time ==	==== Coulometer ==	==== % Difference ==
1	0.51	0.00	0.00
2	1.01	2.30	100.00
3	1.51	124.50	98.15
4	2.00	288.70	56.88
5	2.50	385.50	25.11
6	3.00	448.80	14.10
7	3.50	489.10	8.24
8	4.00	502.90	2.74
9	4.50	506.70	0.75
10	5.00	508.70	0.39
11	5.50	510.20	0.29
12	6.00	511.30	0.22
13	6.50	512.30	0.20
14	7.00	513.10	0.16
15	7.50	513.70	0.12
16	8.00	514.40	0.14
17	8.50	515.00	0.12
18	9.00	515.60	0.12
19	9.50	516.20	0.12
20	10.00	516.70	0.10
21	10.50	517.10	0.08
22	11.00	517.60	0.10

USER INPUT BLANK VALUE

BLANK VALUE = 23.65145 micrograms carbon

BLANK FACTOR = 23.65145 / 11.00067 = +2.2E+00 ug/min Carbon

SAMPLE RESULTS:

(517.6 - 23.64961) (1) / (1) = +4.940E+02 g/L Carbon
 (517.6 - 23.64961) (1) / (1) (12) = +4.116E+01 Molar Carbon
 <<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

KR MONTEITH

00000

$\frac{4940}{1204} = 4.10 \times 10^3$

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-162, REV. 1

Sample: 3420

Date: 12/28/95

Time: 13:40:12

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .29 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading ==	Analysis Time ==	Coulometer ==	% Difference ==
1	0.51	0.10	0.00
2	1.01	9.30	98.92
3	1.51	265.40	96.50
4	2.00	643.40	58.75
5	2.50	904.20	28.84
6	3.00	1068.70	15.39
7	3.50	1165.50	8.31
8	4.00	1232.40	5.43
9	4.50	1276.80	3.48
10	5.00	1295.90	1.47
11	5.50	1302.20	0.48
12	6.00	1305.30	0.24
13	6.50	1307.50	0.17
14	7.00	1309.00	0.11
15	7.50	1310.30	0.10
16	8.00	1311.50	0.09
17	8.50	1312.60	0.08
18	9.00	1313.70	0.08
19	9.50	1314.50	0.06
20	10.00	1315.40	0.07
21	10.50	1316.30	0.07
22	11.00	1317.00	0.05

USER INPUT BLANK VALUE

BLANK VALUE = 3.190195 micrograms carbon

BLANK FACTOR = 3.190195 / 11.00067 = +2.9E-01 ug/min Carbon

SAMPLE RESULTS:

(1317 - 3.190195) (1) / (1) = +1.3138E+03 g/L Carbon
(1317 - 3.190195) (1) / (1) (12) = +1.0948E+02 Molar Carbon

Sample Run By:

KR MONTEITH

00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-162, REV 1

Sample: 3420

Date: 12/28/95

Time: 13:52:15

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 2.15 ug/minute C

Analyst : KR MONTEITH

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==	==== Analysis Time ==	==== Coulometer ==	==== % Difference ==
1	0.51	0.80	0.00
2	1.01	36.10	97.78
3	1.50	317.50	88.63
4	2.00	596.90	46.81
5	2.50	740.40	19.38
6	3.00	813.80	9.02
7	3.50	860.50	5.43
8	4.00	880.40	2.26
9	4.50	886.20	0.65
10	5.00	889.20	0.34
11	5.50	891.50	0.26
12	6.00	893.10	0.18
13	6.50	894.70	0.18
14	7.00	895.90	0.13
15	7.50	896.80	0.10
16	8.00	897.90	0.12
17	8.50	899.00	0.12
18	9.00	899.90	0.10
19	9.50	900.80	0.10
20	10.00	901.50	0.08
21	10.50	902.10	0.07
22	11.00	902.70	0.07

USER INPUT BLANK VALUE

BLANK VALUE = 23.65145 micrograms carbon

BLANK FACTOR = 23.65145 / 11.00067 = +2.2E+00 ug/min Carbon

SAMPLE RESULTS:

(902.7 - 23.64541) (1) / (1) = +8.791E+02 g/L Carbon
 (902.7 - 23.64541) (1) / (1) (12) = +7.325E+01 Molar Carbon
 <<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>

Sample Run By:

KR MONTEITH

00000

$\frac{879.1}{-1703} = 5.16 \times 10^{-3}$

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT

TICTOC REV 2.0

WHC-SD-WM-DP-162, REV. 1

Sample: 3420

Date: 12/28/95

Time: 14:04:25

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = .29 ug/minute C

Analyst : KR MONTEITH

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==== Analysis Time ==== Coulometer ==== % Difference ==

1	0.51	0.00	0.00
2	1.01	4.50	100.00
3	1.50	191.80	97.65
4	2.00	512.20	62.55
5	2.50	756.30	32.28
6	3.00	907.80	16.69
7	3.50	999.30	9.16
8	4.00	1063.70	6.05
9	4.50	1105.20	3.75
10	5.00	1123.10	1.59
11	5.50	1128.90	0.51
12	6.00	1131.70	0.25
13	6.50	1133.50	0.16
14	7.00	1134.90	0.12
15	7.50	1136.30	0.12
16	8.00	1137.50	0.11
17	8.50	1138.40	0.08
18	9.00	1139.30	0.08
19	9.50	1140.20	0.08
20	10.00	1141.00	0.07
21	10.50	1141.90	0.08
22	11.00	1142.60	0.06

USER INPUT BLANK VALUE

BLANK VALUE = 3.190195 micrograms carbon

BLANK FACTOR = 3.190195 / 11.00067 = +2.9E-01 ug/min Carbon

SAMPLE RESULTS:

(1142.6 - 3.190177) (1)/(1) = +1.1394E+03 g/L Carbon
 (1142.6 - 3.190177) (1)/(1) (12) = +9.4951E+01 Molar Carbon

Sample Run By:

KR MONTEITH

00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-CP-162. REV. 1

Sample: 3420

Date: 12/28/95

Time: 14:17:02

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 2.15 ug/minute C

Analyst : KR MONTEITH

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.90	0.00
2	1.01	26.90	96.65
3	1.51	238.70	88.73
4	2.00	446.70	46.56
5	2.50	551.60	19.02
6	3.00	617.00	10.60
7	3.50	656.10	5.96
8	4.00	670.00	2.07
9	4.50	674.50	0.67
10	5.00	677.10	0.38
11	5.50	679.00	0.28
12	6.00	680.60	0.24
13	6.50	681.80	0.18
14	7.00	683.00	0.18
15	7.50	684.20	0.18
16	8.00	685.20	0.15
17	8.50	686.10	0.13
18	9.00	686.90	0.12
19	9.50	687.40	0.07
20	10.00	688.00	0.09
21	10.50	688.70	0.10
22	11.00	689.30	0.09

USER INPUT BLANK VALUE

BLANK VALUE = 23.65145 micrograms carbon

BLANK FACTOR = 23.65145 / 11.00067 = +2.2E+00 ug/min Carbon

SAMPLE RESULTS:

(689.3 - 23.64948) (1)/(1) = +6.657E+02 g/L Carbon
 (689.3 - 23.64948) (1)/(1) (12) = +5.547E+01 Molar Carbon
 <<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

KR MONTEITH

00000

665.7
+1479 = 450.7

294

LABCORE Data Entry Template for Worklist#

4584

Analyst: KRM Instrument: CARB2 Book # 16N12C

Method: LA-342-100 Rev/Mod C-0

Worklist Comment: BY-105 TOC-02 KRM

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK			TOC-02	SOLID	<u>1</u>	<u>2.7</u>	<u>N/A</u>	ug/g
		2 STD			TOC-02	SOLID	<u>3.00³</u>	<u>2.79³</u>	<u>N/A</u>	ug/g
95000125	BY-105 (R)	3 SAMPLE	S95T003393	0	TOC-02	SOLID	<u>N/A</u>	<u>3.46³</u>		ug/g
95000125	BY-105 (R)	4 DUP	S95T003393	0	TOC-02	SOLID	<u>3.46³</u>	<u>3.47³</u>	<u>N/A</u>	ug/g
95000125	BY-105 (R)	5 SAMPLE	S95T003419	0	TOC-02	SOLID	<u>N/A</u>	<u>5.40³</u>		ug/g
95000125	BY-105 (R)	6 DUP	S95T003419	0	TOC-02	SOLID	<u>5.40³</u>	<u>5.71³</u>	<u>N/A</u>	ug/g
95000125	BY-105 (R)	7 SPK	S95T003419	0	TOC-02	SOLID	<u>100</u>	<u>92.8</u>	<u>N/A</u>	ug/g
95000125	BY-105 (R)	8 SAMPLE	S95T003421	0	TOC-02	SOLID	<u>N/A</u>	<u>1.99³</u>		ug/g
95000125	BY-105 (R)	9 DUP	S95T003421	0	TOC-02	SOLID	<u>1.99³</u>	<u>2.37³</u>	<u>N/A</u>	ug/g

Final page for worklist #

4584

12-29-95
Analyst Signature Date

1/1/96
Analyst Signature Date

Data Entry Comments:

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

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT

TICTOC REV 2.0

< < < BLANK ANALYSIS > > >

WHC-SD-WM-DP-162, REV. 1

Sample: BLK

Date: 12/29/95

Time: 06:31:34

Sample Size = 1 uL

Analyst : KR MONTEITH

Dil Factor = 1

Min Readings = 22

Blank ID # = BLK

Max Readings = 22

Blank Value = N/A

% Difference = 10

== Reading == == Analysis Time == == Coulometer == == % Difference ==

1	0.51	0.10	0.00
2	1.01	0.50	80.00
3	1.51	0.70	28.57
4	2.01	0.90	22.22
5	2.50	1.20	25.00
6	3.00	1.60	25.00
7	3.50	1.70	5.88
8	4.00	2.00	15.00
9	4.50	2.20	9.09
10	5.00	2.40	8.33
11	5.50	2.60	7.69
12	6.00	2.80	7.14
13	6.50	3.00	6.67
14	7.00	3.10	3.23
15	7.50	3.30	6.06
16	8.00	3.50	5.71
17	8.50	3.70	5.41
18	9.00	3.80	2.63
19	9.50	4.00	5.00
20	10.00	4.20	4.76
21	10.50	4.40	4.55
22	11.00	4.50	2.22

BLANK VALUE = 4.5 micrograms carbon

BLANK FACTOR = $4.5 / 10.99985 = +4.1E-01$ ug/min Carbon

Sample Run By

KR MONTEITH

00000

12-29-95

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 296 TO 314.

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0 WHC-SD-WM-DP-162, REV. 1)
<<< BLANK ANALYSIS >>>

Sample: BLK

Date: 12/29/95

Time: 06:43:32

Sample Size = 1 uL
Dil Factor = 1
Blank ID # = BLK
Blank Value = N/A

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.10	0.00
2	1.01	0.40	75.00
3	1.50	3.00	86.67
4	2.00	8.00	62.50
5	2.50	11.80	32.20
6	3.01	14.40	18.06
7	3.51	15.90	9.43
8	4.00	16.80	5.36
9	4.50	17.40	3.45
10	5.00	17.80	2.25
11	5.50	18.20	2.20
12	6.00	18.50	1.62
13	6.50	18.80	1.60
14	7.00	19.00	1.05
15	7.50	19.40	2.06
16	8.00	19.50	0.51
17	8.50	19.80	1.52
18	9.00	20.00	1.00
19	9.50	20.20	0.99
20	10.00	20.40	0.98
21	10.50	20.60	0.97
22	11.00	20.80	0.96

BLANK VALUE = 20.8 micrograms carbon

BLANK FACTOR = 20.8 / 11.00168 = +1.89E+00 ug/min Carbon

<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

KR MONTEITH

00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
 TICTOC REV 2.0 WHG-SD-WM-OP-162, REV. 1

Sample: STD

Date: 12/29/95

Time: 06:58:10

Sample Size = 1000 uL

Dil Factor = 1

Blank ID # =

Blank Value = .41 ug/minute C

Analyst : KR MONTEITH

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==	==== Analysis Time ==	==== Coulometer ==	==== % Difference ==
1	0.51	0.20	0.00
2	1.01	6.30	96.83
3	1.50	107.10	94.12
4	2.00	272.00	60.63
5	2.50	402.30	32.39
6	3.00	483.50	16.79
7	3.50	529.90	8.76
8	4.00	548.20	3.34
9	4.50	555.30	1.28
10	5.00	557.90	0.47
11	5.50	559.20	0.23
12	6.00	559.90	0.13
13	6.50	560.60	0.12
14	7.00	561.00	0.07
15	7.50	561.30	0.05
16	8.00	561.80	0.09
17	8.50	562.10	0.05
18	9.00	562.40	0.05
19	9.50	562.70	0.05
20	10.00	562.90	0.04
21	10.50	563.10	0.04
22	11.00	563.30	0.04

USER INPUT BLANK VALUE

BLANK VALUE = 4.510688 micrograms carbon

BLANK FACTOR = 4.510688 / 11.00168 = +4.1E-01 ug/min Carbon

SAMPLE RESULTS:

(563.3 - 4.509174) (1) / (1000) = +5.588E-01 g/L Carbon
 (563.3 - 4.509174) (1) / (1000) (12) = +4.657E-02 Molar Carbon

Sample Run By:

KR MONTEITH

00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHG-SD-WM-DP-162, REV. 1

Sample: STD

Date: 12/29/95

Time: 10:41:50

Sample Size = 200 uL

Dil Factor = 1

Blank ID # =

Blank Value = 1.89 ug/minute C

Analyst : KR MONTEITH

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==	== Analysis Time ==	== Coulometer ==	== % Difference ==
1	0.51	0.60	0.00
2	1.01	7.70	92.21
3	1.51	65.30	88.21
4	2.00	222.20	70.61
5	2.50	397.50	44.10
6	3.00	500.20	20.53
7	3.50	544.10	8.07
8	4.00	563.30	3.41
9	4.50	568.80	0.97
10	5.00	570.90	0.37
11	5.50	572.10	0.21
12	6.00	573.10	0.17
13	6.50	573.90	0.14
14	7.00	574.60	0.12
15	7.50	575.30	0.12
16	8.00	575.90	0.10
17	8.50	576.50	0.10
18	9.00	577.00	0.09
19	9.50	577.60	0.10
20	10.00	578.20	0.10
21	10.50	578.70	0.09
22	11.00	579.10	0.07

USER INPUT BLANK VALUE

BLANK VALUE = 20.79317 micrograms carbon

BLANK FACTOR = 20.79317 / 11.00168 = +1.9E+00 ug/min Carbon

SAMPLE RESULTS:

(579.1 - 20.78965) (1)/(200) = +2.792E+00 g/L Carbon
 (579.1 - 20.78965) (1)/(200) (12) = +2.326E-01 Molar Carbon
 <<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

KR MONTEITH

00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0
WHC-SD-WM-DP-162, REV. 1

Sample: R BLK

Date: 12/29/95

Time: 07:23:15

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .41 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading ==	Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.80	0.00
2	1.01	2.70	70.37
3	1.51	3.40	20.59
4	2.01	3.80	10.53
5	2.51	4.20	9.52
6	3.01	4.40	4.55
7	3.51	4.60	4.35
8	4.01	4.80	4.17
9	4.50	5.00	4.00
10	5.00	5.20	3.85
11	5.50	5.40	3.70
12	6.00	5.60	3.57
13	6.50	5.70	1.75
14	7.00	6.00	5.00
15	7.50	6.10	1.64
16	8.00	6.30	3.17
17	8.50	6.50	3.08
18	9.00	6.70	2.99
19	9.50	6.90	2.90
20	10.00	7.00	1.43
21	10.50	7.20	2.78
22	11.00	7.40	2.70

USER INPUT BLANK VALUE

BLANK VALUE = 4.510688 micrograms carbon

BLANK FACTOR = 4.510688 / 11.00168 = +4.1E-01 ug/min Carbon

SAMPLE RESULTS:

(7.4 - 4.511026) (1)/(1) = +2.9E+00 g/L Carbon
(7.4 - 4.511026) (1)/(1) (12) = +2.4E-01 Molar Carbon

Sample Run By:

KR MONTEITH

00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-162, REV. 1

Sample: R BLK

Date: 12/29/95

Time: 07:35:06

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 1.89 ug/minute C

Analyst : KR MONTEITH

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==== Analysis Time ==== Coulometer ==== % Difference ==

1	0.51	0.10	0.00
2	1.01	0.60	83.33
3	1.51	3.80	84.21
4	2.00	7.90	51.90
5	2.50	10.60	25.47
6	3.00	12.00	11.67
7	3.50	12.90	6.98
8	4.00	13.40	3.73
9	4.50	13.70	2.19
10	5.00	14.10	2.84
11	5.50	14.30	1.40
12	6.00	14.60	2.05
13	6.50	14.80	1.35
14	7.00	15.00	1.33
15	7.50	15.30	1.96
16	8.00	15.40	0.65
17	8.50	15.70	1.91
18	9.00	15.90	1.26
19	9.50	16.30	2.45
20	10.00	16.60	1.81
21	10.50	17.30	4.05
22	11.00	18.10	4.42

USER INPUT BLANK VALUE

BLANK VALUE = 20.79317 micrograms carbon

BLANK FACTOR = 20.79317 / 11.00168 = +1.9E+00 ug/min Carbon

SAMPLE RESULTS:

(18.1 - 20.78971) (1)/(1) = < 5.00 E-3 g/L Carbon
(18.1 - 20.78971) (1)/(1) (12) = < 4.17 E-4 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

KR MONTEITH

00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DB-162, REV. 1
Time: 16:41:48

Sample: 3393

Date: 12/29/95

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .41 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading ==	Analysis Time ==	Coulometer ==	% Difference ==
1	0.51	1.20	0.00
2	1.01	6.00	80.00
3	1.51	55.60	89.21
4	2.01	134.70	58.72
5	2.51	205.50	34.45
6	3.01	257.60	20.23
7	3.51	292.00	11.78
8	4.00	311.90	6.38
9	4.50	320.20	2.59
10	5.00	324.30	1.26
11	5.50	326.80	0.76
12	6.00	328.70	0.58
13	6.50	330.30	0.48
14	7.00	332.20	0.57
15	7.50	333.40	0.36
16	8.00	334.70	0.39
17	8.50	335.90	0.36
18	9.00	337.20	0.39
19	9.50	338.40	0.35
20	10.00	339.80	0.41
21	10.50	340.60	0.23
22	11.00	341.70	0.32

USER INPUT BLANK VALUE

BLANK VALUE = 4.510688 micrograms carbon

BLANK FACTOR = 4.510688 / 11.00168 = +4.1E-01 ug/min Carbon

SAMPLE RESULTS:

(341.7 - 4.5103) (1)/(1) = +3.372E+02 g/L Carbon
(341.7 - 4.5103) (1)/(1) (12) = +2.810E+01 Molar Carbon

Sample Run By:

KR MONTEITH

00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-162, REV. 1

Sample: 3393

Date: 12/29/95

Time: 16:54:04

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.89 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading ==	Analysis Time ==	Coulometer ==	% Difference ==
1	0.51	1.60	0.00
2	1.01	20.30	92.12
3	1.51	263.50	92.30
4	2.00	450.30	41.48
5	2.50	537.50	16.22
6	3.00	581.30	7.53
7	3.50	604.00	3.76
8	4.01	612.50	1.39
9	4.50	616.20	0.60
10	5.00	618.60	0.39
11	5.50	620.40	0.29
12	6.00	621.90	0.24
13	6.50	623.80	0.30
14	7.00	625.20	0.22
15	7.50	626.50	0.21
16	8.00	627.80	0.21
17	8.50	628.90	0.17
18	9.00	630.10	0.19
19	9.50	631.10	0.16
20	10.00	632.00	0.14
21	10.50	633.00	0.16
22	11.00	633.70	0.11

USER INPUT BLANK VALUE

BLANK VALUE = 20.79317 micrograms carbon

BLANK FACTOR = 20.79317 / 11.00168 = +1.9E+00 ug/min Carbon

SAMPLE RESULTS:

(633.7 - 20.79138) (1)/(1) = +6.129E+02 g/L Carbon
(633.7 - 20.79138) (1)/(1) (12) = +5.108E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

KR MONTEITH

00000

$$\frac{612.9}{.1773} = 3.46 \times 10^3$$

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-162, REV. 1

Sample: 3393

Date: 12/29/95

Time: 17:06:28

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .41 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading ==	Analysis Time ==	Coulometer ==	% Difference ==
1	0.51	1.10	0.00
2	1.01	7.80	85.90
3	1.51	52.50	85.14
4	2.00	109.80	52.19
5	2.50	161.90	32.18
6	3.00	202.20	19.93
7	3.50	229.80	12.01
8	4.00	246.10	6.62
9	4.50	253.90	3.07
10	5.00	258.30	1.70
11	5.50	261.00	1.03
12	6.00	262.40	0.53
13	6.50	263.90	0.57
14	7.00	265.10	0.45
15	7.50	266.30	0.45
16	8.00	267.40	0.41
17	8.50	268.60	0.45
18	9.00	269.60	0.37
19	9.50	270.60	0.37
20	10.00	271.80	0.44
21	10.50	272.60	0.29
22	11.00	273.50	0.33

USER INPUT BLANK VALUE

BLANK VALUE = 4.510688 micrograms carbon

BLANK FACTOR = 4.510688 / 11.00168 = +4.1E-01 ug/min Carbon

SAMPLE RESULTS:

(273.5 - 4.50955) (1)/(1) = +2.690E+02 g/L Carbon
(273.5 - 4.50955) (1)/(1) (12) = +2.242E+01 Molar Carbon

Sample Run By:

KR MONTEITH

00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-162, REV.1

Sample: 3393

Date: 12/29/95

Time: 17:19:15

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.89 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading ==	==== Analysis Time ==	==== Coulometer ==	==== % Difference ==
1	0.51	1.30	0.00
2	1.01	18.80	93.09
3	1.51	225.30	91.66
4	2.00	373.50	39.68
5	2.50	442.50	15.59
6	3.00	481.10	8.02
7	3.50	501.70	4.11
8	4.00	509.70	1.57
9	4.50	513.50	0.74
10	5.00	515.80	0.45
11	5.50	517.60	0.35
12	6.00	519.20	0.31
13	6.50	520.40	0.23
14	7.00	521.70	0.25
15	7.50	523.10	0.27
16	8.00	524.10	0.19
17	8.50	525.20	0.21
18	9.00	526.00	0.15
19	9.50	527.10	0.21
20	10.00	528.00	0.17
21	10.50	528.90	0.17
22	11.00	529.90	0.19

USER INPUT BLANK VALUE

BLANK VALUE = 20.79317 micrograms carbon

BLANK FACTOR = 20.79317 / 11.00168 = +1.9E+00 ug/min Carbon

SAMPLE RESULTS:

(529.9 - 20.79138) (1)/(1) = +5.091E+02 g/L Carbon
(529.9 - 20.79138) (1)/(1) (12) = +4.243E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!!>>>>

Sample Run By:

KR MONTEITH

00000

$$\frac{509.1}{.1469} = 3.47 \times 10^3$$

304.1

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM DP-162, REV.f

Sample: 3419

Date: 12/29/95

Time: 10:55:11

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .41 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading ==	Analysis Time ==	Coulometer ==	% Difference ==
1	0.51	44.80	0.00
2	1.01	101.30	55.77
3	1.50	152.60	33.62
4	2.00	190.00	19.68
5	2.50	213.10	10.84
6	3.00	224.70	5.16
7	3.50	229.60	2.13
8	4.00	232.50	1.25
9	4.50	234.30	0.77
10	5.00	235.60	0.55
11	5.50	236.80	0.51
12	6.00	238.10	0.55
13	6.50	239.20	0.46
14	7.00	240.10	0.37
15	7.50	241.10	0.41
16	8.00	242.10	0.41
17	8.50	243.00	0.37
18	9.00	243.90	0.37
19	9.50	244.70	0.33
20	10.00	245.60	0.37
21	10.50	246.40	0.32
22	11.00	247.10	0.28

USER INPUT BLANK VALUE

BLANK VALUE = 4.510688 micrograms carbon

BLANK FACTOR = 4.510688 / 11.00168 = +4.1E-01 ug/min Carbon

SAMPLE RESULTS:

(247.1 - 4.509875) (1)/(1) = +2.426E+02 g/L Carbon
(247.1 - 4.509875) (1)/(1) (12) = +2.022E+01 Molar Carbon

Sample Run By:

KR MONTEITH

00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-162, REV. 1

Sample: 3419

Date: 12/29/95

Time: 11:07:41

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 1.89 ug/minute C

Analyst : KR MONTEITH

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==== Analysis Time ==== Coulometer ==== % Difference ==

1	0.51	0.80	0.00
2	1.01	28.80	97.22
3	1.50	325.00	91.14
4	2.00	512.00	36.52
5	2.50	603.00	15.09
6	3.00	648.50	7.02
7	3.50	671.20	3.38
8	4.00	679.80	1.27
9	4.50	683.60	0.56
10	5.00	685.80	0.32
11	5.50	687.70	0.28
12	6.00	689.00	0.19
13	6.50	690.30	0.19
14	7.00	691.50	0.17
15	7.50	692.50	0.14
16	8.00	693.50	0.14
17	8.50	694.50	0.14
18	9.00	695.30	0.12
19	9.50	696.10	0.11
20	10.00	696.80	0.10
21	10.50	697.50	0.10
22	11.00	698.20	0.10

USER INPUT BLANK VALUE

BLANK VALUE = 20.79317 micrograms carbon

BLANK FACTOR = 20.79317 / 11.00168 = +1.9E+00 ug/min Carbon

SAMPLE RESULTS:

(698.2 - 20.79277) (1)/(1) = +6.774E+02 g/L Carbon
(698.2 - 20.79277) (1)/(1) (12) = +5.645E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

KR MONTEITH

00000

$$\frac{677.4}{.1255} = 5.40 \times 10^3$$

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 3419

Date: 12/29/95

WHC-SD-WM-DP-162 REV 1
Time: 11:20:24

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .41 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading ==	==== Analysis Time ==	==== Coulometer ==	==== % Difference ==
1	0.51	1.10	0.00
2	1.01	26.00	95.77
3	1.51	71.40	63.59
4	2.00	118.20	39.59
5	2.50	158.60	25.47
6	3.00	189.00	16.08
7	3.50	207.90	9.09
8	4.00	217.10	4.24
9	4.50	221.90	2.16
10	5.00	224.80	1.29
11	5.50	227.00	0.97
12	6.00	228.50	0.66
13	6.50	229.80	0.57
14	7.00	231.10	0.56
15	7.50	232.50	0.60
16	8.00	233.50	0.43
17	8.50	234.60	0.47
18	9.00	235.50	0.38
19	9.50	236.50	0.42
20	10.00	237.50	0.42
21	10.50	238.20	0.29
22	11.00	239.00	0.33

USER INPUT BLANK VALUE

BLANK VALUE = 4.510688 micrograms carbon

BLANK FACTOR = 4.510688 / 11.00168 = +4.1E-01 ug/min Carbon

SAMPLE RESULTS:

(239 - 4.509524) (1) / (1) = +2.345E+02 g/L Carbon
(239 - 4.509524) (1) / (1) (12) = +1.954E+01 Molar Carbon

Sample Run By:

KR MONTEITH

00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-162, REV. 1

Sample: 3419

Date: 12/29/95

Time: 11:45:47

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.89 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading ==	Analysis	Time	Coulometer	% Difference ==
1	0.51		0.70	0.00
2	1.01		134.20	99.48
3	1.51		484.30	72.29
4	2.00		659.50	26.57
5	2.50		736.10	10.41
6	3.00		773.70	4.86
7	3.50		790.60	2.14
8	4.00		796.30	0.72
9	4.50		799.20	0.36
10	5.00		801.40	0.27
11	5.50		803.20	0.22
12	6.00		804.90	0.21
13	6.50		806.10	0.15
14	7.00		807.30	0.15
15	7.50		808.30	0.12
16	8.00		809.30	0.12
17	8.50		810.20	0.11
18	9.00		811.10	0.11
19	9.50		811.90	0.10
20	10.00		812.60	0.09
21	10.50		813.30	0.09
22	11.00		813.90	0.07

USER INPUT BLANK VALUE

BLANK VALUE = 20.79317 micrograms carbon

BLANK FACTOR = 20.79317 / 11.00168 = +1.9E+00 ug/min Carbon

SAMPLE RESULTS:

(813.9 - 20.78435) (1)/(1) = +7.931E+02 g/L Carbon
(813.9 - 20.78435) (1)/(1) (12) = +6.609E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

KR MONTEITH

00000

793.1
+ 1.255
= 794.355
5.7/E3

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-162, REV.1

Sample: 3419 + SPK

Date: 12/29/95

Time: 11:58:42

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .41 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.60	0.00
2	1.01	6.40	90.63
3	1.51	46.60	86.27
4	2.00	104.80	55.53
5	2.50	159.90	34.46
6	3.00	201.80	20.76
7	3.50	229.40	12.03
8	4.00	245.10	6.41
9	4.50	252.30	2.85
10	5.00	256.00	1.45
11	5.50	258.50	0.97
12	6.00	260.00	0.58
13	6.50	261.30	0.50
14	7.00	263.40	0.80
15	7.50	265.20	0.68
16	8.00	267.00	0.67
17	8.50	268.50	0.56
18	9.00	269.80	0.48
19	9.50	271.20	0.52
20	10.00	272.40	0.44
21	10.50	274.00	0.58
22	11.00	275.80	0.65

USER INPUT BLANK VALUE

BLANK VALUE = 4.510688 micrograms carbon

BLANK FACTOR = 4.510688 / 11.00168 = +4.1E-01 ug/min Carbon

SAMPLE RESULTS:

(275.8 - 4.509875) (1)/(1) = +2.713E+02 g/L Carbon
(275.8 - 4.509875) (1)/(1) (12) = +2.261E+01 Molar Carbon

Sample Run By:

KR MONTEITH

00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-162, REV. 1

Sample: 3419 + SPK

Date: 12/29/95

Time: 13:07:08

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 1.89 ug/minute C

Analyst :

KR MONTEITH

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.90	0.00
2	1.01	33.10	97.28
3	1.51	329.80	89.96
4	2.01	588.40	43.95
5	2.51	782.50	24.81
6	3.00	877.80	10.86
7	3.51	923.10	4.91
8	4.00	945.40	2.36
9	4.50	953.70	0.87
10	5.00	957.30	0.38
11	5.50	959.50	0.23
12	6.00	962.00	0.26
13	6.50	964.10	0.22
14	7.00	965.80	0.18
15	7.50	967.20	0.14
16	8.00	968.60	0.14
17	8.50	969.70	0.11
18	9.00	970.60	0.09
19	9.50	971.60	0.10
20	10.00	972.50	0.09
21	10.50	973.40	0.09
22	11.00	974.20	0.08

USER INPUT BLANK VALUE

BLANK VALUE = 20.79317 micrograms carbon

BLANK FACTOR = 20.79317 / 11.00168 = +1.9E+00 ug/min Carbon

SAMPLE RESULTS:

(974.2 - 20.78965) (1)/(1) = +9.534E+02 g/L Carbon
 (974.2 - 20.78965) (1)/(1) (12) = +7.945E+01 Molar Carbon
 <<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

974.2

Sample Run By:

KR MONTEITH

00000

$$\left[\frac{698.2}{.1255} \right] (.1348) + 300 = 92.8 \% Rec \quad 310$$

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-162, REV. I

Sample: 3421

Date: 12/29/95

Time: 14:14:38

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .41 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading ==	==== Analysis Time ==	==== Coulometer ==	==== % Difference ==
1	0.51	0.80	0.00
2	1.01	20.70	96.14
3	1.50	292.30	92.92
4	2.00	561.30	47.92
5	2.50	743.00	24.45
6	3.00	849.00	12.49
7	3.50	909.00	6.60
8	4.00	943.70	3.68
9	4.50	961.10	1.81
10	5.00	968.30	0.74
11	5.50	972.70	0.45
12	6.00	975.20	0.26
13	6.50	977.60	0.25
14	7.00	979.70	0.21
15	7.50	981.80	0.21
16	8.00	983.60	0.18
17	8.50	985.30	0.17
18	9.00	987.00	0.17
19	9.50	988.50	0.15
20	10.00	989.90	0.14
21	10.50	991.40	0.15
22	11.00	992.60	0.12

USER INPUT BLANK VALUE

BLANK VALUE = 4.510688 micrograms carbon

BLANK FACTOR = 4.510688 / 11.00168 = +4.1E-01 ug/min Carbon

SAMPLE RESULTS:

(992.6 - 4.509875) (1)/(1) = +9.881E+02 g/L Carbon
(992.6 - 4.509875) (1)/(1) (12) = +8.234E+01 Molar Carbon

Sample Run By:

KR MONTEITH

00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-162, REV. /

Sample: 3421

Date: 12/29/95

Time: 14:26:28

Sample Size = 1 uL

Analyst : KR MONTEITH

Dil Factor = 1

Min Readings = 22

Blank ID # =

Max Readings = 22

Blank Value = 1.89 ug/minute C

% Difference = 10

== Reading ==== Analysis Time ==== Coulometer ==== % Difference ==

1	0.51	1.80	0.00
2	1.01	33.40	94.61
3	1.51	177.50	81.18
4	2.00	264.40	32.87
5	2.50	311.40	15.09
6	3.00	338.00	7.87
7	3.50	348.70	3.07
8	4.00	353.60	1.39
9	4.50	356.30	0.76
10	5.00	358.30	0.56
11	5.50	360.10	0.50
12	6.00	361.50	0.39
13	6.50	363.00	0.41
14	7.00	364.10	0.30
15	7.50	365.40	0.36
16	8.00	366.40	0.27
17	8.50	367.40	0.27
18	9.00	368.40	0.27
19	9.50	369.30	0.24
20	10.00	370.20	0.24
21	10.50	371.20	0.27
22	11.00	372.20	0.27

USER INPUT BLANK VALUE

BLANK VALUE = 20.79317 micrograms carbon

BLANK FACTOR = 20.79317 / 11.00168 = +1.9E+00 ug/min Carbon

SAMPLE RESULTS:

(372.2 - 20.79311) (1)/(1) = +3.514E+02 g/L Carbon
 (372.2 - 20.79311) (1)/(1) (12) = +2.928E+01 Molar Carbon
 <<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

KR MONTEITH

00000

351.4

~~11.372.2~~

.1766

= 1.99E3

312

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-162, REV. 1

Sample: 3421

Date: 12/29/95

Time: 14:38:15

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .41 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading ==	==== Analysis Time ==	==== Coulometer ==	==== % Difference ==
1	0.51	0.20	0.00
2	1.01	0.70	71.43
3	1.50	1.20	41.67
4	2.00	1.70	29.41
5	2.50	6.90	75.36
6	3.00	23.10	70.13
7	3.50	44.90	48.55
8	4.00	66.60	32.58
9	4.50	84.50	21.18
10	5.00	96.40	12.34
11	5.50	103.90	7.22
12	6.00	108.90	4.59
13	6.50	112.10	2.85
14	7.00	114.60	2.18
15	7.50	116.50	1.63
16	8.00	118.50	1.69
17	8.50	120.00	1.25
18	9.00	122.70	2.20
19	9.50	124.90	1.76
20	10.00	126.20	1.03
21	10.50	127.70	1.17
22	11.00	128.10	0.31

USER INPUT BLANK VALUE

BLANK VALUE = 4.510688 micrograms carbon

BLANK FACTOR = 4.510688 / 11.00168 = +4.1E-01 ug/min Carbon

SAMPLE RESULTS:

(128.1 - 4.509124) (1)/(1) = +1.236E+02 g/L Carbon
(128.1 - 4.509124) (1)/(1)(12) = +1.030E+01 Molar Carbon

Sample Run By:

KR MONTEITH

00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-162, REV. I

Sample: 3421

Date: 12/29/95

Time: 14:50:34

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 1.89 ug/minute C

Analyst : KR MONTEITH

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==	Analysis Time	Coulometer	% Difference
1	0.51	1.00	0.00
2	1.01	15.10	93.38
3	1.51	97.60	84.53
4	2.00	169.60	42.45
5	2.50	217.70	22.09
6	3.00	247.40	12.00
7	3.50	263.30	6.04
8	4.00	270.10	2.52
9	4.50	274.20	1.50
10	5.00	276.50	0.83
11	5.50	278.50	0.72
12	6.00	279.90	0.50
13	6.50	281.40	0.53
14	7.00	282.60	0.42
15	7.50	283.80	0.42
16	8.00	284.80	0.35
17	8.50	286.00	0.42
18	9.00	286.70	0.24
19	9.50	287.60	0.31
20	10.00	288.40	0.28
21	10.50	289.30	0.31
22	11.00	290.10	0.28

USER INPUT BLANK VALUE

BLANK VALUE = 20.79317 micrograms carbon

BLANK FACTOR = 20.79317 / 11.00168 = +1.9E+00 ug/min Carbon

SAMPLE RESULTS:

(290.1 - 20.78965) (1)/(1) = +2.693E+02 g/L Carbon
 (290.1 - 20.78965) (1)/(1) (12) = +2.244E+01 Molar Carbon
 <<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>

Sample Run By:

KR MONTEITH

00000

314

$$\frac{269.3}{-1/34} = 2.37 \times 10^3$$

LABCORE Data Entry Template for Worklist#

4585

Analyst: KBM Instrument: CARB2 Book # 16N12C

Method: LA-342-100 Rev/Mod C-0

Worklist Comment: BY-105 TOC-02 KRM

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK			TOC-02	LIQUID	<u>1</u>	<u>2.7</u>	<u>2.7</u>	ug/mL
		2 STD			TOC-02	LIQUID	<u>3.00E³</u>	<u>2.79E³</u>	<u>N/A</u>	ug/mL
95000125	BY-105 (R)	3 SAMPLE	S95T003394	0	TOC-02	LIQUID	<u>N/A</u>	<u>1.93E³</u>	<u>N/A</u>	ug/mL
95000125	BY-105 (R)	4 DUP	S95T003394	0	TOC-02	LIQUID	<u>1.83E³</u>	<u>1.92E³</u>	<u>N/A</u>	ug/mL
95000125	BY-105 (R)	5 SAMPLE	S95T003396	0	TOC-02	LIQUID	<u>N/A</u>	<u>1.99E³</u>	<u>N/A</u>	ug/mL
95000125	BY-105 (R)	6 DUP	S95T003396	0	TOC-02	LIQUID	<u>1.99E³</u>	<u>1.95E³</u>	<u>N/A</u>	ug/mL
95000125	BY-105 (R)	7 SAMPLE	S95T003418	0	TOC-02	LIQUID	<u>N/A</u>	<u>1.78E³</u>	<u>N/A</u>	ug/mL
95000125	BY-105 (R)	8 DUP	S95T003418	0	TOC-02	LIQUID	<u>1.78E³</u>	<u>2.06E³</u>	<u>N/A</u>	ug/mL
95000125	BY-105 (R)	9 SPK	S95T003418	0	TOC-02	LIQUID	<u>100</u>	<u>100.4</u>	<u>N/A</u>	ug/mL
95000125	BY-105 (R)	10 SAMPLE	S95T003422	0	TOC-02	LIQUID	<u>N/A</u>	<u>2.27E³</u>	<u>N/A</u>	ug/mL
95000125	BY-105 (R)	11 DUP	S95T003422	0	TOC-02	LIQUID	<u>2.27E³</u>	<u>2.22E³</u>	<u>N/A</u>	ug/mL

Final page for worklist #

4585

Analyst Signature

Date

12-29-95

Analyst Signature

Date

1/1/96

Data Entry Comments:

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

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT

TICTOC REV 2.0

< < < BLANK ANALYSIS > > >

WHC-SD-WM-0P-162, REV. I

Sample: BLK Date: 12/29/95 Time: 06:31:34

Sample Size = 1 uL

Analyst : KR MONTEITH

Dil Factor = 1

Min Readings = 22

Blank ID # = BLK

Max Readings = 22

Blank Value = N/A

% Difference = 10

== Reading == == Analysis Time == == Coulometer == == % Difference ==

1	0.51	0.10	0.00
2	1.01	0.50	80.00
3	1.51	0.70	28.57
4	2.01	0.90	22.22
5	2.50	1.20	25.00
6	3.00	1.60	25.00
7	3.50	1.70	5.88
8	4.00	2.00	15.00
9	4.50	2.20	9.09
10	5.00	2.40	8.33
11	5.50	2.60	7.69
12	6.00	2.80	7.14
13	6.50	3.00	6.67
14	7.00	3.10	3.23
15	7.50	3.30	6.06
16	8.00	3.50	5.71
17	8.50	3.70	5.41
18	9.00	3.80	2.63
19	9.50	4.00	5.00
20	10.00	4.20	4.76
21	10.50	4.40	4.55
22	11.00	4.50	2.22

BLANK VALUE = 4.5 micrograms carbon

BLANK FACTOR = $4.5 / 10.99985 = +4.1E-01$ ug/min Carbon

Sample Run By:

KR MONTEITH

00000

12-29-95

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

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT

TICTOC REV 2.0

<<< BLANK ANALYSIS >>>WHC-SD-WM-DP-162, REV. I

Sample: BLK

Date: 12/29/95

Time: 06:43:26

Sample Size = 1 uL
Dil Factor = 1
Blank ID # = BLK
Blank Value = N/A

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading ==== Analysis Time ==== Coulometer ==== % Difference ==

1	0.51	0.10	0.00
2	1.01	0.40	75.00
3	1.50	3.00	86.67
4	2.00	8.00	62.50
5	2.50	11.80	32.20
6	3.01	14.40	18.06
7	3.51	15.90	9.43
8	4.00	16.80	5.36
9	4.50	17.40	3.45
10	5.00	17.80	2.25
11	5.50	18.20	2.20
12	6.00	18.50	1.62
13	6.50	18.80	1.60
14	7.00	19.00	1.05
15	7.50	19.40	2.06
16	8.00	19.50	0.51
17	8.50	19.80	1.52
18	9.00	20.00	1.00
19	9.50	20.20	0.99
20	10.00	20.40	0.98
21	10.50	20.60	0.97
22	11.00	20.80	0.96

BLANK VALUE = 20.8 micrograms carbon

BLANK FACTOR = 20.8 / 11.00168 = +1.89E+00 ug/min Carbon

<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

KR MONTEITH

00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0⁰WHC-SD-WM-DP-162, REV. 1

Sample: STD

Date: 12/29/95

Time: 06:58:16

Sample Size = 1000 uL

Dil Factor = 1

Blank ID # =

Blank Value = .41 ug/minute C

Analyst : KR MONTEITH

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==	==== Analysis Time ==	==== Coulometer ==	==== % Difference ==
1	0.51	0.20	0.00
2	1.01	6.30	96.83
3	1.50	107.10	94.12
4	2.00	272.00	60.63
5	2.50	402.30	32.39
6	3.00	483.50	16.79
7	3.50	529.90	8.76
8	4.00	548.20	3.34
9	4.50	555.30	1.28
10	5.00	557.90	0.47
11	5.50	559.20	0.23
12	6.00	559.90	0.13
13	6.50	560.60	0.12
14	7.00	561.00	0.07
15	7.50	561.30	0.05
16	8.00	561.80	0.09
17	8.50	562.10	0.05
18	9.00	562.40	0.05
19	9.50	562.70	0.05
20	10.00	562.90	0.04
21	10.50	563.10	0.04
22	11.00	563.30	0.04

USER INPUT BLANK VALUE

BLANK VALUE = 4.510688 micrograms carbon

BLANK FACTOR = 4.510688 / 11.00168 = +4.1E-01 ug/min Carbon

SAMPLE RESULTS:

(563.3 - 4.509174) (1)/(1000) = +5.588E-01 g/L Carbon
(563.3 - 4.509174) (1)/(1000) (12) = +4.657E-02 Molar Carbon

Sample Run By:

KR MONTEITH

00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-162, REV. 1

Sample: STD

Date: 12/29/95

Time: 10:41:59

Sample Size = 200 uL

Dil Factor = 1

Blank ID # =

Blank Value = 1.89 ug/minute C

Analyst : KR MONTEITH

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==	Analysis Time	Coulometer	% Difference ==
1	0.51	0.60	0.00
2	1.01	7.70	92.21
3	1.51	65.30	88.21
4	2.00	222.20	70.61
5	2.50	397.50	44.10
6	3.00	500.20	20.53
7	3.50	544.10	8.07
8	4.00	563.30	3.41
9	4.50	568.80	0.97
10	5.00	570.90	0.37
11	5.50	572.10	0.21
12	6.00	573.10	0.17
13	6.50	573.90	0.14
14	7.00	574.60	0.12
15	7.50	575.30	0.12
16	8.00	575.90	0.10
17	8.50	576.50	0.10
18	9.00	577.00	0.09
19	9.50	577.60	0.10
20	10.00	578.20	0.10
21	10.50	578.70	0.09
22	11.00	579.10	0.07

USER INPUT BLANK VALUE

BLANK VALUE = 20.79317 micrograms carbon

BLANK FACTOR = 20.79317 / 11.00168 = +1.9E+00 ug/min Carbon

SAMPLE RESULTS:

(579.1 - 20.78965) (1) / (200) = +2.792E+00 g/L Carbon
 (579.1 - 20.78965) (1) / (200) (12) = +2.326E-01 Molar Carbon
 <<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

KR MONTEITH

00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT

TICTOC REV 2.0 WHC-SD-WM-OP-162, REV. 1

Sample: R BLK

Date: 12/29/95

Time: 07:23:20

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = .41 ug/minute C

Analyst :

KR MONTEITH

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==	Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.80	0.00
2	1.01	2.70	70.37
3	1.51	3.40	20.59
4	2.01	3.80	10.53
5	2.51	4.20	9.52
6	3.01	4.40	4.55
7	3.51	4.60	4.35
8	4.01	4.80	4.17
9	4.50	5.00	4.00
10	5.00	5.20	3.85
11	5.50	5.40	3.70
12	6.00	5.60	3.57
13	6.50	5.70	1.75
14	7.00	6.00	5.00
15	7.50	6.10	1.64
16	8.00	6.30	3.17
17	8.50	6.50	3.08
18	9.00	6.70	2.99
19	9.50	6.90	2.90
20	10.00	7.00	1.43
21	10.50	7.20	2.78
22	11.00	7.40	2.70

USER INPUT BLANK VALUE

BLANK VALUE = 4.510688 micrograms carbon

BLANK FACTOR = 4.510688 / 11.00168 = +4.1E-01 ug/min Carbon

SAMPLE RESULTS:

(7.4 - 4.511026) (1) / (1) =

+2.9E+00 g/L Carbon

(7.4 - 4.511026) (1) / (1) (12) =

+2.4E-01 Molar Carbon

Sample Run By:

KR MONTEITH

00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-162, REV. 1

Sample: R BLK

Date: 12/29/95

Time: 07:35:11

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 1.89 ug/minute C

Analyst : KR MONTEITH

Min Readings = 22

Max Readings = 22

% Difference = 10

Reading	Analysis	Time	Coulometer	% Difference
1	0.51		0.10	0.00
2	1.01		0.60	83.33
3	1.51		3.80	84.21
4	2.00		7.90	51.90
5	2.50		10.60	25.47
6	3.00		12.00	11.67
7	3.50		12.90	6.98
8	4.00		13.40	3.73
9	4.50		13.70	2.19
10	5.00		14.10	2.84
11	5.50		14.30	1.40
12	6.00		14.60	2.05
13	6.50		14.80	1.35
14	7.00		15.00	1.33
15	7.50		15.30	1.96
16	8.00		15.40	0.65
17	8.50		15.70	1.91
18	9.00		15.90	1.26
19	9.50		16.30	2.45
20	10.00		16.60	1.81
21	10.50		17.30	4.05
22	11.00		18.10	4.42

USER INPUT BLANK VALUE

BLANK VALUE = 20.79317 micrograms carbon

BLANK FACTOR = 20.79317 / 11.00168 = +1.9E+00 ug/min Carbon

SAMPLE RESULTS:

(18.1 - 20.78971) (1)/(1) = < 5.00 E-3 g/L Carbon
 (18.1 - 20.78971) (1)/(1) (12) = < 4.17 E-4 Molar Carbon
 <<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>

Sample Run By:

KR MONTEITH

00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-OP-162, REV. 1

Sample: 3394

Date: 12/29/95

Time: 15:05:41

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .41 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading ==	==== Analysis Time ==	==== Coulometer ==	==== % Difference ==
1	0.51	40.90	0.00
2	1.01	232.70	82.42
3	1.51	454.40	48.79
4	2.00	626.90	27.52
5	2.50	729.60	14.08
6	3.00	787.40	7.34
7	3.50	820.70	4.06
8	4.00	838.80	2.16
9	4.50	846.80	0.94
10	5.00	851.40	0.54
11	5.50	854.90	0.41
12	6.00	857.50	0.30
13	6.50	859.90	0.28
14	7.00	862.20	0.27
15	7.50	864.30	0.24
16	8.00	866.00	0.20
17	8.50	867.90	0.22
18	9.00	869.40	0.17
19	9.50	871.00	0.18
20	10.00	872.40	0.16
21	10.50	873.70	0.15
22	11.00	875.00	0.15

USER INPUT BLANK VALUE

BLANK VALUE = 4.510688 micrograms carbon

BLANK FACTOR = 4.510688 / 11.00168 = +4.1E-01 ug/min Carbon

SAMPLE RESULTS:

(875 - 4.50985) (1)/(1) = +8.705E+02 g/L Carbon
(875 - 4.50985) (1)/(1) (12) = +7.254E+01 Molar Carbon

Sample Run By:

KR MONTEITH

00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT

TICTOC REV 2.0

WHC-SD-WM-DP-162, REV. 1

Sample: 3394

Date: 12/29/95

Time: 15:17:33

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 1.89 ug/minute C

Analyst : KR MONTEITH

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==	==== Analysis Time ==	==== Coulometer ==	==== % Difference ==
1	0.51	1.40	0.00
2	1.01	3.70	62.16
3	1.50	23.30	84.12
4	2.01	70.20	66.81
5	2.51	124.20	43.48
6	3.01	160.50	22.62
7	3.51	180.60	11.13
8	4.00	189.60	4.75
9	4.50	194.20	2.37
10	5.00	197.10	1.47
11	5.50	199.60	1.25
12	6.00	201.60	0.99
13	6.50	203.50	0.93
14	7.00	205.00	0.73
15	7.50	206.40	0.68
16	8.00	207.70	0.63
17	8.50	208.80	0.53
18	9.00	210.00	0.57
19	9.50	211.00	0.47
20	10.00	211.90	0.42
21	10.50	213.00	0.52
22	11.00	213.80	0.37

USER INPUT BLANK VALUE

BLANK VALUE = 20.79317 micrograms carbon

BLANK FACTOR = 20.79317 / 11.00168 = +1.9E+00 ug/min Carbon

SAMPLE RESULTS:

(213.8 - 20.78919) (1)/(1) = +1.930E+02 g/L Carbon
 (213.8 - 20.78919) (1)/(1) (12) = +1.608E+01 Molar Carbon
 <<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

KR MONTEITH

00000

193.0

= 1.93E3

.1mc

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-162, REV. I

Sample: 3394

Date: 12/29/95

Time: 15:29:47

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = .41 ug/minute C

Analyst : KR MONTEITH

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==== Analysis Time ==== Coulometer ==== % Difference ==

1	0.51	0.90	0.00
2	1.01	8.60	89.53
3	1.51	119.10	92.78
4	2.00	310.90	61.69
5	2.50	493.70	37.03
6	3.00	626.20	21.16
7	3.50	711.50	11.99
8	4.00	764.50	6.93
9	4.50	798.20	4.22
10	5.00	817.30	2.34
11	5.50	826.20	1.08
12	6.00	831.70	0.66
13	6.50	835.50	0.45
14	7.00	838.70	0.38
15	7.50	841.20	0.30
16	8.00	843.60	0.28
17	8.50	845.80	0.26
18	9.00	848.10	0.27
19	9.50	849.80	0.20
20	10.00	851.60	0.21
21	10.50	853.40	0.21
22	11.00	855.00	0.19

USER INPUT BLANK VALUE

BLANK VALUE = 4.510688 micrograms carbon

BLANK FACTOR = 4.510688 / 11.00168 = +4.1E-01 ug/min Carbon

SAMPLE RESULTS:

(855 - 4.510275) (1)/(1) =

+8.505E+02 g/L Carbon

(855 - 4.510275) (1)/(1) (12) =

+7.087E+01 Molar Carbon

Sample Run By:

KR MONTEITH

00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-OP-162, REV. 1

Sample: 3394

Date: 12/29/95

Time: 15:41:45

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 1.89 ug/minute C

Analyst : KR MONTEITH

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==== Analysis Time ==== Coulometer ==== % Difference ==

1	0.51	2.00	0.00
2	1.01	4.50	55.56
3	1.51	24.70	81.78
4	2.00	71.20	65.31
5	2.50	124.20	42.67
6	3.00	160.50	22.62
7	3.50	180.50	11.08
8	4.00	189.00	4.50
9	4.50	193.50	2.33
10	5.00	196.30	1.43
11	5.50	198.70	1.21
12	6.00	200.80	1.05
13	6.50	202.30	0.74
14	7.00	203.80	0.74
15	7.50	205.30	0.73
16	8.00	206.30	0.48
17	8.50	207.50	0.58
18	9.00	208.60	0.53
19	9.50	209.50	0.43
20	10.00	210.60	0.52
21	10.50	211.50	0.43
22	11.00	212.50	0.47

USER INPUT BLANK VALUE

BLANK VALUE = 20.79317 micrograms carbon

BLANK FACTOR = 20.79317 / 11.00168 = +1.9E+00 ug/min Carbon

SAMPLE RESULTS:

(212.5 - 20.79127) (1)/(1) = +1.917E+02 g/L Carbon
(212.5 - 20.79127) (1)/(1) (12) = +1.598E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!!>>>>

Sample Run By:

KR MONTEITH

00000

$$\frac{191.7}{.1mc} = 1.92E^3$$

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-162, REV. 1

Sample: 3396

Date: 12/29/95

Time: 15:53:49

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = .41 ug/minute C

Analyst : KR MONTEITH

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==== Analysis Time ==== Coulometer ==== % Difference ==

1	0.51	1.00	0.00
2	1.01	10.90	90.83
3	1.51	163.40	93.33
4	2.01	377.60	56.73
5	2.51	552.10	31.61
6	3.01	672.90	17.95
7	3.51	748.80	10.14
8	4.00	794.60	5.76
9	4.50	821.40	3.26
10	5.00	835.00	1.63
11	5.50	841.30	0.75
12	6.00	845.60	0.51
13	6.50	848.90	0.39
14	7.00	852.10	0.38
15	7.50	854.70	0.30
16	8.00	857.30	0.30
17	8.50	859.40	0.24
18	9.00	861.20	0.21
19	9.50	863.10	0.22
20	10.00	865.00	0.22
21	10.50	866.60	0.18
22	11.00	868.10	0.17

USER INPUT BLANK VALUE

BLANK VALUE = 4.510688 micrograms carbon

BLANK FACTOR = 4.510688 / 11.00168 = +4.1E-01 ug/min Carbon

SAMPLE RESULTS:

(868.1 - 4.510225) (1)/(1) = +8.636E+02 g/L Carbon
(868.1 - 4.510225) (1)/(1) (12) = +7.197E+01 Molar Carbon

Sample Run By:

KR MONTEITH

00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-OP-162. REV. 1

Sample: 3396

Date: 12/29/95

Time: 16:05:41

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.89 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading ==== Analysis Time ==== Coulometer ==== % Difference ==

1	0.51	1.70	0.00
2	1.01	4.70	63.83
3	1.50	24.00	80.42
4	2.00	68.40	64.91
5	2.50	121.10	43.52
6	3.00	158.70	23.69
7	3.50	180.90	12.27
8	4.00	191.70	5.63
9	4.50	197.50	2.94
10	5.00	201.00	1.74
11	5.50	203.60	1.28
12	6.00	205.90	1.12
13	6.50	207.80	0.91
14	7.00	209.60	0.86
15	7.50	211.30	0.80
16	8.00	212.60	0.61
17	8.50	213.80	0.56
18	9.00	215.20	0.65
19	9.50	216.30	0.51
20	10.00	217.60	0.60
21	10.50	218.50	0.41
22	11.00	219.50	0.46

USER INPUT BLANK VALUE

BLANK VALUE = 20.79317 micrograms carbon

BLANK FACTOR = 20.79317 / 11.00168 = +1.9E+00 ug/min Carbon

SAMPLE RESULTS:

(219.5 - 20.78792) (1)/(1) = +1.987E+02 g/L Carbon
(219.5 - 20.78792) (1)/(1) (12) = +1.656E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

KR MONTEITH

00000

198.7
= 1.99E3

327

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-162, REV. I

Sample: 3396

Date: 12/29/95

Time: 16:17:55

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .41 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading ==	== Analysis Time ==	== Coulometer ==	== % Difference ==
1	0.51	1.50	0.00
2	1.00	6.40	76.56
3	1.50	106.10	93.97
4	2.00	283.20	62.54
5	2.50	449.00	36.93
6	3.00	577.60	22.26
7	3.50	667.10	13.42
8	4.00	728.80	8.47
9	4.50	769.30	5.26
10	5.00	792.90	2.98
11	5.50	804.60	1.45
12	6.00	810.90	0.78
13	6.50	815.00	0.50
14	7.00	818.30	0.40
15	7.50	821.30	0.37
16	8.00	823.90	0.32
17	8.50	826.20	0.28
18	9.00	828.30	0.25
19	9.50	830.50	0.26
20	10.00	832.30	0.22
21	10.50	834.00	0.20
22	11.00	835.70	0.20

USER INPUT BLANK VALUE

BLANK VALUE = 4.510688 micrograms carbon

BLANK FACTOR = 4.510688 / 11.00168 = +4.1E-01 ug/min Carbon

SAMPLE RESULTS:

(835.7 - 4.509875) (1)/(1) = +8.312E+02 g/L Carbon
(835.7 - 4.509875) (1)/(1) (12) = +6.927E+01 Molar Carbon

Sample Run By:

KR MONTEITH

00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-162, REV. 1

Sample: 3396

Date: 12/29/95

Time: 16:29:45

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 1.89 ug/minute C

Analyst : KR MONTEITH

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==	Analysis Time ==	Coulometer ==	% Difference ==
1	0.51	1.80	0.00
2	1.01	6.90	73.91
3	1.50	29.30	76.45
4	2.00	79.40	63.10
5	2.50	129.40	38.64
6	3.00	162.50	20.37
7	3.50	181.20	10.32
8	4.00	189.70	4.48
9	4.50	194.00	2.22
10	5.00	197.10	1.57
11	5.50	199.70	1.30
12	6.00	201.70	0.99
13	6.50	203.60	0.93
14	7.00	205.10	0.73
15	7.50	206.60	0.73
16	8.00	208.10	0.72
17	8.50	209.20	0.53
18	9.00	210.60	0.66
19	9.50	212.00	0.66
20	10.00	213.10	0.52
21	10.50	214.20	0.51
22	11.00	215.30	0.51

USER INPUT BLANK VALUE

BLANK VALUE = 20.79317 micrograms carbon

BLANK FACTOR = 20.79317 / 11.00168 = +1.9E+00 ug/min Carbon

SAMPLE RESULTS:

(215.3 - 20.78435) (1)/(1) = +1.945E+02 g/L Carbon
 (215.3 - 20.78435) (1)/(1) (12) = +1.621E+01 Molar Carbon
 <<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!!>>>>

Sample Run By:

KR MONTEITH

00000

$$\frac{144.5}{.1mc} = 1.95E^3$$

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT

TICTOC REV 2.0

WHC-SD-WM-DP-162, REV. /

Sample: 3418

Date: 12/29/95

Time: 07:47:18

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = .41 ug/minute C

Analyst : KR MONTEITH

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==	==== Analysis Time ==	==== Coulometer ==	==== % Difference ==
1	0.51	0.50	0.00
2	1.01	23.60	97.88
3	1.50	319.30	92.61
4	2.00	703.70	54.63
5	2.50	1003.70	29.89
6	3.00	1197.20	16.16
7	3.50	1301.00	7.98
8	4.00	1357.40	4.16
9	4.50	1387.40	2.16
10	5.00	1402.10	1.05
11	5.50	1409.10	0.50
12	6.00	1413.40	0.30
13	6.50	1416.40	0.21
14	7.00	1418.70	0.16
15	7.50	1420.70	0.14
16	8.00	1422.50	0.13
17	8.50	1424.00	0.11
18	9.00	1425.50	0.11
19	9.50	1426.80	0.09
20	10.00	1428.10	0.09
21	10.50	1429.30	0.08
22	11.00	1430.20	0.06

USER INPUT BLANK VALUE

BLANK VALUE = 4.510688 micrograms carbon

BLANK FACTOR = 4.510688 / 11.00168 = +4.1E-01 ug/min Carbon

SAMPLE RESULTS:

(1430.2 - 4.509187) (1)/(1) = +1.4257E+03 g/L Carbon
 (1430.2 - 4.509187) (1)/(1) (12) = +1.1881E+02 Molar Carbon

Sample Run By:

KR MONTEITH

00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-162, REV. 1

Sample: 3418

Date: 12/29/95

Time: 09:19:05

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 1.89 ug/minute C

Analyst : KR MONTEITH

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.20	0.00
2	1.01	4.30	72.09
3	1.51	27.50	84.36
4	2.00	103.80	73.51
5	2.50	239.10	56.59
6	3.00	335.90	28.82
7	3.50	388.10	13.45
8	4.00	416.90	6.91
9	4.50	432.20	3.54
10	5.00	440.00	1.77
11	5.50	445.30	1.19
12	6.00	448.70	0.76
13	6.50	451.40	0.60
14	7.00	453.70	0.51
15	7.50	455.80	0.46
16	8.00	457.90	0.46
17	8.50	459.60	0.37
18	9.00	461.10	0.33
19	9.50	462.30	0.26
20	10.00	463.50	0.26
21	10.50	464.60	0.24
22	11.00	465.60	0.21

USER INPUT BLANK VALUE

BLANK VALUE = 20.79317 micrograms carbon

BLANK FACTOR = 20.79317 / 11.00168 = +1.9E+00 ug/min Carbon

SAMPLE RESULTS:

(465.6 - 20.78971) (1)/(1) = +4.448E+02 g/L Carbon
 (465.6 - 20.78971) (1)/(1) (12) = +3.707E+01 Molar Carbon
 <<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

KR MONTEITH

00000

$\frac{444.8}{.250} = 1.78 \times 10^3$

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT

TICTOC REV 2.0

WHC-SD-WM-OP-162, REV. 1

Sample: 3418

Date: 12/29/95

Time: 09:33:54

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = .41 ug/minute C

Analyst : KR MONTEITH

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==== Analysis Time ==== Coulometer ==== % Difference ==

1	0.51	0.10	0.00
2	1.01	11.10	99.10
3	1.51	120.40	90.78
4	2.00	287.30	58.09
5	2.50	424.40	32.30
6	3.00	513.60	17.37
7	3.50	567.30	9.47
8	4.00	599.10	5.31
9	4.50	617.60	3.00
10	5.00	628.70	1.77
11	5.50	635.80	1.12
12	6.00	640.20	0.69
13	6.50	642.90	0.42
14	7.00	645.00	0.33
15	7.50	646.70	0.26
16	8.00	648.20	0.23
17	8.50	649.50	0.20
18	9.00	650.80	0.20
19	9.50	651.90	0.17
20	10.00	653.00	0.17
21	10.50	653.80	0.12
22	11.00	654.80	0.15

USER INPUT BLANK VALUE

BLANK VALUE = 4.510688 micrograms carbon

BLANK FACTOR = 4.510688 / 11.00168 = +4.1E-01 ug/min Carbon

SAMPLE RESULTS:

(654.8 - 4.510275) (1)/(1) = +6.503E+02 g/L Carbon
 (654.8 - 4.510275) (1)/(1)(12) = +5.419E+01 Molar Carbon

Sample Run By:

KR MONTEITH

00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT

TICTOC REV 2.0

WHC-SD-WM-UP-162, REV. |

Sample: 3418

Date: 12/29/95

Time: 09:50:06

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 1.89 ug/minute C

Analyst : KR MONTEITH

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==	Analysis Time	Coulometer	% Difference
1	0.51	1.20	0.00
2	1.01	5.30	77.36
3	1.50	25.80	79.46
4	2.00	77.10	66.54
5	2.50	137.80	44.05
6	3.00	176.60	21.97
7	3.50	197.20	10.45
8	4.00	206.30	4.41
9	4.50	210.60	2.04
10	5.00	213.30	1.27
11	5.50	215.20	0.88
12	6.00	216.90	0.78
13	6.50	218.40	0.69
14	7.00	219.90	0.68
15	7.50	220.90	0.45
16	8.00	222.00	0.50
17	8.50	222.90	0.40
18	9.00	223.80	0.40
19	9.50	224.70	0.40
20	10.00	225.40	0.31
21	10.50	226.10	0.31
22	11.00	226.80	0.31

USER INPUT BLANK VALUE

BLANK VALUE = 20.79317 micrograms carbon

BLANK FACTOR = 20.79317 / 11.00168 = +1.9E+00 ug/min Carbon

SAMPLE RESULTS:

(226.8 - 20.78585) (1)/(1) = +2.060E+02 g/L Carbon
 (226.8 - 20.78585) (1)/(1) (12) = +1.717E+01 Molar Carbon
 <<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

KR MONTEITH

00000

333

$\frac{206.0}{.1 \text{ mL}} = 2.06 \times 10^3$

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT

TICTOC REV 2.0

WHC-SD-WM-DP-162, REV. 1

Sample: 3418 + SPK

Date: 12/29/95

Time: 10:04:26

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = .41 ug/minute C

Analyst : KR MONTEITH

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading ==	Analysis Time ==	Coulometer ==	% Difference ==
1	0.51	0.30	0.00
2	1.01	10.20	97.06
3	1.51	102.00	90.00
4	2.01	246.00	58.54
5	2.51	381.70	35.55
6	3.01	481.80	20.78
7	3.51	544.30	11.48
8	4.01	583.40	6.70
9	4.50	605.90	3.71
10	5.00	616.40	1.70
11	5.50	622.40	0.96
12	6.00	625.90	0.56
13	6.50	628.80	0.46
14	7.00	631.10	0.36
15	7.50	633.30	0.35
16	8.00	635.00	0.27
17	8.50	636.50	0.24
18	9.00	638.10	0.25
19	9.50	639.60	0.23
20	10.00	641.00	0.22
21	10.50	642.40	0.22
22	11.00	643.50	0.17

USER INPUT BLANK VALUE

BLANK VALUE = 4.510688 micrograms carbon

BLANK FACTOR = 4.510688 / 11.00168 = +4.1E-01 ug/min Carbon

SAMPLE RESULTS:

(643.5 - 4.5095) (1)/(1)	=	+6.390E+02	g/L Carbon
(643.5 - 4.5095) (1)/(1) (12)	=	+5.325E+01	Molar Carbon

Sample Run By:

KR MONTEITH

00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-162, REV. 1

Sample: K

Date: 12/29/95

Time: 10:29:58

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .41 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading ==	==== Analysis Time ==	==== Coulometer ==	==== % Difference ==
1	0.51	0.70	0.00
2	1.01	2.70	74.07
3	1.51	4.90	44.90
4	2.00	6.00	18.33
5	2.50	7.00	14.29
6	3.00	7.80	10.26
7	3.50	8.70	10.34
8	4.01	9.30	6.45
9	4.50	10.20	8.82
10	5.00	11.20	8.93
11	5.50	12.20	8.20
12	6.00	13.30	8.27
13	6.50	14.10	5.67
14	7.00	15.00	6.00
15	7.50	16.00	6.25
16	8.00	16.80	4.76
17	8.50	17.80	5.62
18	9.00	18.50	3.78
19	9.50	19.20	3.65
20	10.00	20.00	4.00
21	10.50	20.60	2.91
22	11.00	21.40	3.74

USER INPUT BLANK VALUE

BLANK VALUE = 4.510688 micrograms carbon

BLANK FACTOR = 4.510688 / 11.00168 = +4.1E-01 ug/min Carbon

SAMPLE RESULTS:

(21.4 - 4.510275) (1)/(1) = +1.69E+01 g/L Carbon
(21.4 - 4.510275) (1)/(1) (12) = +1.41E+00 Molar Carbon

Sample Run By:

KR MONTEITH

00000

335

~~$\left(\frac{468.6}{250mc} \right) (.1mc) + 3.00$~~
Man

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-OP-162, REV. 1

Sample: 3418 + SPK

Date: 12/29/95

Time: 10:16:51

Sample Size = 1 uL

Dil Factor = 1

Blank ID # =

Blank Value = 1.89 ug/minute C

Analyst : KR MONTEITH

Min Readings = 22

Max Readings = 22

% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.30	0.00
2	1.01	4.80	72.92
3	1.51	28.70	83.28
4	2.01	113.70	74.76
5	2.50	270.20	57.92
6	3.00	380.80	29.04
7	3.50	431.90	11.83
8	4.00	457.40	5.57
9	4.50	467.10	2.08
10	5.00	471.50	0.93
11	5.50	474.20	0.57
12	6.00	476.40	0.46
13	6.50	478.10	0.36
14	7.00	479.60	0.31
15	7.50	481.00	0.29
16	8.00	482.40	0.29
17	8.50	483.50	0.23
18	9.00	484.50	0.21
19	9.50	485.50	0.21
20	10.00	486.50	0.21
21	10.50	487.20	0.14
22	11.00	488.10	0.18

USER INPUT BLANK VALUE

BLANK VALUE = 20.79317 micrograms carbon

BLANK FACTOR = 20.79317 / 11.00168 = +1.9E+00 ug/min Carbon

SAMPLE RESULTS:

(488.1 - 20.78965) (1)/(1) = +4.673E+02 g/L Carbon
 (488.1 - 20.78965) (1)/(1) (12) = +3.894E+01 Molar Carbon
 <<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

KR MONTEITH

00000

488.1

$$\left[\frac{465.6}{.25} \right] (.1 \text{ mL}) + 300 = 100.4\% \text{ REC } 336$$

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-162, REV. I

Sample: 3422

Date: 12/29/95

Time: 13:23:00

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .41 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.70	0.00
2	1.01	7.00	90.00
3	1.51	65.50	89.31
4	2.00	166.90	60.75
5	2.50	277.30	39.81
6	3.00	369.10	24.87
7	3.50	429.80	14.12
8	4.00	467.40	8.04
9	4.50	488.40	4.30
10	5.00	497.90	1.91
11	5.50	503.50	1.11
12	6.00	507.80	0.85
13	6.50	510.90	0.61
14	7.00	513.70	0.55
15	7.50	516.40	0.52
16	8.00	518.00	0.31
17	8.50	519.90	0.37
18	9.00	521.50	0.31
19	9.50	523.00	0.29
20	10.00	524.60	0.30
21	10.50	525.80	0.23
22	11.00	526.90	0.21

USER INPUT BLANK VALUE

BLANK VALUE = 4.510688 micrograms carbon

BLANK FACTOR = 4.510688 / 11.00168 = +4.1E-01 ug/min Carbon

SAMPLE RESULTS:

(526.9 - 4.5099) (1)/(1) = +5.224E+02 g/L Carbon
(526.9 - 4.5099) (1)/(1) (12) = +4.353E+01 Molar Carbon

Sample Run By:

KR MONTEITH

00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-162, REV. I

Sample: 3422

Date: 12/29/95

Time: 13:36:38

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.89 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.50	0.00
2	1.01	6.00	75.00
3	1.50	31.40	80.89
4	2.00	93.80	66.52
5	2.50	156.70	40.14
6	3.00	195.50	19.85
7	3.50	216.00	9.49
8	4.00	224.90	3.96
9	4.50	229.20	1.88
10	5.00	232.30	1.33
11	5.50	234.60	0.98
12	6.00	236.60	0.85
13	6.50	238.10	0.63
14	7.00	239.60	0.63
15	7.50	240.90	0.54
16	8.00	242.20	0.54
17	8.50	243.20	0.41
18	9.00	244.20	0.41
19	9.50	245.20	0.41
20	10.00	246.10	0.37
21	10.50	246.90	0.32
22	11.00	247.70	0.32

USER INPUT BLANK VALUE

BLANK VALUE = 20.79317 micrograms carbon

BLANK FACTOR = 20.79317 / 11.00168 = +1.9E+00 ug/min Carbon

SAMPLE RESULTS:

(247.7 - 20.79127) (1)/(1) = +2.269E+02 g/L Carbon
(247.7 - 20.79127) (1)/(1) (12) = +1.891E+01 Molar Carbon
<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>

Sample Run By:

KR MONTEITH

00000

333

$\frac{226.9}{.1} = 2.27E^3$

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT

TICTOC REV 2.0

WHC-SD-WM-DP-162, REV. I

Sample: 3422

Date: 12/29/95

Time: 13:50:51

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .41 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading ==	==== Analysis Time ==	==== Coulometer ==	==== % Difference ==
1	0.51	0.60	0.00
2	1.01	5.80	89.66
3	1.51	62.60	90.73
4	2.00	163.90	61.81
5	2.51	273.00	39.96
6	3.01	361.50	24.48
7	3.51	420.00	13.93
8	4.01	456.20	7.94
9	4.50	476.90	4.34
10	5.00	486.70	2.01
11	5.50	492.10	1.10
12	6.00	496.10	0.81
13	6.50	499.40	0.66
14	7.00	502.20	0.56
15	7.50	504.80	0.52
16	8.00	506.90	0.41
17	8.50	509.00	0.41
18	9.00	511.00	0.39
19	9.50	512.70	0.33
20	10.00	514.40	0.33
21	10.50	515.90	0.29
22	11.00	517.70	0.35

USER INPUT BLANK VALUE

BLANK VALUE = 4.510688 micrograms carbon

BLANK FACTOR = 4.510688 / 11.00168 = +4.1E-01 ug/min Carbon

SAMPLE RESULTS:

(517.7 - 4.510601) (1)/(1) = +5.132E+02 g/L Carbon
(517.7 - 4.510601) (1)/(1) (12) = +4.277E+01 Molar Carbon

Sample Run By:

KR MONTEITH

00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0
WHC-SD-WM-OP-162, REV. I

Sample: 3422

Date: 12/29/95

Time: 14:02:42

Sample Size = 1 uL

Analyst : KR MONTEITH

Dil Factor = 1

Min Readings = 22

Blank ID # =

Max Readings = 22

Blank Value = 1.89 ug/minute C

% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.70	0.00
2	1.01	7.00	75.71
3	1.51	30.20	76.82
4	2.00	92.40	67.32
5	2.50	153.80	39.92
6	3.00	191.00	19.48
7	3.50	210.90	9.44
8	4.00	219.10	3.74
9	4.50	223.30	1.88
10	5.00	226.20	1.28
11	5.50	228.40	0.96
12	6.00	230.50	0.91
13	6.50	232.10	0.69
14	7.00	233.90	0.77
15	7.50	235.10	0.51
16	8.00	236.60	0.63
17	8.50	237.60	0.42
18	9.00	238.70	0.46
19	9.50	239.90	0.50
20	10.00	240.80	0.37
21	10.50	241.70	0.37
22	11.00	242.60	0.37

USER INPUT BLANK VALUE

BLANK VALUE = 20.79317 micrograms carbon

BLANK FACTOR = 20.79317 / 11.00168 = +1.9E+00 ug/min Carbon

SAMPLE RESULTS:

(242.6 - 20.79127) (1)/(1) = +2.218E+02 g/L Carbon
 (242.6 - 20.79127) (1)/(1) (12) = +1.848E+01 Molar Carbon
 <<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!>>>>

Sample Run By:

KR MONTEITH

00000

$$\frac{221.8}{.1 \text{ mL}} = 2.22 \times 10^3$$

340

WHC-SD-WM-DP-162, REV. 1

RADIOCHEMICAL ANALYSES

WHC-SD-WM-DP-162, REV. 1

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LABCORE Data Entry Template for Worklist#

3718

Analyst: S. C. L. Instrument: AB00 16 Book # 150852

Method: LA-508-101 Rev/Mod D-1

Worklist Comment: BY-105 AT Determine sample size by ludlam. Use 0.1ml spike.

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				0ALPHA01 ALPHA01	LIQUID			N/A	uCi/mL
		1	STD				0ALPHA01 ALPHA01E	LIQUID			N/A	% Ct. Error
		2	BLNK-PREP				0ALPHA01 ALPHA01	LIQUID			N/A	uCi/mL
		2	BLNK-PREP				0ALPHA01 ALPHA01E	LIQUID			N/A	% Ct. Error
		3	BLNK/BKG				0ALPHA01 ALPHA01	LIQUID			N/A	uCi/mL
95000125	BY-105 (R)	4	SAMPLE	S95T003418	0		0ALPHA01 ALPHA01	LIQUID	N/A			uCi/mL
95000125	BY-105 (R)	4	SAMPLE	S95T003418	0		0ALPHA01 ALPHA01E	LIQUID	N/A			% Ct. Error
95000125	BY-105 (R)	5	DUP	S95T003418	0		0ALPHA01 ALPHA01	LIQUID			N/A	uCi/mL
95000125	BY-105 (R)	5	DUP	S95T003418	0		0ALPHA01 ALPHA01E	LIQUID			N/A	% Ct. Error
95000125	BY-105 (R)	6	SPK	S95T003418	0		0ALPHA01 ALPHA01	LIQUID			N/A	uCi/mL
95000125	BY-105 (R)	7	SAMPLE	S95T003422	0		0ALPHA01 ALPHA01	LIQUID	N/A			uCi/mL
95000125	BY-105 (R)	7	SAMPLE	S95T003422	0		0ALPHA01 ALPHA01E	LIQUID	N/A			% Ct. Error
95000125	BY-105 (R)	8	DUP	S95T003422	0		0ALPHA01 ALPHA01	LIQUID			N/A	uCi/mL
95000125	BY-105 (R)	8	DUP	S95T003422	0		0ALPHA01 ALPHA01E	LIQUID			N/A	% Ct. Error
95000125	BY-105 (R)	9	SPK	S95T003422	0		0ALPHA01 ALPHA01	LIQUID			N/A	uCi/mL

Final page for worklist #

3718

Sue C. L.

11-22-95

11/27/95

Data Entry Comments:

A spike: 112B43

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#

3718

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
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# 3718

Analyst: scl Instrument: AB16 Book# _____

Method: _____ Rev/Mod _____

Worklist Comment: BY-105 AT Determine sample size by ludlam. Use 0.1ml spike.

Seq Type	Sample# R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD	0	0ALPHA01 ALPHA01	L1QUID	1.28E-05	1.42E-5	110.940 % Recovery	
1 STD	0	0ALPHA01 ALPHA01E	L1QUID	1.00	4.55E+00	4.550 % Ct. Error	
2 BLNK-PREP	0	0ALPHA01 ALPHA01	L1QUID	1	<6.63E-3	uCi/mL	
2 BLNK-PREP	0	0ALPHA01 ALPHA01E	L1QUID	1.00	5.00E+02	500.000 % Ct. Error	
3 BLNK/BKG	0	0ALPHA01 ALPHA01	L1QUID	1.00E+00	1.63E+00	1.630 uCi/mL	
4 SAMPLE	S95T003418 0	0ALPHA01 ALPHA01	L1QUID	N/A <	3.27E-03	6.000E-003 uCi/mL	
4 SAMPLE	S95T003418 0	0ALPHA01 ALPHA01E	L1QUID	N/A	5.00E+02	0.000 % Ct. Error	
5 DUP	S95T003418 0	0ALPHA01 ALPHA01	L1QUID	<3.27E-3	<2.61E-3	RPD	
5 DUP	S95T003418 0	0ALPHA01 ALPHA01E	L1QUID	1.00	5.00E+02	500.000 % Ct. Error	
6 SPK	S95T003418 0	0ALPHA01 ALPHA01	L1QUID	4.48E-02	4.51E-02	100.670 % Recovery	
7 SAMPLE	S95T003422 0	0ALPHA01 ALPHA01	L1QUID	N/A <	3.27E-03	6.000E-003 uCi/mL	
7 SAMPLE	S95T003422 0	0ALPHA01 ALPHA01E	L1QUID	N/A	5.00E+02	0.000 % Ct. Error	
8 DUP	S95T003422 0	0ALPHA01 ALPHA01	L1QUID	<3.27E-3	<4.91E-3	RPD	
8 DUP	S95T003422 0	0ALPHA01 ALPHA01E	L1QUID	1.00	5.00E+02	500.000 % Ct. Error	
9 SPK	S95T003422 0	0ALPHA01 ALPHA01	L1QUID	4.48E-02	4.39E-02	97.990 % Recovery	

Final page for worklist# 3718

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Reviewer Signature _____ Date 11/28/95

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

WORKBOOK PAGE: STD1

AT : LA-508-101 (D-2)

STANDARD

		STANDARD	REPLICATE
Type	DETECTOR NUMBER	16	16
STD	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	1901	2117
3718	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.5	0.5
AT	SAMPLE SIZE in mL (SS)	10.000	10.000
Test Code	DILUTION FACTOR (DF)	1	1
@ALPHA01	STANDARD BOOK NUMBER (Std BN)	150B52	150B52
Matrix	EFFICIENCY FACTOR (EFF)	0.2104	0.2104
LIQUID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	62.867	70.067
Batch Number	Standard Value in $\mu\text{Ci/mL}$	1.28E-05	
95004136	Concentration in $\mu\text{Ci/L}$ =	1.35E-02	
Rerun	Replicate Concentration in $\mu\text{Ci/L}$ =	1.50E-02	
0	AVERAGE CONCENTRATION in $\mu\text{Ci/L}$ =	1.4230E-02	
Sample Prep			
N/A	Rs (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	ALPHA TOTAL $\mu\text{Ci/L}$ = $Rs * 1000\text{mL/L} * DF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$		
WRKLST#3718	ALPHA TOTAL $\mu\text{Ci/mL}$ = $ALPHA\ TOTAL\ \mu\text{Ci/L} / 1000\text{mL/L}$		
Instrument Code	Relative Counting Error = $[(The\ Square\ Root\ of\ TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
WB27806	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
MCB			
Chemist			
SLF	ALPHA TOTAL CONCENTRATION in $\mu\text{Ci/mL}$	1.42E-05	
Analyst			DETECTION LEVEL
SCL			
Date Complete			1.48E-07
11/27/95	RELATIVE COUNTING ERROR	4.5%	$\mu\text{Ci/mL}$
Analysis Date			
11/22/95			
Analysis Time			
01:30 PM			
Sample Point			
BY-105(R)			

Analyst:	SCL	Date: 27-Nov-95
Signature of Chemist: <i>SLC</i>	SLF	Date: NOV 28 1995

STANDARD.WB1 Rev. 1.0

508101ML

AT : LA-508-101 (D-2)

LIQUIDS

		BLNK-PREP	REPLICATE
Type	DETECTOR NUMBER	16	16
BLNK-PREP	DISH SIZE (1, 2, or 5)	(MS)	2
Work List	GROSS COUNTS	(GC)	11
3718	COUNT TIME in MINUTES	(CT)	30
A1 or TB ?	BACKGROUND in cpm	(BKG)	0.5
AT	SAMPLE SIZE in mL	(SS)	0.025
Test Code	DILUTION FACTOR	(DF)	101
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE	0.301	0.767
Batch Number			
95004136	Blank Concentration in $\mu\text{Ci/L}$	<	2.61E+00
Rerun	Replicate Concentration in $\mu\text{Ci/L}$		6.63E+00
0	Maximum Concentration in $\mu\text{Ci/L}$	<	6.6312E+00
Sample Prep			
N/A	Rs (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	ALPHA TOTAL $\mu\text{Ci/L}$ = $Rs * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$		
WRKLST#3718	ALPHA TOTAL $\mu\text{Ci/mL}$ = $ALPHA\ TOTAL\ \mu\text{Ci/L} / 1000\text{mL/L}$		
Instrument Code	Relative Counting Error = $[(The\ Square\ Root\ of\ TC + BKG * CT)] * 1.96 * 100$		
WB27806	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
MCB			
Chemist	v RESULTS v		
SLF	ALPHA TOTAL	in $\mu\text{Ci/m}$	< 6.63E-03
Analyst			DETECTION LEVEL
SCL	LESS Than Value was Determined from Lc.		
Date Complete			6.00E-03
11/27/95	RELATIVE COUNTING ERROR	500.0%	$\mu\text{Ci/mL}$
Analysis Date			
11/22/95			
Analysis Time			
01:30 PM			
Sample Point			
BY-105(R)			

Analyst:	SCL	Date: 27-Nov-95
Signature of Chemist: <i>SCL</i>	SLF	Date: Nov 27 1995
BLANK.WB1 Rev. 1.0	508101ML	

AT : LA-508-101 (D-2) LIQUIDS

		SAMPLE	REPLICATE
Type	DETECTOR NUMBER	16	16
SAMPLE	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	13	17
3718	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.5	0.5
AT	SAMPLE SIZE in mL (SS)	0.025	0.025
Test Code	DILUTION FACTOR (DF)	101	101
@ALPHA01	DIGEST DILUTION FACTOR (DDF)	1	1
Matrix	EFFICIENCY FACTOR (EFF)	0.2104	0.2104
LIQUID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE	0.301	0.378
Batch Number			
95004136	Blank Concentration in $\mu\text{Ci/L}$	< 2.61E+00	
Rerun	Replicate Concentration in $\mu\text{Ci/L}$	< 3.27E+00	
0	Maximum Concentration in $\mu\text{Ci/L}$	< 3.2677E+00	
Sample Prep			
N/A			
Sample #	Rs (Sample Count Rate) = $(TC / CT) - BKG$		
S95T003418	ALPHA TOTAL $\mu\text{Ci/L}$ = $Rs * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$		
Instrument Code	ALPHA TOTAL $\mu\text{Ci/mL}$ = $ALPHA\ TOTAL\ \mu\text{Ci/L} / 1000\text{mL/L}$		
WB27806	Relative Counting Error = $[(The\ Square\ Root\ of\ TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
Prepared By	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
MCB			
Chemist			
SLF			
Analyst			
SCL			
Date Complete			
11/27/95			
Analysis Date			
11/22/95			
Analysis Time			
01:30 PM			
Sample Point			
BY-105(R)			

Analyst:	SCL	Date: 27-Nov-95
Signature of Chemist: <i>[Signature]</i>	SLF	Date: NOV 27 1995
SAMPLE.WB1 Rev. 1.	508101ML	

WORKBOOK PAGE: DUP5

AT : LA-508-101 (D-2)

LIQUIDS

		DUP	REPLICATE
Type	DETECTOR NUMBER	16	16
DUP	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	11	6
3718	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.5	0.5
AT	SAMPLE SIZE in mL (SS)	0.025	0.025
Test Code	DILUTION FACTOR (DF)	101	101
@ALPHA01	DIGEST DILUTION FACTOR (DDF)	1	1
Matrix	EFFICIENCY FACTOR (EFF)	0.2104	0.2104
LIQUID	Lc, Rmax, or Rs.(SAMPLE RATE) as APPROPRIATE	0.301	0.301
Batch Number			
95004136	Blank Concentration in $\mu\text{Ci/L}$	< 2.61E+00	
Rerun	Replicate Concentration in $\mu\text{Ci/L}$	< 2.61E+00	
0	Maximum Concentration in $\mu\text{Ci/L}$	< 2.6056E+00	
Sample Prep			
N/A	Rs (Sample Count Rate) = $(\text{TC} / \text{CT}) - \text{BKG}$		
Sample #	ALPHA TOTAL $\mu\text{Ci/L}$ = $\text{Rs} * 1000\text{mL/L} * \text{DF} * \text{DDF} / (\text{EFF} * \text{SS} * 2220000\text{dpm}/\mu\text{Ci})$		
S95T003418	ALPHA TOTAL $\mu\text{Ci/mL}$ = $\text{ALPHA TOTAL } \mu\text{Ci/L} / 1000\text{mL/L}$		
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } \text{TC} + \text{BKG} * \text{CT}) / (\text{TC} - \text{BKG} * \text{CT})] * 1.96 * 100$		
WB27806	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
MCB			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/m}$	< 2.61E-03	DETECTION LEVEL
Analyst			
SCL	LESS Than Value was Determined from Lc.		
Date Complete	RELATIVE COUNTING ERROR	500.0%	6.00E-03 $\mu\text{Ci/mL}$
11/27/95			
Analysis Date			
11/22/95			
Analysis Time			
01:30 PM			
Sample Point			
BY-105(R)			

Analyst:	SCL	Date: 27-Nov-95
Signature of Chemist:	SLF	Date: 11/27/95
SAMPLE:WB1 Rev. 1.	508101ML	

WORKBOOK PAGE: SPIKE6

AT : LA-508-101 (D-2) SPIKED SAMPLE

		SPIKE	REPLICATE
Type	DETECTOR NUMBER	16	16
SPK	DISH SIZE 1, 2, or 5 (MS)	2	2
Work List	TOTAL COUNTS (TC)	62974	63526
3718	COUNT TIME IN MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.5	0.5
AT	SAMPLE VOLUME in mL (Spiked Vial) (SS)	0.025	0.025
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial) (DF)	101	101
@ALPHA01	DIGEST DILUTION FACTOR (DDF)	1	1
Matrix	SPIKE VOLUME in mL (SVol)	0.100	0.100
LIQUID	SPIKE DILUTION FACTOR (SDF)	1	1
Batch Number	SPIKE BOOK NUMBER (Spk BN)	112B43	112B43
95004136	SPIKE VALUE in $\mu\text{Ci/mL}$ (SVal)	4.4762E-02	4.4762E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR (EFF)	0.2104	0.2104
0	SAMPLE + SPIKE $\mu\text{Ci/mL}$ (S+S)	1.82E+01	1.83E+01
Sample Prep	AVERAGE or MAXIMUM $\mu\text{Ci/mL}$ in SAMPLE	3.2677E-03	
N/A			
Sample #			
S95T003418			
Instrument Code	Rs (Sample Count Rate) = (TC / CT) - BKG		
WB27806	SAMPLE + SPIKE $\mu\text{Ci/mL}$ = Rs * DF * DDF / (EFF * SS * 2220000dpm/ μCi)		
Prepared By	QC ACTUAL = SVal		
MCB	QC FOUND = (((S+S $\mu\text{Ci/mL}$ - SAMPLE $\mu\text{Ci/mL}$) * ((SDF/SVol)/(DF*DDF/SS))))		
Chemist	PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) * 100		
SLF			
Analyst			
SCL			
Date Complete	NOTE: Original Sample result was a LESS THAN value. Zero (0) was subtracted from the		
11/27/95	spiked value for QC found calculation.		
Analysis Date			
11/22/95	QC ACTUAL =	4.48E-02	
Analysis Time	QC FOUND =	4.51E-02	
01:30 PM	AVG. PERCENT SPIKE RECOVERY =	100.8%	
Sample Point			
BY-105(R)			

Analyst:	SCL	Date: 27-Nov-95
Signature of Chemist: <i>[Signature]</i>	SCL	Date: 11/27/95
SPIKE.WB1 Rev. 1.0	508101ML	

350

WORKBOOK PAGE: SAM7

AT : LA-508-101 (D-2)

LIQUIDS

		SAMPLE	REPLICATE
Type	DETECTOR NUMBER	16	16
SAMPLE	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	9	17
3718	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.5	0.5
AT	SAMPLE SIZE in mL (SS)	0.025	0.025
Test Code	DILUTION FACTOR (DF)	101	101
@ALPHA01	DIGEST DILUTION FACTOR (DDF)	1	1
Matrix	EFFICIENCY FACTOR (EFF)	0.2104	0.2104
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE	0.301	0.378
Batch Number			
95004136	Blank Concentration in $\mu\text{Ci/L}$	< 2.61E+00	
Rerun	Replicate Concentration in $\mu\text{Ci/L}$	< 3.27E+00	
0	Maximum Concentration in $\mu\text{Ci/L}$	< 3.2677E+00	
Sample Prep			
N/A	Rs (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	ALPHA TOTAL $\mu\text{Ci/L}$ = $Rs * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$		
S95T003422	ALPHA TOTAL $\mu\text{Ci/mL}$ = $ALPHA\ TOTAL\ \mu\text{Ci/L} / 1000\text{mL/L}$		
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
WB27806	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
MCB			
Chemist	v RESULTS v		
SLF	ALPHA TOTAL in $\mu\text{Ci/m}$	< 3.27E-03	DETECTION LEVEL
Analyst	LESS Than Value was Determined from Lc.		
SCL			
Date Complete	RELATIVE COUNTING ERROR	500.0%	6.00E-03 $\mu\text{Ci/mL}$
11/27/95			
Analysis Date			
11/22/95			
Analysis Time			
01:30 PM			
Sample Point			
BY-105(R)			

Analyst:	SCL	Date: 27-Nov-95
Signature of Chemist: <i>SLF</i>	SLF	Date: NOV 1 1995
SAMPLE WB1 Rev. 1.	508101ML	

WORKBOOK PAGE: DUP8

AT : LA-508-101 (D-2) LIQUIDS

		DUP	REPLICATE
Type	DETECTOR NUMBER	16	16
DUP	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	22	12
3718	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.5	0.5
AT	SAMPLE SIZE in mL (SS)	0.025	0.025
Test Code	DILUTION FACTOR (DF)	101	101
@ALPHA01	DIGEST DILUTION FACTOR (DDF)	1	1
Matrix	EFFICIENCY FACTOR (EFF)	0.2104	0.2104
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE	0.568	0.301
Batch Number			
95004136	Blank Concentration in $\mu\text{Ci/L}$	< 4.91E+00	
Rerun	Replicate Concentration in $\mu\text{Ci/L}$	< 2.61E+00	
0	Maximum Concentration in $\mu\text{Ci/L}$	< 4.9118E+00	
Sample Prep			
N/A			
Sample #	Rs (Sample Count Rate) = $(TC / CT) - BKG$		
S95T003422	ALPHA TOTAL $\mu\text{Ci/L}$ = $Rs * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$		
Instrument Code	ALPHA TOTAL $\mu\text{Ci/mL}$ = $ALPHA\ TOTAL\ \mu\text{Ci/L} / 1000\text{mL/L}$		
WB27806	Relative Counting Error = $[(The\ Square\ Root\ of\ TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
Prepared By	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
MCB			
Chemist	v RESULTS v		
SLF	ALPHA TOTAL in $\mu\text{Ci/m}$	< 4.91E-03	DETECTION LEVEL
Analyst			
SCL	LESS THAN Value was Determined from Rmax.		
Date Complete	RELATIVE COUNTING ERROR	500.0%	6.00E-03 $\mu\text{Ci/mL}$
11/27/95			
Analysis Date			
11/22/95			
Analysis Time			
01:30 PM			
Sample Point			
BY-105(R)			

Analyst	SCL	Date: 27-Nov-95
Signature of Chemist: <i>[Signature]</i>	SLF	Date: NOV 27 1995
SAMPLE.WB1 Rev. 1.	508101ML	

WORKBOOK PAGE: SPIKE9

AT : LA-508-101 (D-2) SPIKED SAMPLE

		SPIKE	REPLICATE
Type	DETECTOR NUMBER	16	16
SPK	DISH SIZE 1, 2, or 5 (MS)	2	2
Work List	TOTAL COUNTS (TC)	59533	63631
3718	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.5	0.5
AT	SAMPLE VOLUME in mL (Spiked Vial) (SS)	0.025	0.025
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial) (DF)	101	101
@ALPHA01	DIGEST DILUTION FACTOR (DDF)	1	1
Matrix	SPIKE VOLUME in mL (SVol)	0.100	0.100
LIQUID	SPIKE DILUTION FACTOR (SDF)	1	1
Batch Number	SPIKE BOOK NUMBER (Spk BN)	112B43	112B43
95004136	SPIKE VALUE in $\mu\text{Ci/mL}$ (SVal)	4.4762E-02	4.4762E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR (EFF)	0.2104	0.2104
0	SAMPLE + SPIKE $\mu\text{Ci/mL}$ (S+S)	1.72E+01	1.83E+01
Sample Prep	AVERAGE or MAXIMUM $\mu\text{Ci/mL}$ in SAMPLE	<	3.2677E-03
N/A			
Sample #			
S95T003422	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Instrument Code	SAMPLE + SPIKE $\mu\text{Ci/mL}$ = $R_s * DF * DDF / (EFF * SS * 2220000 \text{dpm}/\mu\text{Ci})$		
WB27806	QC ACTUAL = SVal		
Prepared By	QC FOUND = $((S+S \mu\text{Ci/mL} - \text{SAMPLE } \mu\text{Ci/mL}) * ((SDF/SVol)/(DF*DDF/SS))))$		
MCB	PERCENT SPIKE RECOVERY = $(QC \text{ FOUND} / QC \text{ ACTUAL}) * 100$		
Chemist			
SLF			
Analyst			
SCL			
Date Complete	NOTE: Original Sample result was a LESS THAN value. Zero (0) was subtracted from the spiked value for QC found calculation.		
11/27/95			
Analysis Date			
11/22/95	QC ACTUAL =	4.48E-02	
Analysis Time	QC FOUND =	4.39E-02	
01:30 PM	AVG. PERCENT SPIKE RECOVERY =	98.2%	
Sample Point			
BY-105(R)			

Analyst:	SCL	Date: 27-Nov-95
Signature of Chemist: <i>[Signature]</i>	SLF	Date: 11/27/95
SPIKE.WB1 Rev. 1.0	508101ML	

LABCORE Data Entry Template for Worklist#

3719

Analyst: S. C. L. Instrument: AB00 14 Book # 150052

Method: LA-508-101 Rev/Mod 0-1

Worklist Comment: BY-105 AT Determine sample size by ludlam. Use 0.1ml spike.

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				0ALPHA01 ALPHA01	LIQUID			N/A	uCi/mL
		1 STD				0ALPHA01 ALPHA01E	LIQUID			N/A	% Ct. Error
		2 BLNK-PREP				0ALPHA01 ALPHA01	LIQUID			N/A	uCi/mL
		2 BLNK-PREP				0ALPHA01 ALPHA01E	LIQUID			N/A	% Ct. Error
		3 BLNK/BKG				0ALPHA01 ALPHA01	LIQUID			N/A	uCi/mL
95000125	BY-105 (R)	4 SAMPLE	S95T003394	0		0ALPHA01 ALPHA01	LIQUID	N/A			uCi/mL
95000125	BY-105 (R)	4 SAMPLE	S95T003394	0		0ALPHA01 ALPHA01E	LIQUID	N/A			% Ct. Error
95000125	BY-105 (R)	5 DUP	S95T003394	0	23	0ALPHA01 ALPHA01	LIQUID			N/A	uCi/mL
95000125	BY-105 (R)	5 DUP	S95T003394	0		0ALPHA01 ALPHA01E	LIQUID			N/A	% Ct. Error
95000125	BY-105 (R)	6 SPK	S95T003394	0		0ALPHA01 ALPHA01	LIQUID			N/A	uCi/mL
95000125	BY-105 (R)	7 SAMPLE	S95T003396	0		0ALPHA01 ALPHA01	LIQUID	N/A			uCi/mL
95000125	BY-105 (R)	7 SAMPLE	S95T003396	0		0ALPHA01 ALPHA01E	LIQUID	N/A			% Ct. Error
95000125	BY-105 (R)	8 DUP	S95T003396	0		0ALPHA01 ALPHA01	LIQUID			N/A	uCi/mL
95000125	BY-105 (R)	8 DUP	S95T003396	0		0ALPHA01 ALPHA01E	LIQUID			N/A	% Ct. Error
95000125	BY-105 (R)	9 SPK	S95T003396	0		0ALPHA01 ALPHA01	LIQUID			N/A	uCi/mL

Final page for worklist #

3719

Sue C. Lani

11-22-95

M. B. Crum 11/29/95

Data Entry Comments:

A spike: 112843

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#

3719

GROUP	PROJECT	S TYPE	SAMPLE#	R A -----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
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# 3719

Analyst: scl Instrument: AB14 Book# _____

Method: _____ Rev/Mod _____

Worklist Comment: BY-105 AT Determine sample size by ludlam. Use 0.1ml spike.

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD		0	0ALPHA01 ALPHA01	LIQUID	1.28E-05	1.21E-5	94.530 % Recovery	
1 STD		0	0ALPHA01 ALPHA01E	LIQUID	1.00	4.83E+00	4.830 % Ct. Error	
2 BLNK-PREP		0	0ALPHA01 ALPHA01	LIQUID	1	3.04E-3	0.000 uCi/mL	
2 BLNK-PREP		0	0ALPHA01 ALPHA01E	LIQUID	1.00	9.36E+01	93.600 % Ct. Error	
3 BLNK/BKG		0	0ALPHA01 ALPHA01	LIQUID	1.00E+00	2.41E+00	2.410 uCi/mL	
4 SAMPLE	S95T003394	0	0ALPHA01 ALPHA01	LIQUID	N/A <	3.71E-03	4.270E-003 uCi/mL	
4 SAMPLE	S95T003394	0	0ALPHA01 ALPHA01E	LIQUID	N/A	2.25E+02	0.000 % Ct. Error	
5 DUP	S95T003394	0	0ALPHA01 ALPHA01	LIQUID	<3.71E-3	4.11E-3	RPD	
5 DUP	S95T003394	0	0ALPHA01 ALPHA01E	LIQUID	1.00	1.22E+02	122.000 % Ct. Error	
6 SPK	S95T003394	0	0ALPHA01 ALPHA01	LIQUID	4.48E-02	4.19E-02	93.530 % Recovery	
7 SAMPLE	S95T003396	0	0ALPHA01 ALPHA01	LIQUID	N/A	6.11E-03	4.270E-003 uCi/mL	
7 SAMPLE	S95T003396	0	0ALPHA01 ALPHA01E	LIQUID	N/A	6.14E+01	0.000 % Ct. Error	
8 DUP	S95T003396	0	0ALPHA01 ALPHA01	LIQUID	6.11E-3	4.51E-3	30.130 RPD	
8 DUP	S95T003396	0	0ALPHA01 ALPHA01E	LIQUID	1.00	6.98E+01	69.800 % Ct. Error	
9 SPK	S95T003396	0	0ALPHA01 ALPHA01	LIQUID	4.48E-02	4.45E-02	99.330 % Recovery	

Final page for worklist# 3719

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Reviewer Signature

11/28/95
Date

WORKBOOK PAGE: STD1

AT : LA-508-101 (D-2)

STANDARD

	STANDARD	REPLICATE
Type	DETECTOR NUMBER	14
STD	DISH SIZE (1, 2, or 5) (MS)	2
Work List	GROSS COUNTS (GC)	1670
3719	COUNT TIME in MINUTES (CT)	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.27
AT	SAMPLE SIZE in mL (SS)	10.000
Test Code	DILUTION FACTOR (DF)	1
@ALPHA01	STANDARD BOOK NUMBER (Std BN)	150B52
Matrix	EFFICIENCY FACTOR (EFF)	0.2274
LIQUID	Lc, Rmax, or Rs.(SAMPLE RATE) as APPROPRIATE	55.397
Batch Number	Standard Value in $\mu\text{Ci/mL}$	1.28E-06
95004137	Concentration in $\mu\text{Ci/L}$ =	1.10E-02
Rerun	Replicate Concentration in $\mu\text{Ci/L}$ =	1.31E-02
0	AVERAGE CONCENTRATION in $\mu\text{Ci/L}$ =	1.2056E-02
Sample Prep		
N/A	Rs (Sample Count Rate) = $(TC / CT) - BKG$	
Sample #	ALPHA TOTAL $\mu\text{Ci/L}$ = $Rs * 1000\text{mL/L} * DF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$	
WRKLST#3719	ALPHA TOTAL $\mu\text{Ci/mL}$ = ALPHA TOTAL $\mu\text{Ci/L}$ / 1000mL/L	
Instrument Code	Relative Counting Error = $[(The Square Root of TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$	
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.	
Prepared By		
MCB		
Chemist		
SLF	ALPHA TOTAL CONCENTRATION in $\mu\text{Ci/mL}$	1.21E-05
Analyst		
SCL		
Date Complete		
11/27/95	RELATIVE COUNTING ERROR	4.8%
Analysis Date		
11/22/95		
Analysis Time		
05:30 AM		
Sample Point		
BY-105(R)		

Analyst:	SCL	Date: 27-Nov-95
Signature of Chemist:	<i>SLF</i>	Date: NOV 23 1995

STANDARD.WB1 Rev. 1.0

508101ML

AT : LA-508-101 (D-2)

LIQUIDS

		BLNK-PREP	REPLICATE
Type	DETECTOR NUMBER	14	14
BLNK-PREP	DISH SIZE (1, 2, or 5)	(MS)	2
Work List	GROSS COUNTS	(GC)	19
3719	COUNT TIME in MINUTES	(CT)	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.27
AT	SAMPLE SIZE in mL	(SS)	0.025
Test Code	DILUTION FACTOR	(DF)	101
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2274
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.397

Batch Number	
95004137	Blank Concentration in $\mu\text{Ci/L}$
Rerun	Replicate Concentration in $\mu\text{Ci/L}$
0	Average Concentration in $\mu\text{Ci/L}$

Sample Prep	N/A	$R_s (\text{Sample Count Rate}) = (TC / CT) - BKG$
Sample #	WRKLST#3719	$\text{ALPHA TOTAL } \mu\text{Ci/L} = R_s * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$
Instrument Code	WB27807	$\text{ALPHA TOTAL } \mu\text{Ci/mL} = \text{ALPHA TOTAL } \mu\text{Ci/L} / 1000\text{mL/L}$
Prepared By	MCB	$\text{Relative Counting Error} = [(The Square Root of TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$
Chemist		Detection Levels and Less Than Values are determined from Procedure LA-508-002.

	v RESULTS v		
SLF	ALPHA TOTAL	in $\mu\text{Ci/m}$	3.04E-03
Analyst			DETECTION LEVEL
SCL			
Date Complete			4.27E-03
11/27/95	RELATIVE COUNTING ERROR	93.6%	$\mu\text{Ci/mL}$
Analysis Date			
11/22/95			
Analysis Time			
05:30 AM			
Sample Point			
BY-105(R)			

Analyst	SCL	Date: 27-Nov-95
Signature of Chemist: <i>[Signature]</i>	SCL	Date: NOV 20 1995
BLANK.WB1 Rev. 1.0	508101ML	

AT: LA-508-101 (D-2)

LIQUIDS

		SAMPLE	REPLICATE
Type	DETECTOR NUMBER	14	14
SAMPLE	DISH SIZE (1, 2, or 5)	(MS)	2
Work List	GROSS COUNTS	(GC)	22
3719	COUNT TIME in MINUTES	(CT)	30
At or TB ?	BACKGROUND in cpm	(BKG)	0.27
AT	SAMPLE SIZE in mL	(SS)	0.025
Test Code	DILUTION FACTOR	(DF)	101
@ALPHA01	DIGEST DILUTION FACTOR	(DDF)	1
Matrix	EFFICIENCY FACTOR	(EFF)	0.2274
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.463
Batch Number			
95004137	Blank Concentration in $\mu\text{Ci/L}$		3.71E+00
Rerun	Replicate Concentration in $\mu\text{Ci/L}$	<	3.01E+00
0	Maximum Concentration in $\mu\text{Ci/L}$	<	3.7079E+00
Sample Prep			
N/A	R_s (Sample Count Rate) = (TC / CT) - BKG		
Sample #	ALPHA TOTAL $\mu\text{Ci/L}$ = $R_s * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$		
S95T003394	ALPHA TOTAL $\mu\text{Ci/mL}$ = ALPHA TOTAL $\mu\text{Ci/L} / 1000\text{mL/L}$		
Instrument Code	Relative Counting Error = $[(\text{The Square Root of TC} + \text{BKG} * \text{CT}) / (\text{TC} - \text{BKG} * \text{CT})] * 1.96 * 100$		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
MCB			
Chemist			
SLF	ALPHA TOTAL	in $\mu\text{Ci/m}$	< 3.71E-03
Analyst			
SCL	LESS THAN Value was Determined from R_s .		
Date Complete			
11/27/95	RELATIVE COUNTING ERROR		225.3%
Analysis Date			
11/22/95			
Analysis Time			
05:30 AM			
Sample Point			
BY-105(R)			

Analyst:	SCL	Date: 27-Nov-95
Signature of Chemist: <i>MCB</i>	<i>SLF</i>	Date: NOV 27 1995
SAMPLE WB1 Rev. 1.	508101ML	

AT : LA-508-101 (D-2)

LIQUIDS

		DUP	REPLICATE
Type	DETECTOR NUMBER	14	14
DUP	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	16	31
3719	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.27	0.27
AT	SAMPLE SIZE in mL (SS)	0.025	0.025
Test Code	DILUTION FACTOR (DF)	101	101
@ALPHA01	DIGEST DILUTION FACTOR (DDF)	1	1
Matrix	EFFICIENCY FACTOR (EFF)	0.2274	0.2274
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE	0.263	0.763
Batch Number			
95004137	Blank Concentration in $\mu\text{Ci/L}$	2.11E+00	
Rerun	Replicate Concentration in $\mu\text{Ci/L}$	6.11E+00	
0	Average Concentration in $\mu\text{Ci/L}$	4.1081E+00	
Sample Prep			
N/A			
Sample #	Rs (Sample Count Rate) = (TC / CT) - BKG		
S95T003394	ALPHA TOTAL $\mu\text{Ci/L}$ = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/ μCi)		
Instrument Code	ALPHA TOTAL $\mu\text{Ci/mL}$ = ALPHA TOTAL $\mu\text{Ci/L}$ / 1000mL/L		
WB27807	Relative Counting Error = [(The Square Root of TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100		
Prepared By	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
MCB			
Chemist	v RESULTS v		
SLF	ALPHA TOTAL in $\mu\text{Ci/m}$	4.11E-03	DETECTION LEVEL
Analyst			
SCL			
Date Complete			4.27E-03 $\mu\text{Ci/mL}$
11/27/95	RELATIVE COUNTING ERROR	121.8%	
Analysis Date			
11/22/95			
Analysis Time			
05:30 AM			
Sample Point			
BY-105(R)			

Analyst:	SCL	Date: 27-Nov-95
Signature of Chemist: <i>Lee Carter</i>	SLF	Date: NOV 23 1995
SAMPLE.WB1 Rev. 1.	508101ML	

WORKBOOK PAGE: SPIKE6

AT : LA-508-101 (D-2) SPIKED SAMPLE

		SPIKE	REPLICATE
Type	DETECTOR NUMBER	14	14
SPK	DISH SIZE 1, 2, or 5 (MS)	2	2
Work List	TOTAL COUNTS (TC)	62610	64400
3719	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.27	0.27
AT	SAMPLE VOLUME in mL (Spiked Vial) (SS)	0.025	0.025
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial) (DF)	101	101
@ALPHA01	DIGEST DILUTION FACTOR (DDF)	1	1
Matrix	SPIKE VOLUME in mL (SVol)	0.100	0.100
LIQUID	SPIKE DILUTION FACTOR (SDF)	1	1
Batch Number	SPIKE BOOK NUMBER (Spk BN)	112B43	112B43
95004137	SPIKE VALUE in $\mu\text{Ci/mL}$ (SVal)	4.4762E-02	4.4762E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR (EFF)	0.2274	0.2274
0	SAMPLE + SPIKE $\mu\text{Ci/mL}$ (S+S)	1.67E+01	1.72E+01
Sample Prep	AVERAGE or MAXIMUM $\mu\text{Ci/mL}$ in SAMPLE	<	3.7079E-03
N/A			
Sample #			
S95T003394	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Instrument Code	SAMPLE + SPIKE $\mu\text{Ci/mL}$ = $R_s * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$		
WB27807	QC ACTUAL = SVal		
Prepared By	QC FOUND = $((S+S \mu\text{Ci/mL} - \text{SAMPLE } \mu\text{Ci/mL}) * ((SDF/SVol)/(DF*DDF/SS)))$		
MCB	PERCENT SPIKE RECOVERY = $(QC \text{ FOUND} / QC \text{ ACTUAL}) * 100$		
Chemist			
SLF			
Analyst			
SCL			
Date Complete	NOTE: Original Sample result was a LESS THAN value. Zero (0) was subtracted from the spiked value for QC found calculation.		
11/27/95			
Analysis Date			
11/22/95	QC ACTUAL =	4.48E-02	
Analysis Time	QC FOUND =	4.19E-02	
05:30 AM	AVG. PERCENT SPIKE RECOVERY =	93.7%	
Sample Point			
BY-105(R)			

Analyst:	SCL	Date: 27-Nov-95
Signature of Chemist: <i>McCabe</i>	SLF	Date: NOV 28 1995
SPIKE.WB1 Rev. 1.0 508101ML		

AT : LA-508-101 (D-2)

LIQUIDS

		SAMPLE	REPLICATE
Type	DETECTOR NUMBER	14	14
SAMPLE	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	35	27
3719	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.27	0.27
AT	SAMPLE SIZE in mL (SS)	0.025	0.025
Test Code	DILUTION FACTOR (DF)	101	101
@ALPHA01	DIGEST DILUTION FACTOR (DDF)	1	1
Matrix	EFFICIENCY FACTOR (EFF)	0.2274	0.2274
LIQUID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.897	0.630
Batch Number			
95004137	Blank Concentration in $\mu\text{Ci/L}$	7.18E+00	
Rerun	Replicate Concentration in $\mu\text{Ci/L}$	5.04E+00	
0	Average Concentration in $\mu\text{Ci/L}$	6.1087E+00	
Sample Prep			
N/A			
Sample #	Rs (Sample Count Rate) = $(\text{TC} / \text{CT}) - \text{BKG}$		
S95T003396	ALPHA TOTAL $\mu\text{Ci/L}$ = $\text{Rs} * 1000\text{mL/L} * \text{DF} * \text{DDF} / (\text{EFF} * \text{SS} * 2220000\text{dpm}/\mu\text{Ci})$		
Instrument Code	ALPHA TOTAL $\mu\text{Ci/mL}$ = $\text{ALPHA TOTAL } \mu\text{Ci/L} / 1000\text{mL/L}$		
WB27807	Relative Counting Error = $[(\text{The Square Root of } \text{TC} + \text{BKG} * \text{CT}) / (\text{TC} - \text{BKG} * \text{CT})] * 1.96 * 100$		
Prepared By	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
MCB			
Chemist			
SLF			
Analyst	ALPHA TOTAL in $\mu\text{Ci/m}$	6.11E-03	DETECTION LEVEL
SCL			
Date Complete			4.27E-03 $\mu\text{Ci/mL}$
11/27/95	RELATIVE COUNTING ERROR	61.4%	
Analysis Date			
11/22/95			
Analysis Time			
05:30 AM			
Sample Point			
BY-105(R)			

Analyst:	SCL	Date: 27-Nov-95
Signature of Chemist:	SLF	Date: NOV 20 1995
SAMPLE WB1 Rev. 1.	508101ML	

WORKBOOK PAGE: DUP8

AT : LA-508-101 (D-2)

LIQUIDS

		DUP	REPLICATE
Type	DETECTOR NUMBER	14	14
DUP	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	26	24
3719	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.27	0.27
AT	SAMPLE SIZE in mL (SS)	0.025	0.025
Test Code	DILUTION FACTOR (DF)	101	101
@ALPHA01	DIGEST DILUTION FACTOR (DDF)	1	1
Matrix	EFFICIENCY FACTOR (EFF)	0.2274	0.2274
LIQUID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.597	0.530

Batch Number	
95004137	Blank Concentration in $\mu\text{Ci/L}$ 4.77E+00
Rerun	Replicate Concentration in $\mu\text{Ci/L}$ 4.24E+00
0	Average Concentration in $\mu\text{Ci/L}$ 4.5082E+00

Sample Prep	
N/A	R_s (Sample Count Rate) = $(TC / CT) - BKG$
Sample #	$\text{ALPHA TOTAL } \mu\text{Ci/L} = R_s * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$
S95T003396	$\text{ALPHA TOTAL } \mu\text{Ci/mL} = \text{ALPHA TOTAL } \mu\text{Ci/L} / 1000\text{mL/L}$
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Prepared By			
MCB			
Chemist			
SLF	v RESULTS v		
Analyst	ALPHA TOTAL	in $\mu\text{Ci/m}$ 4.51E-03	DETECTION LEVEL
SCL			
Date Complete			4.27E-03
11/27/95	RELATIVE COUNTING ERROR	69.8%	$\mu\text{Ci/mL}$
Analysis Date			
11/22/95			
Analysis Time			
05:30 AM			
Sample Point			
BY-105(R)			

Analyst:	SCL	Date: 27-Nov-95
Signature of Chemist:	SCL	Date: NOV 28 1995
SAMPLE.WB1 Rev. 1.	508101ML	

WORKBOOK PAGE: SPIKES

AT : LA-508-101 (D-2) SPIKED SAMPLE

		SPIKE	REPLICATE
Type	DETECTOR NUMBER	14	14
SPK	DISH SIZE 1, 2, or 5 (MS)	2	2
Work List	TOTAL COUNTS (TC)	68001	66882
3719	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.27	0.27
AT	SAMPLE VOLUME in mL (Spiked Vial) (SS)	0.025	0.025
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial) (DF)	101	101
@ALPHA01	DIGEST DILUTION FACTOR (DDF)	1	1
Matrix	SPIKE VOLUME in mL (SVol)	0.100	0.100
LIQUID	SPIKE DILUTION FACTOR (SDF)	1	1
Batch Number	SPIKE BOOK NUMBER (Spk BN)	112B43	112B43
95004137	SPIKE VALUE in µCi/mL (SVal)	4.4762E-02	4.4762E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR (EFF)	0.2274	0.2274
0	SAMPLE + SPIKE µCi/mL (S+S)	1.81E+01	1.78E+01
Sample Prep	AVERAGE or MAXIMUM µCi/mL in SAMPLE	6.1087E-03	
N/A			
Sample #			
S95T003396			
Instrument Code	Rs (Sample Count Rate) = (TC / CT) - BKG		
WB27807	SAMPLE + SPIKE µCi/mL = Rs * DF * DDF / (EFF * SS * 222000dpm/µCi)		
Prepared By	QC ACTUAL = SVal		
MCB	QC FOUND = (((S+S µCi/mL - SAMPLE µCi/mL) * ((SDF/SVol)/(DF*DDF/SS))))		
Chemist	PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) * 100		
SLF			
Analyst			
SCL			
Date Complete			
11/27/95			
Analysis Date			
11/22/95	QC ACTUAL =	4.48E-02	
Analysis Time	QC FOUND =	4.45E-02	
05:30 AM	AVG. PERCENT SPIKE RECOVERY =	99.4%	
Sample Point			
BY-105(R)			

Analyst:	SCL	Date: 27-Nov-95
Signature of Chemist:	SLF	Date: NOV 28 1995
SPIKE.WB1 Rev. 1-0 508101ML		

LABCORE Data Entry Template for Worklist# 4056

Analyst: gpl Instrument: AB00 # 14 Book# 11856
Method: LA-508-101 Rev/Mod D-2 119143-Spike

Worklist Comment: Determine sample size using Ludlum. Use .100 mL A-SPK. SL

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 STD			@ALPHA01	SOLID		
2 BLNK-PREP			@ALPHA01	SOLID		
3 BLNK/BKG			@ALPHA01	SOLID		
4 SAMPLE	S95T003400	O F	@ALPHA01	SOLID	95000125	BY-105 (R)
	Analytes Requested: ALPHA01 , ALPHA01E					
5 DUP	S95T003400	O F	@ALPHA01	SOLID		
6 SPK	S95T003400	O F	@ALPHA01	SOLID		
7 SAMPLE	S95T003401	O F	@ALPHA01	SOLID	95000125	BY-105 (R)
	Analytes Requested: ALPHA01 , ALPHA01E					
8 DUP	S95T003401	O F	@ALPHA01	SOLID		
9 SPK	S95T003401	O F	@ALPHA01	SOLID		

Final page for worklist # 4056

Anna Lumbel 12-07-95
Analyst Signature Date

W. B. Bickman 12/7/95
Analyst Signature Date
Sylvia Z. Cochrane
12/7/95

Data Entry Comments: Prep Blank #1 The RPD for 3401 is acceptable
due to low sample alpha activity.
gpl 12/11/95

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

LABCORE Completed Worklist Report for Worklist# 4056

Analyst: eal Instrument: AB14 Book# _____

Method: _____ Rev/Mod _____

Worklist Comment: Determine sample size using Ludlum. Use .100 mL A-SPK. SL

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD	0		@ALPHA01 ALPHA01	SOLID	1.92E-05	1.86E-5	96.880 % Recovery	
1 STD	0		@ALPHA01 ALPHA01E	SOLID	1.00	3.77E+00	3.770 % Ct. Error	
2 BLNK-PREP	0		@ALPHA01 ALPHA01	SOLID	1	<6.21E-3	uCi/g	
2 BLNK-PREP	0		@ALPHA01 ALPHA01E	SOLID	1.00	5.00E+02	500.000 % Ct. Error	
3 BLNK/BKG	0		@ALPHA01 ALPHA01	SOLID	1.00E+00	7.60E-01	0.760 uCi/g	
4 SAMPLE	S95T003400	0 F	@ALPHA01 ALPHA01	SOLID	N/A	1.12E-02	1.420e-002 uCi/g	
4 SAMPLE	S95T003400	0 F	@ALPHA01 ALPHA01E	SOLID	N/A	9.22E+01	0.000 % Ct. Error	
5 DUP	S95T003400	0 F	@ALPHA01 ALPHA01	SOLID	1.12E-2	9.84E-3	12.930 RPD	
5 DUP	S95T003400	0 F	@ALPHA01 ALPHA01E	SOLID	1.00	1.04E+02	104.000 % Ct. Error	
6 SPK	S95T003400	0 F	@ALPHA01 ALPHA01	SOLID	3.92E-02	3.45E-02	88.010 % Recovery	
7 SAMPLE	S95T003401	0 F	@ALPHA01 ALPHA01	SOLID	N/A	2.05E-02	1.230e-002 uCi/g	
7 SAMPLE	S95T003401	0 F	@ALPHA01 ALPHA01E	SOLID	N/A	5.25E+01	0.000 % Ct. Error	
8 DUP	S95T003401	0 F	@ALPHA01 ALPHA01	SOLID	2.05E-2	1.61E-2	24.040 RPD	
8 DUP	S95T003401	0 F	@ALPHA01 ALPHA01E	SOLID	1.00	6.96E+01	69.600 % Ct. Error	
9 SPK	S95T003401	0 F	@ALPHA01 ALPHA01	SOLID	3.92E-02	3.27E-02	83.420 % Recovery	

Final page for worklist# 4056

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Reviewer Signature _____ Date 12/11/95

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

WORKBOOK PAGE: STD1

AT : LA-508-101 (D-2)

STANDARD

STANDARD		STANDARD	REPLICATE
Type	DETECTOR NUMBER	14	14
STD	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	2752	2905
4056	COUNT TIME IN MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.57	0.57
AT	SAMPLE SIZE in mL (SS)	10.000	10.000
Test Code	DILUTION FACTOR (DF)	1	1
@ALPHA01	STANDARD BOOK NUMBER (Std BN)	11B56	11B56
Matrix	EFFICIENCY FACTOR (EFF)	0.2274	0.2274
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE	91.163	96.263
Batch Number	Standard Value in $\mu\text{Ci/mL}$	1.92E-05	
95004573	Concentration in $\mu\text{Ci/L}$ =	1.81E-02	
Rerun	Replicate Concentration in $\mu\text{Ci/L}$ =	1.91E-02	
0	AVERAGE CONCENTRATION in $\mu\text{Ci/L}$ =	1.8563E-02	
Sample Prep			
N/A			
Sample #	Rs (Sample Count Rate) = $(TC / CT) - BKG$		
WL#4056	ALPHA TOTAL $\mu\text{Ci/L}$ = $Rs * 1000\text{mL/L} * DF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$		
Instrument Code	ALPHA TOTAL $\mu\text{Ci/mL}$ = $ALPHA \text{ TOTAL } \mu\text{Ci/L} / 1000\text{mL/L}$		
WB27807	Relative Counting Error = $[(The \text{ Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
Prepared By	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
MCB			
Chemist			
SLF	ALPHA TOTAL CONCENTRATION in $\mu\text{Ci/mL}$	1.86E-05	DETECTION LEVEL
Analyst			
EAL			
Date Complete			1.45E-07
12/07/95	RELATIVE COUNTING ERROR	3.8%	$\mu\text{Ci/mL}$
Analysis Date			
12/07/95			
Analysis Time			
12:45 AM			
Sample Point			
BY-105(R)			

Analyst:	MCB	Date: 07-Dec-95
Signature of Chemist:	SLF	Date: 12/11/95

STANDARD.WB1 Rev. 1.0

508101ML

WORKBOOK PAGE: BLANK2

AT : LA-508-101 (D-2)

SOLIDS

		BLNK-PREP	REPLICATE
Type	DETECTOR NUMBER	14	14
BLNK-PREP	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	10	16
4056	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.57	0.57
AT	SAMPLE SIZE in mL (SS)	0.050	0.050
Test Code	DILUTION FACTOR (DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.0536	2.0536
Matrix	EFFICIENCY FACTOR (EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.322	0.322
Batch Number			
95004573	Blank Concentration in $\mu\text{Ci/g}$	< 6.21E-03	
Rerun	Replicate Concentration in $\mu\text{Ci/g}$	< 6.21E-03	
0	Maximum Concentration in $\mu\text{Ci/g}$	< 6.2051E-03	
Sample Prep			
N/A	Rs (Sample Count Rate) = (TC / CT) - BKG		
Sample #	ALPHA TOTAL $\mu\text{Ci/g}$ = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/ μCi)		
WL#4056			
Instrument Code	Relative Counting Error = [(The Square Root of TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
MCB			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/g}$	< 6.21E-03	DETECTION LEVEL
Analyst			
EAL	LESS Than Value was Determined from Lc.		
Date Complete			1.42E-02
12/07/95	RELATIVE COUNTING ERROR	500.0%	$\mu\text{Ci/g}$
Analysis Date			
12/07/95			
Analysis Time			
12:45 AM			
Sample Point			
BY-105(R)			

Analyst:	MCB	Date: 07-Dec-95
Signature of Chemist:	SLF	Date: 12/11/95

BLANK.WB1 Rev. 1.0

508101ML

WORKBOOK PAGE: SAM4

AT : LA-508-101 (D-2)

SOLIDS

		SAMPLE	REPLICATE
Type	DETECTOR NUMBER	14	14
SAMPLE	DISH SIZE (1, 2, or 5)	(MS)	2
Work List	GROSS COUNTS	(GC)	32
4056	COUNT TIME in MINUTES	(CT)	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.57
AT	SAMPLE SIZE in mL	(SS)	0.050
Test Code	DILUTION FACTOR	(DF)	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.0536
Matrix	EFFICIENCY FACTOR	(EFF)	0.2274
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.497
Batch Number			
95004573	Blank Concentration in $\mu\text{Ci/g}$	9.58E-03	
Rerun	Replicate Concentration in $\mu\text{Ci/g}$	1.28E-02	
0	Average Concentration in $\mu\text{Ci/g}$	1.1189E-02	
Sample Prep			
FUSION01	Rs (Sample Count Rate) = $(\text{TC} / \text{CT}) - \text{BKG}$		
Sample #	ALPHA TOTAL $\mu\text{Ci/g}$ = $\text{Rs} * 1000\text{mL/L} * \text{DF} / (\text{EFF} * \text{SS} * \text{Dg/L} * 2220000\text{dpm}/\mu\text{Ci})$		
S95T003400			
Instrument Code	Relative Counting Error = $[(\text{The Square Root of TC} + \text{BKG} * \text{CT}) / (\text{TC} - \text{BKG} * \text{CT})] * 1.96 * 100$		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
MCB			
Chemist			
SLF			
Analyst			
EAL			
Date Complete			
12/07/95			
Analysis Date			
12/07/95			
Analysis Time			
12:45 AM			
Sample Point			
BY-105(R)			

v RESULTS v

ALPHA TOTAL	in $\mu\text{Ci/g}$	1.12E-02	DETECTION LEVEL
			1.42E-02 $\mu\text{Ci/g}$

RELATIVE COUNTING ERROR

92.2%

Analyst:	MCB	Date: 07-Dec-95
Signature of Chemist:	SLF	Date: 12/11/95

SAMPLE.WB1 Rev. 1.

508101ML

WORKBOOK PAGE: DUP5

AT : LA-508-101 (D-2)

SOLIDS

Type	DETECTOR NUMBER	DUP	REPLICATE
DUP	DISH SIZE (1, 2, or 5)	(MS)	14
Work List	GROSS COUNTS	(GC)	2
4056	COUNT TIME in MINUTES	(CT)	37
AT or TB ?	BACKGROUND in cpm	(BKG)	30
AT	SAMPLE SIZE in mL	(SS)	0.57
Test Code	DILUTION FACTOR	(DF)	0.050
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	1
Matrix	EFFICIENCY FACTOR	(EFF)	2.202
SOLID	Lc, Rmax, or Rs.(SAMPLE RATE) as APPROPRIATE		0.2274
Batch Number			0.430
95004573	Blank Concentration in $\mu\text{Ci/g}$		1.19E-02
Rerun	Replicate Concentration in $\mu\text{Ci/g}$		7.74E-03
0	Average Concentration in $\mu\text{Ci/g}$		9.8354E-03
Sample Prep			
FUSION01	Rs (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	ALPHA TOTAL $\mu\text{Ci/g}$ = $Rs * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$		
S95T003400			
Instrument Code	Relative Counting Error = $[(The\ Square\ Root\ of\ TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
MCB			
Chemist			
SLF			
Analyst			
EAL			
Date Complete			
12/07/95			
Analysis Date			
12/07/95			
Analysis Time			
12:45 AM			
Sample Point			
BY-105(R)			

Analyst:	MCB	Date: 07-Dec-95
Signature of Chemist:	SLF	Date: 12/11/95
SAMPLE WB1 Rev. 1.	508101ML	

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WORKBOOK PAGE: SPIKE6

AT : LA-508-101 (D-2) SPIKED SAMPLE

		SPIKE	REPLICATE
Type	DETECTOR NUMBER	14	14
SPK	DISH SIZE 1, 2, or 5 (MS)	2	2
Work List	TOTAL COUNTS (TC)	51799	52745
4056	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.57	0.57
AT	SAMPLE VOLUME in mL (Spiked Vial) (SS)	0.050	0.050
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial) (DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.0536	2.0536
Matrix	SPIKE VOLUME in mL (SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR (SDF)	1	1
Batch Number	SPIKE BOOK NUMBER (Spk BN)	119B43	119B43
95004573	SPIKE VALUE in $\mu\text{Ci/mL}$ (SVal)	3.9217E-02	3.9217E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR (EFF)	0.2274	0.2274
0	SAMPLE + SPIKE $\mu\text{Ci/g}$ (S+S)	3.33E+01	3.39E+01
Sample Prep	AVERAGE or MAXIMUM $\mu\text{Ci/g}$ in SAMPLE	1.1189E-02	
FUSION01			
Sample #			
S95T003400			
Instrument Code	Rs (Sample Count Rate) = $(TC / CT) - BKG$		
WB27807	SAMPLE + SPIKE $\mu\text{Ci/g}$ = $Rs * 1000\text{mL/L} * DF / ((EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci}))$		
Prepared By	QC ACTUAL = SVal		
MCB	QC FOUND = $((S+S \mu\text{Ci/g} - \text{SAMPLE } \mu\text{Ci/g}) * ((SDF/(SVol*1000))/(DF/SS/Dg/L))))$		
Chemist	PERCENT SPIKE RECOVERY = $(QC \text{ FOUND} / QC \text{ ACTUAL}) * 100$		
SLF			
Analyst			
EAL			
Date Complete			
12/07/95			
Analysis Date			
12/07/95	QC ACTUAL =	3.92E-02	
Analysis Time	QC FOUND =	3.45E-02	
12:45 AM	AVG. PERCENT SPIKE RECOVERY =	88.0%	
Sample Point			
BY-105(R)			

Analyst:	MCB	Date: 07-Dec-95
Signature of Chemist:	SLF	Date: 12/11/95
SPIKE WB1 Rev. 1.0 508101ML		

AT : LA-508-101 (D-2)

SOLIDS

		SAMPLE	REPLICATE
Type	DETECTOR NUMBER	14	14
SAMPLE	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	47	61
4056	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.57	0.57
AT	SAMPLE SIZE in mL (SS)	0.050	0.050
Test Code	DILUTION FACTOR (DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.3728	2.3728
Matrix	EFFICIENCY FACTOR (EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.997	1.463
Batch Number			
95004573	Blank Concentration in $\mu\text{Ci/g}$	1.66E-02	
Rerun	Replicate Concentration in $\mu\text{Ci/g}$	2.44E-02	
0	Average Concentration in $\mu\text{Ci/g}$	2.0537E-02	
Sample Prep			
FUSION01	Rs (Sample Count Rate) = (TC / CT) - BKG		
Sample #	ALPHA TOTAL $\mu\text{Ci/g}$ = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 222000dpm/ μCi)		
S95T003401			
Instrument Code	Relative Counting Error = [(The Square Root of TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
MCB			
Chemist			
SLF			
Analyst	ALPHA TOTAL in $\mu\text{Ci/g}$	2.05E-02	DETECTION LEVEL
EAL			
Date Complete			1.23E-02
12/07/95	RELATIVE COUNTING ERROR	52.5%	$\mu\text{Ci/g}$
Analysis Date			
12/07/95			
Analysis Time			
12:45 AM			
Sample Point			
BY-105(R)			

Analyst:	MCB	Date: 07-Dec-95
Signature of Chemist:	SLF	Date: 12/11/95
SAMPLE.WB1 Rev. 1.	508101ML	

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WORKBOOK PAGE: DUP8

AT : LA-508-101 (D-2)

SOLIDS

		DUP	REPLICATE
Type	DETECTOR NUMBER	14	14
DUP	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	38	50
4056	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.57	0.57
AT	SAMPLE SIZE in mL (SS)	0.050	0.050
Test Code	DILUTION FACTOR (DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.212	2.212
Matrix	EFFICIENCY FACTOR (EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE	0.697	1.097
Batch Number			
95004573	Blank Concentration in $\mu\text{Ci/g}$	1.25E-02	
Rerun	Replicate Concentration in $\mu\text{Ci/g}$	1.96E-02	
0	Average Concentration in $\mu\text{Ci/g}$	1.6060E-02	
Sample Prep			
FUSION01	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	$\text{ALPHA TOTAL } \mu\text{Ci/g} = R_s * 1000\text{mL/L} * DF / (EFF * SS * \text{Dg/L} * 2220000\text{dpm}/\mu\text{Ci})$		
S95T003401			
Instrument Code	Relative Counting Error = $[((\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT))] * 1.96 * 100$		
WB27807	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
MCB			
Chemist			
SLF	ν RESULTS ν		
Analyst	ALPHA TOTAL in $\mu\text{Ci/g}$	1.61E-02	DETECTION LEVEL
EAL			
Date Complete			1.31E-02 $\mu\text{Ci/g}$
12/07/95	RELATIVE COUNTING ERROR	69.6%	
Analysis Date			
12/07/95			
Analysis Time			
12:45 AM			
Sample Point			
BY-105(R)			

Analyst	MCB	Date: 07-Dec-95
Signature of Chemist:	SLF	Date: 12/11/95
SAMPLE WB1 Rev. 1.	508101ML	

WORKBOOK PAGE: SPIKE9

AT : LA-508-101 (D-2) SPIKED SAMPLE

		SPIKE	REPLICATE
Type	DETECTOR NUMBER	14	14
SPK	DISH SIZE 1, 2, or 5 (MS)	2	2
Work List	TOTAL COUNTS (TC)	50544	48679
4056	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.57	0.57
AT	SAMPLE VOLUME in mL (Spiked Vial) (SS)	0.050	0.050
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial) (DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.3728	2.3728
Matrix	SPIKE VOLUME in mL (SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR (SDF)	1	1
Batch Number	SPIKE BOOK NUMBER (Spk BN)	119B43	119B43
95004573	SPIKE VALUE in $\mu\text{Ci/mL}$ (SVal)	3.9217E-02	3.9217E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR (EFF)	0.2274	0.2274
0	SAMPLE + SPIKE $\mu\text{Ci/g}$ (S+S)	2.81E+01	2.71E+01
Sample Prep	AVERAGE or MAXIMUM $\mu\text{Ci/g}$ in SAMPLE	2.0537E-02	
FUSION01			
Sample #			
S95T003401			
Instrument Code	Rs (Sample Count Rate) = $(TC / CT) - BKG$		
WB27807	SAMPLE + SPIKE $\mu\text{Ci/g}$ = $Rs * 1000\text{mL/L} * DF / ((EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci}))$		
Prepared By	QC ACTUAL = SVal		
MCB	QC FOUND = $((S+S \mu\text{Ci/g} - \text{SAMPLE } \mu\text{Ci/g}) * ((SDF/(SVol*1000))/(DF/SS/Dg/L))))$		
Chemist	PERCENT SPIKE RECOVERY = $(QC \text{ FOUND} / QC \text{ ACTUAL}) * 100$		
SLF			
Analyst			
EAL			
Date Complete			
12/07/95			
Analysis Date			
12/07/95	QC ACTUAL =	3.92E-02	
Analysis Time	QC FOUND =	3.27E-02	
12:45 AM	AVG. PERCENT SPIKE RECOVERY =	83.4%	
Sample Point			
BY-105(R)			

Analyst:	MCB	Date: 07-Dec-95
Signature of Chemist:	SLF	Date: 12/11/95

SPIKE.WB1 Rev. 1.0 508101ML

LABCORE Data Entry Template for Worklist# 4057

Analyst: DL Instrument: AB00 #15 Book# 11856
Method: LA-508-101 Rev/Mod D-2 119843-Spike

Worklist Comment: Determine sample size using Ludlum. Use .100 mL A-SPK. SL

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 STD			@ALPHA01	SOLID		
2 BLNK-PREP			@ALPHA01	SOLID		
3 BLNK/BKG			@ALPHA01	SOLID		
4 SAMPLE	S95T003402	O F	@ALPHA01	SOLID	95000125	BY-105 (R)
	Analytes Requested: ALPHA01 , ALPHA01E					
5 DUP	S95T003402	O F	@ALPHA01	SOLID		
6 SPK	S95T003402	O F	@ALPHA01	SOLID		
7 SAMPLE	S95T003403	O F	@ALPHA01	SOLID	95000125	BY-105 (R)
	Analytes Requested: ALPHA01 , ALPHA01E					
8 DUP	S95T003403	O F	@ALPHA01	SOLID		
9 SPK	S95T003403	O F	@ALPHA01	SOLID		

3
Final page for worklist # 4057

Ann Lambert 12-07-95
Analyst Signature Date

M. C. B... 12/7/95
Analyst Signature Date
Sepora Z Cihara 12/7/95

Data Entry Comments:

Prep Blank #2

Sample RPD's + SPK recoveries

are acceptable due to low sample

alpha activity at 12/11/95

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

LABCORE Completed Worklist Report for Worklist# 4057

Analyst: eal

Instrument: AB15

Book# _____

Method: _____ Rev/Mod _____

Worklist Comment: Determine sample size using Ludlum. Use .100 mL A-SPK. SL

Seq Type	Sample# R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD	0	0ALPHA01 ALPHA01	SOLID	1.92E-05	1.82E-5	94.790 % Recovery	
1 STD	0	0ALPHA01 ALPHA01E	SOLID	1.00	3.68E+00	3.680 % Ct. Error	
2 BLNK-PREP	0	0ALPHA01 ALPHA01	SOLID	1	<5.85E-3	uCi/g	
2 BLNK-PREP	0	0ALPHA01 ALPHA01E	SOLID	1.00	5.00E+02	500.000 % Ct. Error	
3 BLNK/BKG	0	0ALPHA01 ALPHA01	SOLID	1.00E+00	1.09E+00	1.090 uCi/g	
4 SAMPLE	S95T003402	0 F 0ALPHA01 ALPHA01	SOLID	N/A	2.52E-02	8.860e-003 uCi/g	
4 SAMPLE	S95T003402	0 F 0ALPHA01 ALPHA01E	SOLID	N/A	3.65E+01	0.000 % Ct. Error	
5 DUP	S95T003402	0 F 0ALPHA01 ALPHA01	SOLID	2.52E-2	3.01E-2	17.720 RPD	
5 DUP	S95T003402	0 F 0ALPHA01 ALPHA01E	SOLID	1.00	3.05E+01	30.500 % Ct. Error	
6 SPK	S95T003402	0 F 0ALPHA01 ALPHA01	SOLID	3.92E-02	3.37E-02	85.970 % Recovery	
7 SAMPLE	S95T003403	0 F 0ALPHA01 ALPHA01	SOLID	N/A	2.94E-02	7.590e-003 uCi/g	
7 SAMPLE	S95T003403	0 F 0ALPHA01 ALPHA01E	SOLID	N/A	2.86E+01	0.000 % Ct. Error	
8 DUP	S95T003403	0 F 0ALPHA01 ALPHA01	SOLID	2.94E-2	3.30E-2	11.540 RPD	
8 DUP	S95T003403	0 F 0ALPHA01 ALPHA01E	SOLID	1.00	3.09E+01	30.900 % Ct. Error	
9 SPK	S95T003403	0 F 0ALPHA01 ALPHA01	SOLID	3.92E-02	3.09E-02	78.830 % Recovery	

Final page for worklist# 4057

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Reviewer Signature _____

Date 12/11/95

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

AT : LA-508-101 (D-2)

STANDARD

		STANDARD	REPLICATE
Type	DETECTOR NUMBER	15	15
STD	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	2926	2662
4057	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.23	0.23
AT	SAMPLE SIZE in mL (SS)	10.000	10.000
Test Code	DILUTION FACTOR (DF)	1	1
@ALPHA01	STANDARD BOOK NUMBER (Std BN)	11B56	11B56
Matrix	EFFICIENCY FACTOR (EFF)	0.2380	0.2380
LIQUID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE	97.303	95.170
Batch Number	Standard Value in $\mu\text{Ci/mL}$	1.92E-05	
95004574	Concentration in $\mu\text{Ci/L}$ =	1.84E-02	
Rerun	Replicate Concentration in $\mu\text{Ci/L}$ =	1.80E-02	
0	AVERAGE CONCENTRATION in $\mu\text{Ci/L}$ =	1.8214E-02	
Sample Prep			
N/A	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	ALPHA TOTAL $\mu\text{Ci/L}$ = $R_s * 1000\text{mL/L} * DF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$		
WL#4057	ALPHA TOTAL $\mu\text{Ci/mL}$ = ALPHA TOTAL $\mu\text{Ci/L}$ / 1000mL/L		
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
WB26672	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
MCB			
Chemist			
SLF	ALPHA TOTAL CONCENTRATION in $\mu\text{Ci/mL}$	1.82E-05	DETECTION LEVEL
Analyst			
EAL			
Date Complete			9.45E-08
12/07/95	RELATIVE COUNTING ERROR =	3.7%	$\mu\text{Ci/mL}$
Analysis Date			
12/07/95			
Analysis Time			
12:58 AM			
Sample Point			
BY-105(R)			

Analyst:	MCB	Date: 07-Dec-95
Signature of Chemist:	SLF	Date: 12/11/95

STANDARD WB1 Rev. 1.0

508101 ML

377

AT : LA-508-101 (D-2)

SOLIDS

		BLNK-PREP	REPLICATE
Type	DETECTOR NUMBER	15	15
BLNK-PREP	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	10	5
4057	COUNT TIME In MINUTES (CT)	30	30
AT or TB ?	BACKGROUND In cpm (BKG)	0.23	0.23
AT	SAMPLE SIZE In mL (SS)	0.050	0.050
Test Code	DILUTION FACTOR (DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.132	2.132
Matrix	EFFICIENCY FACTOR (EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE	0.329	0.204
Batch Number			
95004574	Blank Concentration in $\mu\text{Ci/g}$	< 5.85E-03	
Rerun	Replicate Concentration in $\mu\text{Ci/g}$	< 3.63E-03	
0	Maximum Concentration in $\mu\text{Ci/g}$	< 5.8490E-03	
Sample Prep			
N/A	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	$\text{ALPHA TOTAL } \mu\text{Ci/g} = R_s * 1000\text{mL/L} * DF / (EFF * SS * \text{Dg/L} * 2220000\text{dpm}/\mu\text{Ci})$		
WL#4057			
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
WB26872	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
MCB			
Chemist			
SLF			
Analyst	ALPHA TOTAL in $\mu\text{Ci/g}$	< 5.85E-03	DETECTION LEVEL
EAL	LESS THAN Value was Determined from Rmax.		
Date Complete	RELATIVE COUNTING ERROR	500.0%	8.86E-03 $\mu\text{Ci/g}$
12/07/95			
Analysis Date			
12/07/95			
Analysis Time			
12:58 AM			
Sample Point			
BY-105(R)			

Analyst:	MCB	Date: 07-Dec-95
Signature of Chemist:	SLF	Date: 12/11/95
BLANK WB1 Rev. 1.0	508101ML	

AT : LA-508-101 (D-2)

SOLIDS

		SAMPLE	REPLICATE
Type	DETECTOR NUMBER	15	15
SAMPLE	DISH SIZE (1, 2, or 5)	(MS)	2
Work List	GROSS COUNTS	(GC)	53
4057	COUNT TIME in MINUTES	(CT)	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.23
AT	SAMPLE SIZE in mL	(SS)	0.050
Test Code	DILUTION FACTOR	(DF)	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.132
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE	1.537	1.303

Batch Number	
95004574	Blank Concentration in $\mu\text{Ci/g}$
Rerun	Replicate Concentration in $\mu\text{Ci/g}$
0	Average Concentration in $\mu\text{Ci/g}$
	2.73E-02
	2.31E-02
	2.5212E-02

Sample Prep	
FUSION01	R_s (Sample Count Rate) = $(TC / CT) - BKG$
Sample #	$ALPHA \text{ TOTAL } \mu\text{Ci/g} = R_s * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$
S95T003402	

Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$
WB26872	Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Prepared By
MCB

Chemist

SLF

Analyst

EAL

Date Complete

12/07/95

Analysis Date

12/07/95

Analysis Time

12:58 AM

Sample Point

BY-105(R)

v RESULTS v

ALPHA TOTAL	in $\mu\text{Ci/g}$	2.52E-02	DETECTION LEVEL
RELATIVE COUNTING ERROR		36.5%	8.86E-03 $\mu\text{Ci/g}$

Analyst	MCB	Date: 07-Dec-95
Signature of Chemist:	SLF	Date: 12/11/95
SAMPLE WB1 Rev. 1.0	508101ML	

AT : LA-508-101 (D-2)

SOLIDS

			DUP	REPLICATE
Type	DETECTOR NUMBER		15	15
DUP	DISH SIZE (1, 2, or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	65	59
4057	COUNT TIME in MINUTES	(CT)	30	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.23	0.23
AT	SAMPLE SIZE in mL	(SS)	0.050	0.050
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.3116	2.3116
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		1.937	1.737
Batch Number				
95004574	Blank Concentration in $\mu\text{Ci/g}$		3.17E-02	
Rerun	Replicate Concentration in $\mu\text{Ci/g}$		2.84E-02	
0	Average Concentration in $\mu\text{Ci/g}$		3.0076E-02	

Sample Prep	
FUSION01	$R_s (\text{Sample Count Rate}) = (TC / CT) - BKG$
Sample #	$ALPHA \text{ TOTAL } \mu\text{Ci/g} = R_s * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$
S95T003402	
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$
WB26872	Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Prepared By			
MCB			
Chemist	v RESULTS v		
SLF	ALPHA TOTAL	in $\mu\text{Ci/g}$	3.01E-02
Analyst			DETECTION LEVEL
EAL			
Date Complete			8.18E-03
12/07/95	RELATIVE COUNTING ERROR	30.5%	$\mu\text{Ci/g}$
Analysis Date			
12/07/95			
Analysis Time			
12:58 AM			
Sample Point			
BY-105(R)			

Analyst	MCB	Date: 07-Dec-95
Signature of Chemist:	SLF	Date: 12/11/95
SAMPLE.WB1 Rev. 1.0	508101ML	

AT : LA-508-101 (D-2) SPIKED SAMPLE

		SPIKE	REPLICATE
Type	DETECTOR NUMBER	15	15
SPK	DISH SIZE 1, 2, or 5 (MS)	2	2
Work List	TOTAL COUNTS (TC)	53984	52887
4057	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.23	0.23
AT	SAMPLE VOLUME in mL (Spiked Vial) (SS)	0.050	0.050
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial) (DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.132	2.132
Matrix	SPIKE VOLUME in mL (SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR (SDF)	1	1
Batch Number	SPIKE BOOK NUMBER (Spk BN)	119B43	119B43
95004574	SPIKE VALUE in $\mu\text{Ci/mL}$ (SVal)	3.9217E-02	3.9217E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR (EFF)	0.238	0.238
0	SAMPLE + SPIKE $\mu\text{Ci/g}$ (S+S)	3.19E+01	3.13E+01
Sample Prep	AVERAGE or MAXIMUM $\mu\text{Ci/g}$ in SAMPLE	2.5212E-02	
FUSION01			
Sample #			
S95T003402	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Instrument Code	SAMPLE + SPIKE $\mu\text{Ci/g}$ = $R_s * 1000\text{mL/L} * DF / (EFF * SS * \text{Dg/L} * 2220000\text{dpm}/\mu\text{Ci})$		
WB26872	QC ACTUAL = SVal		
Prepared By	QC FOUND = $((S+S \mu\text{Ci/g} - \text{SAMPLE } \mu\text{Ci/g}) * ((SDF/(SVol*1000))/(DF/SS/Dg/L))))$		
MCB	PERCENT SPIKE RECOVERY = $(QC \text{ FOUND} / QC \text{ ACTUAL}) * 100$		
Chemist			
SLF			
Analyst			
EAL			
Date Complete			
12/07/95			
Analysis Date			
12/07/95	QC ACTUAL =	3.92E-02	
Analysis Time	QC FOUND =	3.37E-02	
12:58 AM	AVG. PERCENT SPIKE RECOVERY =	85.9%	
Sample Point			
BY-105(R)			

Analyst:	MCB	Date: 07-Dec-95
Signature of Chemist:	SLF	Date: 12/11/95
SPIKE.WB1 Rev. 1.0	508101ML	

AT : LA-508-101 (D-2)

SOLIDS

		SAMPLE	REPLICATE
Type	DETECTOR NUMBER	15	15
SAMPLE	DISH SIZE (1, 2, or 5)	(MS)	2
Work List	GROSS COUNTS	(GC)	65
4057	COUNT TIME in MINUTES	(CT)	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.23
AT	SAMPLE SIZE in mL	(SS)	0.050
Test Code	DILUTION FACTOR	(DF)	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.4904
Matrix	EFFICIENCY FACTOR	(EFF)	0.2380
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	1.937	1.937

Batch Number	
95004574	Blank Concentration in $\mu\text{Ci/g}$ 2.94E-02
Rerun	Replicate Concentration in $\mu\text{Ci/g}$ 2.94E-02
0	Average Concentration in $\mu\text{Ci/g}$ 2.9436E-02

Sample Prep	
FUSION01	R_s (Sample Count Rate) = $(TC / CT) - BKG$
Sample #	$\text{ALPHA TOTAL } \mu\text{Ci/g} = R_s * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$
S95T003403	

Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$
WB26872	Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Prepared By			
MCB			
Chemist		v RESULTS v	
SLF	ALPHA TOTAL	in $\mu\text{Ci/g}$ 2.94E-02	DETECTION LEVEL
Analyst			
EAL			
Date Complete			7.59E-03
12/07/95	RELATIVE COUNTING ERROR	28.6%	$\mu\text{Ci/g}$
Analysis Date			
12/07/95			
Analysis Time			
12:58 AM			
Sample Point			
BY-105(R)			

Analyst		MCB	Date: 07-Dec-95
Signature of Chemist		SLF	Date: 12/11/95
SAMPLE.WB1 Rev. 1.0	508101ML		

WORKBOOK PAGE: DUP8

AT : LA-508-101 (D-2)

SOLIDS

		DUP	REPLICATE
Type	DETECTOR NUMBER	15	15
DUP	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	58	77
4057	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.23	0.23
AT	SAMPLE SIZE in mL (SS)	0.050	0.050
Test Code	DILUTION FACTOR (DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.3152	2.3152
Matrix	EFFICIENCY FACTOR (EFF)	0.2380	0.2380
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	1.703	2.337

Batch Number	
95004574	Blank Concentration in $\mu\text{Ci/g}$ 2.78E-02
Rerun	Replicate Concentration in $\mu\text{Ci/g}$ 3.82E-02
0	Average Concentration in $\mu\text{Ci/g}$ 3.3027E-02

Sample Prep	
FUSION01	R_s (Sample Count Rate) = $(TC / CT) \cdot BKG$
Sample #	$ALPHA \text{ TOTAL } \mu\text{Ci/g} = R_s \cdot 1000\text{mL/L} \cdot DF / (EFF \cdot SS \cdot Dg/L \cdot 2220000\text{dpm}/\mu\text{Ci})$
S95T003403	

Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG \cdot CT) / (TC - BKG \cdot CT)] \cdot 1.96 \cdot 100$
WB26872	Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Prepared By			
MCB			
Chemist	v RESULTS v		
SLF	ALPHA TOTAL in $\mu\text{Ci/g}$ 3.30E-02		DETECTION LEVEL
Analyst			
EAL			
Date Complete			8.16E-03 $\mu\text{Ci/g}$
12/07/95	RELATIVE COUNTING ERROR 30.9%		
Analysis Date			
12/07/95			
Analysis Time			
12:58 AM			
Sample Point			
BY-105(R)			

Analyst	MCB	Date: 07-Dec-95
Signature of Chemist:	SLF	Date: 12/11/95

SAMPLE WB1 Rev. 1.0

508101ML

WORKBOOK PAGE: SPIKES

AT : LA-508-101 (D-2) SPIKED SAMPLE

		SPIKE	REPLICATE
Type	DETECTOR NUMBER	15	15
SPK	DISH SIZE 1, 2, or 5 (MS)	2	2
Work List	TOTAL COUNTS (TC)	52230	46005
4057	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.23	0.23
AT	SAMPLE VOLUME in mL (Spiked Vial) (SS)	0.050	0.050
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial) (DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.4904	2.4904
Matrix	SPIKE VOLUME in mL (SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR (SDF)	1	1
Batch Number	SPIKE BOOK NUMBER (Spk BN)	119B43	119B43
95004574	SPIKE VALUE in $\mu\text{Ci/mL}$ (SVal)	3.9217E-02	3.9217E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR (EFF)	0.238	0.238
0	SAMPLE + SPIKE $\mu\text{Ci/g}$ (S+S)	2.65E+01	2.33E+01
Sample Prep	AVERAGE or MAXIMUM $\mu\text{Ci/g}$ in SAMPLE	2.9436E-02	
FUSION01			
Sample #			
S95T003403			
Instrument Code			
WB26872			
Prepared By			
MCB			
Chemist			
SLF			
Analyst			
EAL			
Date Complete			
12/07/95			
Analysis Date			
12/07/95	QC ACTUAL	=	3.92E-02
Analysis Time	QC FOUND	=	3.09E-02
12:58 AM	AVG. PERCENT SPIKE RECOVERY	=	78.9%
Sample Point			
BY-105(R)			

R_s (Sample Count Rate) = $(TC / CT) - BKG$

SAMPLE + SPIKE $\mu\text{Ci/g}$ = $R_s * 1000\text{mL/L} * DF / ((EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci}))$

QC ACTUAL = SVal

QC FOUND = $((S+S \mu\text{Ci/g} - \text{SAMPLE } \mu\text{Ci/g}) * ((SDF/(SVol*1000)) / (DF/SS/Dg/L)))$

PERCENT SPIKE RECOVERY = $(QC \text{ FOUND} / QC \text{ ACTUAL}) * 100$

Analyst:	MCB	Date: 07-Dec-95
Signature of Chemist:	SLF	Date: 12/11/95
SPIKE WB1 Rev. 1.0 508101ML		

BY105

LABCORE Data Entry Template for Worklist# 4058

Analyst: ELT Instrument: AB00 #16

Book# 11B56

Method: LA-508-101 Rev/Mod D-2

1191343-Spike

Worklist Comment: Determine sample size using Ludlum. Use .100 mL A-SPK. SL

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 STD			@ALPHA01	SOLID		
2 BLNK-PREP			@ALPHA01	SOLID		
3 BLNK/BKG			@ALPHA01	SOLID		
4 SAMPLE	S95T003404	O F	@ALPHA01	SOLID	95000125	BY-105 (R)
Analytes Requested: ALPHA01 , ALPHA01E						
5 DUP	S95T003404	O F	@ALPHA01	SOLID		
6 SPK	S95T003404	O F	@ALPHA01	SOLID		
7 SAMPLE	S95T003423	O F	@ALPHA01	SOLID	95000125	BY-105 (R)
Analytes Requested: ALPHA01 , ALPHA01E						
8 DUP	S95T003423	O F	@ALPHA01	SOLID		
9 SPK	S95T003423	O F	@ALPHA01	SOLID		

Final page for worklist # 4058

Ann L. Smith 12-07-95
Analyst Signature Date

MS Brown 12/7/95
Analyst Signature Date

Sandra Z. Brown 12/11/95

Data Entry Comments:

Prep Blank #3

the RPD's for the samples

are acceptable due to low sample

alpha activity

12/11/95

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

LABCORE Completed Worklist Report for Worklist# 4058

Analyst: eal Instrument: AB16 Book# _____

Method: _____ Rev/Mod _____

Worklist Comment: Determine sample size using Ludlum. Use .100 mL A-SPK. SL

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD		0	@ALPHA01 ALPHA01	SOLID	1.92E-05	2.21E-5	115.100 % Recovery	
1 STD		0	@ALPHA01 ALPHA01E	SOLID	1.00	3.58E+00	3.580 % Ct. Error	
2 BLNK-PREP		0	@ALPHA01 ALPHA01	SOLID	1	<7.11E-3	uCi/g	
2 BLNK-PREP		0	@ALPHA01 ALPHA01E	SOLID	1.00	5.00E+02	500.000 % Ct. Error	
3 BLNK/BKG		0	@ALPHA01 ALPHA01	SOLID	1.00E+00	1.13E+00	1.130 uCi/g	
4 SAMPLE	S95T003404	0 F	@ALPHA01 ALPHA01	SOLID	N/A	1.29E-02	1.310e-002 uCi/g	
4 SAMPLE	S95T003404	0 F	@ALPHA01 ALPHA01E	SOLID	N/A	6.83E+01	0.000 % Ct. Error	
5 DUP	S95T003404	0 F	@ALPHA01 ALPHA01	SOLID	1.29E-2	1.94E-2	40.250 RPD	
5 DUP	S95T003404	0 F	@ALPHA01 ALPHA01E	SOLID	1.00	6.33E+01	63.300 % Ct. Error	
6 SPK	S95T003404	0 F	@ALPHA01 ALPHA01	SOLID	3.92E-02	3.90E-02	99.490 % Recovery	
7 SAMPLE	S95T003423	0 F	@ALPHA01 ALPHA01	SOLID	N/A	1.09E-02	1.230e-002 uCi/g	
7 SAMPLE	S95T003423	0 F	@ALPHA01 ALPHA01E	SOLID	N/A	1.04E+02	0.000 % Ct. Error	
8 DUP	S95T003423	0 F	@ALPHA01 ALPHA01	SOLID	1.09E-2	<8.82E-3	RPD	
8 DUP	S95T003423	0 F	@ALPHA01 ALPHA01E	SOLID	1.00	3.77E+02	377.000 % Ct. Error	
9 SPK	S95T003423	0 F	@ALPHA01 ALPHA01	SOLID	3.92E-02	3.96E-02	101.020 % Recovery	

Final page for worklist# 4058

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Reviewer Signature

12/11/95
Date

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

AT : LA-508-101 (D-2)

STANDARD

		STANDARD	REPLICATE
Type	DETECTOR NUMBER	16	16
STD	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	3045	3165
4058	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.47	0.47
AT	SAMPLE SIZE in mL (SS)	10.000	10.000
Test Code	DILUTION FACTOR (DF)	1	1
@ALPHA01	STANDARD BOOK NUMBER (Std BN)	11B56	11B56
Matrix	EFFICIENCY FACTOR (EFF)	0.2104	0.2104
LIQUID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	101.030	105.030
Batch Number	Standard Value in $\mu\text{Ci/mL}$	1.92E-05	
95004575	Concentration in $\mu\text{Ci/L}$ =	2.16E-02	
Rerun	Replicate Concentration in $\mu\text{Ci/L}$ =	2.25E-02	
0	AVERAGE CONCENTRATION in $\mu\text{Ci/L}$ =	2.2058E-02	
Sample Prep			
N/A	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	$\text{ALPHA TOTAL } \mu\text{Ci/L} = R_s * 1000\text{mL/L} * DF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$		
WL#4058	$\text{ALPHA TOTAL } \mu\text{Ci/mL} = \text{ALPHA TOTAL } \mu\text{Ci/L} / 1000\text{mL/L}$		
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
WB27806	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
MCB			
Chemist			
SLF	ALPHA TOTAL CONCENTRATION in $\mu\text{Ci/mL}$	2.21E-05	
Analyst			
EAL			
Date Complete			
12/07/95	RELATIVE COUNTING ERROR =	3.6%	
Analysis Date			
12/07/95			
Analysis Time			
01:20 AM			
Sample Point			
BY-105(R)			

Analyst:	MCB	Date: 07-Dec-95
Signature of Chemist:	SLF	Date: 12/11/95

STANDARD.WB1 Rev. 1.0

508101ML

AT : LA-508-101 (D-2)

SOLIDS

		BLNK-PREP	REPLICATE
Type	DETECTOR NUMBER	16	16
BLNK-PREP	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	16	16
4058	COUNT TIME in MINUTES (CT)	30	30
AT of TB ?	BACKGROUND in cpm (BKG)	0.47	0.47
AT	SAMPLE SIZE in mL (SS)	0.050	0.050
Test Code	DILUTION FACTOR (DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.1996	2.1996
Matrix	EFFICIENCY FACTOR (EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.365	0.365
Batch Number			
95004575	Blank Concentration in $\mu\text{Ci/g}$	< 7.11E-03	
Rerun	Replicate Concentration in $\mu\text{Ci/g}$	< 7.11E-03	
0	Maximum Concentration in $\mu\text{Ci/g}$	< 7.1069E-03	
Sample Prep			
N/A	Rs (Sample Count Rate) = $(\text{TC} / \text{CT}) - \text{BKG}$		
Sample #	ALPHA TOTAL $\mu\text{Ci/g}$ = $\text{Rs} * 1000\text{mL/L} * \text{DF} / (\text{EFF} * \text{SS} * \text{Dg/L} * 2220000\text{dpm}/\mu\text{Ci})$		
WL#4058			
Instrument Code	Relative Counting Error = $[(\text{The Square Root of TC} + \text{BKG} * \text{CT}) / (\text{TC} - \text{BKG} * \text{CT})] * 1.96 * 100$		
WB27806	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
MCB			
Chemist			
SLF			
Analyst	ALPHA TOTAL in $\mu\text{Ci/g}$	< 7.11E-03	DETECTION LEVEL
EAL	LESS THAN Value was Determined from Rmax.		
Date Complete	RELATIVE COUNTING ERROR	500.0%	1.31E-02 $\mu\text{Ci/g}$
12/07/95			
Analysis Date			
12/07/95			
Analysis Time			
01:20 AM			
Sample Point			
BY-105(R)			

Analyst:	MCB	Date: 07-Dec-95
Signature of Chemist:	SLF	Date: 12/11/95
BLANK WB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: SAM4

AT : LA-508-101 (D-2)

SOLIDS

		SAMPLE	REPLICATE
Type	DETECTOR NUMBER	16	16
SAMPLE	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	34	34
4058	COUNT TIME IN MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.47	0.47
AT	SAMPLE SIZE in mL (SS)	0.050	0.050
Test Code	DILUTION FACTOR (DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.1996	2.1996
Matrix	EFFICIENCY FACTOR (EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs (SAMPLE RATE) as APPROPRIATE	0.663	0.663
Batch Number			
95004575	Blank Concentration in $\mu\text{Ci/g}$	1.29E-02	
Rerun	Replicate Concentration in $\mu\text{Ci/g}$	1.29E-02	
0	Average Concentration in $\mu\text{Ci/g}$	1.2913E-02	
Sample Prep			
FUSION01	Rs (Sample Count Rate) $\square$ (TC / CT) - BKG		
Sample #	ALPHA TOTAL $\mu\text{Ci/g}$ = $Rs * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$		
S95T003404			
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
WB27806	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
MCB			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/g}$	1.29E-02	DETECTION LEVEL
Analyst			
EAL			
Date Complete	RELATIVE COUNTING ERROR	68.3%	1.31E-02 $\mu\text{Ci/g}$
12/07/95			
Analysis Date			
12/07/95			
Analysis Time			
01:20 AM			
Sample Point			
BY-105(R)			

Analyst:	MCB	Date: 07-Dec-95
Signature of Chemist:	SLF	Date: 12/11/95
SAMPLE.WB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: DUP5

AT : LA-508-101 (D-2)

SOLIDS

		DUP	REPLICATE
Type	DETECTOR NUMBER	16	16
DUP	DISH SIZE (1, 2, or 5)	(MS)	2
Work List	GROSS COUNTS	(GC)	36
4058	COUNT TIME In MINUTES	(CT)	30
AT or TB ?	BACKGROUND In cpm	(BKG)	0.47
AT	SAMPLE SIZE In mL	(SS)	0.050
Test Code	DILUTION FACTOR	(DF)	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.1292
Matrix	EFFICIENCY FACTOR	(EFF)	0.2104
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE		0.730

Batch Number	
95004575	Blank Concentration In $\mu\text{Ci/g}$
Rerun	Replicate Concentration in $\mu\text{Ci/g}$
0	Average Concentration In $\mu\text{Ci/g}$

Sample Prep	
FUSION01	$Rs \text{ (Sample Count Rate)} = (TC / CT) - BKG$
Sample #	$ALPHA \text{ TOTAL } \mu\text{Ci/g} = Rs * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$
S95T003404	
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$
WB27806	Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Prepared By			
MCB			
Chemist		v RESULTS v	
SLF	ALPHA TOTAL	in $\mu\text{Ci/g}$	1.94E-02
Analyst			DETECTION LEVEL
EAL			
Date Complete			1.36E-02
12/07/95	RELATIVE COUNTING ERROR	63.3%	$\mu\text{Ci/g}$
Analysis Date			
12/07/95			
Analysis Time			
01:20 AM			
Sample Point			
BY-105(R)			

Analyst:	MCB	Date: 07-Dec-95
Signature of Chemist:	SLF	Date: 12/7/95
SAMPLE.WB1 Rev. 1.0	508101 ML	12/11/95 SLF

WORKBOOK PAGE: SPIKE6

AT : LA-508-101 (D-2) SPIKED SAMPLE

		SPIKE	REPLICATE
Type	DETECTOR NUMBER	16	16
SPK	DISH SIZE 1, 2, or 5 (MS)	2	2
Work List	TOTAL COUNTS (TC)	55232	54200
4058	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.47	0.47
AT	SAMPLE VOLUME in mL (Spiked Vial) (SS)	0.050	0.050
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial) (DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.1996	2.1996
Matrix	SPIKE VOLUME in mL (SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR (SDF)	1	1
Batch Number	SPIKE BOOK NUMBER (Spk BN)	119B43	119B43
95004575	SPIKE VALUE in µCi/mL (SVal)	3.9217E-02	3.9217E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR (EFF)	0.2104	0.2104
0	SAMPLE + SPIKE µCi/g (S+S)	3.58E+01	3.52E+01
Sample Prep	AVERAGE or MAXIMUM µCi/g in SAMPLE	1.2913E-02	
FUSION01			
Sample #			
S957003404			
Instrument Code	Rs (Sample Count Rate) = (TC / CT) - BKG		
WB27806	SAMPLE + SPIKE µCi/g = Rs * 1000mL/L * DF / (EFF * SS * Dg/L *2220000dpm/µCi)		
Prepared By	QC ACTUAL = SVal		
MCB	QC FOUND = (((S+S µCi/g - SAMPLE µCi/g) * ((SDF/(SVol*1000))/(DF/SS/Dg/L))))		
Chemist	PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) *100		
SLF			
Analyst			
EAL			
Date Complete			
12/07/95			
Analysis Date			
12/07/95	QC ACTUAL =	3.92E-02	
Analysis Time	QC FOUND =	3.90E-02	
01:20 AM	AVG. PERCENT SPIKE RECOVERY =	99.5%	
Sample Point			
BY-105(R)			

Analyst:	MCB	Date: 07-Dec-95
Signature of Chemist:	SLF	Date: 12/11/95
SPIKE WB1 Rev. 1.0 508101 ML		

AT : LA-508-101 (D-2)

SOLIDS

		SAMPLE	REPLICATE
Type	DETECTOR NUMBER	18	18
SAMPLE	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	28	38
4058	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.47	0.47
AT	SAMPLE SIZE in mL (SS)	0.050	0.050
Test Code	DILUTION FACTOR (DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.3484	2.3484
Matrix	EFFICIENCY FACTOR (EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs.(SAMPLE RATE) as APPROPRIATE	0.397	0.797
Batch Number			
95004575	Blank Concentration in $\mu\text{Ci/g}$	7.23E-03	
Rerun	Replicate Concentration in $\mu\text{Ci/g}$	1.45E-02	
0	Average Concentration in $\mu\text{Ci/g}$	1.0879E-02	
Sample Prep			
FUSION01	$R_s (\text{Sample Count Rate}) = (TC / CT) - BKG$		
Sample #	$ALPHA \text{ TOTAL } \mu\text{Ci/g} = R_s * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$		
S95T003423			
Instrument Code	Relative Counting Error = $[(The \text{ Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
WB27806	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
MCB			
Chemist			
SLF	α RESULTS α		
Analyst	ALPHA TOTAL in $\mu\text{Ci/g}$	1.09E-02	DETECTION LEVEL
EAL			
Date Complete			1.23E-02 $\mu\text{Ci/g}$
12/07/95	RELATIVE COUNTING ERROR	104.3%	
Analysis Date			
12/07/95			
Analysis Time			
01:20 AM			
Sample Point			
BY-105(R)			

Analyst:	MCB	Date: 07-Dec-95
Signature of Chemist:	SLF	Date: 12/11/95

SAMPLE.WB1 Rev. 1.0

508101ML

WORKBOOK PAGE: DUP8

AT : LA-508-101 (D-2)

SOLIDS

		DUP	REPLICATE
Type	DETECTOR NUMBER	16	16
DUP	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	28	17
4058	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.47	0.47
AT	SAMPLE SIZE in mL (SS)	0.050	0.050
Test Code	DILUTION FACTOR (DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.2484	2.2484
Matrix	EFFICIENCY FACTOR (EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.463	0.403

Batch Number	
95004575	Blank Concentration in $\mu\text{Ci/g}$ 8.82E-03
Rerun	Replicate Concentration in $\mu\text{Ci/g}$ < 7.68E-03
0	Maximum Concentration in $\mu\text{Ci/g}$ < 8.8237E-03

Sample Prep	
FUSION01	$Rs (\text{Sample Count Rate}) = (TC / CT) - BKG$
Sample #	$ALPHA \text{ TOTAL } \mu\text{Ci/g} = Rs * 1000 \text{ mL/L} * DF / (EFF * SS * Dg/L * 2220000 \text{ dpm}/\mu\text{Ci})$
S95T003423	
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$
WB27806	Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Prepared By			
MCB			
Chemist			
SLF	ALPHA TOTAL in $\mu\text{Ci/g}$	< 8.82E-03	DETECTION LEVEL
Analyst	LESS THAN Value was Determined from Rs.		
EAL			
Date Complete	RELATIVE COUNTING ERROR	376.9%	1.29E-02 $\mu\text{Ci/g}$
12/07/95			
Analysis Date			
12/07/95			
Analysis Time			
01:20 AM			
Sample Point			
BY-105(R)			

Analyst:	MCB	Date: 07-Dec-95
Signature of Chemist:	SLF	Date: 12/11/95
SAMPLE WB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: SPIKE9

AT : LA-508-101 (D-2) SPIKED SAMPLE

		SPIKE	REPLICATE
Type	DETECTOR NUMBER	18	16
SPK	DISH SIZE 1, 2, or 5 (MS)	2	2
Work List	TOTAL COUNTS (TC)	54317	56824
4058	COUNT TIME in MINUTES (CT)	30	30
At or 18 ?	BACKGROUND in cpm (BKG)	0.47	0.47
AT	SAMPLE VOLUME in mL (Spiked Vial) (SS)	0.050	0.050
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial) (DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.3484	2.3484
Matrix	SPIKE VOLUME in mL (SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR (SDF)	1	1
Batch Number	SPIKE BOOK NUMBER (Spk BN)	119B43	119B43
95004575	SPIKE VALUE in $\mu\text{Ci/mL}$ (SVal)	3.9217E-02	3.9217E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR (EFF)	0.2104	0.2104
0	SAMPLE + SPIKE $\mu\text{Ci/g}$ (S+S)	3.30E+01	3.45E+01
Sample Prep	AVERAGE or MAXIMUM $\mu\text{Ci/g}$ in SAMPLE	1.0879E-02	
FUSION01			
Sample #			
S95T003423			
Instrument Code	Rs (Sample Count Rate) = $(TC / CT) - BKG$		
WB27806	SAMPLE + SPIKE $\mu\text{Ci/g}$ = $Rs * 1000\text{mL/L} * DF / ((EFF * SS * \text{Dg/L} * 2220000\text{dpm}/\mu\text{Ci}))$		
Prepared By	QC ACTUAL = SVal		
MCB	QC FOUND = $((S+S \mu\text{Ci/g} - \text{SAMPLE } \mu\text{Ci/g}) * ((SDF/(SVol*1000))/(DF/SS/Dg/L))))$		
Chemist	PERCENT SPIKE RECOVERY = $(QC \text{ FOUND } / QC \text{ ACTUAL}) * 100$		
SLF			
Analyst			
EAL			
Date Complete			
12/07/95			
Analysis Date			
12/07/95	QC ACTUAL	=	3.92E-02
Analysis Time	QC FOUND	=	3.96E-02
01:20 AM	AVG. PERCENT SPIKE RECOVERY	=	101.1%
Sample Point			
BY-105(R)			

Analyst:	MCB	Date: 07-Dec-95
Signature of Chemist:	SLF	Date: 12/11/95

SPIKE WB1 Rev. 1.0

508101M

BY105

LABCORE Data Entry Template for Worklist# 4059

Analyst: GLL Instrument: AB00 #13 Book# 11B56
119B43

Method: LA-508-101 Rev/Mod D-2

Worklist Comment: Determine sample size using Ludlum. Use .100 mL A-SPK. SL

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 STD			@ALPHA01	SOLID		
2 BLNK-PREP			@ALPHA01	SOLID		
3 BLNK/BKG			@ALPHA01	SOLID		
4 SAMPLE	S95T003424	O F	@ALPHA01	SOLID	95000125	BY-105 (R)
	Analytes Requested: ALPHA01 , ALPHA01E					
5 DUP	S95T003424	O F	@ALPHA01	SOLID		
6 SPK	S95T003424	O F	@ALPHA01	SOLID		
7 SAMPLE	S95T003425	O F	@ALPHA01	SOLID	95000125	BY-105 (R)
	Analytes Requested: ALPHA01 , ALPHA01E					
8 DUP	S95T003425	O F	@ALPHA01	SOLID		
9 SPK	S95T003425	O F	@ALPHA01	SOLID		

Final page for worklist # 4059

Ann Lambert 12/07/95
Analyst Signature Date

Steve Z. Cabram 12/7/95
Analyst Signature Date
M. B. Brin 12/8/95

Data Entry Comments:

Prep Blank #4

The RPD's for the samples are
acceptable due to low sample
alpha activity. 12/11/95

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

LABCORE Completed Worklist Report for Worklist# 4059

Analyst: eal

Instrument: AB13

Book# _____

Method: _____ Rev/Mod _____

Worklist Comment: Determine sample size using Ludlum. Use .100 mL A-SPK. SL

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD	0		0ALPHA01 ALPHA01 SOLID		1.92E-05	2.02E-5	105.210 % Recovery	
1 STD	0		0ALPHA01 ALPHA01E SOLID		1.00	3.41E+00	3.410 % Ct. Error	
2 BLNK-PREP	0		0ALPHA01 ALPHA01 SOLID		1	<3.50E-3	uCi/g	
2 BLNK-PREP	0		0ALPHA01 ALPHA01E SOLID		1.00	5.00E+02	500.000 % Ct. Error	
3 BLNK/BKG	0		0ALPHA01 ALPHA01 SOLID		1.00E+00	4.55E-01	0.460 uCi/g	
4 SAMPLE	S95T003424	0 F	0ALPHA01 ALPHA01 SOLID		N/A	1.58E-02	8.310e-003 uCi/g	
4 SAMPLE	S95T003424	0 F	0ALPHA01 ALPHA01E SOLID		N/A	4.50E+01	0.000 % Ct. Error	
5 DUP	S95T003424	0 F	0ALPHA01 ALPHA01 SOLID		1.58E-2	1.32E-2	17.930 RPD	
5 DUP	S95T003424	0 F	0ALPHA01 ALPHA01E SOLID		1.00	6.40E+01	64.000 % Ct. Error	
6 SPK	S95T003424	0 F	0ALPHA01 ALPHA01 SOLID		3.92E-02	3.79E-02	96.680 % Recovery	
7 SAMPLE	S95T003425	0 F	0ALPHA01 ALPHA01 SOLID		N/A	2.04E-02	9.840e-003 uCi/g	
7 SAMPLE	S95T003425	0 F	0ALPHA01 ALPHA01E SOLID		N/A	4.50E+01	0.000 % Ct. Error	
8 DUP	S95T003425	0 F	0ALPHA01 ALPHA01 SOLID		2.04E-2	6.66E-3	101.550 RPD	
8 DUP	S95T003425	0 F	0ALPHA01 ALPHA01E SOLID		1.00	9.15E+01	91.500 % Ct. Error	
9 SPK	S95T003425	0 F	0ALPHA01 ALPHA01 SOLID		3.92E-02	3.68E-02	93.880 % Recovery	

Final page for worklist# 4059

Analyst Signature

Date

Analyst Signature

Date

Reviewer Signature

Date

12/11/95

AT : LA-508-101 (D-2)

STANDARD

	STANDARD	REPLICATE
Type	DETECTOR NUMBER	13
STD	DISH SIZE (1, 2, or 5) (MS)	2
Work List	GROSS COUNTS (GC)	3367
4059	COUNT TIME in MINUTES (CT)	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.33
AT	SAMPLE SIZE in mL (SS)	10.000
Test Code	DILUTION FACTOR (DF)	1
@ALPHA01	STANDARD BOOK NUMBER (Std BN)	11B56
Matrix	EFFICIENCY FACTOR (EFF)	0.2477
LIQUID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	111.903
Batch Number	Standard Value in $\mu\text{Ci/mL}$	1.92E-05
95004576	Concentration in $\mu\text{Ci/L}$ =	2.03E-02
Rerun	Replicate Concentration in $\mu\text{Ci/L}$ =	2.01E-02
0	AVERAGE CONCENTRATION in $\mu\text{Ci/L}$ =	2.0241E-02

Sample Prep
N/A
Rs (Sample Count Rate) = $(TC / CT) - BKG$
Sample #
WL4059
ALPHA TOTAL $\mu\text{Ci/L}$ = $Rs * 1000\text{mL/L} * DF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$
Instrument Code
WB27810
ALPHA TOTAL $\mu\text{Ci/mL}$ = $ALPHA\ TOTAL\ \mu\text{Ci/L} / 1000\text{mL/L}$
Prepared By
SZC
Relative Counting Error = $[(The\ Square\ Root\ of\ TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$
Chemist
SLF
Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Analyst	SLF	ALPHA TOTAL CONCENTRATION in $\mu\text{Ci/mL}$	2.02E-05	DETECTION LEVEL
Analyst	EAL			
Date Complete	12/07/95	RELATIVE COUNTING ERROR	= 3.4%	1.05E-07 $\mu\text{Ci/mL}$
Analysis Date	12/07/95			
Analysis Time	01:55 AM			
Sample Point	BY-105			

Analyst	SZC	Date: 07-Dec-95
Signature of Chemist	SLF	Date: 12/11/95

STANDARD WB1 Rev. 1.0

508101ML

AT : LA-508-101 (D-2)

SOLIDS

		BLNK-PREP	REPLICATE
Type	DETECTOR NUMBER	13	13
BLNK-PREP	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	5	4
4059	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.33	0.33
AT	SAMPLE SIZE in mL (SS)	0.050	0.050
Test Code	DILUTION FACTOR (DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.54	2.54
Matrix	EFFICIENCY FACTOR (EFF)	0.2477	0.2477
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.245	0.245
Batch Number			
95004576	Blank Concentration in $\mu\text{Ci/g}$	< 3.50E-03	
Rerun	Replicate Concentration in $\mu\text{Ci/g}$	< 3.50E-03	
0	Maximum Concentration in $\mu\text{Ci/g}$	< 3.5044E-03	
Sample Prep			
NIA	Rs (Sample Count Rate) = (TC / CT) - BKG		
Sample #	ALPHA TOTAL $\mu\text{Ci/g}$ = $R_s \cdot 1000\text{mL/L} \cdot \text{DF} / (\text{EFF} \cdot \text{SS} \cdot \text{Dg/L} \cdot 2220000\text{dpm}/\mu\text{Ci})$		
WL4059			
Instrument Code	Relative Counting Error = $\left[\left(\frac{\text{The Square Root of TC} + \text{BKG} \cdot \text{CT}}{\text{TC} - \text{BKG} \cdot \text{CT}} \right) \right]^2 \cdot 1.96 \cdot 100$		
WB27810	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
SZC			
Chemist	v RESULTS v		
SLF	ALPHA TOTAL in $\mu\text{Ci/g}$	< 3.50E-03	DETECTION LEVEL
Analyst	LESS Than Value was Determined from Lc.		
EAL			
Date Complete	RELATIVE COUNTING ERROR	500.0%	8.31E-03 $\mu\text{Ci/g}$
12/07/95			
Analysis Date			
12/07/95			
Analysis Time			
01:55 AM			
Sample Point			
BY-105			

Analyst:	SZC	Date: 07-Dec-95
Signature of Chemist:	SLF	Date: 12/11/95
BLANK.WB1 Rev. 1.0	508101M	

AT : LA-508-101 (D-2)

SOLIDS

		SAMPLE	REPLICATE
Type	DETECTOR NUMBER	13	13
SAMPLE	DISH SIZE (1, 2, or 5)	(MS)	2
Work List	GROSS COUNTS	(GC)	41
4059	COUNT TIME in MINUTES	(CT)	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.33
AT	SAMPLE SIZE in mL	(SS)	0.050
Test Code	DILUTION FACTOR	(DF)	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.54
Matrix	EFFICIENCY FACTOR	(EFF)	0.2477
SOLID	Lc, Rmax, or Rs.(SAMPLE RATE) as APPROPRIATE		1.037
Batch Number			
95004576	Blank Concentration in $\mu\text{Ci/g}$	1.48E-02	
Rerun	Replicate Concentration in $\mu\text{Ci/g}$	1.68E-02	
0	Average Concentration in $\mu\text{Ci/g}$	1.5799E-02	
Sample Prep			
FUSION01	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	$ALPHA \text{ TOTAL } \mu\text{Ci/g} = R_s * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$		
S95T003424			
Instrument Code	Relative Counting Error = $[(The \text{ Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
WB27810	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
SZC			
Chemist			
SLF	ALPHA TOTAL	in $\mu\text{Ci/g}$	1.58E-02
Analyst			
EAL			
Date Complete			
12/07/95	RELATIVE COUNTING ERROR	45.0%	
Analysis Date			
12/07/95			
Analysis Time			
01:55 AM			
Sample Point			
BY-105			

Analyst:	SZC	Date: 07-Dec-95
Signature of Chemist:	SLF	Date: 12/11/95

SAMPLE WB1 Rev. 1.0

508101ML

AT: LA-508-101 (D-2)

SOLIDS

	DUP	REPLICATE
Type	DETECTOR NUMBER	13
DUP	DISH SIZE (1, 2, or 5) (MS)	2
Work List	GROSS COUNTS (GC)	43
4059	COUNT TIME in MINUTES (CT)	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.33
AT	SAMPLE SIZE in mL (SS)	0.050
Test Code	DILUTION FACTOR (DF)	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.4024
Matrix	EFFICIENCY FACTOR (EFF)	0.2477
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	1.103
Batch Number		
95004576	Blank Concentration in $\mu\text{Ci/g}$	1.67E-02
Rerun	Replicate Concentration in $\mu\text{Ci/g}$	9.64E-03
0	Average Concentration in $\mu\text{Ci/g}$	1.3171E-02
Sample Prep		
FUSION01	R_s (Sample Count Rate) = (TC / CT) - BKG	
Sample #	$\text{ALPHA TOTAL } \mu\text{Ci/g} = R_s * 1000\text{mL/L} * \text{DF} / (\text{EFF} * \text{SS} * \text{Dg/L} * 2220000\text{dpm}/\mu\text{Ci})$	
S95T003424		
Instrument Code	Relative Counting Error = $[(\text{The Square Root of TC} + \text{BKG} * \text{CT}) / (\text{TC} - \text{BKG} * \text{CT})] * 1.96 * 100$	
WB27810	Detection Levels and Less Than Values are determined from Procedure LA-508-002.	
Prepared By		
SZC		
Chemist	v RESULTS v	
SLF	ALPHA TOTAL in $\mu\text{Ci/g}$	1.32E-02
Analyst		
EAL		
Date Complete		
12/07/95	RELATIVE COUNTING ERROR	64.0%
Analysis Date		
12/07/95		
Analysis Time		
01:55 AM		
Sample Point		
BY-105		

Analyst	SZC	Date: 07-Dec-95
Signature of Chemist	SLF	Date: 12/11/95
SAMPLE WB1 Rev. 1.0	508101ML	

AT : LA-508-101 (D-2)

SPIKED SAMPLE

		SPIKE	REPLICATE
Type	DETECTOR NUMBER	13	13
SPK	DISH SIZE 1, 2, or 5 (MS)	2	2
Work List	TOTAL COUNTS (TC)	64678	60568
4059	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.33	0.33
AT	SAMPLE VOLUME in mL (Spiked Vial) (SS)	0.050	0.050
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial) (DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.54	2.54
Matrix	SPIKE VOLUME in mL (SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR (SDF)	1	1
Batch Number	SPIKE BOOK NUMBER (Spk BN)	119B43	119B43
95004576	SPIKE VALUE in $\mu\text{Ci/mL}$ (SVal)	3.9217E-02	3.9217E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR (EFF)	0.2477	0.2477
0	SAMPLE + SPIKE $\mu\text{Ci/g}$ (S+S)	3.09E+01	2.89E+01
Sample Prep	AVERAGE or MAXIMUM $\mu\text{Ci/g}$ in SAMPLE	1.5799E-02	
FUSION01			
Sample #			
S95T003424	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Instrument Code	$SAMPLE + SPIKE \mu\text{Ci/g} = R_s * 1000\text{mL/L} * DF / ((EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci}))$		
WB27810	QC ACTUAL = SVal		
Prepared By	QC FOUND = $((S+S \mu\text{Ci/g} - SAMPLE \mu\text{Ci/g}) * ((SDF/(SVol*1000)))/(DF/SS/Dg/L)))$		
SZC	PERCENT SPIKE RECOVERY = $(QC \text{ FOUND} / QC \text{ ACTUAL}) * 100$		
Chemist			
SLF			
Analyst			
EAL			
Date Complete			
12/07/95			
Analysis Date			
12/07/95	QC ACTUAL =	3.92E-02	
Analysis Time	QC FOUND =	3.79E-02	
01:55 AM	AVG. PERCENT SPIKE RECOVERY =	96.7%	
Sample Point			
BY-105			

Analyst	SZC	Date: 07-Dec-95
Signature of Chemist	SLF	Date: 12/15/95
SPIKE WB1 Rev. 1.0	508101ML	12/11/95

401

AT : LA-508-101 (D-2)

SOLIDS

		SAMPLE	REPLICATE
Type	DETECTOR NUMBER	13	13
SAMPLE	DISH SIZE (1, 2, or 5)	(MS)	2
Work List	GROSS COUNTS	(GC)	41
4059	COUNT TIME in MINUTES	(CT)	30
AT or TB ?	BACKGROUND in cpm	(BKG)	0.33
AT	SAMPLE SIZE in mL	(SS)	0.050
Test Code	DILUTION FACTOR	(DF)	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L	(Dg/L)	2.1452
Matrix	EFFICIENCY FACTOR	(EFF)	0.2477
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE		1.037
Batch Number			
95004576	Blank Concentration in $\mu\text{Ci/g}$	1.76E-02	
Rerun	Replicate Concentration in $\mu\text{Ci/g}$	2.32E-02	
0	Average Concentration in $\mu\text{Ci/g}$	2.0402E-02	
Sample Prep			
FUSION01	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	$\text{ALPHA TOTAL } \mu\text{Ci/g} = R_s * 1000\text{mL/L} * DF / (EFF * SS * \text{Dg/L} * 2220000\text{dpm}/\mu\text{Ci})$		
S95T003425			
Instrument Code	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
WB27810	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
SZC			
Chemist			
SLF	ALPHA TOTAL	in $\mu\text{Ci/g}$	2.04E-02
Analyst			
EAL			
Date Complete			
12/07/95	RELATIVE COUNTING ERROR	45.0%	9.84E-03
Analysis Date			$\mu\text{Ci/g}$
12/07/95			
Analysis Time			
01:55 AM			
Sample Point			
BY-105			

Analyst	SZC	Date: 07-Dec-95
Signature of Chemist	SLF	Date: 12/15/95
SAMPLE WB1 Rev. 1.0	58101ML	12/11/95

WORKBOOK PAGE: DUP8

AT: LA-508-101 (D-2)

SOLIDS

		DUP	REPLICATE
Type	DETECTOR NUMBER	13	13
DUP	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	22	23
4059	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.33	0.33
AT	SAMPLE SIZE in mL (SS)	0.050	0.050
Test Code	DILUTION FACTOR (DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.2948	2.2948
Matrix	EFFICIENCY FACTOR (EFF)	0.2477	0.2477
SOLID	Lc, Rmax, or Rs.(SAMPLE RATE) as APPROPRIATE	0.403	0.437
Batch Number			
95004576	Blank Concentration in $\mu\text{Ci/g}$	6.39E-03	
Rerun	Replicate Concentration in $\mu\text{Ci/g}$	6.92E-03	
0	Average Concentration in $\mu\text{Ci/g}$	6.6566E-03	
Sample Prep			
FUSION01	Rs (Sample Count Rate) = (TC / CT) - BKG		
Sample #	ALPHA TOTAL $\mu\text{Ci/g}$ = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/ μCi)		
S95T003425			
Instrument Code	Relative Counting Error = [(The Square Root of TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100		
WB27810	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
SZC			
Chemist	v RESULTS v		
SLF	ALPHA TOTAL in $\mu\text{Ci/g}$	6.66E-03	DETECTION LEVEL
Analyst			
EAL			
Date Complete			9.19E-03
12/07/95	RELATIVE COUNTING ERROR	91.5%	$\mu\text{Ci/g}$
Analysis Date			
12/07/95			
Analysis Time			
01:55 AM			
Sample Point			
BY-105			

Analyst:	SZC	Date: 07-Dec-95
Signature of Chemist:	SLF	Date: 12/11/95

SAMPLE WB1 Rev. 1.0

508101ML

AT : LA-508-101 (D-2) SPIKED SAMPLE

		SPIKE	REPLICATE
Type	DETECTOR NUMBER	13	13
SPK	DISH SIZE 1, 2, or 5 (MS)	2	2
Work List	TOTAL COUNTS (TC)	60410	61038
4059	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.33	0.33
AT	SAMPLE VOLUME in mL (Spiked Vial) (SS)	0.050	0.050
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial) (DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.1452	2.1452
Matrix	SPIKE VOLUME in mL (SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR (SDF)	1	1
Batch Number	SPIKE BOOK NUMBER (Spk BN)	119B43	119B43
95004576	SPIKE VALUE in $\mu\text{Ci/mL}$ (SVal)	3.9217E-02	3.9217E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR (EFF)	0.2477	0.2477
0	SAMPLE + SPIKE $\mu\text{Ci/g}$ (S+S)	3.41E+01	3.45E+01
Sample Prep	AVERAGE or MAXIMUM $\mu\text{Ci/g}$ in SAMPLE	2.0402E-02	
FUSION01			
Sample #			
S95T003425			
Instrument Code	Rs (Sample Count Rate) = (TC / CT) - BKG		
WB27810	SAMPLE + SPIKE $\mu\text{Ci/g}$ = $Rs * 1000\text{mL/L} * DF / ((EFF * SS * \text{Dg/L} * 2220000\text{dpm}/\mu\text{Ci}))$		
Prepared By	QC ACTUAL = SVal		
SZC	QC FOUND = $((S+S \mu\text{Ci/g} - \text{SAMPLE } \mu\text{Ci/g}) * ((SDF/(SVol * 1000)) / (DF/SS/Dg/L))))$		
Chemist	PERCENT SPIKE RECOVERY = (QC FOUND / QC ACTUAL) * 100		
SLF			
Analyst			
EAL			
Date Complete			
12/07/95			
Analysis Date			
12/07/95	QC ACTUAL =	3.92E-02	
Analysis Time	QC FOUND =	3.68E-02	
01:55 AM	AVG. PERCENT SPIKE RECOVERY =	93.8%	
Sample Point			
BY-105			

Analyst:

SZC

Date: 07-Dec-95

Signature of Chemist:

SLF

Date: 12/11/95

SPIKE WB1 Rev. 1.0

508101ML

By 105

LABCORE Data Entry Template for Worklist# 4060

Analyst:

SL

Instrument: AB00

#18

Book#

11856

Method: LA-508-101

Rev/Mod D-2

119B43-Spike

Worklist Comment: Determine sample size using Ludlum. Use .100 mL A-SPK. SL

S Type	Sample#	R A	Test	Matrix	Group#	Project
1 STD			@ALPHA01	SOLID		
2 BLNK-PREP			@ALPHA01	SOLID		
3 BLNK/BKG			@ALPHA01	SOLID		
4 SAMPLE	S95T003426	0 F	@ALPHA01	SOLID	95000125	BY-105 (R)
	Analytes Requested: ALPHA01 , ALPHA01E					
5 DUP	S95T003426	0 F	@ALPHA01	SOLID		
6 SPK	S95T003426	0 F	@ALPHA01	SOLID		

Final page for worklist # 4060

Analyst Signature

12-07-95
Date

SE Nolan 12/7/95
Analyst Signature Date

3C
Lipson Z Co. Name
12/7/95

Data Entry Comments:

Prep Blank #5

405

LABCORE Completed Worklist Report for Worklist# 4060

Analyst: eal Instrument: AB18 Book# _____

Method: _____ Rev/Mod _____

Worklist Comment: Determine sample size using Ludlum. Use .100 mL A-SPK. SL

Seq Type	Sample#	R A	Test	Matrix	Actual	Found	DL or Yield	Unit
1 STD	0		0ALPHA01 ALPHA01 SOLID		1.92E-05	2.11E-5	109.900 % Recovery	
1 STD	0		0ALPHA01 ALPHA01E SOLID		1.00	3.63E+00	3.630 % Ct. Error	
2 BLNK-PREP	0		0ALPHA01 ALPHA01 SOLID		1	1.64E-2	2.000e-002 uCi/g	
2 BLNK-PREP	0		0ALPHA01 ALPHA01E SOLID		1.00	5.92E+01	59.200 % Ct. Error	
3 BLNK/BKG	0		0ALPHA01 ALPHA01 SOLID		1.00E+00	2.98E+00	2.980 uCi/g	
4 SAMPLE	S95T003426	0 F	0ALPHA01 ALPHA01 SOLID		N/A <	5.14E-03	1.190e-002 uCi/g	
4 SAMPLE	S95T003426	0 F	0ALPHA01 ALPHA01E SOLID		N/A	5.00E+02	0.000 % Ct. Error	
5 DUP	S95T003426	0 F	0ALPHA01 ALPHA01 SOLID		<5.14E-3	1.45E-2	RPD	
5 DUP	S95T003426	0 F	0ALPHA01 ALPHA01E SOLID		1.00	7.43E+01	74.300 % Ct. Error	
6 SPK	S95T003426	0 F	0ALPHA01 ALPHA01 SOLID		3.92E-02	3.71E-02	94.640 % Recovery	

Final page for worklist# 4060

Analyst Signature _____ Date _____

Analyst Signature _____ Date _____

Reviewer Signature _____ Date 12/11/95

AT : LA-508-101 (D-2)

STANDARD

			STANDARD	REPLICATE
Type	DETECTOR NUMBER		18	18
STD	DISH SIZE (1, 2, or 5)	(MS)	2	2
Work List	GROSS COUNTS	(GC)	2951	2955
4060	COUNT TIME in MINUTES	(CT)	30	30
AT or TB?	BACKGROUND in cpm	(BKG)	0.47	0.47
AT	SAMPLE SIZE in mL	(SS)	10.000	10.000
Test Code	DILUTION FACTOR	(DF)	1	1
@ALPHA01	STANDARD BOOK NUMBER	(Std BN)	11B56	11B56
Matrix	EFFICIENCY FACTOR	(EFF)	0.2095	0.2095
LIQUID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE		97.897	98.030
Batch Number	Standard Value in $\mu\text{Ci/mL}$		1.92E-05	
95004577	Concentration in $\mu\text{Ci/L}$	=	2.10E-02	
Rerun	Replicate Concentration in $\mu\text{Ci/L}$	=	2.11E-02	
0	AVERAGE CONCENTRATION in $\mu\text{Ci/L}$	=	2.1063E-02	

Sample Prep	
N/A	$R_s \text{ (Sample Count Rate)} = (TC / CT) - BKG$
Sample #	$\text{ALPHA TOTAL } \mu\text{Ci/L} = R_s * 1000\text{mL/L} * DF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$
WL#4060	$\text{ALPHA TOTAL } \mu\text{Ci/mL} = \text{ALPHA TOTAL } \mu\text{Ci/L} / 1000\text{mL/L}$
Instrument Code	$\text{Relative Counting Error} = [(The Square Root of TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$
WB27809	Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Prepared By			
SEH			
Chemist			
SLF	ALPHA TOTAL CONCENTRATION in $\mu\text{Ci/mL}$	2.11E-05	DETECTION LEVEL
Analyst			
EAL			
Date Complete			1.45E-07
12/07/95	RELATIVE COUNTING ERROR	= 3.6%	$\mu\text{Ci/mL}$
Analysis Date			
12/07/95			
Analysis Time			
12:06 AM			
Sample Point			
BY-105			

Analyst	SEH	Date: 07-Dec-95
Signature of Chemist	SLF	Date: 12/11/95
STANDARD WB1 Rev. 1.0	508101ML	

AT : LA-508-101 (D-2)

SOLIDS

		BLNK-PREP	REPLICATE
Type	DETECTOR NUMBER	18	18
BLNK-PREP	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	38	46
4060	COUNT TIME In MINUTES (CT)	30	30
AT or TB ?	BACKGROUND In cpm (BKG)	0.47	0.47
AT	SAMPLE SIZE In mL (SS)	0.050	0.050
Test Code	DILUTION FACTOR (DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.4412	2.4412
Matrix	EFFICIENCY FACTOR (EFF)	0.2095	0.2095
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE	0.797	1.063
Batch Number			
95004577	Blank Concentration in $\mu\text{Ci/g}$	1.40E-02	
Rerun	Replicate Concentration in $\mu\text{Ci/g}$	1.87E-02	
0	Average Concentration in $\mu\text{Ci/g}$	1.6382E-02	
Sample Prep			
N/A	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	$\text{ALPHA TOTAL } \mu\text{Ci/g} = R_s * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$		
WL#4060			
Instrument Code	Relative Counting Error = $[(The Square Root of TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
WB27809	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
SEH			
Chemist	v RESULTS v		
SLF	ALPHA TOTAL in $\mu\text{Ci/g}$	1.64E-02	DETECTION LEVEL
Analyst			
EAL			
Date Complete			1.19E-02 $\mu\text{Ci/g}$
12/07/95	RELATIVE COUNTING ERROR	59.2%	
Analysis Date			
12/07/95			
Analysis Time			
12:06 AM			
Sample Point			
BY-105			

Analyst	SEH	Date: 07-Dec-95
Signature of Chemist:	SLF	Date: 12/11/95
BLANK WB1 Rev. 1.0	508101ML	

WORKBOOK PAGE: SAM4

AT : LA-508-101 (D-2)

SOLIDS

		SAMPLE	REPLICATE
Type	DETECTOR NUMBER	18	18
SAMPLE	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	9	6
4060	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.47	0.47
AT	SAMPLE SIZE in mL (SS)	0.050	0.050
Test Code	DILUTION FACTOR (DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.4412	2.4412
Matrix	EFFICIENCY FACTOR (EFF)	0.2095	0.2095
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.292	0.292
Batch Number			
95004577	Blank Concentration in $\mu\text{Ci/g}$	<	5.14E-03
Rerun	Replicate Concentration in $\mu\text{Ci/g}$	<	5.14E-03
0	Maximum Concentration in $\mu\text{Ci/g}$	<	5.1449E-03
Sample Prep			
FUSION01	Rs (Sample Count Rate) = $(TC / CT) - BKG$		
Sample #	ALPHA TOTAL $\mu\text{Ci/g}$ = $Rs * 1000\text{mL} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$		
S95T003426			
Instrument Code	Relative Counting Error = $[(The\ Square\ Root\ of\ TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
WB27809	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
Prepared By			
SEH			
Chemist	v RESULTS v		
SLF	ALPHA TOTAL in $\mu\text{Ci/g}$	< 5.14E-03	DETECTION LEVEL
Analyst	LESS Than Value was Determined from Lc.		
EAL			1.19E-02
Date Complete	RELATIVE COUNTING ERROR	500.0%	$\mu\text{Ci/g}$
12/07/95			
Analysis Date			
12/07/95			
Analysis Time			
12:06 AM			
Sample Point			
BY-105			

Analyst:	SEH	Date: 07-Dec-95
Signature of Chemist:	SLF	Date: 12/11/95
SAMPLE WB1 Rev. 1.0	508101ML	

AT : LA-508-101 (D-2)

SOLIDS

		DUP	REPLICATE
Type	DETECTOR NUMBER	18	18
DUP	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	44	32
4060	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.47	0.47
AT	SAMPLE SIZE in mL (SS)	0.050	0.050
Test Code	DILUTION FACTOR (DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.3656	2.3656
Matrix	EFFICIENCY FACTOR (EFF)	0.2095	0.2095
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.997	0.597

Batch Number	
95004577	Blank Concentration in $\mu\text{Ci/g}$ 1.81E-02
Rerun	Replicate Concentration in $\mu\text{Ci/g}$ 1.08E-02
0	Average Concentration in $\mu\text{Ci/g}$ 1.4482E-02

Sample Prep	
FUSION01	$Rs \text{ (Sample Count Rate)} = (TC / CT) - BKG$
Sample #	$ALPHA \text{ TOTAL } \mu\text{Ci/g} = Rs * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$
S95T003426	

Instrument Code	Relative Counting Error = $[(The \text{ Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$
WB27809	Detection Levels and Less Than Values are determined from Procedure LA-508-002.

Prepared By			
SEH			
Chemist	v RESULTS v		
SLF	ALPHA TOTAL	in $\mu\text{Ci/g}$ 1.45E-02	DETECTION LEVEL
Analyst			
EAL			1.23E-02 $\mu\text{Ci/g}$
Date Complete			
12/07/95	RELATIVE COUNTING ERROR	74.3%	
Analysis Date			
12/07/95			
Analysis Time			
12:06 AM			
Sample Point			
BY-105			

Analyst	SEH	Date: 07-Dec-95
Signature of Chemist:	SLF	Date: 12/11/95

SAMPLE.WB1 Rev. 1.0

508101ML

WORKBOOK PAGE: SPIKE6

AT : LA-508-101 (D-2) SPIKED SAMPLE

		SPIKE	REPLICATE
Type	DETECTOR NUMBER	18	18
SPK	DISH SIZE 1, 2, or 5 (MS)	2	2
Work List	TOTAL COUNTS (TC)	49506	54143
4060	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.47	0.47
AT	SAMPLE VOLUME in mL (Spiked Vial) (SS)	0.050	0.050
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial) (DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.4412	2.4412
Matrix	SPIKE VOLUME in mL (SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR (SDF)	1	1
Batch Number	SPIKE BOOK NUMBER (Spk BN)	119B43	119B43
95004577	SPIKE VALUE in $\mu\text{Ci/mL}$ (SVal)	3.9217E-02	3.9217E-02
Rerun	INSTRUMENT EFFICIENCY FACTOR (EFF)	0.2095	0.2095
0	SAMPLE + SPIKE $\mu\text{Ci/g}$ (S+S)	2.91E+01	3.18E+01
Sample Prep	AVERAGE or MAXIMUM $\mu\text{Ci/g}$ in SAMPLE	<	5.1449E-03
FUSION01			
Sample #			
S95T003426			
Instrument Code	Rs (Sample Count Rate) = $(TC / CT) - BKG$		
WB27809	SAMPLE + SPIKE $\mu\text{Ci/g}$ = $Rs * 1000\text{mL/L} * DF / ((EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci}))$		
Prepared By	QC ACTUAL = SVal		
SEH	QC FOUND = $((S+S \mu\text{Ci/g} - \text{SAMPLE } \mu\text{Ci/g}) * ((SDF/(SVol*1000))/(DF/SS/Dg/L))))$		
Chemist	PERCENT SPIKE RECOVERY = $(QC \text{ FOUND} / QC \text{ ACTUAL}) * 100$		
SLF			
Analyst			
EAL			
Date Complete	NOTE: Original Sample result was a LESS THAN value. Zero (0) was subtracted from the		
12/07/95	spiked value for QC found calculation.		
Analysis Date			
12/07/95	QC ACTUAL =	3.92E-02	
Analysis Time	QC FOUND =	3.71E-02	
12:06 AM	AVG. PERCENT SPIKE RECOVERY =	94.7%	
Sample Point			
BY-105			

Analyst	SEH	Date: 07-Dec-95
Signature of Chemist:	SLF	Date: 12/11/95
SPIKE.WB1 Rev. 1.0	508101/ML

Westinghouse
Hanford Company

WHC-SD-WM-DP-162, REV. I

P.O. Box 1970 Richland, WA 99352

PART II

WHC-SD-WM-DP-162, REV. 0

ANALYTICAL SERVICES

45-DAY SAFETY SCREENING RESULTS FOR TANK 241-BY-105
ROTARY AND PUSH MODE CORE 108

Project Coordinator: LEELA M. SASAKI

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

by

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Richland, Washington

2-1

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NARRATIVE

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2-3.1

SUMMARY

Ten rotary- and push-mode core sample segments (identified as Core 108) were obtained from riser 12A of tank 241-BY-105 (BY-105) and were received at the 222-S Laboratory. The samples were obtained from the top 120.4 centimeters (cm) (47.4 inches [in]) of the waste and did not constitute a full core sample. These samples underwent primary safety screening analyses - differential scanning calorimetry (DSC), thermogravimetric analysis (TGA), total alpha analysis, and bulk density measurements - in accordance with the sampling and analysis plan (SAP) (Sasaki 1995). Tank dome space flammability measurements were taken during core sampling.

The safety screening notification limit was exceeded on two of the BY-105 samples. Exotherms in excess of the 480 J/g (dry weight basis) notification limit were observed in one drainable liquid and one solid sample. The upper limit of the one-sided 95-percent confidence intervals for the total alpha results were more than 500 times below the notification limit. Tank vapor flammability was measured at 0 percent of the lower flammability limit (LFL). Secondary safety screening analyses will be performed for the two samples exceeding the DSC notification limit.

SCOPE

This document serves as the 45-day report deliverable for the tank BY-105 core sample segments collected between August 30 and October 6, 1995. The samples were received, extruded, and analyzed by the 222-S Laboratory in accordance with the safety screening data quality objective (DQO) (Dukelow, et al. 1995). Core samples from this tank were to be analyzed in accordance with the referenced SAP (Sasaki 1995). However, because only one core was attempted and only the top portion of the waste was sampled, the Tank Safety Programs were consulted and a decision was made to perform only the safety screening and total organic carbon analysis on these samples. A description of the sampling event is provided in the following section. Any other exceptions to the SAP are discussed in the following sections.

This report includes the primary safety screening results (tank headspace flammability, DSC, TGA, total alpha, and bulk density or specific gravity) and copies of all DSC and TGA raw data scans as requested per the SAP. Photographs of the extruded segments were taken and, although not included in this report, are available and will be incorporated into the final data package.

SAMPLE RECEIPT AND EXTRUSION

Instead of the 2 full rotary mode core samples planned, only the top 120.4 cm (47.4 in) of the waste in tank BY-105 were sampled during this sampling event. Segments 1, 1A, and 1B were obtained in push mode and sampled the top 40.6 cm (16 in) of the waste. Sampling of segment 1B stopped when the sampling downforce reached 2800 pounds and a switch to a rotary sampling bit was made.

Segment 1C was obtained at the same location starting from the waste surface; the first 31.8 cm (12.5 in) of sampling was in push mode and the last 16.5 cm (6.5 in) was in rotary mode. Segments 2 and 3 were each about 19 in in length and were obtained in rotary mode. After segment 3 was completed, flammable gas restrictions were placed on all tanks, prohibiting further rotary mode sampling in this tank. Sampling operations were stopped until a decision was made to attempt to complete core sampling using only push mode. Segments 1R (R = resample), 1AR, 2R, and 2AR were obtained using push mode starting from the waste surface again and sampling was abandoned when hard material was encountered and sampling could no longer be done in push mode. The depth and length of each segment is provided in Table 1.

Information on the receipt and extrusion of the core samples (sampling depth, sampling date, sample receipt date, extrusion date, amount of sample, sample description, and laboratory sample numbers) is provided in Table 1. The samples consisted primarily of light brown saltcake material. Some segments contained sludge mixed with the saltcake. Drainable liquid was collected from 4 of the segments. According to the SAP, analyses were to be performed on half-segments. Segments 2 and 3 were expected to be full length segments; because of low sample recovery, these were not divided into half-segments for analysis. The remaining segments were analyzed on half segments (or smaller) since the distance the samplers were pushed or rotated into the waste was one-half segment or less.

TANK HEADSPACE FLAMMABILITY

Prior to core sampling, the flammability of the tank headspace was measured to address the vapor flammability issue of the safety screening DQO (Dukelow, et al. 1995). The tank vapor space was sampled through riser 12B at approximately 7.3 m (24 feet [ft]) below the top of the riser in accordance with work package ES-95-00556 to determine the flammability of the vapor space gasses. Flammable gas and oxygen concentrations were monitored during sampling on October 4, 5, and 6, 1995. All combustible gas meter readings were 0 percent of the LFL and all oxygen readings were 20.9 percent. Several other dome space measurements were made at different times: total organic vapor measurements ranged from 0 to 29 ppm; hydrogen cyanide and hydrogen measured 0 ppm; and ammonia measurements ranged from 15 to 50 ppm.

ANALYTICAL RESULTS

Analytical results appear in the Sample Data Summary and a discussion of the results is presented below. Any deviations from the requirements of the SAP are noted in the following sections.

TGA (Moisture)

The weight percent water by TGA was performed under a nitrogen purge using either procedure LA-560-112, Rev B-1 on a Mettler TG 50 instrument or procedure LA-514-114, Rev. C-1 on a Perkin Elmer TGA 7 instrument.

Table 1. Sample Receipt and Extrusion for Tank BY-105 Core Samples

Sample	Sampling Depth & Expected Sample Length*	Date Sampled	Date Received at Lab	Date Extruded	Sample Recovered	Sample Description	Sample Numbers
Core 108, Segment 1	167.7 to 158.2 9.5	8/30/95	8/31/95	9/11/95	Solid: 56.2 g Drainable Liquid: 123.0 g Liner Liquid: none	Extruded 6 inches of sample. Sample was a beige slurry with crystalline solids. Drainable liquid was recovered.	Solid: S95T003393, S95T003400, S95T003379 Drainable Liquid: S95T003394
Core 108, Segment 1A	158.2 to 153.7 4.5	8/30/95	8/31/95	9/11/95	Solid: 51.1 g Drainable Liquid: 50.8 g Liner Liquid: none	Extruded 1 inch of sample. Sample was beige, a mixture of sludge and crystalline solids. Drainable liquid was recovered.	Solid: S95T003395, S95T003401, S95T003381 Drainable Liquid: S95T003396
Core 108, Segment 1B	153.7 to 151.7 2.0	9/1/95	9/1/95	9/11/95	Solid: 72.1 g Drainable Liquid: none Liner Liquid: none	Extruded 2 inches of sample. Sample was beige, a mixture of sludge and crystalline solids. No drainable liquid present.	Solid: S95T003397, S95T003402, S95T003503, S95T003512
Core 108, Segment 1C	170.6 to 151.7 18.9	9/9/95	9/12/95	9/11/95	Solid: <2 g Drainable Liquid: <5 mL Liner Liquid: none	Extruded less than 5 mL drainable liquid; less than 2 g beige solids observed on the end of the sampler piston. Sufficient sample for analysis was not recoverable.	none
Core 108, Segment 2	151.7 to 132.7 19.0	9/14/95	9/15/95	9/20/95	Solid: 18.5 g Drainable Liquid: none Liner Liquid: none	Extruded about 1 inch of gray/brown slushy looking material. The material appeared crystalline and wet, but could be broken up with the tip of a spatula. No drainable liquid recovered.	Solid: S95T003398, S95T003403, S95T003384
Core 108, Segment 3	132.7 to 123.2 9.5	9/14/95	9/15/95	9/21/95	Solid: 43.0 g Drainable Liquid: <15 mL Liner Liquid: none	Near the end of the extrusion, extruded a small amount of gray/brown slushy looking material that appeared similar to segment 2 of this core. The material ranged from clear crystals to dark chunks that resembled small pieces of gravel. Observed less than 15 mL of drainable liquid which could not be collected separately.	Solid: S95T003399, S95T003404, S95T003385
Core 108, Segment 1R	170.6 to 163.6 7.0	10/4/95	10/6/95	10/12/95	Solid: 240.0 g Drainable Liquid: none Liner Liquid: <5 mL	About 9 inches of wet salt cake was extruded. The first half was light brown and looked like a light-colored brown sugar. The second half was a little darker in color, crystalline and fell off in chunks onto the sample tray. The solids were wet but there was no drainable liquid. The solids broke apart easily.	Solid: S95T003417, S95T003423, S95T003405

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Sample	Sampling Depth & Expected Sample Length*	Date Sampled	Date Received at Lab	Date Extruded	Sample Recovered	Sample Description	Sample Numbers
Core 108, Segment 1AR	163.6 to 163.1 0.5	10/5/95	10/6/95	10/12/95	Solid: 14.5 g Drainable Liquid: 149.5 g Liner Liquid: none	Cloudy light brown drainable liquid was collected when the sampler valve was opened. A very small amount of light brown crystalline solids were extruded in the first few inches. Very wet light brown crystalline solids (similar to solids in segment 1A, except wetter) were extruded in the last two inches.	Solid: S95T003419, S95T003424, S95T003406 Drainable Liquid: S95T003418
Core 108, Segment 2R	151.7 to 142.2 9.5	10/5/95	10/6/95	10/12/95	Solid: 105.9 g Drainable Liquid: none Liner Liquid: none	A very small amount of brown liquid with some solids came out of the sampler when the valve was opened. Slushy crystalline solids and some liquid were extruded in the last 6 to 7 inches of the extrusion. Solids and liquid were brown with a small amount of light colored solids mixed in. Liquid could not be collected separate from the solids.	Solid: S95T003420, S95T003425, S95T03408
Core 108, Segment 2AR	142.2 to 132.7 9.5	10/6/95	10/9/95	10/12/95	Solid: 126.6 g Drainable Liquid: 306.8 g Liner Liquid: none	Cloudy light brown liquid drained from the sampler when the valve was opened. A small amount of solids were extruded in the first inch. Yellowish-brown drainable liquid was observed on the extrusion tray. Four to five inches of salt cake were extruded at the end. Solids were a mix of light and medium brown. The texture appears similar to segment 1R and 1AR. Solids contain a few dark hard chunks that appear to be rocks.	Solid: S95T003421, S95T003426, S95T003409 Drainable Liquid: S95T003422

* Sampling depths are given in inches from the bottom of the tank at riser 12A. Expected sample length is the distance, in inches, that the sampler was pushed/rotated into the waste.

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Average results ranged from 5.73 to 26.96 weight percent water for the solids. Drainable liquid average results ranged from 46.27 to 54.22 weight percent water. Standard recoveries ranged from 98.19 to 101.4 percent, within the range required by the SAP. Relative percent differences (RPDs) between sample and duplicate analyses exceeded the required 10 percent for seven samples. The RPDs for the seven samples ranged from 10.2 to 76.6 percent. Triplicate analyses were run for the five samples with the highest RPDs; however, results did not usually improve indicating that the cause of the high RPDs is sample inhomogeneity.

DSC

Differential scanning calorimetry analyses were performed using procedure LA-514-113, Rev. C-1 under a nitrogen purge on a Mettler DSC 20 instrument. The DSC scans on the Mettler show exotherms as peaks and endotherms as valleys. Using the average percent water by TGA for each sample, exotherms in J/g on a wet weight basis were converted to J/g on a dry weight basis. Both wet and dry results are given in the Sample Data Summary.

Two samples exceeded the notification limit of 480 J/g (dry weight basis) for exotherms. The drainable liquid sample from segment 1AR (sample S95T003418) exhibited exotherms of 0, 1465, and 189 J/g (dry weight basis) for the sample, duplicate, and triplicate, respectively. The average of the three results is 551 J/g (dry weight basis), with an upper limit of the one-sided 95-percent confidence interval of 1895 J/g (dry weight basis). The solid sample from segment 3 (sample S95T003399) had exotherms of 0, 806, and 0 J/g (dry weight basis) for the sample, duplicate, and triplicate, respectively. The average of the three results is 269 J/g (dry weight basis), with an upper limit of the one-sided 95-percent confidence interval of 1053 J/g (dry weight basis). The great variation between sample, duplicate, and triplicate analyses, indicates a very heterogeneous matrix. Due to the observed variability, these results should be used with caution. As required by the SAP, immediate notification of the high exotherms were made on December 15, 1995. Secondary safety screening analyses will be performed on these samples.

The upper limit of the one-sided 95-percent confidence interval was calculated for each of the samples. Results are presented in Table 2. The upper confidence intervals ranged from 0 to 1895 J/g (dry weight basis). As discussed above, samples S95T003399 and S95T003418 exceeded the notification limit of 480 J/g (dry weight basis). Due to sample heterogeneity, which resulted in widely varying DSC results for several of the samples, these calculated upper confidence intervals should be used with caution.

Standard recoveries for the DSCs ranged from 95.61 to 102.3 percent, within the required accuracy ranges. The RPDs between samples and duplicates varied greatly due to sample inhomogeneity - from 0 to 200 percent.

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Triplicate analyses were performed for five samples, including the two that exceeded the notification limit. Triplicate analyses were not requested for the other samples since the precision was not expected to be improved by an additional runs. Several DSC scans exhibited an upswing in the baseline toward the end of the run; this was caused by contamination of the instrument sensor.

Table 2. One-Sided 95-Percent Confidence Intervals for DSC Results(all results in J/g, dry weight basis)

Sample	Sample #	Result	Duplicate	Triplicate	Mean	SD(mean)	UL(95 %)
Seg 1A, Solids	S95T003395	0	0	66	22	22	86
Seg 1A, Drainable Liquid	S95T003396	0	0	NA	0	0	0
Seg 1AR, Solids	S95T003419	<i>Mod 6 7-12-76 30 42</i>	<i>25 37</i>	NA	29	6	69
Seg 1AR, Drainable Liquid	S95T003418	0	1465	189	551	460	1895
Seg 1B, Solids	S95T003397	0	0	46	15	15	60
Seg 1R, Solids	S95T003417	29	31	NA	30	1	37
Seg 2AR, Solids	S95T003421	8	3	NA	6	2	21
Seg 2AR, Drainable Liquid	S95T003422	140	132	NA	136	4	161
Seg 2R, Solids	S95T003420	20	20	NA	20	0	20
Seg 1, Solids	S95T003393	37	36	NA	37	1	41
Seg 1, Drainable Liquid	S95T003394	263	230	NA	246	16	350
Seg 2, Solids	S95T003398	19	21	13	17	2	24
Seg 3, Solids	S95T003399	0	806	0	269	269	1053

SD = standard deviation of the mean

UL(95 %) = upper limit of one-sided 95-percent confidence interval

Total Alpha

The total alpha analyses were performed using procedure LA-508-101, Rev. D-2. Solid samples were prepared by fusion prior to the total alpha analysis; the fusion was performed using procedure LA-549-141, Rev. D-0.

The SAP specifies a total alpha notification limit of 41 $\mu\text{Ci/g}$. This number is derived from the safety screening DQO's notification limit of 1 g/L of plutonium using the conservative assumptions that all the plutonium is plutonium-239 and the density is 1.5 g/mL. If the actual density of a sample is above 1.5 g/mL, the notification limit of 41 $\mu\text{Ci/g}$ was to be recalculated using the higher density number (Sasaki 1995). The highest observed average density was 1.975 g/mL for segment 1A (sample S95T003381); using this result, the notification limit would be 31 $\mu\text{Ci/g}$.

Individual results ranged from $<5.14\text{E-}03$ $\mu\text{Ci/g}$ to $3.30\text{E-}02$ $\mu\text{Ci/g}$ in the solids and $<2.61\text{E-}03$ $\mu\text{Ci/mL}$ to $6.11\text{E-}03$ $\mu\text{Ci/mL}$ in the drainable liquids. Standard recoveries ranged from 94.53 to 115.1 percent, within the SAP's required ± 20 percent. Spike recoveries ranged from 78.83 to 101.0 percent with only one sample outside the ± 20 percent limit and RPDs ranged from 11.5 to 102 percent with four RPDs above the 20 percent criterion. No reruns were requested since all results were well below the notification limit.

The upper limit of the one-sided 95-percent confidence interval was calculated for samples where the total alpha results were above the detection limit. Results are presented in Table 3. The maximum upper limit of the confidence interval was $5.69\text{E-}02$ $\mu\text{Ci/g}$, well below the notification limit of 31 $\mu\text{Ci/g}$.

Bulk Density and Specific Gravity

Bulk density measurements were performed on the solid samples using procedure LO-160-103, Rev. A-7, and specific gravity measurements were performed on the liquid samples using procedure LA-510-112, Rev. C-3.

Average results for bulk densities of the solids ranged from 1.845 to 1.975 g/mL, with RPDs ranging from 0.51 to 3.79 percent, well within the required precision. Samples for segment 1AR (sample S95T003406) and segment 2 (sample S95T003384) had insufficient sample to perform the bulk density measurement and, due to limited sample amounts, a duplicate measurement for segment 3 (sample S95T003385) could not be performed. The average specific gravity measurements on the liquids ranged from 1.39 to 1.41 g/mL, with RPDs ranging from 0 to 0.72 percent, well within the required precision limits. Standard recovery for the specific gravity measurement was 99.10 percent.

Project Coordinator: Leela Sasaki

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Table 3. One-Sided 95-Percent Confidence Intervals for Total Alpha Results
(results in $\mu\text{Ci/g}$ for solids and $\mu\text{Ci/mL}$ for drainable liquids)

Sample	Sample#	Result	Duplicate	Mean	SD(mean)	UL(95%)
Seg 1A, Solid	S95T003401	2.05e-02	1.61E-02	1.83E-02	2.20E-03	3.22E-02
Seg 1A, Drainable Liquid	S95T003396	6.11e-03	4.51E-03	5.31E-03	8.00E-04	1.04E-02
Seg 1AR, Solid	S95T003424	1.58e-02	1.32E-02	1.45E-02	1.30E-03	2.27E-02
Seg 1AR, Drainable Liquid	S95T003418	<3.27E-03	<2.61E-03	NA	NA	NA
Seg 1B, Solid	S95T003402	2.52e-02	3.01E-02	2.77E-02	2.45E-03	4.31E-02
Seg 1R, Solid	S95T003423	1.09e-02	<8.82E-3	NA	NA	NA
Seg 2AR, Solid	S95T003426	<5.14E-03	1.45E-02	NA	NA	NA
Seg 2AR, Drainable Liquid	S95T003422	<3.27E-03	<4.91E-3	NA	NA	NA
Seg 2R, Solid	S95T003425	2.04e-02	6.66E-03	1.35E-02	6.87E-03	5.69E-02
Seg 1, Solid	S95T003400	1.12e-02	9.84E-03	1.05E-02	6.80E-04	1.48E-02
Seg 1, Drainable Liquid	S95T003394	<3.71E-03	4.11E-03	NA	NA	NA
Seg 2, Solid	S95T003403	2.94e-02	3.30E-02	3.12E-02	1.80E-03	4.26E-02
Seg 3, Solid	S95T003404	1.29e-02	1.94E-02	1.62E-02	3.25E-03	3.67E-02

SD = standard deviation of the mean

UL(95%) = upper limit of one-sided 95-percent confidence interval

REFERENCES

- Dukelow, G. T., J. W. Hunt, H. Babad, and J. E. Meacham, 1995, *Tank Safety Screening Data Quality Objective*, WHC-SD-WM-SP-004, Rev. 2, Westinghouse Hanford Company, Richland, Washington.
- Sasaki, L. M., 1995, *Tank 241-BY-105 Rotary Mode Core Sampling and Analysis Plan*, WHC-SD-WM-TSAP-046, Rev. 1, Westinghouse Hanford Company, Richland, Washington.

WHC-SD-WM-DP-162, REV. I

WHC-SD-WM-DP-162, REV. 0

SAMPLE DATA SUMMARY

WHC-SD-WM-DP-162, REV. 1

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2-13.1

INTERIM

45-Day Safety Screening Results for Core 108
BY-105 (R)

CORE NUMBER: 108
SEGMENT #: 1

SEGMENT PORTION: W Whole Segment

Sample#	R	A#	Analyte	Unit	Action Limits		Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
					Lower	Upper									
S95T003379			Bulk Density of Sample	g/mL	None	None	n/a	n/a	1.970	1.900	1.935	3.62	n/a	5.00e-01	n/a
S95T003393			% Water by TGA on Perkin Elmer	%	None	None	100.6	n/a	27.11	n/a	n/a	n/a	n/a	n/a	n/a
S95T003393			% Water by TGA using Mettler	%	None	None	101.4	n/a	29.00	19.88	24.44	37.3	n/a	n/a	n/a
S95T003393			DSC Exotherm Dry Calculated	Joules/g Dry	-1.0e+00	400.0	n/a	n/a	37.36	35.89	36.62	4.01	n/a	n/a	n/a
S95T003393			DSC Exotherm using Mettler	Joules/g	-1.0e+00	480.0	98.07	n/a	27.90	26.80	27.35	4.02	n/a	n/a	n/a
S95T003400	F		Alpha of Digested Solid	uCi/g	-1.0e+00	41.00	96.88	<6.21e-03	1.12e+02	9.84e-03	1.05e+02	12.9	88.01	1.42e-02	9.22E+01

=> Limit violated

=> Selected Limit

note: average of three TGA results is 25.33 %, standard deviation is 4.81%.

2-11

INTERIM

WHC-SD-WM-DP-162, REV. 1
WHC-SD-WM-DP-162, REV. 0

45-Safety Screening Results for Core 108
BY-105 (R)

CORE NUMBER: 108
SEGMENT #: 1

SEGMENT PORTION: Drainable Liquid

Sample#	R	A#	Analyte	Unit	Action Limits		Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
					Lower	Upper									
S95T003394			% Water by TGA using Mettler	%	None	None	101.0	n/a	54.03	54.41	54.22	0.70	n/a	n/a	n/a
S95T003394			Specific Gravity	Sp.G.	None	None	99.10	n/a	1.390	1.390	1.390	0.00	n/a	1.00e-02	n/a
S95T003394			DSC Exotherm Dry Calculated	Joules/g Dry	-1.0e+00	480.0	n/a	n/a	262.6	229.8	246.2	13.3	n/a	n/a	n/a
S95T003394			DSC Exotherm using Mettler	Joules/g	-1.0e+00	480.0	102.3	n/a	120.2	105.2	112.7	13.3	n/a	n/a	n/a
S95T003394			Alpha in Liquid Samples	uCi/mL	-1.0e+00	41.00	94.53	3.04e-03	<3.71E-03	4.11e-03	n/a	n/a	93.53	4.27e-03	2.25E+02

⇒ Limit violated
⇒ Selected Limit

2-15

WHC-SD-WM-DP-162, REV. I
WHC-SD-WM-DP-162, REV. 0

INTERIM

45-Day Safety Screening Results for Core 108
BY-105 (R)

CORE NUMBER: 108
SEGMENT #: 1A

SEGMENT PORTION: W Whole Segment

Sample#	R	A#	Analyte	Unit	Action Limits		Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
					Lower	Upper									
S95T003381			Bulk Density of Sample	g/mL	None	None	n/a	n/a	1.970	1.980	1.975	0.51	n/a	5.00e-01	n/a
S95T003395			% Water by IGA using Mettler	%	None	None	100.9	n/a	9.470	9.090	9.280	4.09	n/a	n/a	n/a
S95T003395			DSC Exotherm Dry Calculated	Joules/g Dry	-1.0e+00	480.0	n/a	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S95T003395			DSC Exotherm using Mettler	Joules/g	-1.0e+00	480.0	96.66	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S95T003395 1			DSC Exotherm using Mettler	Joules/g	-1.0e+00	480.0	95.61	n/a	60.00	n/a	n/a	n/a	n/a	n/a	n/a
S95T003401	F		Alpha of Digested Solid	uCi/g	-1.0e+00	41.00	96.88	<6.21e-03	2.05e-02	1.61e-02	1.83e-02	24.0	83.42	1.23e-02	5.25E+01

=> Limit violated

=> Selected Limit

note: average of three DSC results is 22 J/g, dry weight basis, standard deviation is 22 J/g.

2-16

WHC-SD-WM-QP-162, REV. 1
WHC-SD-WM-QP-162, REV. 0

45-Safety Screening Results for Core 108
BY-105 (R)

CORE NUMBER: 108
SEGMENT #: 1A

SEGMENT PORTION: Drainable Liquid

Sample#	R	A#	Analyte	Unit	Action Limits		Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
					Lower	Upper									
S95T003396			% Water by TGA using Mettler	%	None	None	101.0	n/a	54.36	54.07	54.22	0.53	n/a	n/a	n/a
S95T003396			Specific Gravity	Sp.G.	None	None	99.10	n/a	1.400	1.390	1.395	0.72	n/a	1.00e-02	n/a
S95T003396			DSC Exotherm Dry Calculated	Joules/g Dry	-1.0e+00	480.0	n/a	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S95T003396			DSC Exotherm using Mettler	Joules/g	-1.0e+00	480.0	102.3	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S95T003396			Alpha in Liquid Samples	uCi/mL	-1.0e+00	41.00	94.53	3.04e-03	6.11e-03	4.51e-03	5.31e-03	30.1	99.33	4.27e-03	6.14E+01

=> Limit violated

=> Selected Limit

2-17

WHC-SD-WM-DP-162, REV. I
WHC-SD-WM-DP-162, REV. 0

INTERIM

45-Day Safety Screening Results for Core 108
BY-105 (R)

CORE NUMBER: 108
SEGMENT #: 18

SEGMENT PORTION: W Whole Segment

Sample#	R	AR	Analyte	Unit	Action Limits		Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count	Err%
					Lower	Upper										
S95T003383			Bulk Density of Sample	g/mL	None	None	n/a	n/a	1.870	1.890	1.880	1.06	n/a	5.00e-01	n/a	n/a
S95T003397			% Water by TGA on Perkin Elmer	%	None	None	100.6	n/a	34.23	n/a	n/a	n/a	n/a	n/a	n/a	n/a
S95T003397			% Water by TGA using Mettler	%	None	None	100.9	n/a	28.58	18.07	23.32	45.1	n/a	n/a	n/a	n/a
S95T003397 1			DSC Exotherm Dry Calculated	Joules/g Dry	-1.0e+00	488.0	n/a	n/a	46.28	n/a	n/a	n/a	n/a	n/a	n/a	n/a
S95T003397			DSC Exotherm Dry Calculated	Joules/g Dry	-1.0e+00	488.0	n/a	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a	n/a
S95T003397			DSC Exotherm using Mettler	Joules/g	-1.0e+00	488.0	96.66	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a	n/a
S95T003397 1			DSC Exotherm using Mettler	Joules/g	-1.0e+00	488.0	95.61	n/a	33.80	n/a	n/a	n/a	n/a	n/a	n/a	n/a
S95T003402	F		Alpha of Digested Solid	uCi/g	-1.0e+00	41.00	94.79	<5.85e-03	2.52e-02	3.01e-02	2.77e-02	17.7	85.97	8.86e-03	3.65E+01	n/a

=> Limit violated

=> Selected Limit

note: average of three TGA results is 26.96%, standard deviation is 8.20%.

note: average of three DSC results is 15 J/g, dry weight basis, standard deviation is 15 J/g.

2-18

WHC-SD-WM-DP-162, REV. 1
WHC-SD-WM-DP-162, REV. 0

INTERIM

45-Day Safety Screening Results for Core 108
BY-105 (R)

CORE NUMBER: 108
SEGMENT #: 2

SEGMENT PORTION: W Whole Segment

Sample#	R	A#	Analyte	Unit	Action Limits		Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count	Err%
					Lower	Upper										
S95T003384			Bulk Density of Sample	g/mL	None	None	n/a	n/a	<.500	n/a	n/a	n/a	n/a	5.00e-01	n/a	n/a
S95T003398			% Water by IGA using Mettler	%	None	None	101.4	n/a	16.46	17.10	16.78	3.81	n/a	n/a	n/a	n/a
S95T003398			DSC Exotherm Dry Calculated	Joules/g Dry	-1.0e+00	480.0	n/a	n/a	18.63	20.79	19.71	11.0	n/a	n/a	n/a	n/a
S95T003398			DSC Exotherm using Mettler	Joules/g	-1.0e+00	480.0	96.31	n/a	15.50	17.30	16.40	11.0	n/a	n/a	n/a	n/a
S95T003403	F		Alpha of Digested Solid	uCi/g	-1.0e+00	41.00	94.79	<5.85e-03	2.94e-02	3.30e-02	3.12e-02	11.5	78.83	7.59e-03	2.86E+01	

=> Limit violated

=> Selected Limit

note: a triplicate DSC was performed. Result is 10.5 J/g, wet weight basis.

note: average of three DSC results is 17 J/g, dry weight basis, standard deviation is 2 J/g.

2-19

WHC-SD-WM-DP-162, REV. I

WHC-SD-WM-DP-162, REV. 0

INTERIM

45-Day Safety Screening Results for Core 108
BY-105 (R)

CORE NUMBER: 108

SEGMENT #: 3

SEGMENT PORTION: W Whole Segment

Sample#	R A#	Analyte	Unit	Action Limits		Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count	Err%
				Lower	Upper										
S95T003385		Bulk Density of Sample	g/mL	None	None	n/a	n/a	1.830	n/a	n/a	n/a	n/a	5.00e-01		n/a
S95T003399		% Water by TGA using Mettler	%	None	None	101.4	n/a	8.270	6.120	7.195	29.9	n/a	n/a		n/a
S95T003399		DSC Exotherm Dry Calculated	Joules/g Dry	-1.0e+00	480.0	n/a	n/a	0.00e+00	806.2	403.1	200	n/a	n/a		n/a
S95T003399		DSC Exotherm using Mettler	Joules/g	-1.0e+00	480.0	96.31	n/a	0.00e+00	760.0	380.0	200	n/a	n/a		n/a
S95T003404	F	Alpha of Digested Solid	uCi/g	-1.0e+00	41.00	115.1	<7.11e-03	1.29e-02	1.94e-02	1.62e-02	40.2	99.49	1.31e-02		6.83E+01

=> Limit violated

=> Selected Limit

note: a triplicate TGA was performed. result is 2.8%.

average of three results is 5.73%, standard deviation is 2.76%.

note: a triplicate DSC was performed. result is 0 J/g.

average of three results is 269 J/g, dry weight basis, standard deviation is 269 J/g.

2-20

WHC-SD-WM-DP-162, REV. I
WHC-SD-WM-DP-162, REV. 0

INTERIM

45-Day Safety Screening Results for Core 108
BY-105 (R)

CORE NUMBER: 108
SEGMENT #: 1R

SEGMENT PORTION: W Whole Segment

Sample#	R	A#	Analyte	Unit	Action Limits		Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
					Lower	Upper									
S95T003405			Bulk Density of Sample	g/mL	None	None	n/a	n/a	1.900	1.860	1.880	2.13	n/a	5.00e-01	n/a
S95T003417	1		% Water by TGA using Mettler	%	None	None	98.19	n/a	14.76	n/a	n/a	n/a	n/a	n/a	n/a
S95T003417			% Water by TGA using Mettler	%	None	None	100.7	n/a	17.69	39.65	28.67	76.6	n/a	n/a	n/a
S95T003417			DSC Exotherm Dry Calculated	Joules/g Dry	-1.0e+00	480.0	n/a	n/a	28.61	31.06	29.84	7.95	n/a	n/a	n/a
S95T003417			DSC Exotherm using Mettler	Joules/g	-1.0e+00	480.0	98.07	n/a	21.80	23.60	22.70	7.93	n/a	n/a	n/a
S95T003423	F		Alpha of Digested Solid	uCi/g	-1.0e+00	41.00	115.1	<7.11e-03	1.09e-02	<8.82E-3	n/a	n/a	101.0	1.23e-02	1.04E+02

=> Limit violated
=> Selected Limit

note: average of three TGA results is 24.03%, standard deviation is 13.60%.

2-21

WHC-SD-WM-DP-162, REV. I
WHC-SD-WM-DP-162, REV. 0

INTERIM

45-Day Safety Screening Results for Core 108
BY-105 (R)

CORE NUMBER: 108
SEGMENT #: 1AR

SEGMENT PORTION: W Whole Segment

Sample#	R	A#	Analyte	Unit	Action Limits		Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
					Lower	Upper									
S951003406			Bulk Density of Sample	g/ml	None	None	n/a	n/a	< 0.5	n/a	n/a	n/a	n/a	5.00e-01	n/a
S951003419			% Water by IGA using Mettler	%	None	None	100.7	n/a	21.04, 7.640	22.6, 8.798	8.200	14.4	n/a	n/a	n/a
S951003419			DSC Exotherm Dry Calculated	Joules/g Dry	-1.0e+00	480.0	n/a	n/a	71.7, 35.51	27.63, 22.98	29.24	42.8	n/a	n/a	n/a
S951003419			DSC Exotherm using Mettler	Joules/g	-1.0e+00	480.0	98.07	n/a	32.60	21.10	26.85	42.8	n/a	n/a	n/a
S951003424	F		Alpha of Digested Solid	UCI/g	-1.0e+00	41.00	105.2	<3.50e-03	1.58e-02	1.32e-02	1.45e-02	17.9	96.68	8.31e-03	4.50E+01

=> Limit violated

=> Selected Limit

2-22

INTERIM

WHC-SD-WM-DP-162, REV. 1

WHC-SD-WM-DP-162, REV. 0

45-Safety Screening Results for Core 108
BY-105 (R)

CORE NUMBER: 108
SEGMENT #: 1AR

SEGMENT PORTION: Drainable Liquid

Sample#	R	Analyte	Unit	Action Limits		Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count	Err%
				Lower	Upper										
S95T003418		% Water by TGA on Perkin Elmer	%	None	None	100.8	n/a	53.58	54.10	53.84	0.97	n/a	n/a	n/a	n/a
S95T003418		Specific Gravity	Sp.G.	None	None	99.10	n/a	1.410	1.410	1.410	0.00	n/a	1.00e-02	n/a	n/a
S95T003418		DSC Exotherm Dry Calculated	Joules/g Dry	-1.0e+00	480.0	n/a	n/a	0.00e+00	1.46e+03	730.0	200	n/a	n/a	n/a	n/a
S95T003418		DSC Exotherm using Mettler	Joules/g	-1.0e+00	480.0	100.9	n/a	0.00e+00	676.2	338.1	200	n/a	n/a	n/a	n/a
S95T003418		Alpha in Liquid Samples	uCi/mL	-1.0e+00	41.00	110.9	<6.63e-03	<3.27E-03	<2.61E-3	n/a	n/a	100.7	6.00e-03	5.00E+02	

=> Limit violated

=> Selected Limit

note: a triplicate DSC was performed. result was 87.1 J/g, wet weight basis.

note: average of three DSC results is 551 J/g, dry weight basis, standard deviation is 460 J/g.

WHC-SD-WM-DP-162, REV. I
WHC-SD-WM-DP-162, REV. 0

2-23

INTERIM

45-Day Safety Screening Results for Core 108
BY-105 (R)

CORE NUMBER: 108
SEGMENT #: 2R

SEGMENT PORTION: W Whole Segment

Sample#	R A#	Analyte	Unit	Action Limits		Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
				Lower	Upper									
S95T003408		Bulk Density of Sample	g/mL	None	None	n/a	n/a	1.840	1.850	1.845	0.54	n/a	5.00e-01	n/a
S95T003420		% Water by TGA using Mettler	%	None	None	101.3	n/a	32.35	22.61	27.48	35.4	n/a	n/a	n/a
S95T003420		DSC Exotherm Dry Calculated	Joules/g Dry	-1.0e+00	480.0	n/a	n/a	19.85	19.72	19.79	0.66	n/a	n/a	n/a
S95T003420		DSC Exotherm using Mettler	Joules/g	-1.0e+00	480.0	99.12	n/a	14.70	14.60	14.65	0.68	n/a	n/a	n/a
S95T003425	F	Alpha of Digested Solid	uCi/g	-1.0e+00	41.00	105.2	<3.50e-03	2.04e-02	6.66e-03	1.35e-02	102	93.88	9.84e-03	4.50E+01

=> Limit violated

=> Selected Limit

note: a triplicate TGA was performed. result was 22.89%.

average of three TGA results is 25.95%, standard deviation is 5.54%.

2-24

WHC-SD-WM4-OP-162, REV. 1
WHC-SD-WM4-DP-162, REV. 0

INTERIM

45-Day Safety Screening Results for Core 108
BY-105 (R)

CORE NUMBER: 108

SEGMENT #: 2AR

SEGMENT PORTION: W Whole Segment

Sample#	R	Analyte	Unit	Action Limits		Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
				Lower	Upper									
S95T003409		Bulk Density of Sample	g/mL	None	None	n/a	n/a	1.880	1.810	1.845	3.79	n/a	5.00e-01	n/a
S95T003421		% Water by TGA using Mettler	%	None	None	101.3	n/a	19.43	20.74	20.09	6.52	n/a	n/a	n/a
S95T003421		DSC Exotherm Dry Calculated	Joules/g Dry	-1.0e+00	480.0	n/a	n/a	8.010	3.130	5.570	87.6	n/a	n/a	n/a
S95T003421		DSC Exotherm using Mettler	Joules/g	-1.0e+00	480.0	99.12	n/a	6.400	2.500	4.450	87.6	n/a	n/a	n/a
S95T003426	F	Alpha of Digested Solid	uCi/g	-1.0e+00	41.00	109.9	1.64e-02	<5.14E-03	1.45e-02	n/a	n/a	94.64	1.19e-02	5.00E+02

=> Limit violated

=> Selected Limit

2-25

WHC-SD-WM-DP-162, REV. 1

WHC-SD-WM-DP-162, REV. 0

45-Safety Screening Results for Core 108
BY-105 (R)

CORE NUMBER: 108
SEGMENT #: 2AR

SEGMENT PORTION: Drainable Liquid

Sample#	R	AR	Analyte	Unit	Action Limits		Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count	Err%
					Lower	Upper										
S95T003422			% Water by TGA on Perkin Elmer	%	None	None	100.0	n/a	41.35	37.32	39.34	10.2	n/a	n/a	n/a	n/a
S95T003422	1		% Water by TGA on Perkin Elmer	%	None	None	100.0	n/a	53.29	53.10	53.20	0.36	n/a	n/a	n/a	n/a
S95T003422			Specific Gravity	Sp.G.	None	None	99.10	n/a	1.410	1.400	1.405	0.71	n/a	1.00e-02	n/a	n/a
S95T003422			DSC Exotherm Dry Calculated	Joules/g Dry	-1.0e+00	460.0	n/a	n/a	139.8	131.8	135.8	5.89	n/a	n/a	n/a	n/a
S95T003422			DSC Exotherm using Mettler	Joules/g	-1.0e+00	460.0	100.9	n/a	75.10	70.80	72.95	5.89	n/a	n/a	n/a	n/a
S95T003422			Alpha in Liquid Samples	uCi/mL	-1.0e+00	41.00	110.9	<6.63e-03	<3.27E-03	<4.91E-3	n/a	n/a	97.99	6.00e-03	5.00E+02

=> Limit violated
=> Selected Limit

note: average of four TGA results is 46.27%, standard deviation is 8.17%.

2-26

WHC-SD-WM-DP-162, REV. 1
WHC-SD-WM-DP-162, REV. 0

WHC-SD-WM-DP-162, REV. I

WHC-SD-WM-DP-162, REV. 0

INORGANIC ANALYSES

WHC-SD-WM-DP-162, REV. 1

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2-27.1

LABCORE Data Entry Template for Worklist#

3867

Analyst: ADP Instrument: DSC0 1 Book # 12N14A

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

Worklist Comment: Please run BY-105 DSCs under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	SOLID	<u>28.45</u>	<u>*28.2</u>	<u>N/A</u>	Joules/g
95000125	BY-105 (R)	2 SAMPLE	S95T003420	0	DSC-01	SOLID	<u>N/A</u>	<u>14.7</u>		Joules/g
95000125	BY-105 (R)	3 DUP	S95T003420	0	DSC-01	SOLID	<u>14.7</u>	<u>14.6</u>	<u>N/A</u>	Joules/g
95000125	BY-105 (R)	4 SAMPLE	S95T003421	0	DSC-01	SOLID	<u>N/A</u>	<u>6.4</u>		Joules/g
95000125	BY-105 (R)	5 DUP	S95T003421	0	DSC-01	SOLID	<u>6.4</u>	<u>2.5</u>	<u>N/A</u>	Joules/g

Final page for worklist #

3867

Anthony Puro 11-30-95
Analyst Signature Date

[Signature]
Analyst Signature Date

Verified by Blandina Valenzuela
12/6/95

Data Entry Comments: S95T003420 produced two endotherms one at 115.6°C with a
delta H of 758.7 J/g and second at 303.1°C with a delta H of 66.2 J/g.

S95T003421 produced one very large continuous endotherm with the peak
at 111.5°C with a delta H of 751.2 J/g.

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

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 231 TO 233.

DSC STD 12N14A

6.860 mg

Rate: 10.0 °C/min

File: 00046.001

DSC METTLER

30-Nov-95

Ident: 0.0

222-S Laboratory

EXO

10. mW

Integration
Delta H 193 mJ
28.1 J/g
Peak 157.7°C
-16.1 mW

120.

140.

160.

180. °C

Anthony Perreault
11-30-95

MHCSD-MM-DE-162 REV.1

2-29

S95T003420 SAM N2
 16.620 mg
 Rate: 10.0 °C/min
 File: 00064.001
 Ident: 0.0
 DSC METTLER
 222-S Laboratory
 01-Dec-95

S95T003420 DUP N2
 46.050 mg
 Rate: 10.0 °C/min
 File: 00066.001
 Ident: 0.0
 DSC METTLER
 222-S Laboratory
 01-Dec-95

S95T003421 SAM N2
 29.460 mg
 Rate: 10.0 °C/min
 File: 00068.001 DSC NETTLER 01-Dec-95
 Tdnt: 0.0 222-S Laboratory

Integration
 Delta H22129 mJ
 751.2 J/g
 Peak 111.5°C
 -39.7 mW

Integration
 Delta H 188 mJ
 6.4 J/g
 Peak 423.7°C
 2.1 mW

S95T003421 DUP N2

34.925 mg

Rate: 10.0 °C/min

File: 00070.001 DSC METTLER 01-Dec-95
Ident: 0.0 222-S Laboratory

exo >

Integration	
Delta H	26309 mJ
Peak	753.3 °C
Peak	127.3 °C
Peak	-79.8 mW

Integration	
Delta H	526 mJ
Peak	15.1 J/g
Peak	265.0 °C
Peak	-4.0 mW

Integration	
Delta H	86 mJ
Peak	2.5 J/g
Peak	431.7 °C
Peak	2.3 mW

100.

200.

300.

400.

°C

LABCORE Data Entry Template for Worklist#

3868

Analyst: ADP Instrument: DSC0 1 Book # 12N14B

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

Worklist Comment: Please run BY-105 DSCs under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	SOLID	<u>28.45</u>	<u>27.9</u>	<u>N/A</u>	Joules/g
95000125	BY-105 (R)	2 SAMPLE	S95T003417 0		DSC-01	SOLID	<u>N/A</u>	<u>21.8</u>		Joules/g
95000125	BY-105 (R)	3 DUP	S95T003419 0		DSC-01	SOLID	<u>21.8</u>	<u>23.6</u>	<u>N/A</u>	Joules/g
95000125	BY-105 (R)	4 SAMPLE	S95T003419 0		DSC-01	SOLID	<u>N/A</u>	<u>32.6</u>		Joules/g
95000125	BY-105 (R)	5 DUP	S95T003419 0		DSC-01	SOLID	<u>32.6</u>	<u>21.1</u>	<u>N/A</u>	Joules/g

Final page for worklist # 3868

Anthony Purnell 12-6-95
Analyst Signature Date

RLH 12/7/95
Analyst Signature Date

Verified 12/8/95 Jean M. Luge

Data Entry Comments: S95T003417 produced two endotherms one at 133.9°C
with a delta H of 439.8 J/g and second at 299.3°C with a delta H of
111.6 J/g

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

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 2-35 TO 2-37.

DSC STD 12N14 B N2 File: 00061.001 DSC METTLER 06-Dec-95
8.020 mg Rate: 10.0 °C/min Ident: 0.0 222-S Laboratory

exo

10. mW

Integration
Delta H 224 mJ
27.9 J/g
Peak 160.1°C
-10.2 mW

120.

140.

160.

180. °C

John J. ...
12-6-95

S95T003417 SAM N2

30.048 mg

Rate: 10.0 °C/min

File: 00063.001

DSC METTLER

06-Dec-95

Ident: 0.0

222-S Laboratory

Exo

Integration
Delta H13215 mJ
439.8 J/g
Peak 133.9°C
-55.6 mW

Integration
Delta H3352 mJ
111.6 J/g
Peak 299.3°C
-15.5 mW

Integration
Delta H 655 mJ
21.8 J/g
Peak 423.5°C
3.4 mW

100.

200.

300.

400.

°C

S95T003417 DUP N2

47.990 mg

Rate: 10.0 °C/min

File: 00065.001 DSC METTLER 06-Dec-95

Ident: 0.0

222-S Laboratory

exo

50. mW

Integration
Delta H 21994 mJ
458.3 J/g
Peak 137.7°C
-91.1 mW

Integration
Delta H 4002 mJ
83.4 J/g
Peak 275.0°C
-18.9 mW

Integration
Delta H 1135 mJ
23.6 J/g
Peak 419.9°C
7.4 mW

100.

200.

300.

400.

°C

2-37

WHC:SD:MM:DR:162 REV 1

S95T003419 SAM N2

49.639 mg

Rate: 10.0 °C/min

File: 00067.001 DSC METTLER 06-Dec-95

Ident: 0.0

222-S Laboratory

S95T003419 DUP N2

35.533 mg

Rate: 10.0 °C/min

File: 00068.001

Ident: 0.0

DSC METTLER 06-Dec-95

222-S Laboratory

exo

Integration
Delta H16432 mJ
449.8 J/g
Peak 134.9°C
-45.7 mW

Integration
Delta H 3154 mJ
86.3 J/g
Peak 301.3°C
-14.7 mW

Integration
Delta H 769 mJ
21.1 J/g
Peak 419.9°C
3.9 mW

100. 200. 300. 400. °C

LABCORE Data Entry Template for Worklist#

3869

Analyst: KAG Instrument: DSC0 1 Book # 12N14B

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

Worklist Comment: Please run BY-105 DSCs under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	SOLID	<u>28.45</u>	<u>27.4#</u>	<u>N/A</u>	Joules/g
95000125	BY-105 (R)	2 SAMPLE	S95T003398	0	DSC-01	SOLID	<u>N/A</u>	<u>15.5</u>		Joules/g
95000125	BY-105 (R)	3 DUP	S95T003398	0	DSC-01	SOLID	<u>15.5</u>	<u>17.3</u>	<u>N/A</u>	Joules/g
95000125	BY-105 (R)	4 TRIPL	S95T003398	0	DSC-01	SOLID	<u>15.5</u>	<u>10.5</u>	<u>N/A</u>	Joules/g
95000125	BY-105 (R)	5 SAMPLE	S95T003399	0	DSC-01	SOLID	<u>N/A</u>	<u>Ø</u>		Joules/g
95000125	BY-105 (R)	6 DUP	S95T003399	0	DSC-01	SOLID	<u>Ø</u>	<u>760.0</u>	<u>N/A</u>	Joules/g
95000125	BY-105 (R)	7 TRIPL	S95T003399	0	DSC-01	SOLID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g

Final page for worklist #

3869

See attached for signatures
Analyst Signature 12/15/95
Date BDV

Gary Hammett 12-15-95
Analyst Signature Date

S95T003398 produced two endotherms, one at 115.5°C with a delta H of 377.3 J/g and second at 289.9°C with a delta H of 52.6 J/g. A triplicate was run on this sample because the RPD was above 10% and the curves did not resemble one another.

Data Entry Comments:

S95T003399 produced two endotherms, one at 114.4°C with a delta H of 344.2 J/g and second at 296.1°C with a delta H of 134.5 J/g.

A triplicate was run on this sample because of the RPD's being above 10% and the thermograms did not resemble one another. The duplicate did show an exotherm. 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.

however we were not able to duplicate it.

LABCORE Data Entry Template for Worklist#

3869

Analyst: Ry Instrument: DSC0 Book # 12N14-B

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

Worklist Comment: Please run BY-105 DSCs under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	SOLID			N/A	Joules/g
95000125	BY-105 (R)	2 SAMPLE	S95T003398	0	DSC-01	SOLID	N/A			Joules/g
95000125	BY-105 (R)	3 DUP	S95T003398	0	DSC-01	SOLID			N/A	Joules/g
95000125	BY-105 (R)	4 SAMPLE	S95T003399	0	DSC-01	SOLID	N/A			Joules/g
95000125	BY-105 (R)	5 DUP	S95T003399	0	DSC-01	SOLID			N/A	Joules/g

Final page for worklist #

3869

Rae Ann Green 12-7-95
Analyst Signature Date

Analyst Signature Date

Worklist was edited because
a triplicate run needed to
be added.

12/15/95
BDV

Data Entry Comments:

Ran sample S95T3398 per procedure 3 times
as sample + dup were more than 10% difference.

Ran sample S95T3399 per procedure 3 times also.

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

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 542 TO 548.

S95T003398 SAM N2

28.915 mg

Rate: 10.0 °C/min

File: 00073.001

DSC METTLER

05-Dec-95

Ident: 0.0

222-S Laboratory

exov

10. mW

400.

200.

300.

400.

°C

Rae Ann Green
12-6-95

DSC STD 12N14 B N2

8.020 mg

Rate: 10.0 °C/min

File: 00061.001 DSC METTLER 06-Dec-95

Ident: 0.0 222-S Laboratory

exo >

10. mW

Integration
Delta H 219 mJ
27.4 J/g
Peak 160.1 °C
-10.2 mW

Rae Ann Green
12-6-95

120.

140.

160.

180. °C

S95T003398 DUP N2

28.345 mg

Rate: 10.0 °C/min

File: 00075.001 DSC METTLER 06-Dec-95

Ident: 0.0 222-S Laboratory

Rae Ann Green 12-6-95

S95T003398 TRIP N2
 29.465 mg
 Rate: 10.0 °C/min
 File: 00077.001
 Ident: 0.0
 DSC METTLER
 222-S Laboratory
 06-Dec-95

Rae Ann Green 12-6-95

S95T003399 SAM N2
 20.181 mg
 Rate: 10.0 °C/min
 File: 00078.001 DSC METTLER 07-Dec-95
 Ident: 0.0 222-S Laboratory

Integration
 Delta H 784 mJ
 38.9 J/g
 Peak 417.9°C
 -2.0 mW

Rece Ann Green 12-7-95

S957003399 DUP N2
 26.631 mg
 Rate: 10.0 °C/min
 File: 00080.001
 Idant: 0.0
 DSC NETTLER 07-Dec-95
 222-S Laboratory

exo

Integration
 Delta H 6760 mJ
 253.9 J/g
 Peak 116.6°C
 -12.7 mW

Integration
 Delta H 2646 mJ
 99.4 J/g
 Peak 293.0°C
 -10.3 mW

Integration
 Delta H20239 mJ
 760.0 J/g
 Peak 436.6°C
 42.3 mW

Rae Lynn Green 12-7-95

2-48

5951003399 TRIP N2
21.290 mg

Rate: 10.0 °C/min

File: 00082.001
Ident: 0.0

DSC NETTLER
222-S Laboratory

07-Dec-95

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 250 TO 254.

DSC STD 12N14B N2

12.050 mg

Rate: 10.0 °C/min

File: 00001.001

DSC METTLER

10-Dec-95

Ident: 0.0

222-S Laboratory

exo >

10. mW

Integration

Delta H 331 mJ

27.5 J/g

Peak 158.3°C

-15.9 mW

120.

140.

160.

180. °C

Jah 5/24

12.10-85

11/10/95 SD-WM-OP-162 REV 1

S95T003395 N2

27.670 mg

Rate: 10.0 °C/min

File: 00003.001

Ident: 0.0

DSC METTLER

10-Dec-95

222-S Laboratory

exo
^

Integration

Delta H 8063 mJ

291.4 J/g

Peak 95.7°C

-14.9 mW

Integration

Delta H 7325 mJ

264.7 J/g

Peak 307.5°C

-31.6 mW

50. mW

S95T003395 DUP N2

39.130 mg

Rate: 10.0 °C/min

File: 00005.001

Ident: 0.0

DSC METTLER 10-Dec-95

222-S Laboratory

exo ^

S95T003397 N2
 24.511 mg
 Rate: 10.0 °C/min
 File: 00014.001
 Ident: 0.0
 DSC METTLER
 222-S Laboratory
 11-Dec-95

exo

Integration
 Delta H13835 mJ
 564.4 J/g
 Peak 132.8°C
 -31.9 mW

Integration
 Delta H 4329 mJ
 176.6 J/g
 peak 306.8°C
 -16.6 mW

S95T003397 DUP N2
 17.502 mg
 Rate: 10.0 °C/min
 File: 00016.001
 Ident: 0.0
 DSC METTLER
 222-S Laboratory
 11-Dec-95

WHC-SD-WM-OP-162 REV. 1
LABCORE Data Entry Template for Worklist#

3871

Analyst: ADP Instrument: DSC0 Book # 12N14B

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

Worklist Comment: Please run BY-105 DSCs under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	SOLID	59.74 28.45	*27.9	N/A	Joules/g
95000125	BY-105 (R)	2 SAMPLE	S95T003393	0	DSC-01	SOLID	N/A	27.9		Joules/g
95000125	BY-105 (R)	3 DUP	S95T003393	0	DSC-01	SOLID	27.9	26.8	N/A	Joules/g

Final page for worklist #

3871

Anthony Perenti 12-6-95
Analyst Signature Date

AC Wright 12/8/95
Analyst Signature Date new

Verified 12/8/95 J. M. Lye

Data Entry Comments:

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

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 356 TO 358.

DSC STD 12N14 B N2

8.020 mg

Rate: 10.0 °C/min

File: 00061.001

Ident: 0.0

DSC METTLER 06-Dec-95

222-S Laboratory

exo >

10. mW

Integration
Delta H 224 mJ
27.9 J/g
Peak 160.1 °C
-10.2 mW

120.

140.

160.

180. °C

Anthony Smith
12-6-95

WHC-SD-WM-DE-162, REV.1

S95T003393 SAM N2

25.509 mg

Rate: 10.0 °C/min

File: 00070.001 DSC METTLER 06-Dec-95

Ident: 0.0

222-S Laboratory

exo>

50. mW

Integration
Delta H 16684 mJ
654.0 J/g
Peak 110.1°C
-52.4 mW

Integration
Delta H 516 mJ
20.2 J/g
Peak 274.6°C
-3.3 mW

Integration
Delta H 711 mJ
27.9 J/g
Peak 431.1°C
5.0 mW

100.

200.

300.

400.

°C

2-57

WAC SD.ML.DP.162 REV.1

S95T003396 DUP N2

34.375 mg

File: 00072.001 DSC METTLER 06-Dec-95

Rate: 10.0 °C/min

Ident: 0.0 222-S Laboratory

exo

Integration
Delta H17629 mJ 512.8 J/g
Peak 136.4°C -69.7 mW

Integration
Delta H 2850 mJ 82.9 J/g
Peak 277.5°C -11.7 mW

Integration
Delta H 921 mJ 26.8 J/g
Peak 423.7°C 6.5 mW

LABCORE Data Entry Template for Worklist#

3892

Analyst: SME Instrument: DSC0 1 Book # 12N4B

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

Worklist Comment: Please run BY-105 DSCs under N2. bdv

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				DSC-01	LIQUID	<u>28.45</u>	<u>28.7</u>	<u>N/A</u>	Joules/g
95000125	BY-105 (R)	2	SAMPLE	S95T003418	0		DSC-01	LIQUID	<u>N/A</u>	<u>Ø</u>		Joules/g
95000125	BY-105 (R)	3	DUP	S95T003418	0		DSC-01	LIQUID	<u>Ø</u>	<u>676.2</u>	<u>N/A</u>	Joules/g
95000125	BY-105 (R)	4	TRIPL	S95T003418	0		DSC-01	LIQUID	<u>Ø</u>	<u>87.1</u>	<u>N/A</u>	Joules/g
95000125	BY-105 (R)	5	SAMPLE	S95T003422	0		DSC-01	LIQUID	<u>N/A</u>	<u>75.1</u>		Joules/g
		6	STD				DSC-01	LIQUID	<u>28.45</u>	<u>21.1</u>	<u>N/A</u>	Joules/g
95000125	BY-105 (R)	7	DUP	S95T003422	0		DSC-01	LIQUID	<u>75.1</u>	<u>70.8</u>	<u>N/A</u>	Joules/g

Final page for worklist #

3892

See attached for signatures
Analyst Signature _____ Date 12/15/95
Bm

Dany H. H. H. 12-15-95
Analyst Signature _____ Date

Data Entry Comments: ^{12/15/95} S95T003418 Ø thermograms did not resemble one another and the exotherms did not get duplicated. The upturn in the thermogram is from contamination on the sensor.

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code. ^{12/15/95} S95T003422 produced upturns to above 400°C due to contamination on the sensor.

LABCORE Data Entry Template for Worklist#

3892

Analyst: SMP

Instrument: DSC0 1

Book # 12N14B

Method: LA-514-113 Rev/Mod _____

Worklist Comment: Please run BY-105 DSCs under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	LIQUID	_____	_____	N/A	Joules/g
95000125	BY-105 (R)	2 SAMPLE	S95T003418	0	DSC-01	LIQUID	N/A	_____	_____	Joules/g
95000125	BY-105 (R)	3 DUP	S95T003418	0	DSC-01	LIQUID	_____	_____	N/A	Joules/g
95000125	BY-105 (R)	4 SAMPLE	S95T003422	0	DSC-01	LIQUID	N/A	_____	_____	Joules/g
95000125	BY-105 (R)	5 DUP	S95T003422	0	DSC-01	LIQUID	_____	_____	N/A	Joules/g

Final page for worklist #

3892

Analyst Signature SMP

Date

12-9-95

2130

Analyst Signature _____

Date _____

Data Entry Comments:

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

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

DSC STD 12N14 B N2

12.050 mg

Rate: 10.0 °C/min

File: 00085.001 DSC METTLER 07-Dec-95

Ident: 0.0 222-S Laboratory

exo

Integration
Delta H 346 mJ
28.7 J/g
Peak 159.0 °C
-17.0 mW

20. mW

WHC-SD-WM-DP-162-REV. 1

120.

140.

160.

180. °C

Arthur J. ...
12-7-95

S95T003418 SAM N2
17.920 mg
Rate: 10.0 °C/min
File: C0067.001 DSC NETTLER 07-Dec-95
Ident: 0.0 222-S Laboratory

exo >

Integration

Delta H 366 mJ

20.4 J/g

Peak 278.7°C

-1.8 mW

Integration

Delta H 10223 mJ

570.5 J/g

Peak

113.0°C

-41.5 mW

Integration

Delta H 857 mJ

47.8 J/g

Peak

163.6°C

-8.7 mW

Integration

Delta H 166 mJ

9.3 J/g

Peak

219.8°C

-2.6 mW

100.

200.

300.

400.

°C

595T003418 DUP N2
 15.233 mg
 Rate: 10.0 °C/min
 File: 00089.001 DSC METTLER 07-Dec-95
 Ident: 0.0 222-S Laboratory

exo

20. mW

Integration	
Delta H12690 mJ	833.0 J/g
Peak	125.5 °C
	-46.8 mW
Integration	
Delta H10300 mJ	676.2 J/g
Peak	242.0 °C
	9.8 mW

100.

200.

300.

400.

°C

S95T003418 TRP N2
 20.000 mg
 Rate: 10.0 °C/min
 File: 00090.001 DSC METTLER 07-Dec-95
 Ident: 0.0 222-S Laboratory

Exo

50. mW

Integration	Integration
Delta H14564 mJ	Delta H 1741 mJ
728.2 J/g	87.1 J/g
Peak 117.3°C	Peak 240.1°C
-52.2 mW	5.4 mW

SC5T003422 SAM N2
 14.450 mg
 Rate: 10.0 °C/min
 File: 00092.001 DSC METTLER 07-Dec-95
 Inert: 0.0 222-S Laboratory

Adxg

QSC STD 12N14B
12.050 mg

File: 00095.001 QSC METTLER 09-Dec-98
Ident: 0.0 222-S Laboratory

Rate: 10.0 °C/min

120.

140.

150.

160. °C

Gene M. Jullian 2-98

File: 06099.002 DSC METTLER 09-Dec-95
 Ident: 0.0 222-S Laboratory

S95T003422 DUP N2
 16.141 mg Rate: 10.0 °C/min

Exo

°C

LABCORE Data Entry Template for Worklist#

3894

Analyst: SME Instrument: DSC0 1 Book # 12 N14B

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

Worklist Comment: Please run BY-105 DSCs under N2. bdv

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				DSC-01	LIQUID	<u>28.45</u>	<u>29.1</u>	<u>N/A</u>	Joules/g
95000125	BY-105 (R)	2	SAMPLE	S95T003394	0		DSC-01	LIQUID	<u>N/A</u>	<u>120.2</u>		Joules/g
95000125	BY-105 (R)	3	DUP	S95T003394	0		DSC-01	LIQUID	<u>120.2</u>	<u>105.2</u>	<u>N/A</u>	Joules/g
95000125	BY-105 (R)	4	SAMPLE	S95T003396	0		DSC-01	LIQUID	<u>N/A</u>	<u>Ø</u>		Joules/g
95000125	BY-105 (R)	5	DUP	S95T003396	0		DSC-01	LIQUID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g

Final page for worklist #

3894

Julie M. Fulton 12-9-95
Analyst Signature Date

AE Wright 12/15/95
Analyst Signature Date

Data Entry Comments: S95T003394 produced an endotherm at 120.2°C with a delta H of 122.64 J/g. The upswing beginning at 400°C is not an exotherm it is contamination on the sensor. S95T003396 produced an endotherm at 120.1°C with a delta H of 1358.6 J/g. The upswing toward the end of the run is due to contamination on the sensor.
Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 264 TO 275.

DSC STD 12M143

12.050 mg

Rate: 10.0 °C/min

File: 00085.001 DSC METTLER 09-Dec-95

Ident: 0.0 222-S Laboratory

Δ
C
P

10. mW

120.

140.

150. *Shirley M. Dutton* 180. °C
12-9-95

S95T003394 N2

13.951 mg

File: 00101.001 DSC METTLER 09-Dec-95

Ident: 0.0 222-S Laboratory

Rate: 10.0 °C/min

exo

S95T003394 DUP N2

17.801 mg

Rate: 10.0 °C/min

File: 00103.001

USC METTLER 09-Dec-95

Ident: 0.0

222-S Laboratory

exo ^

2-71

50. mW

S95T003396 N2

15.448 mg

Rate: 10.0 °C/min

File: 00107.001

DSC METTLER

10-Dec-95

Ident: 0.0

222-S Laboratory

exo>

2-73

50. mW

Integration

Delta H20988 mJ

1358.6 J/g

Peak 120.1°C

-55.9 mW

100.

200.

300.

400.

°C

WHC-SD-WM-DB-162-REV-1

S95T003396 DUP N2
14.498 mg

Rate: 10.0 °C/min

File: 00108.001
Ident: 0.0

DSC METTLER
222-S Laboratory

10-Dec-95

exo

50. mW

Integration
Delta H17737 mJ
1223.4 J/g
Peak 107.7 °C
-50.3 mW

100. 200. 300. 400. °C

LABCORE Data Entry Template for Worklist#

4270

Analyst: JDs Instrument: DSC0 1 Book # 12N14B

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

Worklist Comment: Rerun. No duplicates for these samples. Under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	SOLID	<u>28.45</u>	<u>27.2</u>	<u>N/A</u>	Joules/g
95000125	BY-105 (R)	2 SAMPLE	S95T003395	1	DSC-01	SOLID	<u>N/A</u>	<u>33.8</u>	<u>60.0</u>	Joules/g
95000125	BY-105 (R)	3 SAMPLE	S95T003397	1	DSC-01	SOLID	<u>N/A</u>	<u>33.8</u>		Joules/g

Final page for worklist #

4270

JDs 12-13-95
Analyst Signature Date

RLB 12/14/95
Analyst Signature Date

Data Entry Comments: S95T003395 produced two endotherms one at 134.9°C
with a delta H of 396.7 J/g and another at 172.304.0°C with a delta H of
180.9 J/g. S95T003397 produced two endotherms one at 138.3°C with
a delta H of 516.5 J/g and second at 300.7°C with a delta H of 86.2 J/g.
Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 2-165 TO 2-177.

DSC STD 12N14B N2 File: 00046.001 DSC METTLER 13-Dec-95
8.127 mg Rate: 10.0 °C/min Ident: 0.0 222-S Laboratory

S95T003395 N2
 27.380 mg
 File: 00055.001 DSC METTLER 13-Dec-86
 Rate: 10.0 °C/min Ident: 0.0 222-S Laboratory

Integration
 Delta H 4954 mJ
 180.9 J/g
 Peak 304.0 °C
 -25.6 mW

S95T003397 N2

50.140 mg

Rate: 10.0 °C/min

File: 00057.001

Ident: 0.0

DSC METTLER 13-Dec-95

222-S Laboratory

LABCORE Data Entry Template for Worklist#

4403

Analyst: Bdv Instrument: DSC01 Book #

Method: LA-514-113 Rev/Mod

Worklist Comment: Dry DSC for BY-105. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
95000125	BY-105 (R)	1 SAMPLE	S95T003394	0	DSC-02	LIQUID	N/A	262.6		Joules/g Dry
95000125	BY-105 (R)	2 DUP	S95T003394	0	DSC-02	LIQUID	262.6	229.8	N/A	Joules/g Dry
95000125	BY-105 (R)	3 SAMPLE	S95T003396	0	DSC-02	LIQUID	N/A	Ø		Joules/g Dry
95000125	BY-105 (R)	4 DUP	S95T003396	0	DSC-02	LIQUID	Ø	Ø	N/A	Joules/g Dry
95000125	BY-105 (R)	5 SAMPLE	S95T003418	0	DSC-02	LIQUID	N/A	Ø		Joules/g Dry
95000125	BY-105 (R)	6 DUP	S95T003418	0	DSC-02	LIQUID	Ø	1465.0	N/A	Joules/g Dry
95000125	BY-105 (R)	7 TRIPL	S95T003418	0	DSC-02	LIQUID	Ø	Ø	N/A	Joules/g Dry
95000125	BY-105 (R)	8 SAMPLE	S95T003422	0	DSC-02	LIQUID	N/A	137.8		Joules/g Dry
95000125	BY-105 (R)	9 DUP	S95T003422	0	DSC-02	LIQUID	134.8	131.8	N/A	Joules/g Dry

Data entered & verified by Blandina Valenzuela Final page for worklist # **4403**

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.

[illegible]

LABCORE Data Entry Template for Worklist#

4404

Analyst: BDV Instrument: DSC01 Book # —

Method: LA-514-113 Rev/Mod —

WHC-SD-WM-DP-162, REV. 1

Worklist Comment: Dry DSC for BY-105. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
95000125	BY-105 (R)	1 SAMPLE	S95T003393	0	DSC-02	SOLID	N/A	37.36		Joules/g Dry
95000125	BY-105 (R)	2 DUP	S95T003393	0	DSC-02	SOLID	37.36	35.89	N/A	Joules/g Dry
95000125	BY-105 (R)	3 SAMPLE	S95T003395	0	DSC-02	SOLID	N/A	Ø		Joules/g Dry
95000125	BY-105 (R)	4 DUP	S95T003395	0	DSC-02	SOLID	Ø	Ø	N/A	Joules/g Dry
95000125	BY-105 (R)	5 TRIPL	S95T003395	0	DSC-02	SOLID	Ø	56.17 66.5	12/20/95 N/A	Joules/g Dry
95000125	BY-105 (R)	6 SAMPLE	S95T003397	0	DSC-02	SOLID	N/A	Ø		Joules/g Dry
95000125	BY-105 (R)	7 DUP	S95T003397	0	DSC-02	SOLID	Ø	Ø	N/A	Joules/g Dry
95000125	BY-105 (R)	8 SAMPLE	S95T003398	0	DSC-02	SOLID	N/A	18.63		Joules/g Dry
95000125	BY-105 (R)	9 DUP	S95T003398	0	DSC-02	SOLID	18.63	20.79	N/A	Joules/g Dry
95000125	BY-105 (R)	10 TRIPL	S95T003398	0	DSC-02	SOLID	18.63	12.62	N/A	Joules/g Dry
95000125	BY-105 (R)	11 SAMPLE	S95T003399	0	DSC-02	SOLID	N/A	Ø		Joules/g Dry
95000125	BY-105 (R)	12 DUP	S95T003399	0	DSC-02	SOLID	Ø	806.2	N/A	Joules/g Dry
95000125	BY-105 (R)	13 TRIPL	S95T003399	0	DSC-02	SOLID	Ø	Ø	N/A	Joules/g Dry
95000125	BY-105 (R)	14 SAMPLE	S95T003417	0	DSC-02	SOLID	N/A	30.56		Joules/g Dry
95000125	BY-105 (R)	15 DUP	S95T003417	0	DSC-02	SOLID	30.56	33.09	N/A	Joules/g Dry
95000125	BY-105 (R)	16 SAMPLE	S95T003419	0	DSC-02	SOLID	N/A	35.51		Joules/g Dry
95000125	BY-105 (R)	17 DUP	S95T003419	0	DSC-02	SOLID	35.51	22.98	N/A	Joules/g Dry
95000125	BY-105 (R)	18 SAMPLE	S95T003420	0	DSC-02	SOLID	N/A	19.85		Joules/g Dry

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist#

4404

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
95000125	BY-105 (R)	19 DUP	S95T003420	0	DSC-02	SOLID	<u>19.85</u>	<u>19.72</u>	<u>N/A</u>	Joules/g Dry
95000125	BY-105 (R)	20 SAMPLE	S95T003421	0	DSC-02	SOLID	<u>N/A</u>	<u>8.01</u>		Joules/g Dry
95000125	BY-105 (R)	21 DUP	S95T003421	0	DSC-02	SOLID	<u>8.01</u>	<u>3.13</u>	<u>N/A</u>	Joules/g Dry

Final page for worklist #

4404

Blandina Valenzuela 12/20/95
Analyst Signature Date

Analyst Signature Date

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist#

4716

Analyst: BDV Instrument: DSC01 Book #

Method: LA-514-113 Rev/Mod

Worklist Comment: Dry DSCs for BY-105. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
95000125	BY-105 (R)	1 SAMPLE	S95T003397	1	DSC-02	SOLID	N/A	46.28		Joules/g Dry

Final page for worklist #

4716

Data entered & verified by
Blandina Valenzuela 1/4/96
Analyst Signature Date

Analyst Signature Date

Data Entry Comments:

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

BY-105

CALCULATED DRY DSC			
SAMPLE NO.	DSC RESULT (J/g)	TGA RESULT (% water)	DRY DSC RESULT
S95TCD 3393	27.9	TGA has triplicate Avg of 3 #s 25.33	37.36
3393D	36.6	25.33	35.89
3395	Ø	9.28	Ø
3395D	Ø	9.28	Ø
3395T	60.0	9.28	66.14
3397	Ø	TGA has trip Avg of 3 #s 26.96	Ø
3397D	Ø	26.96	Ø
3398	15.5	16.78	* 10.74 18.63
3398D	17.3	16.78	20.79
3398T	10.5	16.78	12.62
3399B	Ø	TGA has trip 5.73	Ø
3399D	76.0	5.73	806.2
3399T	Ø	5.73	Ø
3417	21.8	* 28.67 24.03	* 30.56 28.61
3417D	23.6	* 28.67 24.03	* 33.09 31.06
3419	32.6	8.2	35.51
3419D	21.1	8.2	22.98
3420	14.7	TGA has trip Avg of 3 #s 25.95	19.85
3420D	14.6	25.95	19.72
3421	* 4.45 6.4	20.09	* 5.57 8.01
3421D	* 4.45 2.5	20.09	* 0 3.13
3397T	33.8	26.96	46.28

* BDV 1/1/96

LABCORE Data Entry Template for Worklist#

3841

Analyst: AD Instrument: TGA0 1 Book # 6528A

Method: LA-560-112 Rev/Mod B-1

Worklist Comment: Please run BY-105 TGAs under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	LIQUID	<u>59.74</u>	<u>60.36</u>	<u>N/A</u>	%
95000125	BY-105 (R)	2 SAMPLE	S95T003394	0	TGA-01	LIQUID	<u>N/A</u>	<u>54.03</u>		%
95000125	BY-105 (R)	3 DUP	S95T003394	0	TGA-01	LIQUID	<u>54.03</u>	<u>54.41</u>	<u>N/A</u>	%
95000125	BY-105 (R)	4 SAMPLE	S95T003396	0	TGA-01	LIQUID	<u>N/A</u>	<u>54.36</u>		%
95000125	BY-105 (R)	5 DUP	S95T003396	0	TGA-01	LIQUID	<u>54.36</u>	<u>54.07</u>	<u>N/A</u>	%

Final page for worklist #

3841

Anthony Perreault 12-6-95
Analyst Signature Date

R/Whd 12/7/95
Analyst Signature Date

Verified 12/8/95 J. M. Fuy

Data Entry Comments:

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

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 285 TO 289.

TGA STD 65N8A N2

54.623 mg

Rate: 10.0 °C/min

File: 00062.001 TG METTLER 06-Dec-95

Ident: 0.0

222-S Laboratory

Step Analysis

Height-32.97 mg

-60.36 %

Resid. 21.65 mg

39.64 %

Dpeak 133.3 °C

20. mg

50.

100.

150.

200.

°C

Cheryl P. Winter 12-6-95

2-85

WHO-SD-WM-OP-162 REV. 1

S95T003394 SAM N2

52.293 mg

Rate: 10.0 °C/min

File: 00064.001

TG METTLER 06-Dec-95

Ident: 0.0

222-S Laboratory

Step Analysis

Height-28.25 mg

-54.03 %

ResiC. 24.04 mg

45.97 %

Dpeak 119.0 °C

File: 00066.001 TG METTLER 06-Dec-95
 Ident: 0.0 222-S Laboratory

S95T003394 DUP N2
 16.853 mg Rate: 10.0 °C/min

Step Analysis
 Height -9.17 mg
 -54.41 %
 Resid. 7.68 mg
 45.59 %
 Dpeak 85.0 °C

S95T003396 SAM N2

File: 00069.001 TG METTLER 06-Dec-95

52.387 mg

Rate: 10.0 °C/min

Ident: 0.0

222-S Laboratory

Step Analysis

Height-28.48 mg

-54.36 %

Resid. 23.91 mg

45.64 %

Dpeak 117.0°C

2-88

WHC-SD-MM-OP-162 REV. 1

S95T003396 DUP N2

54.359 mg

Rate: 10.0 °C/min

File: 00071.001 TG METTLER 06-Dec-95

Ident: 0.0

222-S Laboratory

Step Analysis

Height-29.39 mg

-54.07 %

ResiC. 24.97 mg

45.93 %

Dpeak 119.0 °C

10. mg

100.

200.

300.

400.

°C

68-2

LABCORE Data Entry Template for Worklist#

3842

Analyst: ADP Instrument: TGA0 3 Book # 65N8A

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

Worklist Comment: Please run BY-105 TGAs under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-03	LIQUID	<u>59.74</u>	<u>60.21</u>	<u>N/A</u>	%
95000125	BY-105 (R)	2 SAMPLE	S95T003418	0	TGA-03	LIQUID	<u>N/A</u>	<u>53.58</u>		%
95000125	BY-105 (R)	3 DUP	S95T003418	0	TGA-03	LIQUID	<u>53.58</u>	<u>54.10</u>	<u>N/A</u>	%
95000125	BY-105 (R)	4 SAMPLE	S95T003422	0	TGA-03	LIQUID	<u>N/A</u>	<u>41.35</u>		%
95000125	BY-105 (R)	5 DUP	S95T003422	0	TGA-03	LIQUID	<u>41.35</u>	<u>37.32</u>	<u>N/A</u>	%

Final page for worklist #

3842

Analyst Signature

Date

12/15/95
BDV

Analyst Signature

Date

12/15/95

Data Entry Comments:

S95T003422 produced a flat line from 35 - 110°C which
is due to static electricity the same will be rerun.

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#

3842

Analyst: ADP Instrument: TGA0 Book # 65N8A

Method: LA-560-112 Rev/Mod C-1

Worklist Comment: Please run BY-105 TGAs under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	LIQUID			N/A	%
95000125	BY-105 (R)	2 SAMPLE	S95T003418 0		TGA-01	LIQUID	N/A			%
95000125	BY-105 (R)	3 DUP	S95T003418 0		TGA-01	LIQUID			N/A	%
95000125	BY-105 (R)	4 SAMPLE	S95T003422 0		TGA-01	LIQUID	N/A			%
95000125	BY-105 (R)	5 DUP	S95T003422 0		TGA-01	LIQUID			N/A	%

Final page for worklist # 3842

Anthony Purnell 12-6-95
Analyst Signature Date

Analyst Signature Date

Other instrument
was used.

12/7/95
BDV

Data Entry Comments:

Curve 1: TGA

File info: TER120601 Wed Dec 6 07:01:46 1995

Sample Weight: 17.471 mg

65N8-A Terliq

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 292 TO 296.

N2 10C/MIN

TEMP1: 35.0 °C
TEMP2: 300.0 °C
TIME1: 0.0 min
RATE1: 10.0 °C/min

Temperature (°C)

AD PURINTON
PERKIN-ELMER
7 Series Thermal Analysis System
Wed Dec 6 07:29:44 1995

Curve 1: TGA

File info: SAM120601 Wed Dec 6 08:38:40 1995

Sample Weight: 18.999 mg

S95T003418 SAM

2-93

W/C-SD-WM-DP-162, REV. 1

10C/MIN N2

TEMP1: 35.0 °C
TEMP2: 500.0 °C

TIME1: 0.0 min RATE1: 10.0 °C/min

AD PURINTON
PERKIN-ELMER
7 Series Thermal Analysis System
Wed Dec 6 09:27:30 1995

Curve 1: TGA

File info: SAM120602 Wed Dec 6 10:16:07 1995

Sample Weight: 17.625 mg

S95T003418 DUP

WHC-SD-WM-DP-162, REV. 1

10C/MIN N2

TEMP1: 35.0 °C
TEMP2: 500.0 °C

TIME1: 0.0 min RATE1: 10.0 °C/min

Temperature (°C)

AD PURINTON
PERKIN-ELMER
7 Series Thermal Analysis System
Wed Dec 6 10:23:54 1995

Curve 1: TGA

File info: SAM120603 Wed Dec 6 11:29:04 1995

Sample Weight: 18.408 mg

S95T003418-DUP

342.2 SAM

56-2

WHC-SD-WM-DP-162, REV. 1

10C/MIN N2

TEMP1: 35.0 °C
TEMP2: 500.0 °C

TIME1: 0.0 min RATE1: 10.0 °C/min

Temperature (°C)

AD PURINTON
PERKIN-ELMER
7 Series Thermal Analysis System
Wed Dec 6 11:30:15 1995

Curve 1: TGA

File info: SAM120604 Wed Dec 6 12:37:07 1995

Sample Weight: 20.402 mg

S95T003422 DUP

10C/MIN N2

TEMP1: 35.0 °C
TEMP2: 500.0 °C

TIME1: 0.0 min RATE1: 10.0 °C/min

AD PURINTON
PERKIN-ELMER
7 Series Thermal Analysis System
Wed Dec 6 12:47:35 1995

LABCORE Data Entry Template for Worklist#

3848

Analyst: ADP Instrument: TGA0 1 Book # 05N8A

Method: LA-560-112 Rev/Mod C-1

Worklist Comment: Please run BY-105 TGAs under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID	<u>59.74</u>	<u>60.56</u>	<u>N/A</u>	%
95000125	BY-105 (R)	2 SAMPLE	S95T003393 0		TGA-01	SOLID	<u>N/A</u>	<u>29.00</u>		%
95000125	BY-105 (R)	3 DUP	S95T003393 0		TGA-01	SOLID	<u>29.00</u>	<u>19.88</u>	<u>N/A</u>	%

Final page for worklist #

3848

Anthony Purvita 12-7-95
Analyst Signature Date

R. Patel 12/12/95
Analyst Signature Date

Data Entry Comments: The results are the sum of two weight loss steps
The difference in the shape of these curves is due to sample
inhomogeneity.

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

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 298 TO 2110.

TGA STD 65N8 A N2

52.878 mg

Rate: 10.0 °C/min

File: 00086.001 TG METTLER 07-Dec-85

Ident: 0.0

222-S Laboratory

2-98

WHC-SD-WM-IP-162 REV 1

S95T003393 SAM N2

32.566 mg

Rate: 10.0 °C/min

File: 00088.001

TG METTLER 07-Dec-95

Ident: 0.0 222-S Laboratory

Step Analysis

Height -5.98 mg

-18.37 %

Resid. 26.58 mg

81.63 %

Dpeak 81.0 °C

Stop Analysis

Height -3.46 mg

-10.63 %

Resid. 23.12 mg

71.00 %

Dpeak 127.0 °C

S95T00393 DUP N2
32.991 mg
Rate: 10.0 °C/min
File: 00091.001 TG METTLER 07-Dec-95
Ident: 0.0 222-S Laboratory

Step Analysis

Height -2.41 mg

-7.32 %

Resid. 30.58 mg

92.68 %

Step Analysis

Height -4.14 mg

-12.56 %

Resid. 26.43 mg

80.12 %

Dpeak 125.0 °C

LABCORE Data Entry Template for Worklist#

3849

Analyst: SME Instrument: TGA0 1 Book # 65N8A

Method: LA-560-112 Rev/Mod B-1

Worklist Comment: Please run BY-105 TGAs under N2. bdv

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-01	SOLID	<u>59.74</u>	<u>60.27</u>	<u>N/A</u>	%
95000125	BY-105 (R)	2	SAMPLE	S95T003395	0		TGA-01	SOLID	<u>N/A</u>	<u>9.47</u>		%
95000125	BY-105 (R)	3	DUP	S95T003395	0		TGA-01	SOLID	<u>9.47</u>	<u>9.09</u>	<u>N/A</u>	%
95000125	BY-105 (R)	4	SAMPLE	S95T003397	0		TGA-01	SOLID	<u>N/A</u>	<u>28.58</u>		%
95000125	BY-105 (R)	5	DUP	S95T003397	0		TGA-01	SOLID	<u>28.58</u>	<u>18.07</u>	<u>N/A</u>	%

Final page for worklist #

3849

Susie M. Dutton 12-11-95
Analyst Signature Date

Sharon L. Uhlir 12-11-95
Analyst Signature Date

Data Entry Comments:

S95T003395 results are the sum of two smaller weight loss steps

1st = 4.26% and 2nd = 5.21% (sample) 1st = 4.74% and 2nd = 4.35% (duplicate)

S95T003397 results are the sum of two smaller weight loss steps Sample 17.99% + 10.5%

~~Sample 11.05% + 7.02%~~ Duplicate Samples will need to be rerun
Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 2402 TO 2406.

TGA STD 65N8A

24.986 mg

Rate: 10.0 °C/min

File: 00002.001

TG

METTLER

10-Dec-95

Ident: 0.0

222-S Laboratory

Step Analysis

Height-15.06 mg

-60.27 %

Resid. 9.93 mg

39.73 %

Dpeak 96.7 °C

5. mg

S95T003395 N2

48.452 mg

Rate: 10.0 °C/min

File: 00004.001

TG

METTLER

10-Dec-95

Ident: 0.0

222-S Laboratory

Step Analysis

Height -2.07 mg

-4.26 %

ResiC. 46.37 mg

95.69 %

Dpeak 59.0°C

Step Analysis

Height -2.52 mg

-5.21 %

ResiC. 43.84 mg

90.49 %

Dpeak 127.0°C

Step Analysis

Height -0.42 mg

-0.87 %

ResiC. 43.42 mg

89.62 %

Dpeak 283.0°C

Step Analysis

Height -0.40 mg

-0.82 %

ResiC. 43.02 mg

88.80 %

Dpeak 421.0°C

S95T003395 DUP N2

42.109 mg

Rate: 10.0 °C/min

File: 00006.001

TG

METTLER

10-Dec-95

Ident: 0.0

222-S Laboratory

Step Analysis

Height -2.00 mg

-4.74 %

Resid. 40.09 mg

95.20 %

Step Analysis

Height -1.83 mg

-4.35 %

Resid. 38.26 mg

90.85 %

Dpeak 127.0 °C

Step Analysis

Height -0.43 mg

-1.01 %

Resid. 37.83 mg

89.84 %

Step Analysis

Height -0.46 mg

-1.10 %

Resid. 37.37 mg

88.74 %

Dpeak 407.0 °C

2-104

2. mg

100. 200. 300. 400. °C

WFO-SID-WM-IDP-162 REV. 1

S95T003397 N2

File: 00015.001

TG

METTLER

11-Dec-95

18.254 mg

Rate: 10.0 °C/min

Ident: 0.0

222-S Laboratory

Step Analysis

Height -3.28 mg

-17.99 %

Resid. 14.97 mg

82.01 %

Step Analysis

Height -1.93 mg

-10.59 %

Resid. 12.97 mg

71.06 %

Dpeak 127.0 °C

Step Analysis

Height -0.38 mg

-2.09 %

Resid. 12.22 mg

66.92 %

Dpeak 433.0 °C

2-105

S95T003397 DUP N2

17.603 mg

Rate: 10.0 °C/min

File: 00017.001

TG

METTLER

11-Dec-95

Ident: 0.0

222-S Laboratory

Step Analysis

Height -1.95 mg

-11.05 %

ResiC. 15.66 mg

88.95 %

Dpeak 49.0°C

Step Analysis

Height -1.24 mg

-7.02 %

ResiC. 14.39 mg

81.76 %

Dpeak 129.0°C

Step Analysis

Height -0.23 mg

-1.32 %

ResiC. 13.92 mg

79.09 %

LABCORE Data Entry Template for Worklist#

3850

Analyst: RAG Instrument: TGA0 1 Book # 65N8-A

Method: LA-560-112 Rev/Mod B-1

Worklist Comment: Please run BY-105 TGAs under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID	<u>59.74</u>	<u>60.58</u>	<u>N/A</u>	%
95000125	BY-105 (R)	2 SAMPLE	S95T003398	0	TGA-01	SOLID	<u>N/A</u>	<u>16.46</u>		%
95000125	BY-105 (R)	3 DUP	S95T003398	0	TGA-01	SOLID	<u>16.46</u>	<u>17.10</u>	<u>N/A</u>	%
95000125	BY-105 (R)	4 SAMPLE	S95T003399	0	TGA-01	SOLID	<u>N/A</u>	<u>8.27</u>		%
95000125	BY-105 (R)	5 DUP	S95T003399	0	TGA-01	SOLID	<u>8.27</u>	<u>6.12</u>	<u>N/A</u>	%
95000125	BY-105 (R)	6 TRIPL	S95T003399	0	TGA-01	SOLID	<u>8.27</u>	<u>2.80</u>	<u>N/A</u>	%

Final page for worklist #

3850

Analyst Signature

Date

12/14/95
BDV

Analyst Signature

Date

AGC July 12/15/95

Data Entry Comments:

S95T003399 produced a second weight loss step of 1.82%

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.

2-107

LABCORE Data Entry Template for Worklist#

3850

Analyst: PS Instrument: TGA0 _____ Book # 65N8-A

Method: LA-560-112 Rev/Mod B-1

Worklist Comment: Please run BY-105 TGAs under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID	_____	_____	N/A	%
95000125	BY-105 (R)	2 SAMPLE	S95T003398	0	TGA-01	SOLID	N/A	_____	_____	%
95000125	BY-105 (R)	3 DUP	S95T003398	0	TGA-01	SOLID	_____	_____	N/A	%
95000125	BY-105 (R)	4 SAMPLE	S95T003399	0	TGA-01	SOLID	N/A	_____	_____	%
95000125	BY-105 (R)	5 DUP	S95T003399	0	TGA-01	SOLID	_____	_____	N/A	%

Final page for worklist #

3850

Rae Ann Green 12-7-95
Analyst Signature Date

Analyst Signature Date

Worklist was edited because
a triplicate needed to be
added.

12/15/95
BDV.

Data Entry Comments:

Ran sample S95T003399 per procedure 3 times
as sample + dup were more than 10% difference

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.

2-108

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 2-109 TO 2-114.

TGA STD 65N8A N2

54.623 mg

Rate: 10.0 °C/min

File: 00062.001 TG METTLER 06-Dec-95

Ident: 0.0 222-S Laboratory

Step Analysis

Height-33.09 mg

-60.58 %

Resid. 21.53 mg

39.42 %

Dpeak 133.3 °C

2-109

WHO:SD-WM-DP-162, REV. 1

S95T003398 SAM N2
43.774 mg

Rate: 10.0 °C/min

File: 00074.001 TG METTLER 06-Dec-95
Ident: 0.0 222-S Laboratory

Step Analysis
Height -7.20 mg
-16.46 %
Resid. 36.57 mg
83.54 %
Dpeak 135.0 °C

2-1110

S95T003398 DUP N2

File: 00076.001 TG METTLER 06-Dec-95

38.210 mg

Rate: 10.0 °C/min

Ident: 0.0

222-S Laboratory

Step Analysis

Height -6.53 mg

-17.10 %

Resid. 31.68 mg

82.90 %

Dpeak 139.0 °C

2-111

WHO SD.MM.DR-162 REV.1

S95T003399 SAM N2

15.557 mg

Rate: 10.0 °C/min

File: 00079.001

Ident: 0.0

TG

METTLER

07-Dec-95

222-S Laboratory

Step Analysis

Height -1.29 mg

-8.27 %

ResidC. 14.27 mg

91.73 %

Dpeak 45.0 °C

Step Analysis

Height -0.28 mg

-1.82 %

ResidC. 13.97 mg

89.82 %

2-112

File: 00081.001 TG METTLER 07-Dec-95
 Ident: 0.0 222-S Laboratory

Rate: 10.0 °C/min

S95T00339DUP N2
 26.821 mg

Step Analysis
 Height -1.64 mg
 -6.12 %
 Resid. 25.18 mg
 93.88 %

Step Analysis
 Height -0.26 mg
 -0.96 %
 Resid. 24.90 mg
 92.83 %

S95T003399 TRIP N2
 62.473 mg
 Rate: 10.0 °C/min
 File: 00083.001 TG KETTLER 07-Dec-95
 Ident: 0.0 222-S Laboratory

Step Analysis
 Height -1.47 mg
 -2.80 %
 Resid. 51.00 mg
 97.20 %

Step Analysis
 Height -0.42 mg
 -0.81 %
 Resid. 50.55 mg
 96.38 %
 Dpeak 173.0 °C

LABCORE Data Entry Template for Worklist#

3851

Analyst: SWE Instrument: TGA0 1 Book # 65N81Y

Method: LA-560-112 Rev/Mod B-1

Worklist Comment: Please run BY-105 TGAs under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID	<u>59.74</u>	<u>60.14</u>	<u>N/A</u>	%
95000125	BY-105 (R)	2 SAMPLE	S95T003417	0	TGA-01	SOLID	<u>N/A</u>	<u>17.69</u>		%
95000125	BY-105 (R)	3 DUP	S95T003417	0	TGA-01	SOLID	<u>17.69</u>	<u>39.65</u>	<u>N/A</u>	%
95000125	BY-105 (R)	4 SAMPLE	S95T003419	0	TGA-01	SOLID	<u>N/A</u>	<u>7.61</u>	<u>21.06</u>	<u>mwB</u>
95000125	BY-105 (R)	5 DUP	S95T003419	0	TGA-01	SOLID	<u>7.61</u>	<u>8.79</u>	<u>N/A</u>	%

Final page for worklist #

3851

Susie M. Daulton 12-10-95
Analyst Signature Date

Sharon L. Udder 12-11-95
Analyst Signature Date

Data Entry Comments: S95T003417 will have a rerun performed due to high RPD
S95T003419 sample and duplicate produced a second weight loss
step; 13.45% and 14.04% respectively. The second weight loss step
limit was 220°C.
Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 2-116 TO 2-122.

TGA STD 65N8A

24.986 mg

Rate: 10.0 °C/min

File: 00002.001

TG

METTLER

10-Dec-95

Ident: 0.0

222-S Laboratory

Step Analysis

Height-15.03 mg

-60.14 %

Resid. 9.96 mg

39.86 %

Dpeak 96.7 °C

2-116

5. mg

MHC SD WM EP 162, REV 1

S95T003417 N2

16.879 mg

Rate: 10.0 °C/min

File: 00008.001

Ident: 0.0

TG METTLER 10-Dec-95

222-S Laboratory

Step Analysis

Height -2.99 mg

-17.69 %

ResidC. 13.89 mg

82.31 %

Dpeak 49.0 °C

2-117

WHC:SD-WM-DP-162, REV. 1

TGA STD 65N8-A N2
20.952 mg
Rate: 10.0 °C/min
File: 00020.001 TG METTLER 11-Dec-95
Ident: 0.0 222-S Laboratory

Step Analysis
Height-12.29 mg
--58.66 %
Resid. 8.66 mg
41.34 %
Dpeak 87.0 °C

S95T003417 TRIPL N2

28.031 mg

Rate: 10.0 °C/min

File: 00021.001

Ident: 0.0

TG

METTLER

11-Dec-95

222-S Laboratory

Step Analysis

Height -1.55 mg

-5.54 %

ResiC. 26.45 mg

94.37 %

Step Analysis

Height -2.58 mg

-9.22 %

ResiC. 23.87 mg

85.15 %

Dpeak 127.0 °C

Step Analysis

Height -0.67 mg

-2.38 %

ResiC. 23.20 mg

82.78 %

Dpeak 271.0 °C

Step Analysis

Height -0.32 mg

-1.14 %

ResiC. 22.88 mg

81.64 %

Dpeak 425.0 °C

2-119

WHC-SD-WM-DP-162, REV. 1

S95T003417 DUP N2

8.559 mg

Rate: 10.0 °C/min

File: 00009.001 TG METTLER 10-Dec-95

Ident: 0.0

222-S Laboratory

Step Analysis

Height -3.39 mg

-39.65 %

ResidC. 5.17 mg

60.35 %

Dpeak 59.0°C

2-120

WHC-SD-WM-OP-162, REV. 1

S95T003419 N2

53.177 mg

Rate: 10.0 °C/min

File: 00011.001 TG METTLER 10-Dec-95

Ident: 0.0

222-S Laboratory

Step Analysis

Height -4.04 mg

-7.61 %

ResiC. 49.13 mg

92.39 %

Step Analysis

Height -7.15 mg

-13.45 %

ResiC. 41.94 mg

78.86 %

Dpeak 133.0 °C

Step Analysis

Height -0.38 mg

-0.72 %

ResiC. 41.22 mg

77.51 %

5. mg

2-121

WHC-SD-WM-DP-162, REV. 1

100. 200. 300. 400. °C

S95T003419 DUP N2

36.090 mg

Rate: 10.0 °C/min

File: 00013.001

Ident: 0.0

TG

10-Dec-95

222-S Laboratory

Step Analysis

Height -3.17 mg

-8.79 %

Resid. 32.92 mg

91.21 %

Step Analysis

Height -5.07 mg

-14.04 %

Resid. 27.81 mg

77.06 %

Dpeak 133.0 °C

Step Analysis

Height -0.31 mg

-0.85 %

Resid. 27.21 mg

75.40 %

LABCORE Data Entry Template for Worklist#

3852

Analyst: SMF Instrument: TGA0 1 Book # 65N8A

Method: LA-560-112 Rev/Mod B-1

Worklist Comment: Please run BY-105 TGAs under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID	<u>59.74</u>	<u>60.53</u>	<u>N/A</u>	%
95000125	BY-105 (R)	2 SAMPLE	S95T003420	0	TGA-01	SOLID	<u>N/A</u>	<u>32.35</u>		%
		3 STD			TGA-01	SOLID	<u>59.74</u>	<u>60.75</u>	<u>N/A</u>	%
95000125	BY-105 (R)	4 DUP	S95T003420	0	TGA-01	SOLID	<u>32.35</u>	<u>22.61</u>	<u>N/A</u>	%
95000125	BY-105 (R)	5 TRIPL	S95T003420	0	TGA-01	SOLID	<u>32.35</u>	<u>22.89</u>	<u>N/A</u>	%
95000125	BY-105 (R)	6 SAMPLE	S95T003421	0	TGA-01	SOLID	<u>N/A</u>	<u>19.43</u>		%
95000125	BY-105 (R)	7 DUP	S95T003421	0	TGA-01	SOLID	<u>19.43</u>	<u>20.74</u>	<u>N/A</u>	%

Final page for worklist #

3852

See attached for signatures
Analyst Signature 12-12-95
Date BDV

12/12/95
Analyst Signature 12/12/95
Date

Data Entry Comments: S95T003420 results are the sum of two weight loss steps.
The dup + trip produced two additional weight loss steps of 3.13% + .53%
S95T003421 results are the sum of two weight loss steps. The sample
produced one additional weight loss step of 2.91%.
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#

3852

Analyst: SMF Instrument: TGA0 _____ Book # 65287

Method: LA-560-112 Rev/Mod _____

Worklist Comment: Please run BY-105 TGAs under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID	_____	_____	N/A	%
95000125	BY-105 (R)	2 SAMPLE	S95T003420	0	TGA-01	SOLID	N/A	_____	_____	%
95000125	BY-105 (R)	3 DUP	S95T003420	0	TGA-01	SOLID	_____	_____	N/A	%
95000125	BY-105 (R)	4 SAMPLE	S95T003421	0	TGA-01	SOLID	N/A	_____	_____	%
95000125	BY-105 (R)	5 DUP	S95T003421	0	TGA-01	SOLID	_____	_____	N/A	%

Final page for worklist #

3852

Laurie M. Juhl 12-10-95
Analyst Signature Date
1500

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.

2-124

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES ~~2-125~~ TO ~~2-131~~.

TGA STD 55N8 A N2

52.878 mg

Rate: 10.0 °C/min

File: 00086.001 TG METTLER 07-Dec-95

Ident: 0.0

222-S Laboratory

2-125

WHC-SD-MM-DB-162 REV.1

995T003420 SAM #2

32.840 mg

Rate: 10.0 °C/min

File: 00093.002

Ident: 0.0

TG

METTLER

07-Dec-95

222-S Laboratory

Step Analysis

Height-10.62 mg

-32.35 %

Resid. 22.22 mg

67.65 %

Dpeak 87.0 °C

TGA STD 65N8A

14.334 mg

Rate: 10.0 °C/min

File: 00098.004

Ident: 0.0

TG

METTLER

09-Dec-95

222-B Laboratory

Step Analysis

Height -8.71 mg

-60.75 %

Resid. 5.63 mg

39.25 %

Dpeak 77.5°C

Surv M. Fulton 12-7-95

S95T003420 DUP N2

48.678 mg

Rate: 10.0 °C/min

File: 00100.001

Ident: 0.0

TG

METTLER

09-Dec-95

222-S Laboratory

2-128

WIC-SD-WM-OP-162, REV. 1

S95T003420 TRP N2
33.240 mg

Rate: 10.0 °C/min

File: 00106.001 TG METTLER 10-Dec-95
Ident: 0.0 222-S Laboratory

S95T003421 N2

33.973 mg

Rate: 10.0 °C/min

File: 00102.001

TG

METTLER

09-Dec-95

Ident: 0.0

222-S Laboratory

Step Analysis

Height -2.55 mg

-7.52 %

ResiC. 31.42 mg

92.48 %

Step Analysis

Height -4.05 mg

-11.91 %

ResiC. 27.35 mg

80.50 %

Dpeak 139.0°C

Step Analysis

Height -0.99 mg

-2.91 %

ResiC. 26.34 mg

77.52 %

2-130

5. mg

100. 200. 300. 400. °C

S95T003421 DUP N2

File: 00104.001 TG METTLER 09-Dec-95

40.619 mg

Rate: 10.0 °C/min

Ident: 0.0

222-S Laboratory

Step Analysis

Height -3.77 mg

-9.27 %

ResiC. 36.85 mg

90.73 %

Step Analysis

Height -4.66 mg

-11.47 %

ResiC. 32.15 mg

79.16 %

Dpeak 145.0 °C

Step Analysis

Height -3.93 mg

-9.67 %

ResiC. 28.13 mg

69.26 %

2-131

5. mg

100. 200. 300. 400. °C

WHC-SD-WM-DF-162, REV. 1

LABCORE Data Entry Template for Worklist#

4266

Analyst: JDS Instrument: TGA0 3 Book # 65N8A

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

Worklist Comment: Rerun. No duplicates on these samples. Under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-03	SOLID	<u>59.74</u>	<u>60.08</u>	<u>N/A</u>	%
95000125	BY-105 (R)	2 SAMPLE	S95T003393	0	TGA-03	SOLID	<u>N/A</u>	<u>27.11</u>		%
95000125	BY-105 (R)	3 SAMPLE	S95T003397	0	TGA-03	SOLID	<u>N/A</u>	<u>34.23</u>		%

Final page for worklist #

4266

See attached for signatures
Analyst Signature 12/14/95 Date BBV

12/14/95
Analyst Signature 12/14/95 Date

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist#

4266

Analyst:

SLs

Instrument: TGA0

Book #

65N8A

Method: LA-560-112 Rev/Mod

C-1

Worklist Comment: Rerun. No duplicates on these samples. Under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID			N/A	%
95000125	BY-105 (R)	2 SAMPLE	S95T003393	1	TGA-01	SOLID	N/A			%
95000125	BY-105 (R)	3 SAMPLE	S95T003397	1	TGA-01	SOLID	N/A			%

Final page for worklist #

4266

Analyst Signature

Date

Analyst Signature

Date

Other instrument
was used
12/14/95
BDV

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.

2-133

Curve 1: 16A

File Info: TER121304 Wed Dec 13 18:57:17 1995
Sample Weight: 19.065 mg

65NBA
STANDARD BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 2134 TO 2137.

2-13A

Weight (Wt. %)

N2 10C/MIN

TEMP: 300.0 °C

TIME: 0.0 min

RAVE: 10.0 C/min

JD SPELLMAN

Temperature (°C)

PERKIN-ELMER

7 Series Thermal Analysis System

Wed Dec 13 19:03:39 1995

WHC-SD-WM-DP-162, REV. 1

12.12.0

Curve 1: TGA

File info: SAM121301 Wed Dec 13 20:02:33 1995

Sample Weight: 28.646 mg

S95T003393

WHC-SD-WM-DP-162, REV. 1

10C/MIN N2

TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min

Temperature (°C)

JD SPELLMAN
PERKIN-ELMER
7 Series Thermal Analysis System
Wed Dec 13 20:03:51 1995

Curve 1: TGA

File info: SAM121302 Wed Dec 13 21:25:28 1995

Sample Weight: 27.149 mg

S95T003397

W-HC-SD-WM-DP-162, REV. 1

10C/MIN N2

TEMP: 35.0 C
TEMP: 500.0 C

TIME: 0.0 min RATE: 10.0 C/min

Temperature (°C)

JD SPELLMAN
PERKIN-ELMER
7 Series Thermal Analysis System
Wed Dec 13 22:08:37 1995

LABCORE Data Entry Template for Worklist#

4267

Analyst: JDS Instrument: TGA0 3 Book # 65NEA

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

Worklist Comment: Rerun. Please run under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-03	LIQUID	59.74	60.06	N/A	%
95000125	BY-105 (R)	2 SAMPLE	S95T003422	1	TGA-03	LIQUID	N/A	53.29		%
								53.10		
95000125	BY-105 (R)	3 DUP	S95T003422	1	TGA-03	LIQUID	53.29	53.6	N/A	%
								12/14/95	bdv	

Final page for worklist #

4267

See attached for signatures
Analyst Signature _____ Date 12/14/95

[Signature] 12/14/95
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.

2-137

LABCORE Data Entry Template for Worklist#

4267

Analyst: Jds Instrument: TGA0 _____ Book # 65N84

Method: LA-560-112 Rev/Mod C-1

Worklist Comment: Rerun. Please run under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	LIQUID	_____	_____	N/A	%
95000125	BY-105 (R)	2 SAMPLE	S95T003422	0	TGA-01	LIQUID	N/A	_____	_____	%
95000125	BY-105 (R)	3 DUP	S95T003422	0	TGA-01	LIQUID	_____	_____	N/A	%

Final page for worklist #

4267

Jds 12-13-95
Analyst Signature Date

Analyst Signature Date

Other instrument
was used.
12/14/95
BDV

Data Entry Comments:

Curve 1: TGA

File info: TER121304 Wed Dec 13 18:57:17 1995

Sample Weight: 19.065 mg

65N8A

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 2137 TO 2141.

WHC-SD-WM-10-162, REV. 1

N2 10C/MIN

TEMP: 36.0 C TIME: 0.0 min RATE: 10.0 C/min

Temperature (°C)

JO SPELLMAN
PERKIN-ELMER
7 Series Thermal Analysis System
Thu Dec 14 04:27:21 1995

Curve 1: TGA

File info: SAM121401 Thu Dec 14 05:07:22 1995

Sample Weight: 14.646 mg

S95T003422

WHC:SD-WM-19-162, REV 1

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

TIME: 0.0 min RATE: 10.0 C/min

JD SPELLMAN
PERKIN-ELMER
7 Series Thermal Analysis System
Thu Dec 14 05:08:57 1995

Curve 1: TGA
 File info: SAM121402 Thu Dec 14 06:12:05 1995
 Sample Weight: 13.483 mg
 S95T003422DUP

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

Temperature (°C)
 JD SPELLMAN
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Thu Dec 14 06:26:10 1995

2-111

WHC-SD-WM-OP-162, REV. 1

LABCORE Data Entry Template for Worklist#

4715

Analyst: SMF Instrument: TGA0 1 Book # 65N8A

Method: LA-560-112 Rev/Mod B-1 WHC-SD-WM-DP-162, REV. 1

Worklist Comment: Please run BY-105 TGAs under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID	<u>59.74</u>	<u>58.66</u>	<u>N/A</u>	%
95000125	BY-105 (R)	2 SAMPLE	S95T003417	1	TGA-01	SOLID	<u>N/A</u>	<u>14.76</u>		%

Final page for worklist #

4715

Blandina Valenzuela for SMF
Analyst Signature Date 1/4/96

Analyst Signature Date

Data Entry Comments:

The result is the sum of two weight loss steps.

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

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 2-143 TO 2-144

TGA STD 65N8-A N2

20.952 mg

Rate: 10.0 °C/min

File: 00020.001

TG METTLER

11-Dec-95

Ident: 0.0

222-S Laboratory

Step Analysis
Height-12.29 mg
Resid. 8.66 %
Resid. 8.66 mg
41.94 %
Dpeak 87.0 °C

WHC-SD-WM-DP-162, REV. 0
WHC-SD-WM-DP-162, REV. 1

S95T003417 TRIPL N2

28.031 mg

Rate: 10.0 °C/min

File: 00021.001 TG METTLER 11-Dec-95

Ident: 0.0

222-S Laboratory

Step Analysis

Height -1.55 mg

-5.54 %

ResiC. 26.45 mg

94.37 %

Step Analysis

Height -2.58 mg

-9.22 %

ResiC. 23.87 mg

85.15 %

Dpeak 127.0 °C

Step Analysis

Height -0.67 mg

-2.38 %

ResiC. 23.20 mg

82.78 %

Dpeak 271.0 °C

Step Analysis

Height -0.32 mg

-1.14 %

ResiC. 22.88 mg

81.64 %

Dpeak 425.0 °C

WHC-SD-WM-DP-162, REV. 1

WHC-SD-WM-DP-162, REV. 0

2-144

DISTRIBUTION SHEET

To Distribution	From Data Assessment and Interpretation	Page 1 of 1
		Date: 07/17/96
Project Title/Work Order WHC-SD-WM-DP-162, REV. 1 "Final Report for Tank 241-BY-105, Rotary and Push Mode Core 108."		EDT NO.: NA
		ECN NO.: 633313

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