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

Document number: SD-WM-DP-141

Section 1 **of** 2

Title: 90 DAY SAFETY SCREENING RESULTS and FINAL REPORT for TANK 241-T-108, AUGER SAMPLES 95-AUG-035 and 95-AUG-037

Date: 10/23/95 **Revision:** 1

Originator: JOHN H. BALDWIN
Co: WHC

Recipient:
Co:

References: ECN-625763

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OCT 2 3 1995

ENGINEERING CHANGE NOTICE

1. ECN № 625763

Proj. ECN

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.	3a. USQ Required?	4. Date
Supplemental [] Direct Revision [X] Change ECN [] Temporary [] Standby [] Supersedure [] Cancel/Void []	John H. Baldwin, Characterization Plans, Coordination and Reports, R2-12, 373-4533	[] Yes [X] No	10/20/95
	5. Project Title/No./Work Order No. Tank 241-T-108	6. Bldg./Sys./Fac. No. N/A	7. Approval Designator Q
	8. Document Numbers Changed by this ECN (includes sheet no. and rev.) WHC-SD-WM-DP-141, Rev. 0	9. Related ECN No(s). N/A	10. Related PO No. N/A

11a. Modification Work	11b. Work Package No.	11c. Modification Work Complete	11d. Restored to Original Condition (Temp. or Standby ECN only)
[] Yes (fill out Blk. 11b) [X] No (NA Blks. 11b, 11c, 11d)	N/A	N/A Cog. Engineer Signature & Date	N/A Cog. Engineer Signature & Date

12. Description of Change

This ECN is being generated in order to update/add additional information to the existing document.

13a. Justification (mark one)

Criteria Change	[]	Design Improvement	[]	Environmental	[]	Facility Deactivation	[]
As-Found	[]	Facilitate Const	[]	Const. Error/Omission	[]	Design Error/Omission	[X]

13b. Justification Details

This ECN will assist in the completion of the documentation process for this document.

14. Distribution (include name, MSIN, and no. of copies)

See attached distribution sheet.

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DATE OCT 2 3 1995

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A-7900-013-2 (11/94) GEF095

A-7900-013-1

ENGINEERING CHANGE NOTICE

1. ECN (use no. from pg. 1) ECN-625763

15. Design Verification Required	16. Cost Impact						17. Schedule Impact (days)	
	ENGINEERING			CONSTRUCTION				
[] Yes	Additional	[]	$	Additional	[]	$	Improvement	[]
[X] No	Savings	[]	$	Savings	[]	$	Delay	[]

18. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 12. Enter the affected document number in Block 19.

SDD/DD	[]	Seismic/Stress Analysis	[]	Tank Calibration Manual	[]
Functional Design Criteria	[]	Stress/Design Report	[]	Health Physics Procedure	[]
Operating Specification	[]	Interface Control Drawing	[]	Spares Multiple Unit Listing	[]
Criticality Specification	[]	Calibration Procedure	[]	Test Procedures/Specification	[]
Conceptual Design Report	[]	Installation Procedure	[]	Component Index	[]
Equipment Spec.	[]	Maintenance Procedure	[]	ASME Coded Item	[]
Const. Spec.	[]	Engineering Procedure	[]	Human Factor Consideration	[]
Procurement Spec.	[]	Operating Instruction	[]	Computer Software	[]
Vendor Information	[]	Operating Procedure	[]	Electric Circuit Schedule	[]
OM Manual	[]	Operational Safety Requirement	[]	ICRS Procedure	[]
FSAR/SAR	[]	IEFD Drawing	[]	Process Control Manual/Plan	[]
Safety Equipment List	[]	Cell Arrangement Drawing	[]	Process Flow Chart	[]
Radiation Work Permit	[]	Essential Material Specification	[]	Purchase Requisition	[]
Environmental Impact Statement	[]	Fac. Proc. Samp. Schedule	[]	Tickler File	[]
Environmental Report	[]	Inspection Plan	[]		[]
Environmental Permit	[]	Inventory Adjustment Request	[]		[]

19. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

Document Number/Revision	Document Number/Revision	Document Number Revision
N/A		

20. Approvals

OPERATIONS AND ENGINEERING	Signature	Date	ARCHITECT-ENGINEER	Signature	Date
Cog. Eng. J.H. Baldwin	John Baldwin	10/19/95	PE		
Cog. Mgr. J.G. Kristofzski	John Kristofzski	10/19/95	QA		
QA Tzu L. Tung	Tzu L. Tung 10/19/95		Safety		
Safety			Design		
Environ.			Environ.		
Other			Other		
Program Support A.D. Rice	A.D. Rice	10-19-95			
			DEPARTMENT OF ENERGY		
			Signature or a Control Number that tracks the Approval Signature		
			ADDITIONAL		

RELEASE AUTHORIZATION	
Document Number:	WHC-SD-WM-DP-141, REV 1
Document Title:	90-Day Safety Screening Results and Final Report for Tank 241-T-108, Auger Samples 95-AUG-035 and 95-AUG-037
Release Date:	10/23/95

This document was reviewed following the procedures described in WHC-CM-3-4 and is:

APPROVED FOR PUBLIC RELEASE

WHC Information Release Administration Specialist:

Kara Broz 10/23/95

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SUPPORTING DOCUMENT

1. Total Pages 244

2. Title	3. Number	4. Rev No.
90-Day Safety Screening Results and Final Report for Tank 241-T-108, Auger Samples 95-AUG-035 and 95-AUG-037	WHC-SD-WM-DP-141	1

5. Key Words	6. Author
90-Day, Safety Screening, Safety Screening Results, Final Report, Tank 241-T-108, Tank T-108, T-108, T Farm, Auger Samples, 95-AUG-035, 95-AUG-037	Name: John H. Baldwin Signature Organization/Charge Code 75310/N4G4C

7. Abstract

N/A

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RECORD OF REVISION	(1) Document Number WHC-SD-WM-DP-141	Page 1

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90-Day Safety Screening Results and Final Report for Tank 241-T-108, Auger Samples 95-AUG-035 and 95-AUG-037

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		John Baldwin 10/19/95	John Kristofzski on telephone 10/19/95

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P.O. Box 1970 Richland, WA 99352

WHC-SD-WM-DP-141, REV. 1

ANALYTICAL SERVICES

90-DAY SAFETY SCREENING RESULTS AND FINAL REPORT FOR TANK 241-T-108, AUGER SAMPLES 95-AUG-035 AND 95-AUG-037

Date Printed: OCTOBER 18, 1995

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TABLE OF CONTENTS

PART I 90-DAY SAFETY SCREENING RESULTS AND FINAL REPORT FOR TANK 241-T-108, AUGER SAMPLES 95-AUG-035 AND 95-AUG-037 1

Narrative 2

Sample Data Summary 6

Chain of Custody Forms 19

Hot Cell Log Book 23

Photographs 46

Correspondence 50

Sample Handling 53

Extrusion Worklist # 1881 54
Extrusion Worklist # 1882 55
Extrusion Worklist # 1883 56

Sample Preparations 57

Homogenization Worklist # 1928 58
Homogenization Worklist # 1929 59
Fusion Worklist # 1920 60
Acid Digestion Worklist # 1963 61
Acid Digestion Worklist # 1982 62

Inorganic Analyses 63

Specific Gravity Analysis
SpG Worklist # 2364 64

Differential Scanning Calorimetry (DSC)
DSC Worklist # 2008 69

Ion Chromatographic Analysis (IC)
IC Worklist # 1979 70

Inductively Coupled Plasma Spectrograpic Analysis (ICP)
ICP Worklist # 1985 87
ICP Worklist # 2125 94

TABLE OF CONTENTS

Radiochemical Analyses 115

Alpha Total Analysis (AT)
AT Worklist # 1969 116
AT Worklist # 1977 126

Gamma Energy Analysis (GEA)
GEA Worklist # 2007 132

PART II 45-DAY SAFETY SCREEN RESULTS FOR TANK 241-T-108, AUGER SAMPLES 95-AUG-035 AND 95-AUG-037 195

Narrative 197

Inorganic Analyses 205

Differential Scanning Calorimetry (DSC)
DSC Worklist #1921 206

Thermogravimetric Analyses (TGA)
TGA Worklist # 1923 214
TGA Worklist # 1940 222
TGA Worklist # 1992 230
TGA Worklist # 1996 234

This document consists of pages 1 through 239.

PART I

WHC-SD-WM-DP-141, REV. 1

90-DAY SAFETY SCREENING RESULTS AND FINAL REPORT FOR TANK 241-T-108, AUGER SAMPLES 95-AUG-035 AND 95-AUG-037

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NARRATIVE

FINAL REPORT FOR TANK 241-T-108, AUGER SAMPLES 95-AUG-035, 95-AUG-036 AND 95-AUG-037

1.0 INTRODUCTION AND SUMMARY

This is the final, 90-day, format IV report for the tank 241-T-108 (T-108) auger sampling characterization effort. This report transmits the additional analytical data, Table 1, not provided in the 45-day report (Baldwin 1995a). Also included in this data package, for each auger extruded, are copies of the chain of custody forms, hot cell work plans, extrusion reports, photographs, subsampling worksheets, and Labcore sample numbers.

Based on the safety screening decision rules, the data from this sampling event indicate that tank T-108 can be classified as "safe," with the exception of vapor issue (no vapor data available). None of the samples submitted for energetics nor alpha total analyses exceeded the respective limits. The test results indicate with 90% confidence, that the mean concentration of moisture from TGA analysis is below the minimum criterion of 17% water. The chemists notified the Project Coordinator as required. Additional notifications were not necessary as the energetics of the samples were zero. As neither of these samples showed exotherms, the safety program determined that secondary Gravimetric tests were not necessary.

2.0 SAMPLE RECEIPT AND EXTRUSION

Tank T-108 was auger sampled from Risers 2, 5 and 6 on July 19, July 20 and July 21, 1995 respectively. Three augers from this tank were received at the 222-S laboratory on July 21, 1995. Copies of the chain of custody forms associated with each of the samples are provided. Auger 95-AUG-036 had no recovery. Auger samples 95-AUG-035 and 95-AUG-037 underwent analysis to meet the Safety Screening and Historical Data Quality Objectives as provided in the T-108 Sampling and Analysis Plan (SAP), Reference (Baldwin 1995b).

Details of the extrusions are provided in hot cell work plans. Copies of the completed hot cell work plans, extrusion reports, and worksheets are included. Additional extrusion information is provided in Table 2. Color photographs were taken of each segment immediately following extrusion and are kept on file and may be viewed by contacting Program Support at 222-S Laboratory.

3.0 SUBSAMPLING

As indicated above, material from each extruded segment was subsampled into sample jars as directed in the SAP. Aliquots for analysis were removed from these jars and placed into sample vials as prescribed in subsampling worksheets.

4.0 ANALYTICAL RESULTS

The primary analyses required by the SAP did not reveal any unusual or interesting results for T-108. The material recovered is dry nitrite/nitrate salts with no energetics and low radioactivity. Due to the uninteresting nature of the material, secondary tests were canceled except for density (requested by the Historical Program). An ICP test performed on a water

digest of the samples was also added by the Historical program. All analytical results are provided in Table 1. A listing of each sample number with the corresponding analyses associated with that sample is also provided. A brief description of each analysis is provided below.

4.1 SPECIFIC GRAVITY ("DENSITY")

Specific Gravity measurements were performed using procedure LA-510-116, Rev. A-0. The specific gravity results ranged from 2.64 to 1.95. Due to the heterogeneity of the material the Relative Percent Difference (RPD) between samples and duplicates exceeded the plus or minus 10% criterion. There was insufficient sample for a duplicate analysis on Auger Sample 95-AUG-037.

4.2 Gamma Energy Analysis (GEA)

Gamma energy analysis was performed using procedure LA-548-121, Rev. D-1. The GEA tested for the following metals: Americium-241, Cobalt-60, Cesium-137, Europium-154 and Europium-155. Only Cesium-137 provided a result above the detection limit of the instrument. The Cesium-137 results averaged 6.22E-1 uCi/g for 95-AUG-035 and 3.38 uCi/g for 95-AUG-037. Due to the heterogeneity of the material the RPD exceeded the plus or minus 10% criterion for 95-AUG-037 for Cesium-137.

4.3 Inductively Coupled Plasma (ICP) Acid Digest

An ICP for all metals was performed using procedure LA-505-151, Rev. A-1. The results of this analysis are provided in Table 1.

Due to the high levels of Sodium the ICP samples required high dilutions. The high dilution in turn caused poor (or meaningless) spike recoveries for those elements that were either very high or close to the detection limit. RPD's were similarly affected for these elements.

The out of range standard recovery for Silicon is a result of hydrofluoric acid, present in the standard, leaching silicate from the boron silicate glass ware used for the standard prep. Hydrofluoric acid is not used in the preparation of the samples. The out of range standard recovery for Sodium is a result of normally expected contamination due to the natural abundance of this material in the environment. A few other elements had standard recoveries slightly below 90% but are the best achievable results in light of the high dilutions.

4.4 Ion Chromatography (IC)

Ion chromatography measurements were performed using procedure LA-535-105, Rev. C-2 to look for anions of Bromide, Chloride, Fluoride, Nitrite, Nitrate and Phosphate. For 95-AUG-035 only Nitrate (6.82E+5 ug/g) and Phosphate (2.54E+4 ug/g) exceeded the minimum detection limit of the instrument. 95-AUG-037 revealed Fluoride (2.02E+4 ug/g), Nitrite (1.62E+3 ug/g), Nitrate (1.02E+5 ug/g), Phosphate (2.24E+5 ug/g) and Sulfate (1.46E+3).

4.5 Inductively Coupled Plasma (ICP) Water Digest

An additional ICP for "all metals" was requested by the Historical Program. The concentrations of the water soluble metals was determined using procedure LA-505-151, Rev. D-3. The majority of metals tested for were below the detection limit. However, 95-AUG-035 revealed Sodium (1.22E+5 ug/g), Phosphorus (3.99E+3 ug/g), Silicon (280.9 ug/g) and Zinc (14.89 ug/g). 95-AUG-037 revealed Aluminum (965.3 ug/g), Iron (94.02 ug/g), Sodium (9.91E+4 ug/g), Phosphorus (3.34E+4 ug/g), Sulfur (241.5 ug/g), Silicon (73.25 ug/g) and Zinc (12.11 ug/g).

5.0 Reference

Baldwin, J.H., 1995a, 45-Day Safety Screen Results for 241-Tank T-108, Auger Samples 95-AUG-035 and 95-AUG-037, WHC-SD-DP-141, Rev. 0, Westinghouse Hanford Company, Richland, Washington.

Baldwin, J.H., 1995b, Tank 241-T-108 Auger Sampling and Analysis Plan, WHC-SD-WM-TSAP-013, REV. 0, Westinghouse Hanford Company, Richland, Washington.

Project Coordinator: John H. Baldwin

SAMPLE DATA SUMMARY

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T-108 Analytical Summary - Auger Samples 35 and 37
T-108

Table 1
(1 of 6)

CORE NUMBER: 95-AUG-035
SEGMENT #: 95-AUG-035

SEGMENT PORTION: Immediate Sampling (to check moisture loss)

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T001332	1		% Water by TGA using Mettler	%	101.4	n/a	8.30e-01	2.430	1.630	98.2	n/a	n/a	n/a
S95T001332			% Water by TGA using Mettler	%	101.0	n/a	2.480	5.60e-01	1.520	126	n/a	n/a	n/a

W Whole Segment: W Whole Segment

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T001320			% Water by TGA on Perkin Elmer	%	95.78	n/a	5.40e-01	1.120	8.30e-01	69.9	n/a	n/a	n/a
S95T001320			% Water by TGA using Mettler	%	101.3	n/a	4.320	7.70e-01	2.545	139	n/a	n/a	n/a
S95T001320			Specific Gravity-Solid/Sludges		101.8	n/a	2.640	1.950	2.295	30.1	n/a	4.90e-02	n/a
S95T001320			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
S95T001320			DSC Exotherm using Mettler	Joules/g	100.5	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S95T001321		F	Fusion with KOH	g/L	n/a	250.0	2.204	2.194	2.199	0.44	n/a	1.00e-05	n/a
S95T001321		F	Alpha of Digested Solid	uCi/g	111.1	<6.48e-04	5.20e-02	3.89e-02	4.54e-02	28.8	62.70	1.22e-03	7.1
S95T001321		F	Americium-241 by GEA	uCi/g	n/a	<6.67e-02	< 9.30e-2	<8.15e-2	n/a	n/a	n/a	6.67e-02	n/a
S95T001321		F	Cobalt-60 by GEA	uCi/g	99.71	<1.17e-02	< 1.36e-2	<1.27e-2	n/a	n/a	n/a	1.17e-02	n/a
S95T001321		F	Cesium-137 by GEA	uCi/g	95.74	<2.20e-02	6.19e-01	6.25e-01	6.22e-01	0.96	n/a	2.20e-02	6.1
S95T001321		F	Europium-154 by GEA	uCi/g	n/a	<2.84e-02	< 4.46e-2	<3.68e-2	n/a	n/a	n/a	2.84e-02	n/a
S95T001321		F	Europium-155 by GEA	uCi/g	n/a	<2.44e-02	< 2.92e-2	<2.88e-2	n/a	n/a	n/a	2.44e-02	n/a
S95T001338		I	Silver -ICP-H20 Dig/Acid	ug/g	99.55	2.10e-03	< 9.8619	<9.7656	n/a	n/a	98.09	9.860	n/a
S95T001338		I	Aluminium -ICP-H20 Dig/Acid	ug/g	99.98	-8.00e-04	< 49.3097	<48.8281	n/a	n/a	99.07	49.30	n/a
S95T001338		I	Arsenic -ICP-H20 Dig/Acid	ug/g	102.4	3.80e-03	< 49.3097	<48.8281	n/a	n/a	102.3	49.30	n/a
S95T001338		I	Boron -ICP-H20 Dig/Acid	ug/g	102.1	4.60e-03	< 49.3097	<48.8281	n/a	n/a	100.2	49.30	n/a
S95T001338		I	Barium -ICP-H20 Dig/Acid	ug/g	100.2	1.00e-03	< 49.3097	<48.8281	n/a	n/a	99.40	49.30	n/a
S95T001338		I	Beryllium -ICP-H20 Dig/Acid	ug/g	104.3	1.00e-04	< 4.9310	<4.8828	n/a	n/a	102.4	4.930	n/a
S95T001338		I	Bismuth -ICP-H20 Dig/Acid	ug/g	99.90	-2.34e-02	< 98.6193	<97.6563	n/a	n/a	97.37	98.60	n/a
S95T001338		I	Calcium -ICP-H20 Dig/Acid	ug/g	98.59	5.15e-02	< 98.6193	<97.6563	n/a	n/a	104.0	98.60	n/a
S95T001338		I	Cadmium -ICP-H20 Dig/Acid	ug/g	101.9	1.60e-03	< 9.8619	<9.7656	n/a	n/a	100.9	9.860	n/a
S95T001338		I	Cerium -ICP-H20 Dig/Acid	ug/g	102.0	4.53e-02	< 98.6193	<97.6563	n/a	n/a	103.4	98.60	n/a
S95T001338		I	Cobalt -ICP-H20 Dig/Acid	ug/g	102.6	9.00e-04	< 19.7239	<19.5313	n/a	n/a	101.2	19.70	n/a
S95T001338		I	Chromium -ICP-H20 Dig/Acid	ug/g	103.0	4.50e-03	< 9.8619	<9.7656	n/a	n/a	102.6	9.860	n/a
S95T001338		I	Copper -ICP-H20 Dig/Acid	ug/g	101.2	1.10e-03	< 9.8619	<9.7656	n/a	n/a	101.4	9.860	n/a
S95T001338		I	Iron -ICP-H20 Dig/Acid	ug/g	101.5	3.00e-04	< 49.3097	<48.8281	n/a	n/a	101.4	49.30	n/a
S95T001338		I	Potassium -ICP-H20 Dig/Acid	ug/g	100.6	1.02e-01	<295.8580	<292.968	n/a	n/a	100.5	296.0	n/a
S95T001338		I	Lanthanum -ICP-H20 Dig/Acid	ug/g	100.4	-4.40e-03	< 49.3097	<48.8281	n/a	n/a	99.73	49.30	n/a
S95T001338		I	Lithium -ICP-H20 Dig/Acid	ug/g	100.4	1.30e-03	< 9.8619	<9.7656	n/a	n/a	96.81	9.860	n/a
S95T001338		I	Magnesium -ICP-H20 Dig/Acid	ug/g	100.9	3.80e-03	< 98.6193	<97.6563	n/a	n/a	98.96	98.60	n/a
S95T001338		I	Manganese -ICP-H20 Dig/Acid	ug/g	101.5	1.00e-04	< 9.8619	<9.7656	n/a	n/a	100.8	9.860	n/a
S95T001338		I	Molybdenum -ICP-H20 Dig/Acid	ug/g	103.8	-1.20e-03	< 49.3097	<48.8281	n/a	n/a	101.9	49.30	n/a
S95T001338		I	Sodium -ICP-H20 Dig/Acid	ug/g	99.98	5.60e-01	1.21e+05	1.23e+05	1.22e+05	1.94	14.56	98.60	n/a
S95T001338		I	Neodymium -ICP-H20 Dig/Acid	ug/g	102.7	1.69e-02	< 98.6193	<97.6563	n/a	n/a	105.8	98.60	n/a
S95T001338		I	Nickel -ICP-H20 Dig/Acid	ug/g	101.0	1.60e-03	< 19.7239	<19.5313	n/a	n/a	100.5	19.70	n/a
S95T001338		I	Phosphorus -ICP-H20 Dig/Acid	ug/g	102.9	1.84e-02	4.17e+03	3.81e+03	3.99e+03	8.96	72.16	197.0	n/a
S95T001338		I	Lead -ICP-H20 Dig/Acid	ug/g	102.1	1.73e-02	< 98.6193	<97.6563	n/a	n/a	101.1	98.60	n/a

WHC-SD-WM-DP-144, REV. 1

Table 1
(2 of 6)

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T001338		I	Sulfur -ICP-H20 Dig/Acid	ug/g	101.3	3.90e-03	< 49.3097	<48.8281	n/a	n/a	101.8	49.30	n/a
S95T001338		I	Antimony -ICP-H20 Dig/Acid	ug/g	95.12	4.96e-02	<197.2387	<195.312	n/a	n/a	95.67	197.0	n/a
S95T001338		I	Selenium -ICP-H20 Dig/Acid	ug/g	101.4	1.16e-02	< 98.6193	<97.6563	n/a	n/a	102.5	98.60	n/a
S95T001338		I	Silicon -ICP-H20 Dig/Acid	ug/g	99.37	8.87e-02	304.9	256.8	280.9	17.1	98.80	49.30	n/a
S95T001338		I	Samarium -ICP-H20 Dig/Acid	ug/g	102.2	-2.15e-02	< 98.6193	<97.6563	n/a	n/a	100.4	98.60	n/a
S95T001338		I	Strontium -ICP-H20 Dig/Acid	ug/g	100.2	1.50e-03	< 9.8619	<9.7656	n/a	n/a	99.66	9.860	n/a
S95T001338		I	Titanium-ICP-H20 Dig/Acid	ug/g	99.77	-1.00e-04	< 9.8619	<9.7656	n/a	n/a	98.53	9.860	n/a
S95T001338		I	Thallium -ICP-H20 Dig/Acid	ug/g	96.44	4.51e-02	<197.2387	<195.312	n/a	n/a	95.63	197.0	n/a
S95T001338		I	Uranium -ICP-H20 Dig/Acid	ug/g	95.55	-4.00e-02	<394.4773	<390.625	n/a	n/a	92.79	394.0	n/a
S95T001338		I	Vanadium -ICP-H20 Dig/Acid	ug/g	102.9	1.90e-03	< 49.3097	<48.8281	n/a	n/a	102.0	49.30	n/a
S95T001338		I	Zinc -ICP-H20 Dig/Acid	ug/g	103.9	5.40e-03	13.74	10.48	12.11	27.0	101.6	9.860	n/a
S95T001338		I	Zirconium -ICP-H20 Dig/Acid	ug/g	100.2	-1.50e-03	< 9.8619	<9.7656	n/a	n/a	99.28	9.860	n/a
S95T001338		W	Water Digest-NO ACID Aliquot	g/L	n/a	1.000	10.14	10.24	10.19	0.98	n/a	1.00e-04	n/a
S95T001338		W	Bromide by Ion Chromatograph	ug/g	104.5	<6.32e-01	< 1.25e4	<1.24e4	n/a	n/a	102.0	1.25e+04	n/a
S95T001338		W	Chloride by IC - Dionex 4000i	ug/g	101.9	<8.30e-02	< 1.65e3	<1.63e3	n/a	n/a	100.1	1.65e+03	n/a
S95T001338		W	Fluoride by IC - Dionex 4000i	ug/g	102.2	<6.20e-02	< 1.23e3	<1.21e3	n/a	n/a	105.2	1.23e+03	n/a
S95T001338		W	Nitrite by IC - Dionex 4000i	ug/g	100.7	<5.47e-01	< 1.08e4	<1.07e4	n/a	n/a	98.20	1.08e+04	n/a
S95T001338		W	Nitrate by IC - Dionex 4000i	ug/g	103.3	<6.99e-01	6.74e+05	6.90e+05	6.82e+05	2.35	98.00	1.39e+04	n/a
S95T001338		W	Phosphate by IC - Dionex 4000i	ug/g	104.6	<5.96e-01	2.61e+04	2.47e+04	2.54e+04	5.51	103.4	1.18e+04	n/a
S95T001338		W	Sulfate by IC - Dionex 4000i	ug/g	103.5	<6.78e-01	< 1.34e4	<1.33e4	n/a	n/a	102.1	1.34e+04	n/a
S95T001402		A	Acid Dig.ICP/AA/Radchem Aliq.	g/L	n/a	1.000	10.07	10.07	10.07	0.01	n/a	1.00e-04	n/a
S95T001402		A	Silver -ICP-Acid Digest	ug/g	80.37	6.00e-04	< 5.957	<5.9450	n/a	n/a	14.18	5.960	n/a
S95T001402		A	Aluminium -ICP-Acid Digest	ug/g	100.3	2.20e-02	246.5	301.0	273.8	19.9	88.80	29.80	n/a
S95T001402		A	Arsenic -ICP-Acid Digest	ug/g	92.51	-2.70e-03	< 29.785	<29.7250	n/a	n/a	83.88	29.80	n/a
S95T001402		A	Boron -ICP-Acid Digest	ug/g	116.3	1.81e-02	< 29.785	42.99	n/a	n/a	91.03	29.80	n/a
S95T001402		A	Barium -ICP-Acid Digest	ug/g	92.79	4.00e-04	< 29.785	<29.7250	n/a	n/a	75.23	29.80	n/a
S95T001402		A	Beryllium -ICP-Acid Digest	ug/g	99.88	-2.00e-04	< 2.9785	<2.9725	n/a	n/a	82.33	2.980	n/a
S95T001402		A	Bismuth -ICP-Acid Digest	ug/g	89.82	-4.90e-03	95.13	103.3	99.21	8.22	78.62	59.60	n/a
S95T001402		A	Calcium -ICP-Acid Digest	ug/g	96.63	5.47e-01	84.56	89.67	87.11	5.87	89.01	59.60	n/a
S95T001402		A	Cadmium -ICP-Acid Digest	ug/g	91.41	5.00e-04	< 5.957	<5.9450	n/a	n/a	82.41	5.960	n/a
S95T001402		A	Cerium -ICP-Acid Digest	ug/g	95.63	3.00e-04	< 59.57	<59.4500	n/a	n/a	78.26	59.60	n/a
S95T001402		A	Cobalt -ICP-Acid Digest	ug/g	94.26	2.00e-04	< 11.914	<11.8900	n/a	n/a	82.67	11.90	n/a
S95T001402		A	Chromium -ICP-Acid Digest	ug/g	93.74	2.00e-03	< 5.957	<5.9450	n/a	n/a	82.60	5.960	n/a
S95T001402		A	Copper -ICP-Acid Digest	ug/g	93.45	3.20e-03	< 5.957	<5.9450	n/a	n/a	77.94	5.960	n/a
S95T001402		A	Iron -ICP-Acid Digest	ug/g	93.23	2.44e-02	619.2	629.4	624.3	1.63	83.41	29.80	n/a
S95T001402		A	Potassium -ICP-Acid Digest	ug/g	90.57	-6.15e-02	< 178.71	<178.350	n/a	n/a	102.0	179.0	n/a
S95T001402		A	Lanthanum -ICP-Acid Digest	ug/g	95.81	-5.00e-04	< 29.785	<29.7250	n/a	n/a	78.74	29.80	n/a
S95T001402		A	Lithium -ICP-Acid Digest	ug/g	94.49	-1.00e-03	< 5.957	<5.9450	n/a	n/a	76.75	5.960	n/a
S95T001402		A	Magnesium -ICP-Acid Digest	ug/g	90.93	2.79e-02	< 59.57	<59.4500	n/a	n/a	80.87	59.60	n/a
S95T001402		A	Manganese -ICP-Acid Digest	ug/g	91.08	0.00e+00	85.10	92.90	89.00	8.77	80.15	5.960	n/a
S95T001402		A	Molybdenum -ICP-Acid Digest	ug/g	94.21	-5.00e-04	< 29.785	<29.7250	n/a	n/a	82.56	29.80	n/a
S95T001402		A	Sodium -ICP-Acid Digest	ug/g	115.8	5.89e-02	2.47e+05	2.45e+05	2.46e+05	0.97	0.00e+00	59.60	n/a
S95T001402		A	Neodymium -ICP-Acid Digest	ug/g	95.51	3.30e-03	< 59.57	<59.4500	n/a	n/a	78.72	59.60	n/a
S95T001402		A	Nickel -ICP-Acid Digest	ug/g	93.55	4.10e-03	< 11.914	<11.8900	n/a	n/a	83.14	11.90	n/a
S95T001402		A	Phosphorus -ICP-Acid Digest	ug/g	89.30	1.08e-02	2.16e+03	6.30e+03	4.23e+03	97.7	573.3	119.0	n/a
S95T001402		A	Lead -ICP-Acid Digest	ug/g	90.44	-6.80e-03	84.45	107.4	95.92	23.9	78.95	59.60	n/a
S95T001402		A	Sulfur -ICP-Acid Digest	ug/g	88.94	4.03e-02	73.95	75.11	74.53	1.55	81.42	29.80	n/a
S95T001402		A	Antimony -ICP-Acid Digest	ug/g	86.52	1.03e-02	< 119.14	<118.900	n/a	n/a	77.29	119.0	n/a
S95T001402		A	Selenium -ICP-Acid Digest	ug/g	92.82	-2.20e-03	< 59.57	<59.4500	n/a	n/a	n/a	59.60	n/a
S95T001402		A	Silicon -ICP-Acid Digest	ug/g	300.5	1.02e-01	60.81	157.0	108.9	88.3	275.4	29.80	n/a

WHC-SD-WM-DP-141, REV. 1

Table 1
(3 of 6)

Sample#	R	A#	Analyte	Unit	Standard %	Blank		Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T001402		A	Samarium -ICP-Acid Digest	ug/g	95.74	-3.90e-03	<	59.57	<59.4500	n/a	n/a	80.30	59.60	n/a
S95T001402		A	Strontium -ICP-Acid Digest	ug/g	93.94	3.00e-04	<	5.957	<5.9450	n/a	n/a	78.06	5.960	n/a
S95T001402		A	Titanium-ICP-Acid Digest	ug/g	93.08	8.00e-04	<	5.957	<5.9450	n/a	n/a	78.73	5.960	n/a
S95T001402		A	Thallium -ICP-Acid Digest	ug/g	90.27	2.23e-02	<	119.14	<118.900	n/a	n/a	77.42	119.0	n/a
S95T001402		A	Uranium -ICP-Acid Digest	ug/g	95.78	-1.99e-02	<	238.28	<237.800	n/a	n/a	89.59	238.0	n/a
S95T001402		A	Vanadium -ICP-Acid Digest	ug/g	93.07	-1.10e-03	<	29.785	<29.7250	n/a	n/a	80.41	29.80	n/a
S95T001402		A	Zinc -ICP-Acid Digest	ug/g	89.13	2.49e-02		24.91	25.27	25.09	1.44	82.16	5.960	n/a
S95T001402		A	Zirconium -ICP-Acid Digest	ug/g	94.60	-1.60e-03	<	5.957	<5.9450	n/a	n/a	79.78	5.960	n/a

T-108 Analytical Summary - Auger Samples 35 and 37
T-108

CORE NUMBER: 95-AUG-037
SEGMENT #: 95-AUG-037

SEGMENT PORTION: Immediate Sampling (to check moisture loss)

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T001333	1		% Water by TGA using Mettler	%	101.4	n/a	39.36	24.44	31.90	46.8	n/a	n/a	n/a
S95T001333			% Water by TGA using Mettler	%	101.3	n/a	19.66	1.680	10.67	169	n/a	n/a	n/a

W Whole Segment: W Whole Segment

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T001323			% Water by TGA using Mettler	%	101.4	n/a	35.93	38.68	37.30	7.37	n/a	n/a	n/a
S95T001323			Specific Gravity-Solid/Sludges		101.8	n/a	2.400	n/a	n/a	n/a	n/a	4.90e-02	n/a
S95T001323			DSC Exotherm on Perkin Elmer	Joules/g	95.33	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S95T001323			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
S95T001324	F		Fusion with KOH	g/L	n/a	250.0	2.228	2.246	2.237	0.80	n/a	1.00e-05	n/a
S95T001324	F		Alpha of Digested Solid	uCi/g	104.3	<5.85e-04	1.15e-01	7.47e-02	9.49e-02	42.5	82.10	6.66e-03	11.5
S95T001324	F		Americium-241 by GEA	uCi/g	n/a	<6.67e-02	< 1.72e-1	<1.44e-1	n/a	n/a	n/a	6.67e-02	n/a
S95T001324	F		Cobalt-60 by GEA	uCi/g	99.71	<1.17e-02	< 1.39e-2	<1.28e-2	n/a	n/a	n/a	1.17e-02	n/a
S95T001324	F		Cesium-137 by GEA	uCi/g	95.74	<2.20e-02	3.770	2.990	3.380	23.1	n/a	2.20e-02	2.38
S95T001324	F		Europium-154 by GEA	uCi/g	n/a	<2.84e-02	< 5.27e-2	<4.79e-2	n/a	n/a	n/a	2.84e-02	n/a
S95T001324	F		Europium-155 by GEA	uCi/g	n/a	<2.44e-02	< 5.55e-2	<4.90e-2	n/a	n/a	n/a	2.44e-02	n/a
S95T001339	I		Silver -ICP-H20 Dig/Acid	ug/g	99.55	2.10e-03	< 9.7494	<9.8001	n/a	n/a	99.49	9.750	n/a
S95T001339	I		Aluminium -ICP-H20 Dig/Acid	ug/g	99.98	-8.00e-04	960.3	970.3	965.3	1.04	96.92	48.70	n/a
S95T001339	I		Arsenic -ICP-H20 Dig/Acid	ug/g	102.4	3.80e-03	< 48.7472	<49.0004	n/a	n/a	101.9	48.70	n/a
S95T001339	I		Boron -ICP-H20 Dig/Acid	ug/g	102.1	4.60e-03	< 48.7472	<49.0004	n/a	n/a	103.3	48.70	n/a
S95T001339	I		Barium -ICP-H20 Dig/Acid	ug/g	100.2	1.00e-03	< 48.7472	<49.0004	n/a	n/a	99.54	48.70	n/a
S95T001339	I		Beryllium -ICP-H20 Dig/Acid	ug/g	104.3	1.00e-04	< 4.8747	<4.9000	n/a	n/a	103.5	4.870	n/a
S95T001339	I		Bismuth -ICP-H20 Dig/Acid	ug/g	99.90	-2.34e-02	< 97.4944	<98.0008	n/a	n/a	101.9	97.50	n/a
S95T001339	I		Calcium -ICP-H20 Dig/Acid	ug/g	98.59	5.15e-02	< 97.4944	<98.0008	n/a	n/a	102.8	97.50	n/a
S95T001339	I		Cadmium -ICP-H20 Dig/Acid	ug/g	101.9	1.60e-03	< 9.7494	<9.8001	n/a	n/a	102.4	9.750	n/a
S95T001339	I		Cerium -ICP-H20 Dig/Acid	ug/g	102.0	4.53e-02	< 97.4944	<98.0008	n/a	n/a	101.6	97.50	n/a
S95T001339	I		Cobalt -ICP-H20 Dig/Acid	ug/g	102.6	9.00e-04	< 19.4989	<19.6002	n/a	n/a	102.5	19.50	n/a
S95T001339	I		Chromium -ICP-H20 Dig/Acid	ug/g	103.0	4.50e-03	10.08	<9.8001	n/a	n/a	103.2	9.750	n/a
S95T001339	I		Copper -ICP-H20 Dig/Acid	ug/g	101.2	1.10e-03	< 9.7494	<9.8001	n/a	n/a	102.1	9.750	n/a
S95T001339	I		Iron -ICP-H20 Dig/Acid	ug/g	101.5	3.00e-04	82.54	105.5	94.02	24.4	103.2	48.70	n/a
S95T001339	I		Potassium -ICP-H20 Dig/Acid	ug/g	100.6	1.02e-01	<292.4832	<294.002	n/a	n/a	106.9	292.0	n/a
S95T001339	I		Lanthanum -ICP-H20 Dig/Acid	ug/g	100.4	-4.40e-03	< 48.7472	<49.0004	n/a	n/a	100.7	48.70	n/a
S95T001339	I		Lithium -ICP-H20 Dig/Acid	ug/g	100.4	1.30e-03	< 9.7494	<9.8001	n/a	n/a	97.68	9.750	n/a
S95T001339	I		Magnesium -ICP-H20 Dig/Acid	ug/g	100.9	3.80e-03	< 97.4944	<98.0008	n/a	n/a	100.7	97.50	n/a
S95T001339	I		Manganese -ICP-H20 Dig/Acid	ug/g	101.5	1.00e-04	< 9.7494	<9.8001	n/a	n/a	103.2	9.750	n/a
S95T001339	I		Molybdenum -ICP-H20 Dig/Acid	ug/g	103.8	-1.20e-03	< 48.7472	<49.0004	n/a	n/a	103.1	48.70	n/a
S95T001339	I		Sodium -ICP-H20 Dig/Acid	ug/g	99.98	5.60e-01	9.84e+04	9.97e+04	9.91e+04	1.27	99.17	97.50	n/a
S95T001339	I		Neodymium -ICP-H20 Dig/Acid	ug/g	102.7	1.69e-02	< 97.4944	<98.0008	n/a	n/a	106.7	97.50	n/a
S95T001339	I		Nickel -ICP-H20 Dig/Acid	ug/g	101.0	1.60e-03	< 19.4989	<19.6002	n/a	n/a	102.5	19.50	n/a
S95T001339	I		Phosphorus -ICP-H20 Dig/Acid	ug/g	102.9	1.84e-02	3.36e+04	3.32e+04	3.34e+04	1.39	183.4	195.0	n/a
S95T001339	I		Lead -ICP-H20 Dig/Acid	ug/g	102.1	1.73e-02	< 97.4944	<98.0008	n/a	n/a	106.1	97.50	n/a
S95T001339	I		Sulfur -ICP-H20 Dig/Acid	ug/g	101.3	3.90e-03	240.9	242.1	241.5	0.51	100.4	48.70	n/a

WHC-SD-WM-DP-141, REV. 1

Table 1
(5 of 6)

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T001339		I	Antimony -ICP-H2O Dig/Acid	ug/g	95.12	4.96e-02	<194.9888	<196.001	n/a	n/a	98.39	195.0	n/a
S95T001339		I	Selenium -ICP-H2O Dig/Acid	ug/g	101.4	1.16e-02	< 97.4944	<98.0008	n/a	n/a	95.69	97.50	n/a
S95T001339		I	Silicon -ICP-H2O Dig/Acid	ug/g	99.37	8.87e-02	69.37	77.13	73.25	10.6	106.7	48.70	n/a
S95T001339		I	Samarium -ICP-H2O Dig/Acid	ug/g	102.2	-2.15e-02	< 97.4944	<98.0008	n/a	n/a	101.0	97.50	n/a
S95T001339		I	Strontium -ICP-H2O Dig/Acid	ug/g	100.2	1.50e-03	< 9.7494	<9.8001	n/a	n/a	100.1	9.750	n/a
S95T001339		I	Titanium-ICP-H2O Dig/Acid	ug/g	99.77	-1.00e-04	< 9.7494	<9.8001	n/a	n/a	99.10	9.750	n/a
S95T001339		I	Thallium -ICP-H2O Dig/Acid	ug/g	96.44	4.51e-02	<194.9888	<196.001	n/a	n/a	92.02	195.0	n/a
S95T001339		I	Uranium -ICP-H2O Dig/Acid	ug/g	95.55	-4.00e-02	931.6	814.9	873.2	13.4	91.11	390.0	n/a
S95T001339		I	Vanadium -ICP-H2O Dig/Acid	ug/g	102.9	1.90e-03	< 48.7472	<49.0004	n/a	n/a	103.5	48.70	n/a
S95T001339		I	Zinc -ICP-H2O Dig/Acid	ug/g	103.9	5.40e-03	14.31	15.46	14.89	7.70	103.6	9.750	n/a
S95T001339		I	Zirconium -ICP-H2O Dig/Acid	ug/g	100.2	-1.50e-03	< 9.7494	<9.8001	n/a	n/a	100.4	9.750	n/a
S95T001339		W	Water Digest-NO ACID Aliquot	g/L	n/a	1.000	10.26	10.20	10.23	0.52	n/a	1.00e-04	n/a
S95T001339		W	Bromide by Ion Chromatograph	ug/g	104.5	<6.32e-01	< 1.29e3	<1.30e3	n/a	n/a	n/a	1.29e+03	n/a
S95T001339		W	Chloride by IC - Dionex 4000i	ug/g	101.9	<8.30e-02	< 1.70e2	<1.70e2	n/a	n/a	n/a	170.0	n/a
S95T001339		W	Fluoride by IC - Dionex 4000i	ug/g	102.2	<6.20e-02	1.98e+04	2.06e+04	2.02e+04	3.96	n/a	1.21e+03	n/a
S95T001339		W	Nitrite by IC - Dionex 4000i	ug/g	100.7	<5.47e-01	1.61e+03	1.62e+03	1.62e+03	0.62	n/a	1.12e+03	n/a
S95T001339		W	Nitrate by IC - Dionex 4000i	ug/g	103.3	<6.99e-01	1.09e+05	9.56e+04	1.02e+05	13.1	n/a	1.37e+04	n/a
S95T001339		W	Phosphate by IC - Dionex 4000i	ug/g	104.6	<5.96e-01	2.18e+05	2.31e+05	2.24e+05	5.79	n/a	1.17e+04	n/a
S95T001339		W	Sulfate by IC - Dionex 4000i	ug/g	103.5	<6.78e-01	1.40e+03	1.52e+03	1.46e+03	8.22	n/a	1.39e+03	n/a
S95T001403		A	Acid Dig.ICP/AA/Radchem Aliq.	g/L	n/a	1.000	10.05	10.01	10.03	0.44	n/a	1.00e-04	n/a
S95T001403		A	Silver -ICP-Acid Digest	ug/g	80.37	6.00e-04	< 9.95	<9.9940	n/a	n/a	65.06	9.950	n/a
S95T001403		A	Aluminium -ICP-Acid Digest	ug/g	100.3	2.20e-02	4.24e+03	4.37e+03	4.31e+03	2.84	91.37	49.80	n/a
S95T001403		A	Arsenic -ICP-Acid Digest	ug/g	92.51	-2.70e-03	< 49.75	<49.9700	n/a	n/a	101.1	49.80	n/a
S95T001403		A	Boron -ICP-Acid Digest	ug/g	116.3	1.81e-02	351.5	346.2	348.9	1.53	97.54	49.80	n/a
S95T001403		A	Barium -ICP-Acid Digest	ug/g	92.79	4.00e-04	< 49.75	<49.9700	n/a	n/a	94.16	49.80	n/a
S95T001403		A	Beryllium -ICP-Acid Digest	ug/g	99.88	-2.00e-04	< 4.975	<4.9970	n/a	n/a	99.91	4.980	n/a
S95T001403		A	Bismuth -ICP-Acid Digest	ug/g	89.82	-4.90e-03	1.13e+03	1.10e+03	1.11e+03	2.93	98.18	99.50	n/a
S95T001403		A	Calcium -ICP-Acid Digest	ug/g	96.63	5.47e-01	245.9	287.6	266.8	15.6	100.6	99.50	n/a
S95T001403		A	Cadmium -ICP-Acid Digest	ug/g	91.41	5.00e-04	< 9.95	<9.9940	n/a	n/a	99.79	9.950	n/a
S95T001403		A	Cerium -ICP-Acid Digest	ug/g	95.63	3.00e-04	< 99.5	<99.9400	n/a	n/a	98.49	99.50	n/a
S95T001403		A	Cobalt -ICP-Acid Digest	ug/g	94.26	2.00e-04	< 19.9	<19.9880	n/a	n/a	100.6	19.90	n/a
S95T001403		A	Chromium -ICP-Acid Digest	ug/g	93.74	2.00e-03	31.17	33.79	32.48	8.06	103.4	9.950	n/a
S95T001403		A	Copper -ICP-Acid Digest	ug/g	93.45	3.20e-03	< 9.95	<9.9940	n/a	n/a	97.12	9.950	n/a
S95T001403		A	Iron -ICP-Acid Digest	ug/g	93.23	2.44e-02	1.20e+04	1.11e+04	1.16e+04	7.79	90.11	49.80	n/a
S95T001403		A	Potassium -ICP-Acid Digest	ug/g	90.57	-6.15e-02	< 298.5	<299.820	n/a	n/a	105.1	298.0	n/a
S95T001403		A	Lanthanum -ICP-Acid Digest	ug/g	95.81	-5.00e-04	< 49.75	<49.9700	n/a	n/a	97.24	49.80	n/a
S95T001403		A	Lithium -ICP-Acid Digest	ug/g	94.49	-1.00e-03	< 9.95	<9.9940	n/a	n/a	95.82	9.950	n/a
S95T001403		A	Magnesium -ICP-Acid Digest	ug/g	90.93	2.79e-02	< 99.5	<99.9400	n/a	n/a	102.1	99.50	n/a
S95T001403		A	Manganese -ICP-Acid Digest	ug/g	91.08	0.00e+00	281.8	267.6	274.7	5.16	94.48	9.950	n/a
S95T001403		A	Molybdenum -ICP-Acid Digest	ug/g	94.21	-5.00e-04	< 49.75	<49.9700	n/a	n/a	100.1	49.80	n/a
S95T001403		A	Sodium -ICP-Acid Digest	ug/g	115.8	5.89e-02	2.01e+05	2.00e+05	2.00e+05	0.31	0.00e+00	99.50	n/a
S95T001403		A	Neodymium -ICP-Acid Digest	ug/g	95.51	3.30e-03	< 99.5	<99.9400	n/a	n/a	100.3	99.50	n/a
S95T001403		A	Nickel -ICP-Acid Digest	ug/g	93.55	4.10e-03	< 19.9	<19.9880	n/a	n/a	99.83	19.90	n/a
S95T001403		A	Phosphorus -ICP-Acid Digest	ug/g	89.30	1.08e-02	7.17e+04	6.95e+04	7.06e+04	3.00	65.86	199.0	n/a
S95T001403		A	Lead -ICP-Acid Digest	ug/g	90.44	-6.80e-03	1.02e+03	918.7	970.0	10.6	99.26	99.50	n/a
S95T001403		A	Sulfur -ICP-Acid Digest	ug/g	88.94	4.03e-02	849.8	485.8	667.8	54.5	99.25	49.80	n/a
S95T001403		A	Antimony -ICP-Acid Digest	ug/g	86.52	1.03e-02	< 199	<199.880	n/a	n/a	93.47	199.0	n/a
S95T001403		A	Selenium -ICP-Acid Digest	ug/g	92.82	-2.20e-03	< 99.5	<99.9400	n/a	n/a	24.63	99.50	n/a
S95T001403		A	Silicon -ICP-Acid Digest	ug/g	300.5	1.02e-01	2.99e+03	2.81e+03	2.90e+03	6.31	96.32	49.80	n/a
S95T001403		A	Samarium -ICP-Acid Digest	ug/g	95.74	-3.90e-03	< 99.5	<99.9400	n/a	n/a	98.90	99.50	n/a

Table 1
(6 of 6)

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T001403		A	Strontium -ICP-Acid Digest	ug/g	93.94	3.00e-04	35.61	38.87	37.24	8.75	98.44	9.950	n/a
S95T001403		A	Titanium-ICP-Acid Digest	ug/g	93.08	8.00e-04	< 9.95	<9.9940	n/a	n/a	95.51	9.950	n/a
S95T001403		A	Thallium -ICP-Acid Digest	ug/g	90.27	2.23e-02	< 199	<199.880	n/a	n/a	95.93	199.0	n/a
S95T001403		A	Uranium -ICP-Acid Digest	ug/g	95.78	-1.99e-02	1.99e+03	2.07e+03	2.03e+03	3.73	96.89	398.0	n/a
S95T001403		A	Vanadium -ICP-Acid Digest	ug/g	93.07	-1.10e-03	< 49.75	<49.9700	n/a	n/a	100.0	49.80	n/a
S95T001403		A	Zinc -ICP-Acid Digest	ug/g	89.13	2.49e-02	73.20	86.84	80.02	17.0	98.78	9.950	n/a
S95T001403		A	Zirconium -ICP-Acid Digest	ug/g	94.60	-1.60e-03	16.11	15.59	15.85	3.31	96.78	9.950	n/a

Table 2
(1 of 2)

T-108 Extrusion Summary - Auger Samples 35 and 37
T-108

CORE NUMBER: 95-AUG-035
SEGMENT #: 95-AUG-035

SEGMENT PORTION: W Whole Segment

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T001293			Solids Recovered - Weight	g	n/a	n/a	43.20	n/a	n/a	n/a	n/a	1.00e-02	n/a
S95T001293			Solids Recovered - Volume	mL	n/a	n/a	30.00	n/a	n/a	n/a	n/a	1.00e-01	n/a
S95T001293			Organic Vol Present / hotcell	mL	n/a	n/a	0.00e+00	n/a	n/a	n/a	n/a	n/a	n/a
S95T001293			Notebook with source data		n/a	n/a	N-1192	n/a	n/a	n/a	n/a	n/a	n/a
S95T001293			Liner Liquid Recoverd - Weight	g	n/a	n/a	0.00e+00	n/a	n/a	n/a	n/a	n/a	n/a
S95T001293			Extrusion of a Segment		n/a	n/a	complete	n/a	n/a	n/a	n/a	n/a	n/a
S95T001293			Drainable Liquid Recoverd - Wt	g	n/a	n/a	0.00e+00	n/a	n/a	n/a	n/a	n/a	n/a
S95T001293			Drainable Liquid Recovrd - Vol	mL	n/a	n/a	0.00e+00	n/a	n/a	n/a	n/a	n/a	n/a

13

WHC-SD-WM-DP-141, REV. 1

Table 2
(2 of 2)

T-108 Extrusion Summary - Auger Samples 35 and 37
T-108

CORE NUMBER: 95-AUG-037
SEGMENT #: 95-AUG-037

SEGMENT PORTION: W Whole Segment

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T001294			Solids Recovered - Weight	g	n/a	n/a	30.50	n/a	n/a	n/a	n/a	1.00e-02	n/a
S95T001294			Solids Recovered - Volume	mL	n/a	n/a	30.00	n/a	n/a	n/a	n/a	1.00e-01	n/a
S95T001294			Organic Vol Present / hotcell	mL	n/a	n/a	0.00e+00	n/a	n/a	n/a	n/a	n/a	n/a
S95T001294			Notebook with source data		n/a	n/a	N-1192	n/a	n/a	n/a	n/a	n/a	n/a
S95T001294			Liner Liquid Recoverd - Weight	g	n/a	n/a	0.00e+00	n/a	n/a	n/a	n/a	n/a	n/a
S95T001294			Extrusion of a Segment		n/a	n/a	complete	n/a	n/a	n/a	n/a	n/a	n/a
S95T001294			Drainable Liquid Recoverd - Wt	g	n/a	n/a	0.00e+00	n/a	n/a	n/a	n/a	n/a	n/a
S95T001294			Drainable Liquid Recovrd - Vol	mL	n/a	n/a	0.00e+00	n/a	n/a	n/a	n/a	n/a	n/a

222-S Analytical Laboratory
P.O. BOX 1970 T6-06, Richland, WA 99352
PHONE: (509) 373-4225/FAX: (509) 373-0545

ACKNOWLEDGMENT OF SAMPLES RECEIVED

WHC-SD-WM-DP-141, REV. 1

Tank Characterization Program
PO Box 1970
Richland, WA 99352
Attn: John Kristofzski

Customer Code: TCP
PO#: MDR21
Group#: 95000097
Project#: T-108
Proj Mgr: JOHN BALDWIN
Phone: 373-4533

The following samples were received from you on 07/21/95. They have been scheduled for the tests listed beside each sample. If this information is incorrect, please contact your service representative. Thank you for using 222-S Analytical Laboratory.

Sample#	Sample Id	Matrix	Sample Date
S95T001293	T-108 95-AUG-035 extrusion	Solid, or handle as if solid	07/19/95
	DLIQVOL1 DLIQWT01 EST.G/ML EXTRUD01 LLIQWT01		
	NOTEBOOK ORGVOL01 PCREVIEW SLDVOL01 SLDWT-01		
S95T001319	T-108 95-AUG-035 J# 7369	Solid, or handle as if solid	07/21/95
	HOLDPJC HOMGNZ01		
S95T001320	T-108 95-AUG-035 V7284	Solid, or handle as if solid	07/21/95
	DOSE-01 DSC-01 DSC-02 HOMGNZ01 SPG-02		
	TGA-01 TGA-03		
S95T001321	T-108 95-AUG-035 fus	Solid, or handle as if solid	07/21/95
	@ALPHA01 @GEA-02 DOSE-02 FUSION01		
,T001332	T-108 95-AUG-035 IMM TGA v7279	Solid, or handle as if solid	07/24/95
	DOSE-01 HOMGNZ01 TGA-01 TGA-01		
S95T001335	T-108 95-AUG-035 archive v7428	Solid, or handle as if solid	07/24/95
	ARCHIV01		
S95T001338	T-108 95-AUG-035 H2O	Solid, or handle as if solid	07/21/95
	@IC-01 @ICP-I01 DOSE-02 H2ODIG01		
S95T001402	T108 95-AUG-035 ACID DIGEST	Solid, or handle as if solid	07/21/95
	@ICP-A01 ACIDIG01 DOSE-02		

Test Acronym Description

Test Acronym	Description
@ALPHA01	Alpha of Digested Solid
@GEA-02	GEA:Cs137,Co60,Eu154-155,Am241
@IC-01	Anions by IC - Dionex 4000i
@ICP-A01	ICP (Acid Digest) All Metals
@ICP-I01	ICP (H2O/Acid) All Metals
ACIDIG01	Acid Dig.ICP/AA/Radchem Aliq.
ARCHIV01	Archive aliq of sample/hotcell
DLIQVOL1	Drainable Liquid Recovrd - Vol
DLIQWT01	Drainable Liquid Recoverd - Wt
DOSE-01	Dose Rate(hotcell) in mrad/hr
DOSE-02	Dose Rate(samp prep)in mrad/hr

Tank Characterization Program
PO Box 1970
Richland, WA 99352
Attn: John Kristofzski

Customer Code: TCP
PO#: MDR21
Group#: 95000097
Project#: T-108
Proj Mgr: JOHN BALDWIN
Phone: 373-4533

WHC-SD-WM-DP-141, REV. 1

Test Acronym Description

Test Acronym	Description
DSC-01	DSC Exotherm using Mettler
DSC-02	DSC Exotherm Dry Calculated
EST.G/ML	Estimated g/mL - Calculated
EXTRUD01	Extrusion of a Segment
FUSION01	Fusion with KOH
H2ODIG01	Water Digest-NO ACID Aliquot
HOLDPJC	Hold for Proj Coord Attention
HOMGNZ01	Homogenize Sample
LLIQWT01	Liner Liquid Recoverd - Weight
NOTEBOOK	Notebook with source data
ORGVOL01	Organic Vol Present / hotcell
PCREVIEW	Review by Project Coordinator
SLDVOL01	Solids Recovered - Volume
SLDWT-01	Solids Recovered - Weight
SPG-02	Specific Gravity-Solid/Sludges
TGA-01	% Water by TGA using Mettler
TGA-03	% Water by TGA on Perkin Elmer

222-S Analytical Laboratory
P.O. BOX 1970 T6-06, Richland, WA 99352
PHONE: (509) 373-4225/FAX: (509) 373-0545

ACKNOWLEDGMENT OF SAMPLES RECEIVED

WHC-SD-WM-DP-141, REV. 1

Tank Characterization Program
PO Box 1970
Richland, WA 99352
Attn: John Kristofzski

Customer Code: TCP
PO#: MDR21
Group#: 95000099
Project#: T-108
Proj Mgr: JOHN BALDWIN
Phone: 373-4533

The following samples were received from you on 07/21/95. They have been scheduled for the tests listed beside each sample. If this information is incorrect, please contact your service representative. Thank you for using 222-S Analytical Laboratory.

Sample#	Sample Id	Tests Scheduled	Matrix	Sample Date
S95T001294	T-108 95-AUG-037 extrusion	DLIQVOL1 DLIQWT01 EST.G/ML EXTRUD01 LLIQWT01 NOTEBOOK ORGVOL01 PCREVIEW SLDVOL01 SLDWT-01	Solid, or handle as if solid	07/21/95
S95T001322	T-108 95-AUG-037 J# 7370	HOLDPJC HOMGNZ01	Solid, or handle as if solid	07/21/95
S95T001323	T-108 95-AUG-037 V7285 DIRECT	DOSE-01 DSC-02 DSC-03 HOMGNZ01 SPG-02 TGA-01	Solid, or handle as if solid	07/21/95
S95T001324	T-108 95-AUG-037 FUS	@ALPHA01 @GEA-02 DOSE-02 FUSION01	Solid, or handle as if solid	07/21/95
,T001333	T-108 95-AUG-037 IMM TGA v7280	DOSE-01 HOMGNZ01 TGA-01 TGA-01	Solid, or handle as if solid	07/24/95
S95T001334	T-108 95-AUG-037 archive v7429	ARCHIV01	Solid, or handle as if solid	07/24/95
S95T001339	T-108 95-AUG-037 H2O	@IC-01 @ICP-I01 DOSE-02 H2ODIG01	Solid, or handle as if solid	07/21/95
S95T001403	T-108 95-AUG-037 ACID DIGEST	@ICP-A01 ACIDIG01 DOSE-02	Solid, or handle as if solid	07/21/95

Test Acronym Description

Test Acronym	Description
@ALPHA01	Alpha of Digested Solid
@GEA-02	GEA:Cs137,Co60,Eu154-155,Am241
@IC-01	Anions by IC - Dionex 4000i
@ICP-A01	ICP (Acid Digest) All Metals
@ICP-I01	ICP (H2O/Acid) All Metals
ACIDIG01	Acid Dig.ICP/AA/Radchem Aliq.
ARCHIV01	Archive aliq of sample/hotcell
DLIQVOL1	Drainable Liquid Recovrd - Vol
DLIQWT01	Drainable Liquid Recoverd - Wt
DOSE-01	Dose Rate(hotcell) in mrad/hr
DOSE-02	Dose Rate(samp prep)in mrad/hr

Tank Characterization Program
PO Box 1970
Richland, WA 99352
Attn: John Kristofzski

WHC-SD-WM-DP-141, REV. 1

Customer Code: TCP
PO#: MDR21
Group#: 95000099
Project#: T-108
Proj Mgr: JOHN BALDWIN
Phone: 373-4533

Test Acronym Description

Test Acronym	Description
DSC-02	DSC Exotherm Dry Calculated
DSC-03	DSC Exotherm on Perkin Elmer
EST.G/ML	Estimated g/mL - Calculated
EXTRUD01	Extrusion of a Segment
FUSION01	Fusion with KOH
H2ODIG01	Water Digest-NO ACID Aliquot
HOLDPJC	Hold for Proj Coord Attention
HOMGNZ01	Homogenize Sample
LLIQWT01	Liner Liquid Recoverd - Weight
NOTEBOOK	Notebook with source data
ORGVOL01	Organic Vol Present / hotcell
PCREVIEW	Review by Project Coordinator
SLDVOL01	Solids Recovered - Volume
SLDWT-01	Solids Recovered - Weight
SPG-02	Specific Gravity-Solid/Sludges
TGA-01	% Water by TGA using Mettler

CHAIN OF CUSTODY FORMS

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CHAIN-OF-CUSTODY RECORD FOR AUGER SAMPLING

(1) Shipment Number 200W-08-TF (2) Sample Number 95-AUG-035 (3) Supervisor James Sickels

(4) Tank T-108 (5) Riser 5 (6) Cask Serial Number C 1016

Radiation Survey Data:	(7) FIELD	(31) LABORATORY
Over Top Dose Rate	<0.5 mR/hr	<0.5 mR/hr
Side Dose Rate	<0.5 mR/hr	<0.5 mR/hr
Bottom Dose Rate	<0.5 mR/hr	<0.5 mR/hr
Smearable Contamination	<20 dpm/100cm² (Alpha)	<20 D/M/100 cm² (Alpha)
	<1000 dpm/100cm² (Beta-Gamma)	<1K D/M/100 cm² (Beta-Gamma)
RCT*	(Signature)	RCT* (Signature)

(8) Shipment Description

A. Work Package Number	WS-95-0107
B. Cask Seal Number	1036
C. Date and Time Sample Removed from Tank	7-19-95 0815
D. Expected Liquid Content	10%
E. Expected Solid Content	90%
F. Dose Rate Through Drill String	<.5 mR/hr
G. Expected Sample Length	9 3/4"

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

(10) Field Comments

(32) Laboratory Comments

(11) Point of Origin	(12) Destination	(13) Sender Name (Sign and PRINT)	(14) Date/Time	(15) Sender Comments
241-T-108	222s Labs	James Sickels	7-21-95 10:15	

(17) Relinquished By (Sign and PRINT)	(18) Received By (Sign and PRINT)	(19) Date/Time	(20) Receiver Comments
James Sickels		7-21-95 10:15	

(21) Relinquished By (Sign and PRINT)	(22) Received By (Sign and PRINT)	(23) Date/Time	(24) Receiver Comments
		7-21-95 1120	

(25) Relinquished By (Sign and PRINT)	(26) Received By (Sign and PRINT)	(27) Date/Time	(28) Receiver Comments

(16) Seal Intact Upon Release?	(29) Seal Intact Upon Receipt?	(30) Seal Data Consistent with this Record?		
		Shipment No.	Cask Seal No.	Sample No.
☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No

DISTRIBUTION: White - Office of Sample Management Yellow - Recipient of Sample Pink - Waste Tank Sampling, F7-12 Goldenrod - Tank Farm Operations, T4-01 BC-8001-326 (03/94)

WHC-SD-WM-DP-141, REV. 1

07/21/95 13:06 509 373 1432 001

GP 96
595T 1.5

CHAIN-OF-CUSTODY RECORD FOR AUGER SAMPLING

COPY

(1) Shipment Number 200W-08-TF (2) Sample Number 95-Aug-36 (3) Supervisor James Sickels

(4) Tank T-108 (5) Riser 6 (6) Cask Serial Number C-1032

Radiation Survey Data:	(7) FIELD	(31) LABORATORY
Over Top Dose Rate	<0.5 mR/hr	<0.5 mR/hr
Side Dose Rate	<0.5 mR/hr	<0.5 mR/hr
Bottom Dose Rate	<0.5 mR/hr	<0.5 mR/hr
Smearable Contamination	<20 /100 cm² (Alpha)	<20 D/m/100 cm² (Alpha)
	<1000 /100 cm² (Beta-Gamma)	<1 kD/m/100 cm² (Beta-Gamma)
RCT*	[signature] (Signature)	RCT* [signature] (Signature)

(8) Shipment Description

A. Work Package Number	WS-95-0107
B. Cask Seal Number	2503
C. Date and Time Sample Removed from Tank	7-20-95 0335A
D. Expected Liquid Content	10%
E. Expected Solid Content	90%
F. Dose Rate Through Drill String	<.5 mR/hr
G. Expected Sample Length	15"

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

21

(10) Field Comments

(32) Laboratory Comments

(11) Point of Origin	(12) Destination	(13) Sender Name (Sign and PRINT)	(14) Date/Time	(15) Sender Comments
241-T-108	222 S Labs	James Sickels [signature]	7-21-95 10:15 A	
(17) Relinquished By (Sign and PRINT)		(18) Received By (Sign and PRINT)	(19) Date/Time	(20) Receiver Comments
[signature] James Sickels		[signature] James R Fechaty	7/21/95 10:15 A	
(21) Relinquished By (Sign and PRINT)		(22) Received By (Sign and PRINT)	(23) Date/Time	(24) Receiver Comments
[signature] James R Fechaty			7-21-95 (1115)	
(25) Relinquished By (Sign and PRINT)		(26) Received By (Sign and PRINT)	(27) Date/Time	(28) Receiver Comments

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

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

(30) Seal Data Consistent with this Record?

Shipment No. ☒ Yes ☐ No

Cask Seal No. ☒ Yes ☐ No

Sample No. ☒ Yes ☐ No

DISTRIBUTION: White - Office of Sample Management Yellow - Recipient of Sample Pink - Waste Tank Sampling, F7-12 Goldenrod - Tank Farm Operations, T4-01 BC-6001-328 (03/94)

WHC-SD-WM-DP-141, REV. 1

002 509 373 1432 13:07 07/21/95

GP99 595T 12.4

CHAIN-OF-CUSTODY RECORD FOR AUGER SAMPLING

COPY

(1) Shipment Number 200W-08-TF (2) Sample Number 95-AUG-37 (3) Supervisor James Sickels

(4) Tank T-108 (5) Riser 2 (6) Cask Serial Number C-1020

Radiation Survey Data:	(7) FIELD	(31) LABORATORY
Over Top Dose Rate	<0.5 mR/hr	0.5
Side Dose Rate	<0.5 mR/hr	0.5
Bottom Dose Rate	<0.5 mR/hr	0.5
Smearable Contamination	<20 dpm/100cm² (Alpha)	<20 D/M/100cm² (Alpha)
	<1000/100cm² (Beta-Gamma)	<1K D/M/100cm² (Beta-Gamma)
RCT*	[signature] (Signature)	SN [signature] (Signature)

(8) Shipment Description	
A. Work Package Number	WS-95-0107
B. Cask Seal Number	2504
C. Date and Time Sample Removed from Tank	7-21-95 5:45 AM
D. Expected Liquid Content	10%
E. Expected Solid Content	90%
F. Dose Rate Through Drill String	1 mR/hr
G. Expected Sample Length	15"

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

22

(10) Field Comments

(32) Laboratory Comments

(11) Point of Origin	(12) Destination	(13) Sender Name (Sign and PRINT)	(14) Date/Time	(15) Sender Comments
241-T-108	222s Labs	James Sickels [signature]	7-21-95 10:15 A	
(17) Relinquished By (Sign and PRINT)		(18) Received By (Sign and PRINT)	(19) Date/Time	(20) Receiver Comments
James Sickels [signature]		James R. Fenhartz [signature] James Fenhartz	7-21-95 10:15 A	
(21) Relinquished By (Sign and PRINT)		(22) Received By (Sign and PRINT)	(23) Date/Time	(24) Receiver Comments
James R. Fenhartz [signature]		E E Dubes [signature] E E Dubes	7-21-95 1105	
(25) Relinquished By (Sign and PRINT)		(26) Received By (Sign and PRINT)	(27) Date/Time	(28) Receiver Comments

(16) Seal Intact Upon Release? ☑ Yes ☐ No

(29) Seal Intact Upon Receipt? ☑ Yes ☐ No

(30) Seal Data Consistent with this Record?

Shipment No. ☑ Yes ☐ No

Cask Seal No. ☑ Yes ☐ No

Sample No. ☑ Yes ☐ No

DISTRIBUTION: White - Office of Sample Management Yellow - Recipient of Sample Pink - Waste Tank Sampling, F7-12 Goldenrod - Tank Farm Operations, T4-01 BC-6001-326 (03/94)

WHC-SD-WM-DP-141, REV. 1

003 509 373 1432 13:07 07/21/95

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HOT CELL LOG BOOK

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WHC-SD-WM-DP-141, REV. 1

NOTEBOOK/LOGBOOK UNCLASSIFIED COVERSHEET

SECTION I

CONTROLLED COPY

JUN 0 9 1995

RETURN TO UNCLASSIFIED DOCUMENT CONTROL

RECORD COPY

Notebook No. WHC-N-1192 1

Date of Issue 6-9-95 Copy 1

Title 241-T-108

Author RK Fuller

If continued from another notebook give the notebook number

This is a Controlled Notebook. The assigned custodian is responsible for this book. When the book is completed, contact your Records Management Specialist for a Retention Schedule. Complete Section II of this form and return the Notebook to Unclassified Document Control, A4-18.

Responsible Custodian	Payroll No.	MSIN	Date Assigned
RK Fuller		T6-31	JUN 0 9 1995

SECTION II — Complete this section prior to returning notebook to Unclassified Document Control, A4-18

Abstract: (Give brief description of notebook contents)

Period Covered: (Inclusive dates - Month/Day/Year)

Certification Statement: This notebook does ☐ does not ☐ contain any Quality Assurance Record Material (as described in Section 9.0 of WHC-CM-3-5) and has been verified to be a complete and legible record.

Custodian's Signature and Date

Retention Schedule:	Specialist Concurrence Name	Custodian's Manager's Name

BD-6001-256 (10/93)

TABLE OF CONTENTS

		PAGES
1	TABLE OF CONTENTS	1-5
2	T-108 95-AUG-035 Riser 5	6-9
3	T-108 95-AUG-036 Riser 6	10-13
4	T-108 95-AUG-037 Riser 2	14-17
5	T-108 95-AUG-037 Homog. + SubSampling	18

Pages 2 through 5 of Hot Cell Notebook number WHC-N-1192 Copy 1 were intentionally left blank.

6

T-108 95-AUG-035 Riser 5

COPY

CHAIN-OF-CUSTODY RECORD FOR AUGER SAMPLING

(1) Shipment Number 200W-08-TF (2) Sample Number 95-AUG-035 (3) Supervisor JAMES Sickels

(4) Tank T-108 (5) Riser 5 (6) Cask Serial Number C 1016

Radiation Survey Data:	(7) FIELD	(31) LABORATORY
Over Top Dose Rate	<0.5 mR/hr	<0.5 mR/hr
Side Dose Rate	<0.5 mR/hr	<0.5 mR/hr
Bottom Dose Rate	<0.5 mR/hr	<0.5 mR/hr
Smearable Contamination	<20 dpm/100cm² (Alpha)	<20 D/m/100 cm² (Alpha)
	<1000 dpm/100cm² (Beta-Gamma)	<1K D/m/100 cm² (Beta-Gamma)
RCT*	(Signature)	RCT* (Signature)

(8) Shipment Description

A. Work Package Number	WS-95-0107
B. Cask Seal Number	1036
C. Date and Time Sample Removed from Tank	7-19-95 0315 hr
D. Expected Liquid Content	10%
E. Expected Solid Content	90%
F. Dose Rate Through Drill String	2.5 mR/hr
G. Expected Sample Length	9 3/4"

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

2

(10) Field Comments

(32) Laboratory Comments

(11) Point of Origin	(12) Destination	(13) Sender Name (Sign and PRINT)	(14) Date/Time	(15) Sender Comments
241-T-108	222S LABS	JAMES Sickels	7-21-95 10:15 hr	

(17) Relinquished By (Sign and PRINT)	(18) Received By (Sign and PRINT)	(19) Date/Time	(20) Receiver Comments
JAMES Sickels		7-21-95 10:15 hr	

(21) Relinquished By (Sign and PRINT)	(22) Received By (Sign and PRINT)	(23) Date/Time	(24) Receiver Comments
		7-21-95 1120	

(25) Relinquished By (Sign and PRINT)	(26) Received By (Sign and PRINT)	(27) Date/Time	(28) Receiver Comments

(16) Seal Intact Upon Release?	(29) Seal Intact Upon Receipt?	(30) Seal Data Consistent with this Record?		
☑ Yes ☐ No	☑ Yes ☐ No	Shipment No. ☑ Yes ☐ No	Cask Seal No. ☑ Yes ☐ No	Sample No. ☑ Yes ☐ No

DISTRIBUTION: White - Office of Sample Management Yellow - Recipient of Sample Pink - Waste Tank Sampling, F7-12 Goldenrod - Tank Farm Operations, T4-01 BC-6001-326 (03/94)

WHC-SD-WM-DP-141, REV. 1

WHC-SD-WM-DP-[illegible]

[illegible] 95-AUG-C35 [illegible]

[illegible]

[illegible] Baldwin

[illegible] 19.98gm 56.6gm = [illegible] gm

Temperature: 77° Humidity = 36%

Sample Number 95-AUG-C35 Cask Serial #: C1816

Work List Number: 1881#

Photograph Frame Number: 3 & 4

Video Tape #12 Title: T-Farm

Dose Rate Through Drill string: <.5 mR/hr

Sample Description

Observed no drainable liquids. Sample was found on flutes 14# through 19#. Most of sample had fallen off of auger on to tray. Material resembled crystals of various sizes, which were medium brown in color.

Sampling Information:

Immediate, unhomogenized sample for TGA.

JAR/vial number and size: Vial # 7279 (20 ml)

Final wt 28.7 (Grams)

Initial wt 27.5 (Grams)

Net wt. 1.1 grams

Lower half solids

JAR/vial number and size: ~~Vial#~~ JAR# 7369 (125 ml) ASB 7/24/95

Final wt. 167.3 (Grams)

Initial wt. 125.2 (Grams)

Net wt. 42.1 grams

A. Mo[illegible]
8/3-95

8

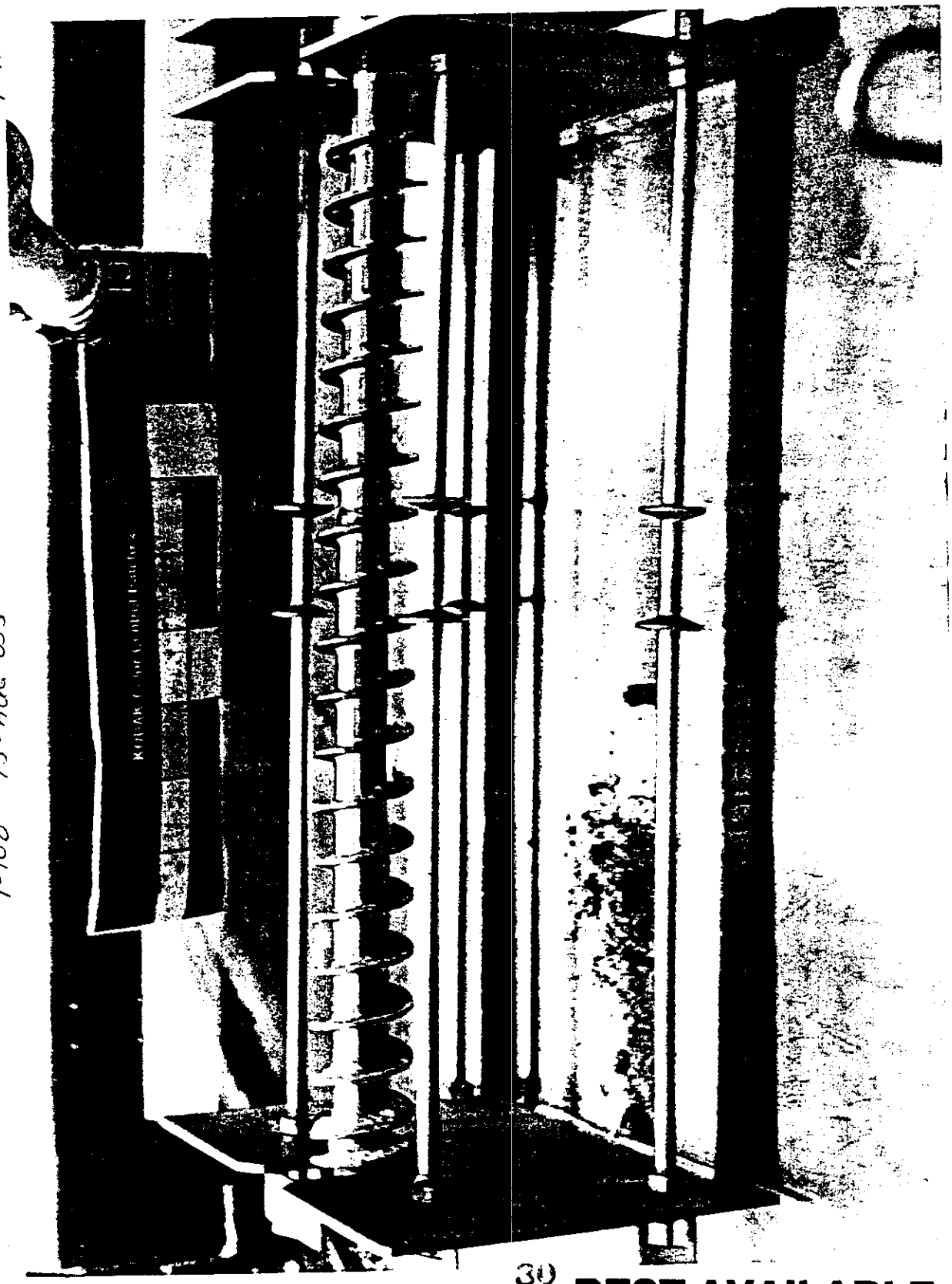
WHC-SD-WM-DP- 141, REV. 1

T-108 95-AUG-035 Riser 5

8-3-95

T-108 95-AUG-035 Riser 5
(PHOTOGRAPHY)

LB
7/24/95



T-108 95-AUG-035

BEST AVAILABLE COPY

COPY

CHAIN-OF-CUSTODY RECORD FOR AUGER SAMPLING

(1) Shipment Number 200W-08-TF (2) Sample Number 95-Aug-36 (3) Supervisor James Sickels

(4) Tank T-108 (5) Riser 6 (6) Cask Serial Number C-1032

Radiation Survey Data:	(7) FIELD	(31) LABORATORY
Over Top Dose Rate	<0.5 mR/hr	<0.5 mR/hr
Side Dose Rate	<0.5 mR/hr	<0.5 mR/hr
Bottom Dose Rate	<0.5 mR/hr	<0.5 mR/hr
Smearable Contamination	<20 /100 cm² (Alpha)	<20 DPM/100 cm² (Alpha)
	<1000/100 cm² (Beta-Gamma)	<1000 DPM/100 cm² (Beta-Gamma)
RCT*	(Signature)	RCT* (Signature)

(8) Shipment Description	
A. Work Package Number	WS-95-0107
B. Cask Seal Number	2503
C. Date and Time Sample Removed from Tank	7-20-95 0335 hr
D. Expected Liquid Content	10%
E. Expected Solid Content	90%
F. Dose Rate Through Drill String	<.5 mR/hr
G. Expected Sample Length	15"

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

31

(10) Field Comments

(32) Laboratory Comments

(11) Point of Origin	(12) Destination	(13) Sender Name (Sign and PRINT)	(14) Date/Time	(15) Sender Comments
241-T-108	222-S Labs	James Sickels	7-21-95 10:15	
(17) Relinquished By (Sign and PRINT)		(18) Received By (Sign and PRINT)	(19) Date/Time	(20) Receiver Comments
James Sickels		James R. Fleharty	7/21/95 10:15	
(21) Relinquished By (Sign and PRINT)		(22) Received By (Sign and PRINT)	(23) Date/Time	(24) Receiver Comments
James R. Fleharty			7-21-95 (1115)	
(25) Relinquished By (Sign and PRINT)		(26) Received By (Sign and PRINT)	(27) Date/Time	(28) Receiver Comments

(16) Seal Intact Upon Release?	(29) Seal Intact Upon Receipt?	(30) Seal Data Consistent with this Record?		
☒ Yes ☐ No	☑ Yes ☐ No	Shipment No. ☑ Yes ☐ No	Cask Seal No. ☑ Yes ☐ No	Sample No. ☑ Yes ☐ No

DISTRIBUTION: White - Office of Sample Management Yellow - Recipient of Sample Pink - Waste Tank Sampling, F7-12 Goldenrod - Tank Farm Operations, T4-01 BC-6001-326 (03/94)

WHC-SD-WM-DP-141, REV. 1

T-108 95-AUG-036 Riser 6

T-108 95-AUG-036 Riser 6

Date: 07-24-95
P.C.: John Baldwin
weights 200gm = 19.98 500gm = 499.84
Temperature: 77° Humidity: 37%
Sample Number: 95 AUG 036 Cask Serial#: C-1032
work list number: 1882
Photograph Frame Number: 5 & 6
Video tape Number: 12 title: T-Farm
Dose Rate through Drill string <.5 mr/hr

Sample Description:
No Sample observed or collected.

D. [illegible]
8-3-95

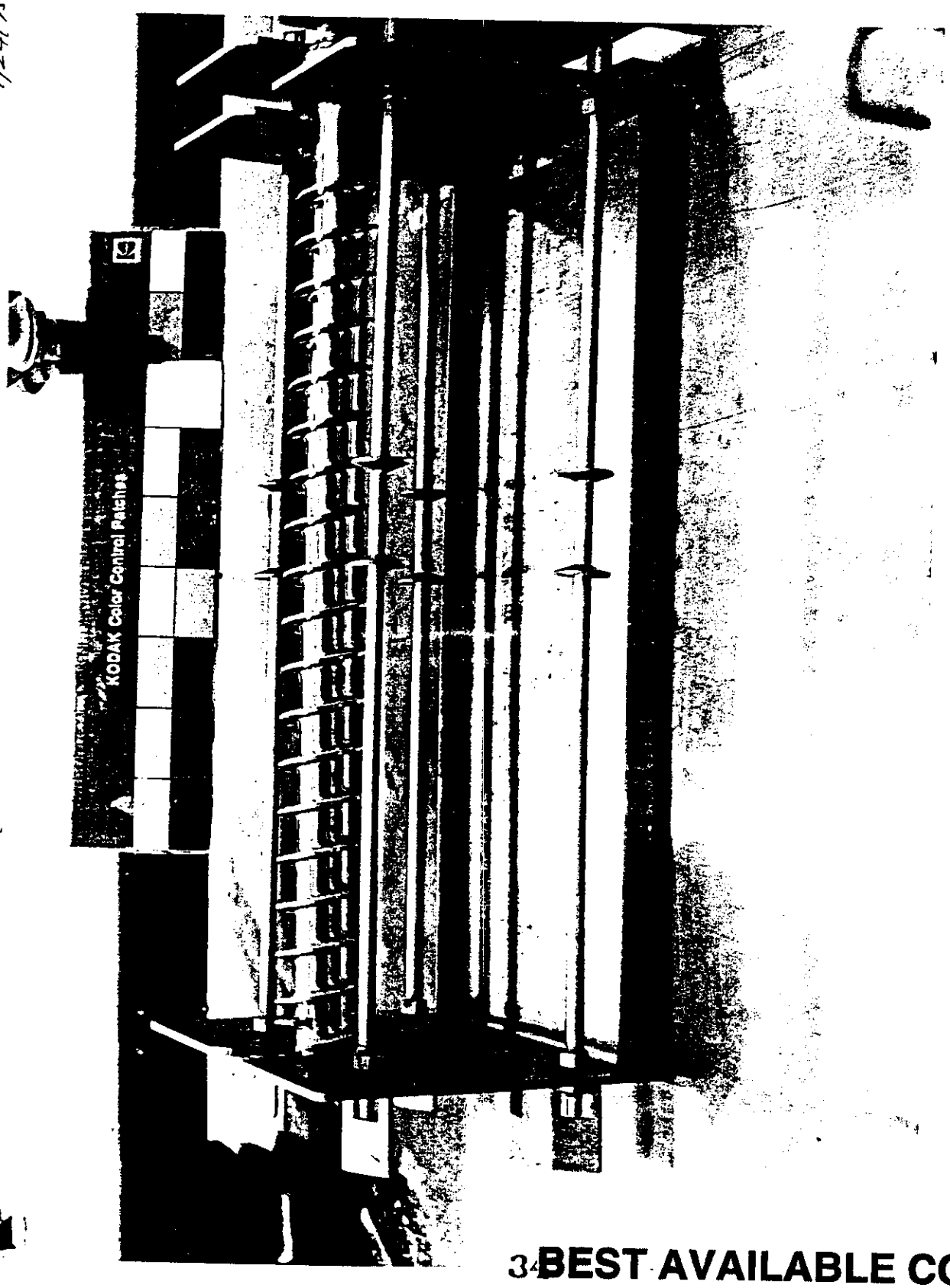
T-108 95-AUG-036 Riser 6

8-7-95
8-7-95

T-108 95-AUG-036 Riser 6
(Photographer)

LB
7/24/95

T-108 95-AUG-036



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14

T-108 95-AUG-037 Riser 2

WHC-SD-WM-DP-141, REV. 1

CHAIN-OF-CUSTODY RECORD FOR AUGER SAMPLING

COPY

(1) Shipment Number 200W-08-TF (2) Sample Number 95-AUG-37 (3) Supervisor James Sickels

(4) Tank T-108 (5) Riser 2 (6) Cask Serial Number C-1020

Radiation Survey Data:	(7) FIELD	(31) LABORATORY
Over Top Dose Rate	<0.5 mR/hr	0.5
Side Dose Rate	<0.5 mR/hr	0.5
Bottom Dose Rate	<0.5 mR/hr	0.5
Smearable Contamination	<20 dpm/100cm2 (Alpha)	<20 D/M/100cm2 (Alpha)
	<1000/100cm2 (Beta-Gamma)	<1K D/M/100cm2 (Beta-Gamma)
RCT*	[signature] (Signature)	SN [signature] (Signature)

(8) Shipment Description	
A. Work Package Number	WS-95-0107
B. Cask Seal Number	2504
C. Date and Time Sample Removed from Tank	7-21-95 5:45 AM
D. Expected Liquid Content	10%
E. Expected Solid Content	90%
F. Dose Rate Through Drill String	1 mR/hr
G. Expected Sample Length	15"

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

35

(10) Field Comments

(32) Laboratory Comments

(11) Point of Origin	(12) Destination	(13) Sender Name (Sign and PRINT)	(14) Date/Time	(15) Sender Comments
241-T-108	222s Labs	James Sickels [signature]	7-21-95 10:15 A	
(17) Relinquished By (Sign and PRINT)		(18) Received By (Sign and PRINT)	(19) Date/Time	(20) Receiver Comments
James Sickels [signature]		James R. Fenhartz [signature] James Fenhartz	7-21-95 10:15 A	
(21) Relinquished By (Sign and PRINT)		(22) Received By (Sign and PRINT)	(23) Date/Time	(24) Receiver Comments
James R. Fenhartz [signature] James R Fenhartz		E E Dubes [signature] E E Dubes	7-21-95 1105	
(25) Relinquished By (Sign and PRINT)		(26) Received By (Sign and PRINT)	(27) Date/Time	(28) Receiver Comments

(16) Seal Intact Upon Release? ☑ Yes ☐ No

(29) Seal Intact Upon Receipt? ☑ Yes ☐ No

(30) Seal Data Consistent with this Record?

Shipment No. ☑ Yes ☐ No

Cask Seal No. ☑ Yes ☐ No

Sample No. ☑ Yes ☐ No

DISTRIBUTION: White - Office of Sample Management Yellow - Recipient of Sample Pink - Waste Tank Sampling, F7-12 Goldenrod - Tank Farm Operations, T4-01 BC-6001-326 (03/94)

T-108 95-AUG-037 Riser 2

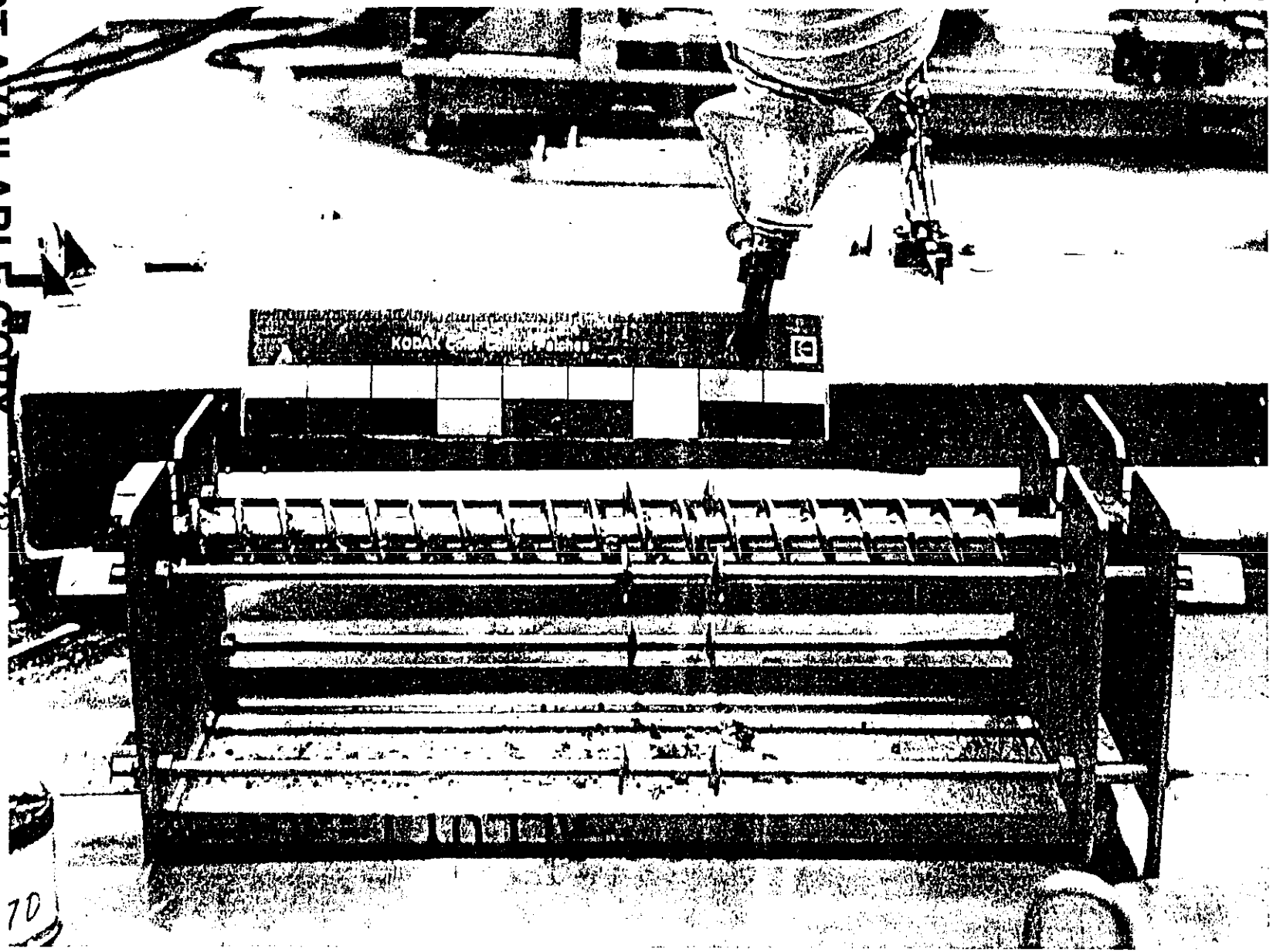
Date: 7-24-95
P.C. John Baldwin
Weights: 20 gram - 19.99 500 gram 499.841
Temperature 76.8° Humidity 36%
Sample Number 95 AUG 37 CASK Serial#: C-1020
Work list Number S95T001294
Photograph Frame number 7 & 8
Video Tape number 12. Title T-FARM
Dose rate through Drill string 1 mR/Hr

Sample Description:
Observed no drainable liquids. Sample was sparsely scattered between flutes #5 and flute #19. The majority of the sample had fallen unto the sample tray when the auger sleeve was removed. The sample resembled crystals of various sizes which were medium brown in color.

Sampling Information:
Immediate unhomogenized sample for TGA.
Jar/vial number & Size: Vial # 7280 (20 ml)
Final wt. 28.0 grams
Initial wt. 27.0 grams
Net wt 1.0 grams

Sample from flutes #5-#19, plus tray.
Jar/vial number & Size: JAR # 7370 (125 ml)
Final wt. 154.6 grams
Initial wt. 125.1 grams
Net wt. 29.5 grams

T-108 95-AUG-037 LB 7/24/95



T-108 95-AUG-037 Riser 2 (photographs)

WHC-SD-WM-DP-141, REV. 1

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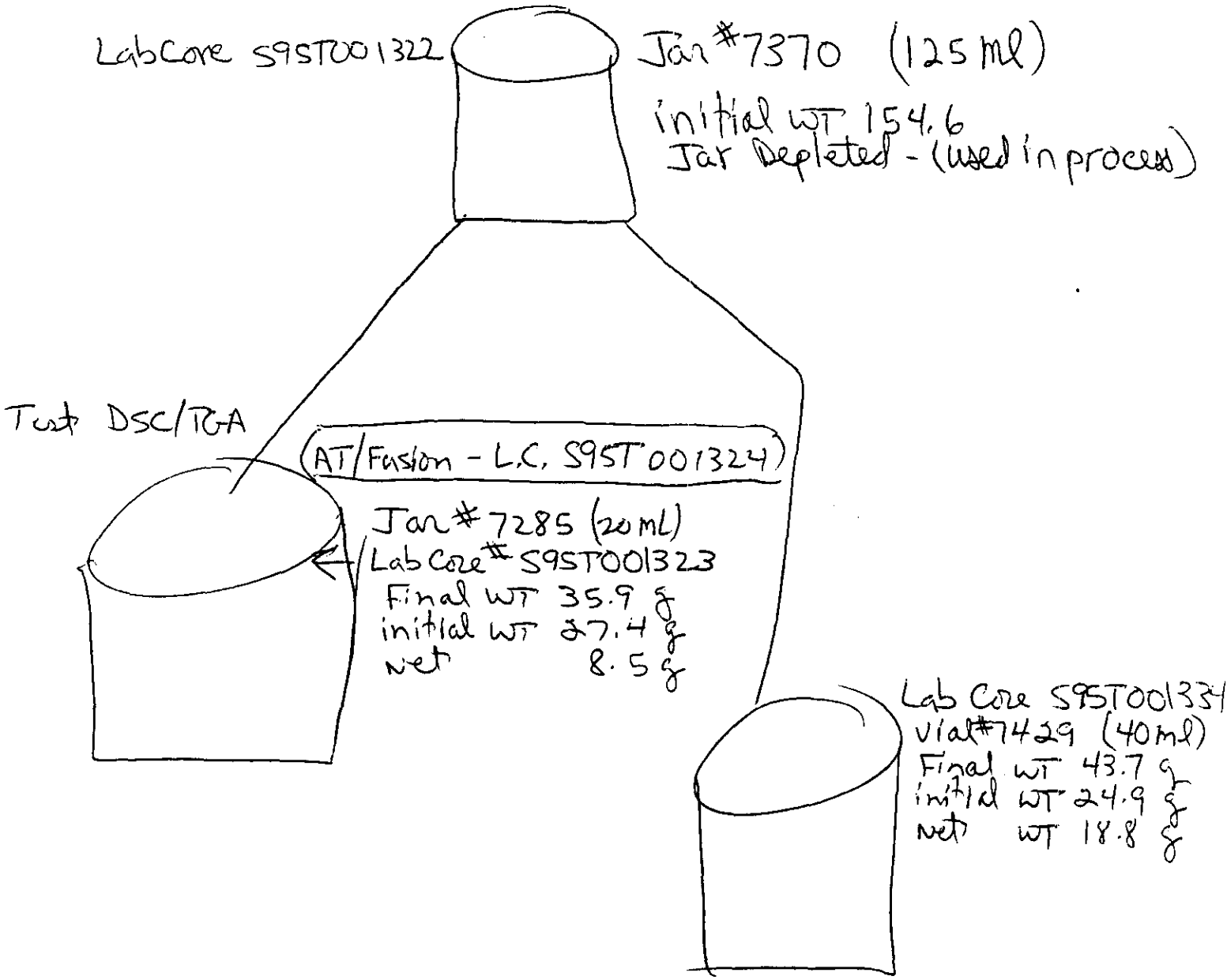
38

10

T-108 95-AUG-037

Homogenization + Subsampling 7/27/95



Note: Pulverize sample with mortar/pestle

Jar #7280 (LC. S95T001333) 1 gm net imediate, unhomogenize sample for TGA.
(Look at front page of Extrusion report)

QB Completed 8-1-95

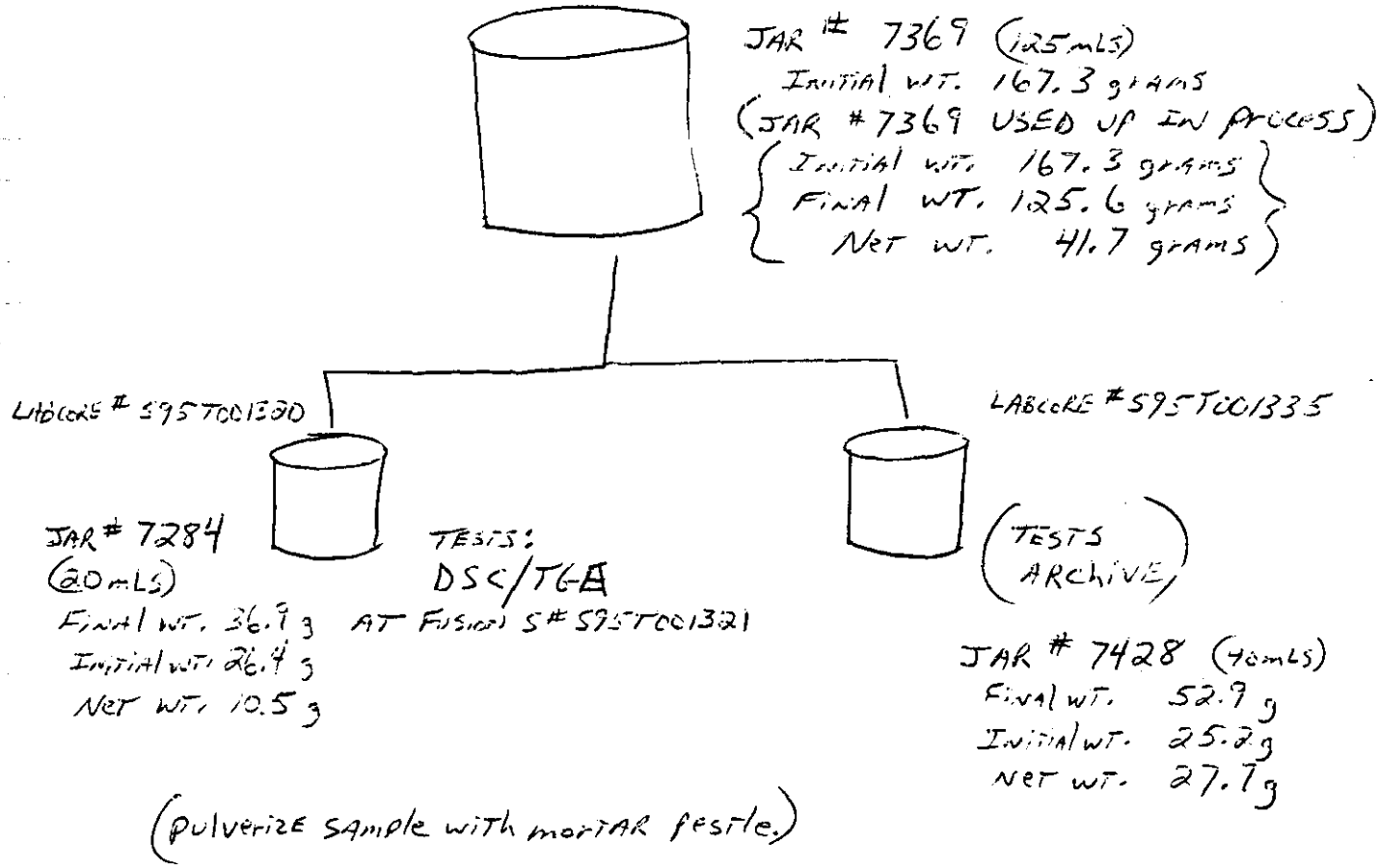
T-108 95-AUG-035 HNC-SD-WM-DP-141 REV. 1

7/27/95

Homogenization + Subsampling

D.C. John Baldwin
ph# 373-4535

LABCORE # 595T001319



(pulverize sample with mortar pestle.)

Subsample Worksheet

Date: 7/27/95

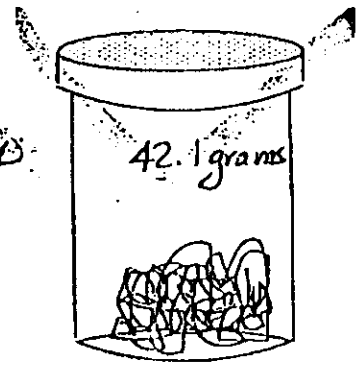
Group # 95000097

Tank: T-108 Core: NA Auger/ Segment: 95-AUG-035

P.C. JOHN BALDWIN

Phone# 373-4533

JAR # 7369 used up in process 8/-/-95 R. Hunter



LABCORE # S95T001319

Jar#: 7369

Jar/Vial Size: 125 mL

Initial Weight: 167.3 g

Final Weight: 125.6 g

Net Weight: 41.7 g (after final subsample taken)

Transfer ~ 8-10 g

Start Time: _____

End Time: _____

Tests:

DSC/TGA SPG 02

HOMGNR 01

(AT/FUSION S# S95T001321)

DOSE 01

ALPHA 01

GEA 02

DOSE 02

ACID Digest

S95T001402

DOSE 02

ICP-A01

ACID IC 01

LABCORE # S95T001320

Jar#: 7284

Jar/Vial Size: 20 mL

Final Weight: 36.9 g

Initial Weight: 26.4 g

Net Weight: 10.5 g

water Digest

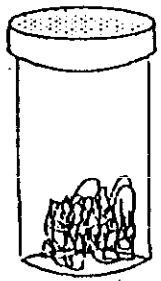
S95T001339

H2O DIG 01

IC-01

DOSE 02

ICP-I01



Start Time: _____

End Time: _____

Tests:

ARCHIV01

Archive remaining material in 40mL jar/vial.

LABCORE # S95T001335

Jar#: 7428

Jar/Vial Size: 40 mL

Final Weight: 52.9 g

Initial Weight: 25.2 g

Net Weight: 27.7 g

Special Instructions: Pulverize sample with mortar/pestle.

WHC-SD-WM-DP-141, REV. 1

001 509 373 1432 13:41 08/01/95

Subsample Worksheet

Date: 7/27/95

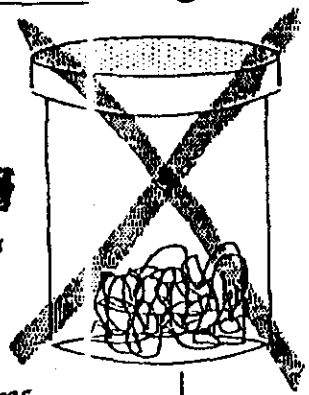
Group # 95000099

Tank: T-108 Core: NA Auger/ Segment: 95-AUG-037

P.C. JOHN BALDWIN

Phone# 373-4533

[redacted]



LABCORE # S95T001322

Jar#: 7370

Jar/Vial Size: 125 mL

Initial Weight: 154.6 g

Final Weight: _____ g

Net Weight: _____ g (after final subsample taken)

8-10 grams

Start Time: _____

End Time: _____

Tests:

DSC/TGA SPG02

~~ARPHA~~ HOMGNZ01

AT/FUSION = S95T001324

DOSE01

ALPHA01

GEA.02

DOSE02

LABCORE # S95T001323

Jar#: 7285

Jar/Vial Size: 20 mL

Final Weight: 35.9 g

Initial Weight: 27.4 g

Net Weight: 8.5 g

Acid Digest

S95T001403

ICPA01

DOSE02

WATER DIGEST

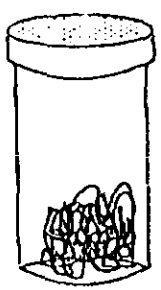
S95T001339

IC-01

DOSE02

1120D/G01

ICPI01



Start Time: _____

End Time: _____

Tests:

ARCHIVO1

ARCHIVE REMAINING SAMPLE IN A 40mL VIAL

LABCORE # S95T001334

Jar#: 7429

Jar/Vial Size: 40 mL

Final Weight: 43.7 g

Initial Weight: 24.9 g

Net Weight: 18.8 g

Special Instructions:

Pulverize sample (crystalline) with mortar/pestle.

WHC-SD-WM-DP-141, REV. 1

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Author: Attlee B Benally at ~WHC169 WHC-SD-WM-OP-241, REV. 1
Date: 7/25/95 9:38 AM
Priority: Normal
Subject: T-108 95-AUG-035 RISER 5 Extrusion Report
---------- Message Contents ----------

T-108 95-AUG-035 RISER 5

Date: July 24, 1995
Sample number: 95-AUG-035
Cask serial #: C1016
Logbook # : WHC-N-1192
Labcore # : S95T001293

Notes:

* Temp inside hotcell was 77 degrees F. Humidity = 36%.
* Check weights 20 gm = 19.98 grams 500 gm = 499.84 grams
* Dose rate through drill string = <.5 mR/hr.
* Expected sample length - 9.75 inches.
* This was a 20 inch auger from riser #5.
* Set auger assembly on auger stand and removed sleeve.
* Performed photography.

Sample information:

* A small amount of sample was collected from flutes #14 - #19. As the auger sleeve was being removed, most of the sample had fallen onto the sample tray. Sample was a dry crystalline material which was a mixture of medium brown and clear crystals.

Subsample information:

* Subsampled Solids:
  T-108 95-AUG-035 Solids: Immediate, unhomogenized sample for TGA
  -Vial # 7279 (20 mL vial size)
  -1.1 grams net weight

* Subsampled Solids:
  T-108 95-AUG-035 Solids: Lower half solids
  -Jar # 7369 (125 mL vial size)
  -42.1 grams net weight

Notes: Collected 43.2 grams of solids.

Author: Attlee B Benally at ~WHC169
Date: 7/25/95 9:43 AM
Priority: Normal
Subject: T-108 95-AUG-036 RISER 6 Extrusion Report

WHC-SD-WM-DP-211, REV. 1

---------- Message Contents ----------

T-108 95-AUG-036 RISER 6

Date: July 24, 1995
Sample number: 95-AUG-036
Cask serial #: C-1032
Logbook # : WHC-N-1192
Labcore # : S95T001295

Notes:

* Temp inside hotcell was 77 degrees F. Humidity = 37%.
* Check weights 20 gm = 19.98 grams 500 gm = 499.84 grams
* Dose rate through drill string = <.5 mR/hr.
* Expected sample length - 15 inches.
* This was a 20 inch auger from riser #6.
* Set auger assembly on auger stand and removed sleeve.
* Performed photography.

Sample information:

* No Sample observed or collected.

Author: Attlee B Benally at ~WHC169
Date: 7/25/95 9:46 AM
Priority: Normal
Subject: T-108 95-AUG-037 RISER 2 Extrusion Report

WHC-SD-WM-DP-141, REV. 1

---------- Message Contents ----------

T-108 95-AUG-037 RISER 2

Date: July 24, 1995
Sample number: 95-AUG-037
Cask serial #: C-1020
Logbook # : WHC-N-1192
Labcore # : S95T001294

Notes:

* Temp inside hotcell was 76.8 degrees F. Humidity = 36%.
* Check weights 20 gm = 19.99 grams 500 gm = 499.84 grams
* Dose rate through drill string = 1 mR/hr.
* Expected sample length - 15 inches.
* This was a 20 inch auger from riser #2.
* Set auger assembly on auger stand and removed sleeve.
* Performed photography.

Sample information:

* A small amount of sample was collected from flutes #5 - #19. As the auger sleeve was being removed, most of the sample had fallen onto the sample tray. Sample was a crystalline material which was a mixture of medium brown and clear crystals.

Subsample information:

* Subsampled Solids:
  T-108 95-AUG-037 Solids: Immediate, unhomogenized sample for TGA
  -Vial # 7280 (20 mL vial size)
  -1.0 grams net weight

* Subsampled Solids:
  T-108 95-AUG-037 Solids: Crystalline solids from flutes #5-#19
  -Jar # 7370 (125 mL vial size)
  -29.5 grams net weight

Notes: Collected 30.5 grams of solids.

PHOGRAPHS

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7/24/95

T-108 95-AUG-035

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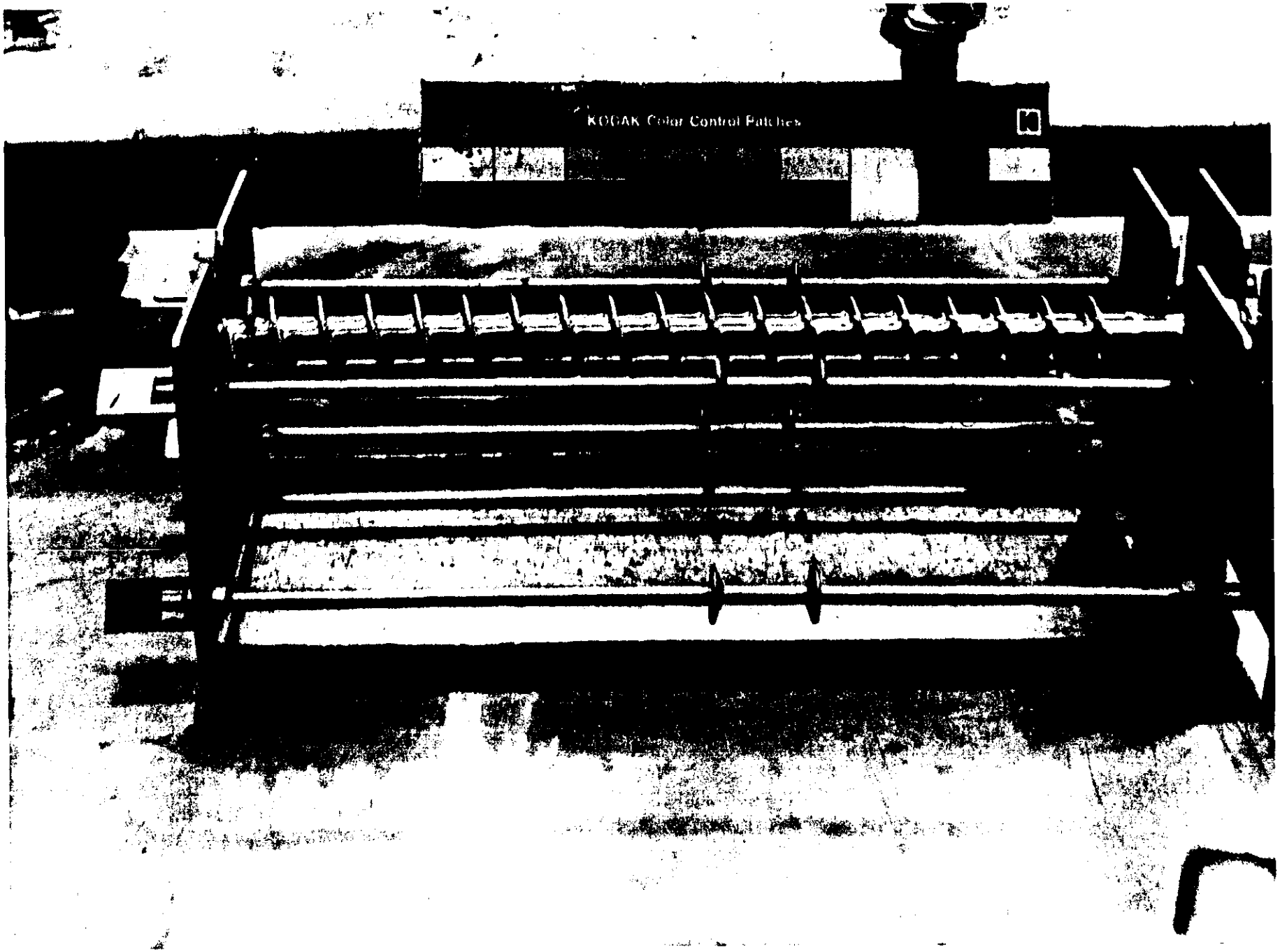
T-108 95-AUG-036 7/24/95



WHC-SD-WM-DP-141, REV. 1

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7/24/95

T-108 95-AUG-037

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CORRESPONDENCE

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Author: Joseph E Meacham at ~WHC130
Date: 10/9/95 10:14 AM
Priority: Normal
CC: John G Kristofzski at ~WHC168
TO: John H Baldwin at ~WHC129
CC: Joseph E Meacham
Subject: Re: T-108

WHC-SD-WM-DP-141, REV. 1

---------- Message Contents ----------

John,

As discussed by phone, no secondary analyses are required on the samples from T-108 because the DSC measurements were zero. This is consistent with the recently released revised DQO. Please call me if you have any questions.

Thanks,
Joe

_____ Reply Separator _____

Subject: T-108
Author: John H Baldwin at ~WHC121
Date: 8/16/95 1:19 PM

Joe,

I will be faxing you the results of the safety screen for T-108. As we discussed, the DSC results were zero and the material was very dry (around 2%).

Given these results I would appreciate it if you would send me a ccmail stating the secondary analyses are not required. I will put out a 45 day report that is also a final.

In our discussion you said that notification to the safety program due to the low water content was unnecessary because the DCS results are zero. Please reconfirm this in your ccmail also.

Thanks

John

Author: Brett C Simpson at ~WHC268
Date: 8/21/95 8:46 AM
Priority: Normal
TO: John H Baldwin at ~WHC121
CC: Ruth D Schreiber at ~WHC163
Subject: T-108 direction

WHC-SD-WM-DP-141, REV. 1

---------- Message Contents ----------

John,

After looking at the analytical results, the only additional analyses warranted (from the Historical DQO) are:

Density
ICP water digestion

The activity isn't high enough to really support a Sr-90 separation (or gross beta), and after doing a quick mass balance, it also doesn't look like that there is need for a Uranium assay by laser fluoresence. However, I'd like for you to check and see if the Cs-137 & Sr-90 screen that they do in the hot cell was performed (using the new laser assay device that Shane Addleman developed...those results are probably good enough, if they were done. If they weren't, check to see if they can be done) The DSC results don't indicate any substantial TOC, so that isn't warranted either. That's all from this end.

Later...

Brett

SAMPLE HANDLING

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LABCORE Data Entry Template for Worklist# 1881

Analyst: SC **Instrument:** BA000 _____ **Book #** NA

Method: LO-160-103 Rev/Mod A-7 WHC-SD-WM-DP-141, REV. 1

Worklist Comment: T-108 95-AUG-035 Riser 5 Extrusion

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	INSTCHK01				EXTRUD01	SOLID	20	19.98	N/A	
		2	INSTCHK02				EXTRUD01	SOLID	500	499.84	N/A	
95000097	T-108	3	SAMPLE	S95T001293	0		DLIQVOL1	SOLID	N/A	0		mL
95000097	T-108	4	SAMPLE	S95T001293	0		DLIQWT01	SOLID	N/A	0		g
95000097	T-108	5	SAMPLE	S95T001293	0		EST.G/ML	SOLID	N/A	0		g/mL
95000097	T-108	6	SAMPLE	S95T001293	0		EXTRUD01	SOLID	N/A	complete		
95000097	T-108	7	SAMPLE	S95T001293	0		LLIQWT01	SOLID	N/A	0		g
95000097	T-108	8	SAMPLE	S95T001293	0		NOTEBOOK	SOLID	N/A	N-1192		
95000097	T-108	9	SAMPLE	S95T001293	0		SLDVOL01	SOLID	N/A	30		mL
95000097	T-108	10	SAMPLE	S95T001293	0		SLDWT-01	SOLID	N/A	43.2		g
95000097	T-108	11	SAMPLE	S95T001293	0		ORGVOL01	SOLID	N/A	0		mL

Final page for worklist # 1881

E H C 7-25-95
Analyst Signature **Date**

E H C 7-25-95
Analyst Signature **Date**

Reviewed by [illegible] 7-25-95

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# 1882

Analyst: EC **Instrument:** BA000 **Book #** NA

Method: LO-160-103 Rev/Mod A7

WHC-SD-WM-DP-141, REV. 1

Worklist Comment: T-108 95-AUG-36 Riser 6 Extrusion

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	INSTCHK01				EXTRUD01	SOLID	20	19.98	N/A	
		2	INSTCHK02				EXTRUD01	SOLID	500	499.84	N/A	
95000098	T-108	3	SAMPLE	S95T001295	0		DLIQVOL1	SOLID	N/A	0		mL
95000098	T-108	4	SAMPLE	S95T001295	0		DLIQWT01	SOLID	N/A	0		g
95000098	T-108	5	SAMPLE	S95T001295	0		EST.G/ML	SOLID	N/A	0		g/mL
95000098	T-108	6	SAMPLE	S95T001295	0		EXTRUD01	SOLID	N/A	complete		
95000098	T-108	7	SAMPLE	S95T001295	0		LLIQWT01	SOLID	N/A	0		g
95000098	T-108	8	SAMPLE	S95T001295	0		NOTEBOOK	SOLID	N/A	W-192		
95000098	T-108	9	SAMPLE	S95T001295	0		SLDVOL01	SOLID	N/A	0		mL
95000098	T-108	10	SAMPLE	S95T001295	0		SLDWT-01	SOLID	N/A	0		g
95000098	T-108	11	SAMPLE	S95T001295	0		ORGVOL01	SOLID	N/A	0		mL

Final page for worklist # 1882

EC 7-25-95
Analyst Signature **Date**

EC 7-25-95
Analyst Signature **Date**

Reviewed by [illegible] 7-25-95

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# 1883

Analyst: SC **Instrument:** BA000 _____ **Book #** NA

Method: LO-160-103 Rev/Mod A-7 WHC-SD-WM-DP-141, REV. 1

Worklist Comment: T-108 95-AUG-37 Riser 2 Extrusion

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	INSTCHK01				EXTRUD01	SOLID	20	19.99	N/A	
		2	INSTCHK02				EXTRUD01	SOLID	500	499.84	N/A	
95000099	T-108	3	SAMPLE	S95T001294	0		DLIQVOL1	SOLID	N/A	0		mL
95000099	T-108	4	SAMPLE	S95T001294	0		DLIQWT01	SOLID	N/A	0		g
95000099	T-108	5	SAMPLE	S95T001294	0		EST.G/ML	SOLID	N/A	0		g/mL
95000099	T-108	6	SAMPLE	S95T001294	0		EXTRUD01	SOLID	N/A	complete		
95000099	T-108	7	SAMPLE	S95T001294	0		LLIQWT01	SOLID	N/A	0		g
95000099	T-108	8	SAMPLE	S95T001294	0		SLDVOL01	SOLID	N/A	30		mL
95000099	T-108	9	SAMPLE	S95T001294	0		SLDWT-01	SOLID	N/A	30.5		g
95000099	T-108	10	SAMPLE	S95T001294	0		NOTEBOOK	SOLID	N/A	N-1192		
95000099	T-108	11	SAMPLE	S95T001294	0		ORGVOL01	SOLID	N/A	0		mL

Final page for worklist # 1883

SC 7-25-95
Analyst Signature **Date**

SC 7-25-95
Analyst Signature **Date**

Reviewed by [signature] 7-25-95

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.

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SAMPLE PREPARATIONS

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LABCORE Data Entry Template for Worklist# 1928

Analyst: RKF **Instrument:** BA000 _____ **Book #** 114

Method: LO-160-103 Rev/Mod A-1 WHC-SD-WM-DP 141, REV. 1

Worklist Comment: T-108 95-AUG-035 Homogenization

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 INSTCHK01				EXTRUD01	SOLID	20	19.99	N/A	
		2 INSTCHK02				EXTRUD01	SOLID	500	499.79	N/A	
95000097	T-108	3 SAMPLE	S95T001335	0	X	ARCHIV01	SOLID	N/A	27.7		g
95000097	T-108	4 SAMPLE	S95T001332	0		HOMGNZ01	SOLID	N/A	1.1		
95000097	T-108	5 SAMPLE	S95T001319	0		HOMGNZ01	SOLID	N/A	Complete		
95000097	T-108	6 SAMPLE	S95T001320	0		HOMGNZ01	SOLID	N/A	10.5		

Final page for worklist # 1928

Keith Fuller 8/1/95
Analyst Signature Date

Keith Fuller 8/1/95
Analyst Signature Date

Data Entry Comments: Reviewed by RK Fuller 8/1/95

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# 1929

Analyst: ADC **Instrument:** BA000 _____ **Book #** _____

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

Worklist Comment: T-108 95-AUG-037 Homogenization WHC-SD-WM-DP-141, REV. 1

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 INSTCHK01			EXTRUD01	SOLID	20	19.99	N/A	
		2 INSTCHK02			EXTRUD01	SOLID	500	499.85	N/A	
95000099	T-108	3 SAMPLE	S95T001334	0 X	7429 ARCHIV01	SOLID	N/A	18.8		g
95000099	T-108	4 SAMPLE	S95T001333	0	7280 HOMGNZ01	SOLID	N/A	Complete		
95000099	T-108	5 SAMPLE	S95T001322	0	7370 HOMGNZ01	SOLID	N/A	Complete		
95000099	T-108	6 SAMPLE	S95T001323	0	7285 HOMGNZ01	SOLID	N/A	Complete		

Final page for worklist # 1929

Alan B Campbell 8-1-95
Analyst Signature Date

Alan B Campbell 8-1-95
Analyst Signature Date

Data Entry Comments: Reviewed by RKFulle 8/1/95

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# 1920

Analyst: JMM **Instrument:** FUS01 AL11066 **Book #** N/A

Method: LA-549-141 Rev/Mod 0-0 WHC-SD-WM-DP-141, REV. 1

Worklist Comment: T-108 FUSION - 1320->1321, 1323->1324; PUT DOSE W/COMMENTS

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			FUSION01	SOLID	250ml		N/A	g/L
95000097	T-108	2 SAMPLE .5510g → 250ml	S95T001321	0 F	FUSION01	SOLID	N/A	2.2040		g/L
95000097	T-108	3 DUP .5486g → 250ml	S95T001321	0 F	FUSION01	SOLID	2.2040	2.1944	N/A	g/L
95000099	T-108	4 SAMPLE .5569g → 250ml	S95T001324	0 F	FUSION01	SOLID	N/A	2.2276		g/L
95000099	T-108	5 DUP .5614g → 250ml	S95T001324	0 F	FUSION01	SOLID	2.2276	2.2456	N/A	g/L

Final page for worklist # 1920

JMMurphy 8-7-95
Analyst Signature **Date**

8-5-95
Analyst Signature **Date**

Reviewed worklist 8/7/95 RK Fuller

Dose-02 test was assigned after this fusion was performed. Data was entered through parameter data entry on 8/9/95 [illegible]
8-9-95

Data Entry Comments: Blank - 20ml HCl, 20ml HNO_3, <1% solids. Sam & dup 1321 - 20ml HCl 30ml HNO_3, <1% solids, & 1 mrad/hr. Sam & dup 1324 - 20ml HCl 30ml HNO_3, <1% solids, 16.5 mrad/hr by Joe Valdez
ent 08/24/95

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# 1963

Analyst: S.Morris **Instrument:** H2O01 A L11066 **Book #** N/A

Method: LA-504-101 Rev/Mod D-0 WHC-SD-WM-DP-141, REV. 1

Worklist Comment: T108 H2O DIGEST 1320 --> 1338, 1323 --> 1339

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			H2ODIG01	SOLID	100	100	N/A	g/L
95000097	T-108	2 SAMPLE 1.0140g → 100ml	S95T001338	0 W	H2ODIG01	SOLID	N/A	10.1400		g/L
95000097	T-108	3 SAMPLE	S95T001338	0	DOSE-02	SOLID	N/A	<.5		mrad/hour
95000097	T-108	4 DUP 1.0240g → 100ml	S95T001338	0 W	H2ODIG01	SOLID	10.1400	10.2400	N/A	g/L
95000097	T-108	5 DUP	S95T001338	0	DOSE-02	SOLID		<.5	N/A	mrad/hour
95000099	T-108	6 SAMPLE 1.0257g → 100ml	S95T001339	0 W	H2ODIG01	SOLID	N/A	10.2570		g/L
95000099	T-108	7 SAMPLE	S95T001339	0	DOSE-02	SOLID	N/A	<.5		mrad/hour
95000099	T-108	8 DUP 1.0204g → 100ml	S95T001339	0 W	H2ODIG01	SOLID	10.2570	10.2040	N/A	g/L
95000099	T-108	9 DUP	S95T001339	0	DOSE-02	SOLID		<.5	N/A	mrad/hour

Final page for worklist # 1963

Sonja Morris 8-8-95
Analyst Signature **Date**

Keith Fuller 8/9/95
Reviewed. 8/9/95 RKF

[illegible] 8-9-95
Analyst Signature **Date**

Data Entry Comments: HPT was Sam Shemal for begining of procedure. Final dose rate - <.5 HPT was Chuck Felder

Units 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# 1982

Analyst: lmh **Instrument:** ACD01 AL11066 **Book #** WHC1A / G4JWHC1AU

Method: LA-505-159 Rev/Mod B-2 WHC-SD-WM-DF-141, REV. 1 WHC2 / G3MWHC2U

Worklist Comment: T-108 acid digest 1320-->1402 1323-->1403

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK-PREP 100ml				ACIDIG01	SOLID	100	100	N/A	g/L
		2	STD-PREP 5ml → 100ml				ACIDIG01	SOLID	20	20	N/A	g/L
95000097	T-108	3	SAMPLE 1.0073g → .100l	S95T001402	0	A	ACIDIG01	SOLID	N/A	10.0730		g/L
95000097	T-108	4	SAMPLE	S95T001402	0		DOSE-02	SOLID	N/A	1.5		mrad/hour
95000097	T-108	5	DUP 1.0072g → .100l	S95T001402	0	A	ACIDIG01	SOLID	10.0730	10.0720 BJH 8-11-95	N/A	g/L
95000097	T-108	6	DUP	S95T001402	0		DOSE-02	SOLID		2.0	N/A	mrad/hour
95000097	T-108	7	SPK 1.0092g → .100l	S95T001402	0	A	ACIDIG01	SOLID	20	19.9970 BJH 8-11-95	N/A	g/L
95000097	T-108	8	SPK	S95T001402	0		DOSE-02	SOLID	~~10.5~~ 2.0 BJH 8-11-95	2.0	N/A	mrad/hour
95000099	T-108	9	SAMPLE 1.0050g → .100l	S95T001403	0	A	ACIDIG01	SOLID	N/A	10.0500		g/L
95000099	T-108	10	SAMPLE	S95T001403	0		DOSE-02	SOLID	N/A	35		mrad/hour
95000099	T-108	11	DUP 1.0006g → .100l	S95T001403	0	A	ACIDIG01	SOLID	10.0500	10.0060	N/A	g/L
95000099	T-108	12	DUP	S95T001403	0		DOSE-02	SOLID		35	N/A	mrad/hour

Final page for worklist # 1982

Analyst Signature 8-10-95 Date

Bertrand Griffin II 8-11-95
Analyst Signature Date

Data Entry Comments: HPT: Cindy Belew
OTR: 3 mRad/hr
Bertrand Griffin II 8-11-95

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.

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INORGANIC ANALYSES

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LABCORE Data Entry Template for Worklist# 2364

Analyst: R **Instrument:** BA001 **Book #** 134 N 16A

Method: LA-510-116 Rev/Mod A-0 WHC-SD-WM-DP-141, REV. 1

Worklist Comment: AW-106, T-108 SpG of solids/sludges

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				SPG-02	SOLID	1.11	1.13	N/A	
95000126	AW-106 GRAB	2	SAMPLE	S95T002020	0		SPG-02	SOLID	N/A	2.101		
95000126	AW-106 GRAB	3	DUP	S95T002020	0		SPG-02	SOLID	2.101	1.836	N/A	
95000126	AW-106 GRAB	4	SAMPLE	S95T002036	0		SPG-02	SOLID	N/A	1.784		
95000126	AW-106 GRAB	5	DUP	S95T002036	0		SPG-02	SOLID	1.784	2.061	N/A	
95000097	T-108	6	SAMPLE	S95T001320	0		SPG-02	SOLID	N/A	2.643		
95000097	T-108	7	DUP	S95T001320	0		SPG-02	SOLID	2.643	1.954	N/A	
95000099	T-108	8	SAMPLE	S95T001323	0		SPG-02	SOLID	N/A	2.400		
~~95000099~~	~~T-108~~	~~9~~	~~DUP~~	~~S95T001323~~	~~0~~		~~SPG-02~~	~~SOLID~~	~~2.400~~		~~N/A~~	

Deleted RWSchroeder 9/18/95

Final page for worklist # 2364

Analyst Signature: [signature] Date: 9.15.95

Analyst Signature: [signature] Date: 09/21/95

Hexadecane 99% 0.7733 Dal

[signature] 10/3/95

Data Entry Comments: Lack of sample for S95T001323
High RPD's due to sample inconsistancy. RWS 9/18/95

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.

Calculations for Worklist 2364

$$SpG = [(S/VS)/d_w]$$

STD 134N16A

$$(2.4275g/[5.00-(4.6072-2.4275)/0.7733])/1.00g/mL = 1.113$$

STD replicate $(2.3791g/[5.00-(4.6444-2.3791)/0.7733])/1.00g/mL = 1.149$

$1.113 + 1.149/2 = 1.131$ Ave.

S95T002020 $(1.7753g/[5.00-(4.9532-1.7753)/0.7733])/1.00g/ml = 1.994$

S95T002020 rep $(1.7755/[5.00-(5.0203-1.7755)/0.7733)/1.00g/ml = 2.208$

$1.994 + 2.208/2 = 2.101$ Ave.

S95T002020 Dup $(2.0260/[5.00-(4.9768-2.0260)/0.7733)/1.00g/ml = 1.711$

S95T002020 Dup/rep $(1.9289/[5.00-(5.0345-1.9289)/0.7733)/1.00g/ml = 1.960$

$1.711 + 1.960/2 = 1.836$ Ave.

RWS 9/18/95 1.777 ~~1.080~~

S95T002036 $(2.3084/[5.00-(5.1706-2.3084)/0.7733)/1.00g/ml =$ ~~1.777~~

RWS 9/18/9

S95T002036 rep $(1.9195/[5.00-(4.9574-1.9195)/0.7733)/1.00g/ml =$ ~~0.978~~ 1.791

~~1.080 + 0.9783/2 = 1.029 Ave.~~

$1.777 + 1.791/2 = 1.784$ Ave.

S95T002036 Dup $(2.3419/[5.00-(5.3501-2.3419)/0.7733)/1.00g/ml = 2.110$

S95T002036 Dup rep $(1.8612/[5.00-(5.0122-1.8612)/0.7733)/1.00g/ml = 2.012$

$2.110 + 2.012/2 = 2.061$ Ave.

Calculations for worklist 2364 con't

S95T001320 (0.8629/[5.00-(4.5083-0.8629)/0.7733])/1.00g/ml = 3.018

S95T001320 rep (1.2852/[5.00-(4.7135-1.2852)/0.7733])/1.00g/ml = 2.268

3.018 + 2.268/2 = 2.643

S95T001320 Dup (1.0218/[5.00-(4.5227-1.0218)/0.7733]/1.00g/ml = 2.161

RWS 9/18/95

S95T001320Dup rep (0.6182/[5.00-(4.2112-0.6182)/0.7733]/1.00g/ml = 1.748

2.161 + 1.748/2 = 1.954 Ave.

S95T001323 (1.1288/[5.00-(4.6769-1.1288)/0.7733])/1.00g/ml = 2.742

RWS 9/18/95

S95T001323 rep (1.0488/[5.00-(4.5211-1.0488)/0.7733])/1.00g/ml = 2.057

2.742 + 2.057/2 = 2.400 Ave.

S95T001323 Dup Insufficient Sample amount

WHC-SD-WM-DP-141, REV. 1

9.15.95
595T002036

SAMPLE

T 2.4275 g

g 4.6072 g

STD 10.1.19 / AT 261

T 2.3084 g } SAM

g 5.1706 g

T 1.9195 g } RSP

G 4.9574 g

134W16A

T 2.3419 g } DUP

G 5.3501 g

T 1.8612 g } RSP

G 5.0122 g

REPLICATE

T 2.3791 g

g 4.6444 g

T 1.1288 g

G 4.6769 g

STD 10.1.19 / AT 261

T 0.8629 g } SAM

G 4.5083 g

T 1.0488 g

G 4.5211 g

T 1.2852 g } RSP.

G 4.7135 g

9.15.95
595T001323

T 1.0218 g } DUP.

G 4.5227 g

T 0.6182 g } RSP

G 4.2112 g

595T001320
9.15.95

SPECIFIC GRAVITY ANALYSIS

9.15.95

STD 10.1.19 / AT 261

59ST002020

Sam

T 1.7753 g

G 4.9532 g

RcP

T 1.7755 g

g 5.0203 g

DuP

T 2.0260 g

G 4.9768 g

RcP

T 1.9289 g

G 5.0345 g

BEST AVAILABLE COPY

LABCORE Data Entry Template for Worklist# 2008

Analyst: BDV **Instrument:** DSC01 **Book #** —

Method: LA-514-113 Rev/Mod —

WHC-SD-WM-DP- 141, REV. 1

Worklist Comment: Calculated dry DSC for T-108. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
95000097	T-108	1 SAMPLE	S95T001320	0		DSC-02	SOLID	N/A	Ø		Joules/g Dry
95000097	T-108	2 DUP	S95T001320	0		DSC-02	SOLID	Ø	Ø	N/A	Joules/g Dry
95000099	T-108	3 SAMPLE	S95T001323	0		DSC-02	SOLID	N/A	Ø		Joules/g Dry
95000099	T-108	4 DUP	S95T001323	0		DSC-02	SOLID	Ø	Ø	N/A	Joules/g Dry

Final page for worklist # 2008

Data entered + verified by
Blandina Valenzuela 8-15-95

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 Completed Worklist Report for Worklist# 1979

Analyst: ehc **Instrument:** IC01 **Book#** 100N9B

Method: LA-533-105C-2 Rev/Mod C-2 WHC-SD-WM-DP-141, REV. 1

Worklist Comment: T-108 IC,use water digest no acid, report due 8/25/95.JMF

Seq	Type	Sample#	R	A	Test		Matrix	Actual		Found	DL or Yield	Unit
1	BLNK-PREP			0	@IC-01	F-02	SOLID	1		<.062		ug/g
1	BLNK-PREP			0	@IC-01	CL-02	SOLID	1		<.083		ug/g
1	BLNK-PREP			0	@IC-01	NO2-02	SOLID	1		<.547		ug/g
1	BLNK-PREP			0	@IC-01	BR-02	SOLID	1		<.632		ug/g
1	BLNK-PREP			0	@IC-01	NO3-02	SOLID	1		<.699		ug/g
1	BLNK-PREP			0	@IC-01	PO4-02	SOLID	1		<.596		ug/g
1	BLNK-PREP			0	@IC-01	SO4-02	SOLID	1		<.678		ug/g
1	BLNK-PREP			0	@IC-01	OXALATE2	SOLID	1		n/a		ug/g
2	STD			0	@IC-01	F-02	SOLID	59		60.3	102.200	% Recovery
2	STD			0	@IC-01	CL-02	SOLID	79		80.5	101.900	% Recovery
2	STD			0	@IC-01	NO2-02	SOLID	534		538	100.750	% Recovery
2	STD			0	@IC-01	BR-02	SOLID	575		601	104.520	% Recovery
2	STD			0	@IC-01	NO3-02	SOLID	614		634	103.260	% Recovery
2	STD			0	@IC-01	PO4-02	SOLID	546		571	104.580	% Recovery
2	STD			0	@IC-01	SO4-02	SOLID	631		653	103.490	% Recovery
2	STD			0	@IC-01	OXALATE2	SOLID	524		n/a		% Recovery
3	SAMPLE	S95T001338	W	0	@IC-01	F-02	SOLID	N/A	<	1.23e3	1.230e+003	ug/g
3	SAMPLE	S95T001338	W	0	@IC-01	CL-02	SOLID	N/A	<	1.65e3	1.650e+003	ug/g
3	SAMPLE	S95T001338	W	0	@IC-01	NO2-02	SOLID	N/A	<	1.08e4	1.080e+004	ug/g
3	SAMPLE	S95T001338	W	0	@IC-01	BR-02	SOLID	N/A	<	1.25e4	1.250e+004	ug/g
3	SAMPLE	S95T001338	W	0	@IC-01	NO3-02	SOLID	N/A		6.74e5	1.390e+004	ug/g
3	SAMPLE	S95T001338	W	0	@IC-01	PO4-02	SOLID	N/A		2.61e4	1.180e+004	ug/g
3	SAMPLE	S95T001338	W	0	@IC-01	SO4-02	SOLID	N/A	<	1.34e4	1.340e+004	ug/g
4	DUP	S95T001338	W	0	@IC-01	F-02	SOLID	<1.23e3		<1.21e3		RPD
4	DUP	S95T001338	W	0	@IC-01	CL-02	SOLID	<1.65e3		<1.63e3		RPD
4	DUP	S95T001338	W	0	@IC-01	NO2-02	SOLID	<1.08e4		<1.07e4		RPD
4	DUP	S95T001338	W	0	@IC-01	BR-02	SOLID	<1.25e4		<1.24e4		RPD
4	DUP	S95T001338	W	0	@IC-01	NO3-02	SOLID	6.74e5		6.90e5	2.350	RPD
4	DUP	S95T001338	W	0	@IC-01	PO4-02	SOLID	2.61e4		2.47e4	5.510	RPD
4	DUP	S95T001338	W	0	@IC-01	SO4-02	SOLID	<1.34e4		<1.33e4		RPD
4	DUP	S95T001338	W	0	@IC-01	OXALATE2	SOLID	n/a		n/a		RPD
5	SPK	S95T001338	W	0	@IC-01	CL-02	SOLID	100		100.1	100.100	% Recovery
5	SPK	S95T001338	W	0	@IC-01	F-02	SOLID	100		105.2	105.200	% Recovery
5	SPK	S95T001338	W	0	@IC-01	NO2-02	SOLID	100		98.2	98.200	% Recovery
5	SPK	S95T001338	W	0	@IC-01	BR-02	SOLID	100		102.0	102.000	% Recovery
5	SPK	S95T001338	W	0	@IC-01	NO3-02	SOLID	100		98.0	98.000	% Recovery
5	SPK	S95T001338	W	0	@IC-01	PO4-02	SOLID	100		103.4	103.400	% Recovery
5	SPK	S95T001338	W	0	@IC-01	SO4-02	SOLID	100		102.1	102.100	% Recovery
5	SPK	S95T001338	W	0	@IC-01	OXALATE2	SOLID	100		n/a		% Recovery
6	SAMPLE	S95T001339	W	0	@IC-01	F-02	SOLID	N/A		1.98e4	1.210e+003	ug/g
6	SAMPLE	S95T001339	W	0	@IC-01	CL-02	SOLID	N/A	<	1.70e2	170.000	ug/g

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

LABCORE Completed Worklist Report for Worklist# 1979

Seq	Type	Sample#	R	A	Test		Matrix	Actual		Found	DL or Yield	Unit
6	SAMPLE	S95T001339	0	W	@IC-01	NO2-02	SOLID	N/A		1.61e3	1.120e+003	ug/g
6	SAMPLE	S95T001339	0	W	@IC-01	BR-02	SOLID	N/A	<	1.29e3	1.290e+003	ug/g
6	SAMPLE	S95T001339	0	W	@IC-01	NO3-02	SOLID	N/A		1.09e5	1.370e+004	ug/g
6	SAMPLE	S95T001339	0	W	@IC-01	PO4-02	SOLID	N/A		2.18e5	1.170e+004	ug/g
6	SAMPLE	S95T001339	0	W	@IC-01	SO4-02	SOLID	N/A		1.40e3	1.390e+003	ug/g
7	DUP	S95T001339	0	W	@IC-01	F-02	SOLID	1.98e4		2.06e4	3.960	RPD
7	DUP	S95T001339	0	W	@IC-01	CL-02	SOLID	<1.70e2		<1.70e2		RPD
7	DUP	S95T001339	0	W	@IC-01	NO2-02	SOLID	1.61e3		1.62e3	0.620	RPD
7	DUP	S95T001339	0	W	@IC-01	BR-02	SOLID	<1.29e3		<1.30e3		RPD
7	DUP	S95T001339	0	W	@IC-01	NO3-02	SOLID	1.09e5		9.56e4	13.100	RPD
7	DUP	S95T001339	0	W	@IC-01	PO4-02	SOLID	2.18e5		2.31e5	5.790	RPD
7	DUP	S95T001339	0	W	@IC-01	SO4-02	SOLID	1.40e3		1.52e3	8.220	RPD
7	DUP	S95T001339	0	W	@IC-01	OXALATE2	SOLID	n/a		n/a		RPD

Final page for worklist# 1979

Analyst Signature Date

Analyst Signature Date

Reviewer Signature Date

WHC-SD-WM-DP-141, REV. 1

LABCORE Data Entry Template for Worklist# 1979

Analyst: GC **Instrument:** IC01 **Book #** 100N9-B

Method: LA-533-105 Rev/Mod C-2 WHC-SD-WM-OP-141, REV. 1

Worklist Comment: T-108 IC,use water digest no acid, report due 8/25/95.JMF

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST		MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK-PREP				@IC-01	F-02	SOLID		<.062	N/A	ug/g
		1	BLNK-PREP				@IC-01	CL-02	SOLID		<.083	N/A	ug/g
		1	BLNK-PREP				@IC-01	NO2-02	SOLID		<.547	N/A	ug/g
		1	BLNK-PREP				@IC-01	BR-02	SOLID		<.632	N/A	ug/g
		1	BLNK-PREP				@IC-01	NO3-02	SOLID		<.699	N/A	ug/g
		1	BLNK-PREP				@IC-01	PO4-02	SOLID		<.596	N/A	ug/g
		1	BLNK-PREP				@IC-01	SO4-02	SOLID		<.678	N/A	ug/g
		1	BLNK-PREP				@IC-01	OXALATE2	SOLID	N/A	N/A	N/A	ug/g
		2	STD				@IC-01	F-02	SOLID		60.3	N/A	ug/g
		2	STD				@IC-01	CL-02	SOLID		80.5	N/A	ug/g
		2	STD				@IC-01	NO2-02	SOLID		538	N/A	ug/g
		2	STD				@IC-01	BR-02	SOLID		601	N/A	ug/g
		2	STD				@IC-01	NO3-02	SOLID		634	N/A	ug/g
		2	STD				@IC-01	PO4-02	SOLID		571	N/A	ug/g
		2	STD				@IC-01	SO4-02	SOLID		653	N/A	ug/g
		2	STD				@IC-01	OXALATE2	SOLID	N/A	N/A	N/A	ug/g
95000097	T-108	3	SAMPLE	S95T001338	0	W	@IC-01	F-02	SOLID	N/A	<1.23e3	1.23e3	ug/g
95000097	T-108	3	SAMPLE	S95T001338	0	W	@IC-01	CL-02	SOLID	N/A	<1.65e3	1.65e3	ug/g

Data Entry Comments:

LMCS 100N9-B .100mL -10mL S95T001338 10.1400g/L, dup 10.2400

SPIKE 100N9-B .100 mL S95T001339 10.2570g/L, dup 10.2040

Units 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# 1979

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	TEST		MATRIX	ACTUAL	FOUND	DL	UNIT
95000097	T-108	3 SAMPLE	S95T001338	0	W	aIC-01	NO2-02	SOLID	N/A	<1.08e4	1.08e4	ug/g
95000097	T-108	3 SAMPLE	S95T001338	0	W	aIC-01	BR-02	SOLID	N/A	<1.25e4	1.25e4	ug/g
95000097	T-108	3 SAMPLE	S95T001338	0	W	aIC-01	NO3-02	SOLID	N/A	6.74e5	1.39e4	ug/g
95000097	T-108	3 SAMPLE	S95T001338	0	W	aIC-01	PO4-02	SOLID	N/A	2.61e4	1.18e4	ug/g
95000097	T-108	3 SAMPLE	S95T001338	0	W	aIC-01	SO4-02	SOLID	N/A	<1.34e4	1.34e4	ug/g
95000097	T-108	3 SAMPLE	S95T001338	0	W	aIC-01	OXALATE2	SOLID	N/A	N/A	N/A gmf 8/14/95	ug/g
95000097	T-108	4 DUP	S95T001338	0	W	aIC-01	F-02	SOLID	<1.23e3	<1.2~~6~~1e3	N/A	ug/g
95000097	T-108	4 DUP	S95T001338	0	W	aIC-01	CL-02	SOLID	<1.65e3	<1.6~~8~~3e3 3 gmf 8/14/95	N/A	ug/g
95000097	T-108	4 DUP	S95T001338	0	W	aIC-01	NO2-02	SOLID	<1.08e4	<1.0~~8~~4 gmf 8/14/95	N/A	ug/g
95000097	T-108	4 DUP	S95T001338	0	W	aIC-01	BR-02	SOLID	<1.25e4	<1.2~~5~~4 gmf 8/14/95	N/A	ug/g
95000097	T-108	4 DUP	S95T001338	0	W	aIC-01	NO3-02	SOLID	6.74e5	6.90e5	N/A	ug/g
95000097	T-108	4 DUP	S95T001338	0	W	aIC-01	PO4-02	SOLID	2.61e4	2.47e4	N/A	ug/g
95000097	T-108	4 DUP	S95T001338	0	W	aIC-01	SO4-02	SOLID	<1.34e4	<1.3~~4~~4 3 gmf 8/14/95	N/A	ug/g
95000097	T-108	4 DUP	S95T001338	0	W	aIC-01	OXALATE2	SOLID	N/A	N/A	N/A	ug/g
95000097	T-108	5 SPK	S95T001338	0	W	aIC-01	CL-02	SOLID		100.1	N/A	ug/g
95000097	T-108	5 SPK	S95T001338	0	W	aIC-01	F-02	SOLID		105.2	N/A	ug/g
95000097	T-108	5 SPK	S95T001338	0	W	aIC-01	NO2-02	SOLID		98.2	N/A	ug/g
95000097	T-108	5 SPK	S95T001338	0	W	aIC-01	BR-02	SOLID		102.0	N/A	ug/g
95000097	T-108	5 SPK	S95T001338	0	W	aIC-01	NO3-02	SOLID		98.0	N/A	ug/g
95000097	T-108	5 SPK	S95T001338	0	W	aIC-01	PO4-02	SOLID		103.4	N/A	ug/g
95000097	T-108	5 SPK	S95T001338	0	W	aIC-01	SO4-02	SOLID		102.1	N/A	ug/g

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# 1979

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	TEST		MATRIX	ACTUAL	FOUND	DL	UNIT
95000097	T-108	5 SPK	S95T001338	0	W	@IC-01	OXALATE2	SOLID	N/A	N/A	N/A	ug/g
95000099	T-108	6 SAMPLE	S95T001339	0	W	@IC-01	F-02	SOLID	N/A	1.98e4	1.21e3	ug/g
95000099	T-108	6 SAMPLE	S95T001339	0	W	@IC-01	CL-02	SOLID	N/A	<1.70e2	1.70e2	ug/g
95000099	T-108	6 SAMPLE	S95T001339	0	W	@IC-01	NO2-02	SOLID	N/A	1.61e3	1.12e3	ug/g
95000099	T-108	6 SAMPLE	S95T001339	0	W	@IC-01	BR-02	SOLID	N/A	<1.29e3	1.29e3	ug/g
95000099	T-108	6 SAMPLE	S95T001339	0	W	@IC-01	NO3-02	SOLID	N/A	~~9.56e4~~ 1.09e5 GMF 8/14/95	1.37e4	ug/g
95000099	T-108	6 SAMPLE	S95T001339	0	W	@IC-01	PO4-02	SOLID	N/A	2.18e5	1.17e4	ug/g
95000099	T-108	6 SAMPLE	S95T001339	0	W	@IC-01	SO4-02	SOLID	N/A	1.40e3	1.39e3	ug/g
95000099	T-108	6 SAMPLE	S95T001339	0	W	@IC-01	OXALATE2	SOLID	N/A	N/A	N/A	ug/g
95000099	T-108	7 DUP	S95T001339	0	W	@IC-01	F-02	SOLID	1.98e4	2.06e4	N/A	ug/g
95000099	T-108	7 DUP	S95T001339	0	W	@IC-01	CL-02	SOLID	<1.70e2	<1.70e2	N/A	ug/g
95000099	T-108	7 DUP	S95T001339	0	W	@IC-01	NO2-02	SOLID	1.61e3	1.62e3	N/A	ug/g
95000099	T-108	7 DUP	S95T001339	0	W	@IC-01	BR-02	SOLID	<1.29e3	~~<1.29e3~~ 30 GMF 8/14/95	N/A	ug/g
95000099	T-108	7 DUP	S95T001339	0	W	@IC-01	NO3-02	SOLID	1.09e5	9.56e4	N/A	ug/g
95000099	T-108	7 DUP	S95T001339	0	W	@IC-01	PO4-02	SOLID	2.18e5	2.31e5	N/A	ug/g
95000099	T-108	7 DUP	S95T001339	0	W	@IC-01	SO4-02	SOLID	1.40e3	1.52e3	N/A	ug/g
95000099	T-108	7 DUP	S95T001339	0	W	@IC-01	OXALATE2	SOLID	N/A	N/A	N/A	ug/g

Final page for worklist # 1979

E.B. Cahn 8-10-95
Analyst Signature **Date**

Analyst Signature **Date**

Entered and Verified 8/14/95 J. M. Fuge

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.

WESTINGHOUSE HANFORD COMPANY
222-S LABORATORY
INORGANIC ANALYTICAL BATCH AND SUMMARY SHEET

ANION ANALYSIS ON DIONEX

SAMPLE #:	S95T001338 & S95T001339		
TEST CODE:	@ic-01	ANALYST:	Ed Colvin
INSTRUMENT:	IC01(4000i)	ANALYSIS DATE:	08/10/95
WORK LIST #:	1979	SAMPLE POINT:	T-108
BATCH ID:		SAMPLE PREP:	water digest

Result Units µg/g	Fluoride	Chloride	Nitrite	Nitrate	Phosphate	Sulfate	Bromide	Oxalate
100N9B	102.2%	101.9%	100.7%	103.3%	104.6%	103.5%	104.5%	102.7%
S95T001338	<1228.99	<1645.27	<10842.90	6.74E+05	2.61E+04	<13439.64	<12527.81	<9831.95
S95T001338dup	<1216.99	<1629.20	<10737.01	6.90E+05	2.47E+04	<13308.40	<12405.47	<9735.94
Duplicate 1 RPD	N/A	N/A	N/A	2.5%	5.7%	N/A	N/A	N/A
S95T001339	1.98E+04	<169.93	1.61E+03	1.09E+05	2.18E+05	1.40E+03	<1293.95	<1015.50
S95t001339dup	2.06E+04	<170.82	1.62E+03	9.56E+04	2.31E+05	1.52E+03	<1300.67	<1020.78
Duplicate 2 RPD	4.1%	N/A	0.3%	13.5%	5.9%	8.6%	N/A	N/A
S95T001338spk	105.2%	100.1%	98.9%	98.0%	103.4%	102.1%	102.0%	104.4%

NARRATIVE: **Analyst Comments:**

Chemist Comments:

Form Completed By:	[signature]	Date:	8/14/95
Chemist Approval:	[signature]	Date:	8/14/95

75

LAB LEADER INFO	
Method:	LA-533-105 C-2
Matrix:	solid
Test Code:	@ic-01
Work List #:	1979
Batch #:	
Result Units	
(µg/g or µg/mL):	µg/g
Spike Book Number:	100N9B
Spike Sample #:	1
Prepared By:	Jann Frye
Prepared Date:	08/14/95
Chemist:	Jann Frye
Analyst:	Ed Colvin
Analysis Date:	08/10/95
Time Complete:	10:33 AM
Instrument Code:	IC01(4000I)
Rerun:	0
Sample Prep:	water digest
Sample Point:	T-108
Sample Type	
STANDARD	100N9B
SAMPLE 1	S95T001338
DUPLICATE 1	S95T001338dup
SAMPLE 2	S95T001339
DUPLICATE 2	S95t001339dup
SAMPLE 3	
DUPLICATE 3	
SAMPLE 4	
DUPLICATE 4	
SPIKE	S95T001338spk
SPIKE DUPLICATE	

TECH INFO	Fluoride	Chloride	Nitrite	Nitrate	Phosphate	Sulfate	Bromide	Oxalate
Blank Data (µg/mL)	<.062	<.083	<.547	<.699	<.596	<.678	<.632	<.496
Standard Data (µg/mL)	60.3	90.5	538	634	571	653	601	538
Sample 1 Data (µg/mL)	<.062	<.083	<.547	6.83E+03	2.65E+02	<.678	<.632	<.496
Sample 1 Dilution Factor	201	201	201	201	201	201	201	201
Sample 1 Prep DF	10.14	10.14	10.14	10.14	10.14	10.14	10.14	10.14
Duplicate 1 Data (µg/mL)	<.062	<.083	<.547	7.07E+03	2.53E+02	<.678	<.632	<.496
Duplicate 1 Dilution Factor	201	201	201	201	201	201	201	201
Duplicate 1 Prep DF	10.24	10.24	10.24	10.24	10.24	10.24	10.24	10.24
Sample 2 Data (µg/mL)	2.03E+02	<.083	1.66E+01	1.12E+03	2.24E+03	1.43E+01	<.632	<.496
Sample 2 Dilution Factor	201	21	21	201	201	21	21	21
Sample 2 Prep DF	10.257	10.257	10.257	10.257	10.257	10.257	10.257	10.257
Duplicate 2 Data (µg/mL)	2.10E+02	<.083	1.65E+01	9.76E+02	2.36E+03	1.56E+01	<.632	<.496
Duplicate 2 Dilution Factor	201	21	21	201	201	21	21	21
Duplicate 2 Prep DF	10.204	10.204	10.204	10.204	10.204	10.204	10.204	10.204
Sample 3 Data (µg/mL)								
Sample 3 Dilution Factor								
Sample 3 Prep DF								
Duplicate 3 Data (µg/mL)								
Duplicate 3 Dilution Factor								
Duplicate 3 Prep DF								
Sample 4 Data (µg/mL)								
Sample 4 Dilution Factor								
Sample 4 Prep DF								
Duplicate 4 Data (µg/mL)								
Duplicate 4 Dilution Factor								
Duplicate 4 Prep DF								
Spike + Sample 1 (µg/mL)	1.24E+02	1.58E+02	1.06E+03	8.03E+03	1.39E+03	1.29E+03	1.17E+03	1.09E+03
Spike + Dup 1 (µg/mL)								
Spike Volume (mL)	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01
Total Volume (mL)	10.05	10.05	10.05	10.05	10.05	10.05	10.05	10.05
Std. Conc. (µg/mL)	59	79	534	614	546	631	575	524
Detection Limit	0.062	0.083	0.547	0.699	0.596	0.678	0.632	0.496
Matrix Detection Limit 1	1.23E+03	1.65E+03	1.08E+04	1.39E+04	1.18E+04	1.34E+04	1.25E+04	9.83E+03
Matrix Detection Limit 2	1.21E+03	1.70E+03	1.12E+03	1.37E+04	1.17E+04	1.39E+03	1.29E+03	1.02E+03
Matrix Detection Limit 3	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
Matrix Detection Limit 4	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR

Spike Recovery = (((Spike+Sample)-(Sample)*(Total Volume))/((Spike Vol.)*(Spike Std.)*(Sample DF)))*100%

Note: (For spike recovery when the sample conc. is less than detection limit you do NOT subtract sample conc.)

Duplicate Relative % Difference = ((Sample - Duplicate) / ((Sample + Duplicate) / 2) * 100%)

Less than Values are Calculated from the Detection Limit*Dilution Factor

v RESULTS v	Fluoride	Chloride	Nitrite	Nitrate	Phosphate	Sulfate	Bromide	Oxalate
Standard % Recovery	102.2%	101.9%	100.7%	103.3%	104.6%	103.5%	104.5%	102.7%
Sample 1 in µg/g	<1228.99	<1645.27	<10842.90	6.74E+05	2.61E+04	<13439.64	<12527.81	<9831.95
Duplicate 1 in µg/g	<1216.99	<1629.20	<10737.01	6.90E+05	2.47E+04	<13308.40	<12405.47	<9735.94
Duplicate 1 RPD	N/A	N/A	N/A	2.5%	5.7%	N/A	N/A	N/A
Sample 2 in µg/g	1.98E+04	<169.53	1.61E+03	1.09E+05	2.18E+05	1.40E+03	<1293.95	<1015.50
Duplicate 2 in µg/g	2.06E+04	<170.82	1.62E+03	9.56E+04	2.31E+05	1.52E+03	<1300.67	<1020.78
Duplicate 2 RPD	4.1%	N/A	0.3%	13.5%	5.9%	8.6%	N/A	N/A
Spike % Recovery	105.2%	100.1%	98.9%	98.0%	103.4%	102.1%	102.0%	104.4%

Data Entry by: Jann Frye Date: 08/14/95

Approved by: Jann Frye Date: 8/14/95

Form DIONEX.WB1 Rev. 1.3

76

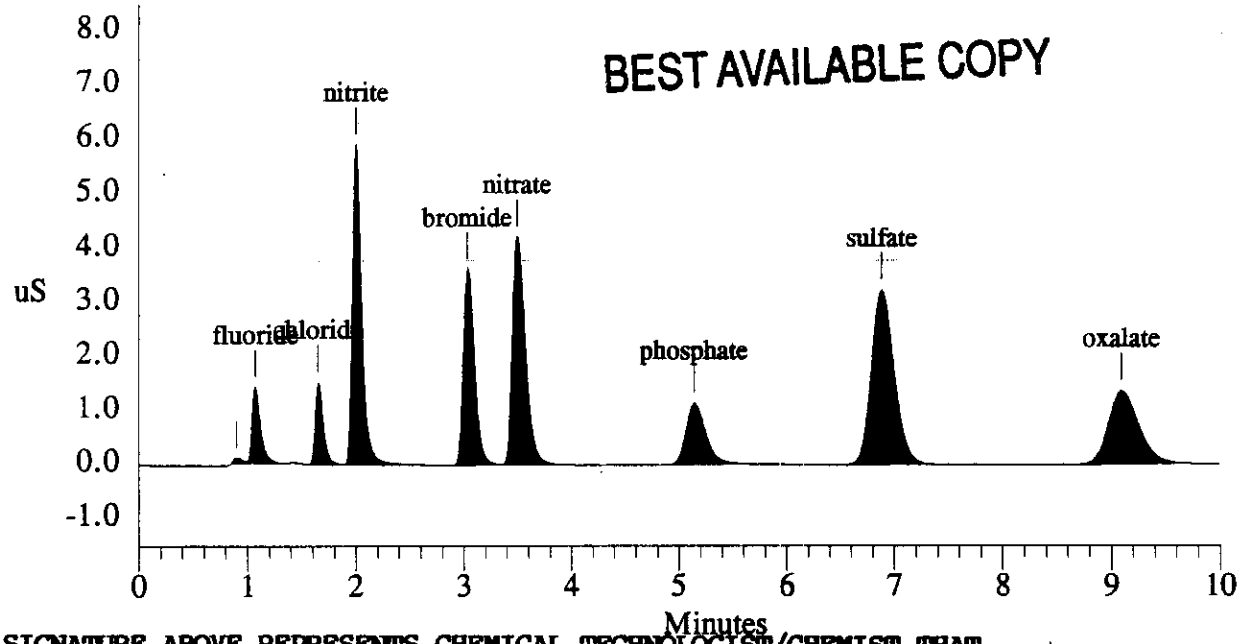
Sample Name: 100N9-B STD Date: 08/10/1995 08:16:45
Data File : C:\DX\DATA\95081011.D05
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 5 Detector:CDM-1
Analyst : E.K. Cohn Column: AG4A/AS4A anion column/SRS
8/10/95

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	101	3000	5Hz	0.00	10.00		200

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.90		0.000	85	424	2	
2	1.07	fluoride	60.310	1407	7583	2	0.94
3	1.65	chloride	80.559	1519	7670	1	0.00
4	2.00	nitrite	538.346	5899	34397	1	-0.50
5	3.03	bromide	601.256	3610	25757	1	2.02
6	3.49	nitrate	633.713	4204	35024	1	4.18
7	5.14	phosphate	570.700	1143	14286	1	1.98
8	6.88	sulfate	653.416	3225	46780	1	2.84
9	9.09	oxalate	538.318	1363	26152	1	3.30
		Totals	3676.617	22455	198072		

File: 95081011.D05 Sample: 100N9-B STD



SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 77 TO 86.

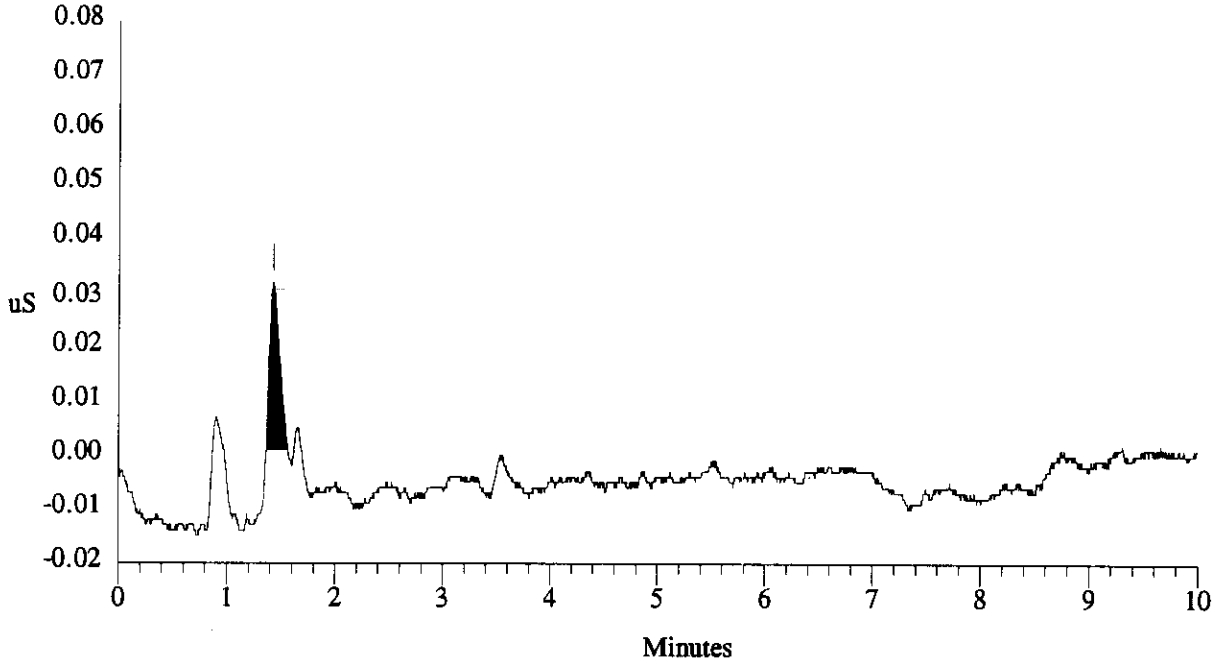
```
==============================================================================
| Sample Name: INSTR BLANK                    Date: 08/10/1995 06:31:48       |
| Data File  : C:\DX\DATA\95081011.D01                                        |
| Method     : C:\DX\METHOD\KIT.MET                                           |
| ACI Address: 1  System: 1  Inject#: 1                   Detector:CDM-1      |
| Analyst    :                Column: AG4A/AS4A anion column/SRS              |
==============================================================================
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	3000	5Hz	0.00	10.00	200

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

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

File: 95081011.D01 Sample: INSTR BLANK



WHC-SD-WM-DP-141, REV. 1

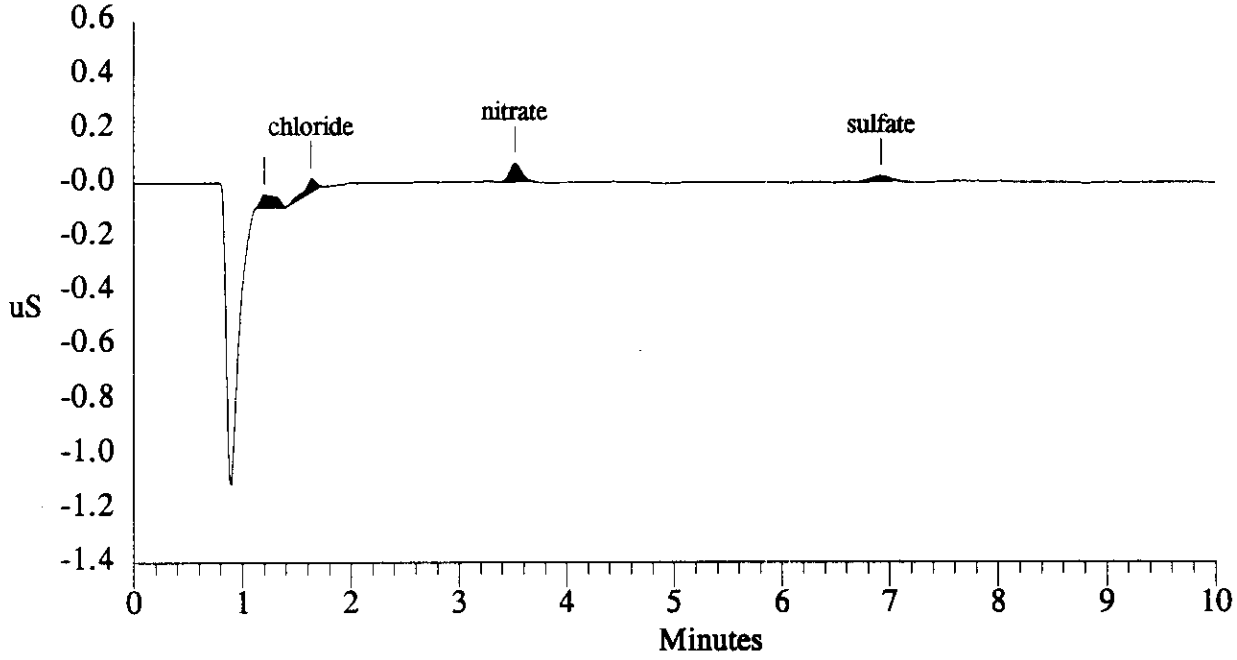
```
==========================================================================
| Sample Name: PREP BLANK                      Date: 08/10/1995 06:44:21   |
| Data File  : C:\DX\DATA\95081011.D02                                    |
| Method     : C:\DX\METHOD\KIT.MET                                       |
| ACI Address: 1  System: 1  Inject#: 2                  Detector:CDM-1   |
| Analyst    :                Column: AG4A/AS4A anion column/SRS          |
==========================================================================
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	3000	5Hz	0.00	10.00		200

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	1.20		0.000	47	473	1	
2	1.63	chloride	0.002	50	378	1	-1.21
3	3.52	nitrate	0.101	69	516	1	5.07
4	6.92	sulfate	0.081	20	235	1	3.44
		Totals	0.185	185	1601		

File: 95081011.D02 Sample: PREP BLANK



WHC-SD-WM-DP-141, REV. 1

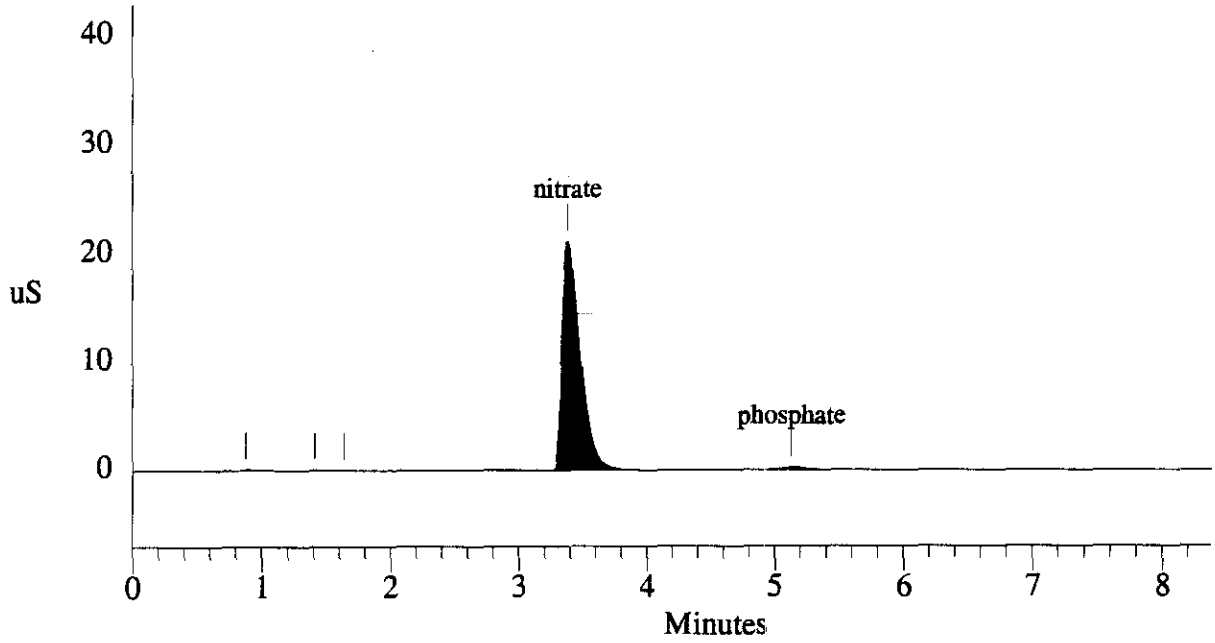
```
==========================================================================
| Sample Name: S95T001338                    Date: 08/10/1995 09:24:41    |
| Data File  : C:\DX\DATA\95081011.D10                                    |
| Method     : C:\DX\METHOD\KIT.MET                                       |
| ACI Address: 1  System: 1  Inject#: 10                Detector:CDM-1    |
| Analyst    :                Column: AG4A/AS4A anion column/SRS          |
==========================================================================
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	201	2515	5Hz	0.00	8.38		200

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	76	412	1	
4	3.38	nitrate	6831.203	21206	209621	1	0.90
5	5.13	phosphate	265.006	238	2938	1	1.79
		Totals	7096.209	21520	212971		

File: 95081011.D10 Sample: S95T001338



WHC-SD-WM-DP-141, REV. 1

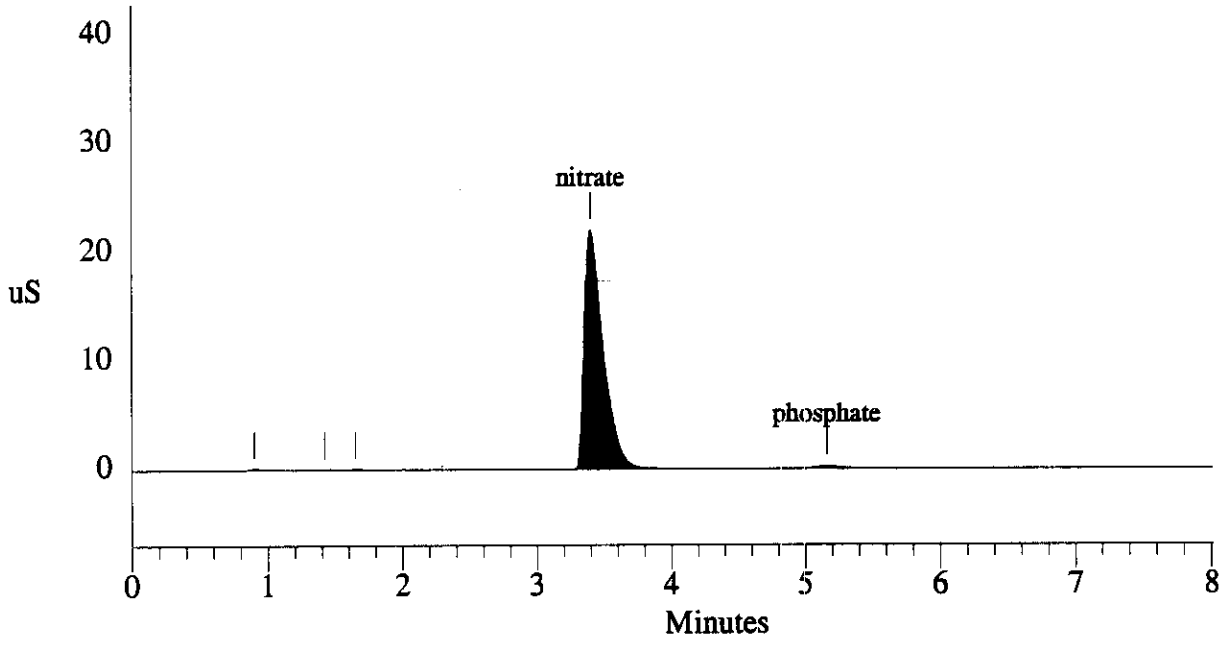
```
==========================================================================
| Sample Name: S95T001338  DUP                Date: 08/10/1995 09:15:23   |
| Data File  : C:\DX\DATA\95081011.D09                                    |
| Method     : C:\DX\METHOD\KIT.MET                                       |
| ACI Address: 1  System: 1  Inject#: 9                  Detector:CDM-1   |
| Analyst    :                 Column: AG4A/AS4A anion column/SRS        |
==========================================================================
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	201	2405	5Hz	0.00	8.01		200

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.90		0.000	79	434	1	
2	1.42		0.000	34	251	1	
4	3.40	nitrate	7070.428	22052	218058	1	1.49
5	5.16	phosphate	252.922	223	2783	1	2.38
		Totals	7323.349	22388	221526		

File: 95081011.D09 Sample: S95T001338 DUP



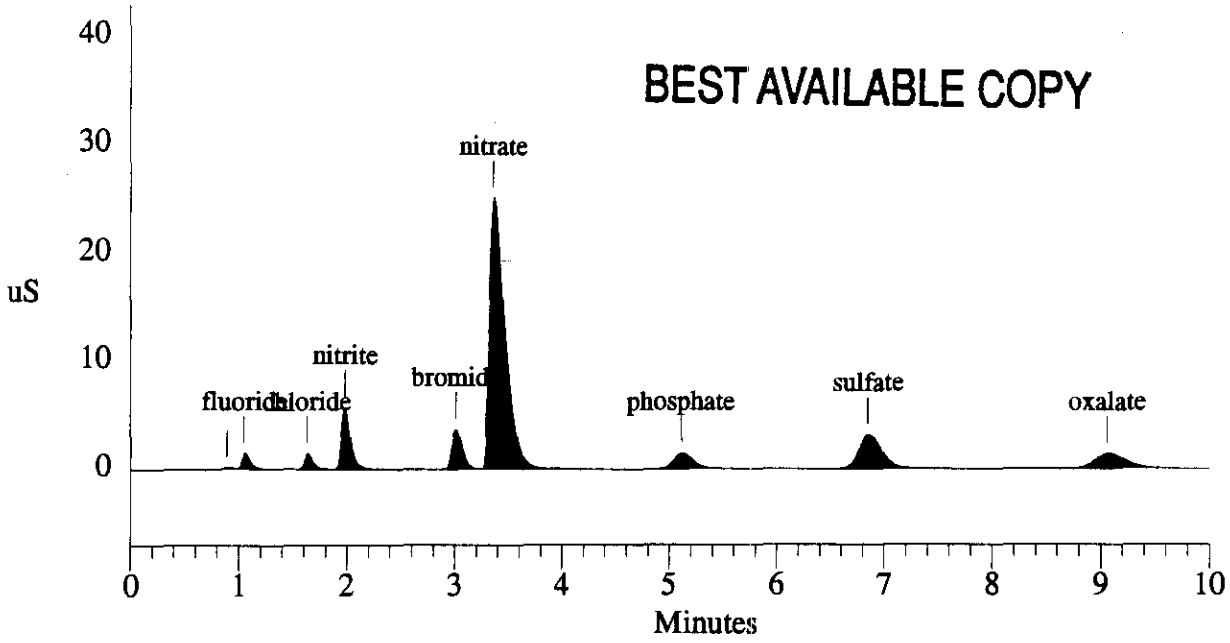
```
==========================================================================
| Sample Name: S95T001338  + SPIKE            Date: 08/10/1995 09:35:30   |
| Data File  : C:\DX\DATA\95081011.D11                                    |
| Method     : C:\DX\METHOD\KIT.MET                                       |
| ACI Address: 1  System: 1  Inject#: 11                  Detector:CDM-1  |
| Analyst    :                Column: AG4A/AS4A anion column/SRS          |
==========================================================================
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	201	3000	5Hz	0.00	10.00		200

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.89		0.000	133	651	2	
2	1.05	fluoride	124.135	1490	7850	2	-0.94
3	1.63	chloride	158.190	1473	7571	1	-1.21
4	1.98	nitrite	1056.140	5758	33895	1	-1.49
5	3.01	bromide	1172.831	3688	25224	1	1.35
6	3.36	nitrate	8034.117	25054	253088	1	0.30
7	5.11	phosphate	1394.031	1437	17726	1	1.39
8	6.85	sulfate	1288.310	3170	46334	1	2.39
9	9.06	oxalate	1094.426	1391	26746	1	2.95
		Totals	14322.181	43593	419085		

File: 95081011.D11 Sample: S95T001338 + SPIKE



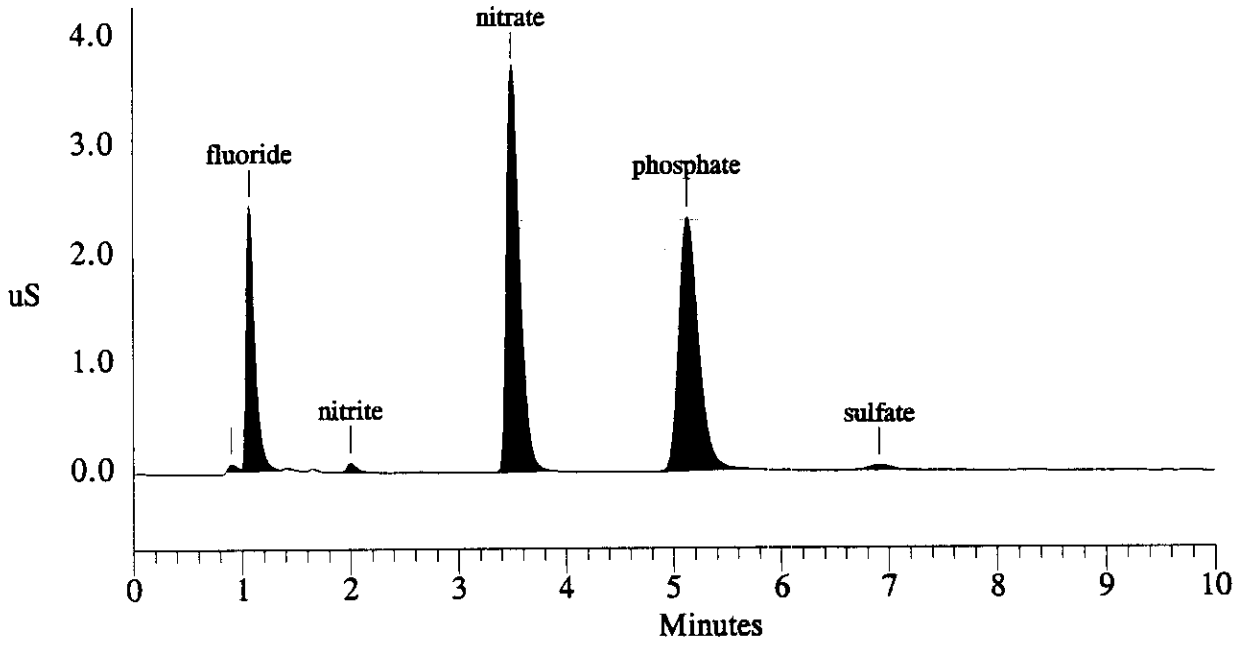
```
==========================================================================
| Sample Name: S95T001339                    Date: 08/10/1995 09:46:21    |
| Data File  : C:\DX\DATA\95081011.D12                                    |
| Method     : C:\DX\METHOD\KIT.MET                                       |
| ACI Address: 1  System: 1  Inject#: 12                Detector:CDM-1    |
| Analyst    :                Column: AG4A/AS4A anion column/SRS          |
==========================================================================
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	201	3000	5Hz	0.00	10.00		200

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.90		0.000	60	308	2	
2	1.07	fluoride	202.866	2432	13029	2	0.94
3	2.00	nitrite	25.992	82	461	1	-0.50
4	3.49	nitrate	1122.924	3703	31115	1	4.18
5	5.13	phosphate	2237.950	2336	29222	1	1.79
6	6.91	sulfate	23.147	38	475	1	3.29
		Totals	3612.879	8651	74611		

File: 95081011.D12 Sample: S95T001339



WHC-SD-WM-DP-141, REV. 1

```
==========================================================================
| Sample Name: S95T001339                      Date: 08/10/1995 10:19:50  |
| Data File  : C:\DX\DATA\95081011.D13                                   |
| Method     : C:\DX\METHOD\KIT.MET                                      |
| ACI Address: 1  System: 1  Inject#: 13                Detector:CDM-1   |
| Analyst    :                Column: AG4A/AS4A anion column/SRS         |
==========================================================================
```

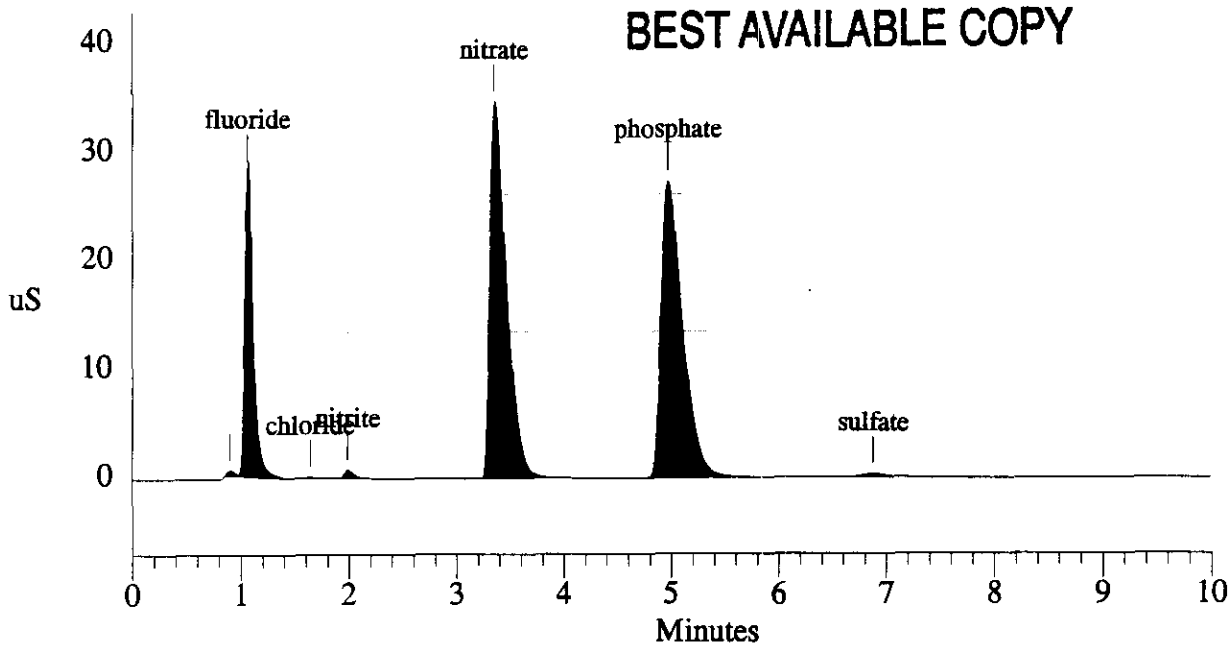
Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	21	3000	5Hz	0.00	10.00		200

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.90		0.000	427	2068	2	
2	1.06	fluoride	160.801	28118	150717	2	0.00
3	1.64	chloride	0.437	104	547	1	-0.61
4	1.99	nitrite	16.543	762	4700	1	-1.00
5	3.35	nitrate	1147.427	34702	373438	1	0.00
6	4.97	phosphate	1441.927	27311	379544	1	-1.39
7	6.88	sulfate	14.349	310	4540	1	2.84
		Totals	2781.484	91733	915556		

File: 95081011.D13 Sample: S95T001339

BEST AVAILABLE COPY



WHC-SD-WM-DP-141, REV. 1

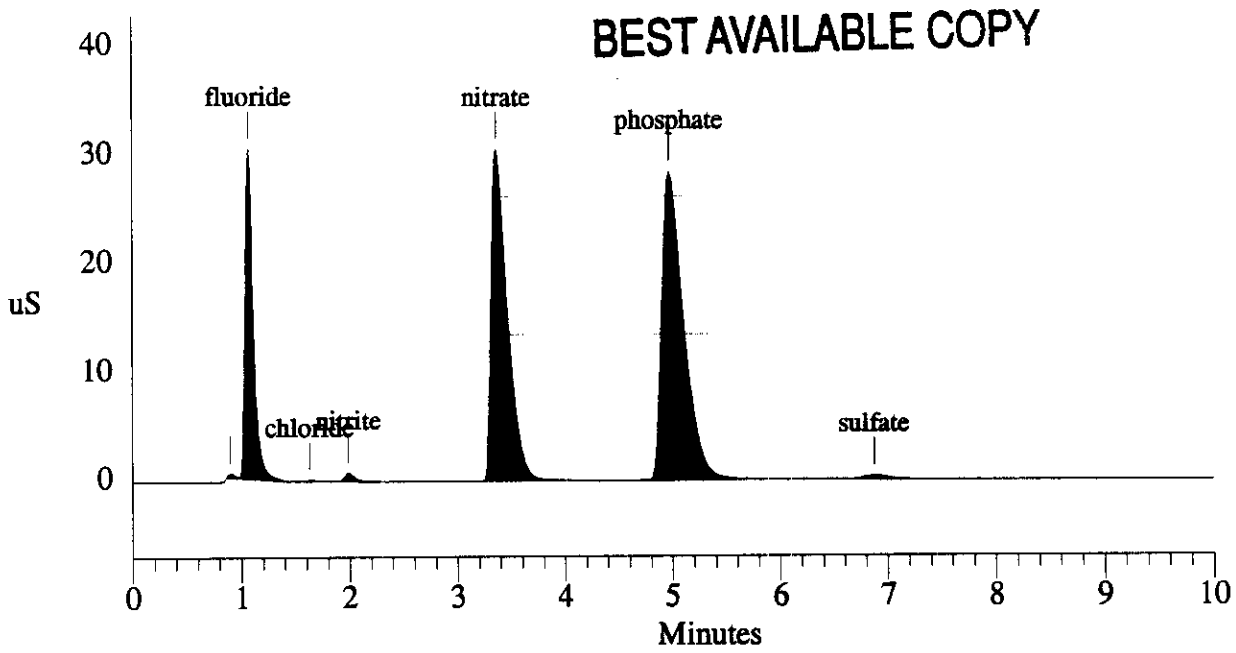
```
==========================================================================
| Sample Name: S95T001339  DUP                Date: 08/10/1995 10:44:54   |
| Data File  : C:\DX\DATA\95081011.D15                                    |
| Method     : C:\DX\METHOD\KIT.MET                                       |
| ACI Address: 1  System: 1  Inject#: 15                 Detector:CDM-1   |
| Analyst    :                Column: AG4A/AS4A anion column/SRS          |
==========================================================================
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	21	3000	5Hz	0.00	10.00	200

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.90		0.000	396	1804	2	
2	1.07	fluoride	163.122	30402	156002	2	0.94
3	1.63	chloride	0.511	106	579	1	-1.21
4	1.99	nitrite	16.547	764	4701	1	-1.00
5	3.36	nitrate	1011.768	30479	317586	1	0.30
6	4.97	phosphate	1429.024	28351	395248	1	-1.39
7	6.87	sulfate	15.552	333	4950	1	2.69
		Totals	2636.524	90831	880871		

File: 95081011.D15 Sample: S95T001339 DUP



WHC-SD-WM-DP-141, REV. 1

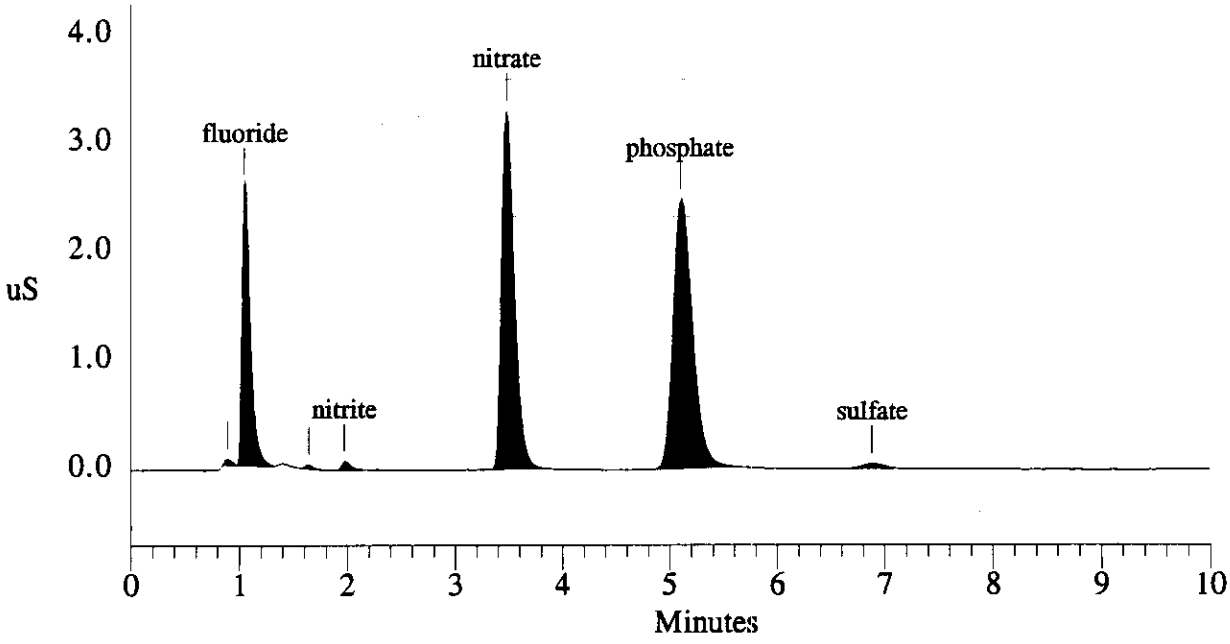
```
==============================================================================
| Sample Name: S95T001339  DUP                Date: 08/10/1995 10:33:30      |
| Data File  : C:\DX\DATA\95081011.D14                                       |
| Method     : C:\DX\METHOD\KIT.MET                                          |
| ACI Address: 1  System: 1  Inject#: 14                  Detector:CDM-1     |
| Analyst    :                 Column: AG4A/AS4A anion column/SRS            |
==============================================================================
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	201	3000	5Hz	0.00	10.00		200

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

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.89		0.000	56	261	2	
2	1.05	fluoride	210.382	2581	13531	2	-0.94
4	1.97	nitrite	25.232	76	437	1	-1.99
5	3.48	nitrate	975.604	3297	26967	1	3.88
6	5.10	phosphate	2360.794	2470	30930	1	1.19
7	6.88	sulfate	24.512	41	524	1	2.84
		Totals	3596.524	8520	72650		

File: 95081011.D14 Sample: S95T001339 DUP



WHC-SD-WM-DP-141, REV. 1

T105

LABCORE Data Entry Template for Worklist# 1985

Analyst: JK Sato **Instrument:** ICP01 JK 8-16-95 **Book#** 46B48a

Method: LA-505-~~151~~ 161 DK 10-17-95 **Rev/Mod** a-1 WHC-SD-WM-DP-141, REV. 1

Worklist Comment:

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	PREPSTDTJA				@ICP-A01	SOLID		
6	PREPBLKTJA				@ICP-A01	SOLID		
7	SAMPLE	S95T001402	0	A	@ICP-A01	SOLID	95000097	T-108

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

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
8	DUP	S95T001402	0	A	@ICP-A01	SOLID		
9	SPK	S95T001402	0	A	@ICP-A01	SOLID		
10	CCV				@ICP-QC	QC		
11	CCB				@ICP-QC	QC		
12	SAMPLE	S95T001403	0	A	@ICP-A01	SOLID	95000099	T-108

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# 1985

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
13	DUP	S95T001403	0	A	@ICP-A01	SOLID		
14	SPK	S95T001403	0	A	@ICP-A01	SOLID		
15	ICSA				@ICP-QC	QC		
16	ICSAB				@ICP-QC	QC		
17	CCV				@ICP-QC	QC		
18	CCB				@ICP-QC	QC		

Final page for worklist # 1985

JK Lato 08-11-95
Analyst Signature **Date**

Reviewed and validated
MAL 8/13/95
Analyst Signature **Date**

PrepStdTJG 5 ml (WHC 1Q & 2) → 100 ml
PrepBlkTJG 100 ml Direct

S95T001402_L, 1.0073 g → 100 ml, 2-10-2-8 ml, (100 x 30)/1.0073 = 2978.2
S95T001402 1.0073 g → 100 2-10 (100 x 6)/1.0073 = 595.7
S95T001402_D 1.0092 g → 100 2-10 (100 x 6)/1.0092 = 594.5
S95T001402_S 1.0092 g → 100 2-10 (100 x 6)/1.0092 = 594.5 5 ml (WHC1Q + 2) → 100 ml

S95T001403_L, 1.0050 g → 100 ml, 1-9-2-8 ml, (100 x 50)/1.0050 = 4975.1
S95T001403 1.0050 g → 100 1-9 (100 x 10)/1.0050 = 995
S95T001403_D 1.0006 g → 100 1-9 (100 x 10)/1.0006 = 999.4
S95T001403_Q 1.0050 g → 100 1-9 (100 x 10)/1.0050 = 995 1 ml Sample + 2 ml STS + 7 ml 2% HNO_3

Data Entry Comments:

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

Analysis Report Summary Fri 08-11-95 01:53:48 PM page 1

#	Sample Name	File	Method	Date	Time	OpID	Type	Mode
1	ICV	950811B	ICP2	08/11/95	12:10	DKS	Q	CONC
2	ICB	950811B	ICP2	08/11/95	12:13	DKS	Q	CONC
3	ICSA	950811B	ICP2	08/11/95	12:16	DKS	Q	CONC
4	ICSAB	950811B	ICP2	08/11/95	12:20	DKS	Q	CONC
5	PREPSTDTJA	950811B	ICP2	08/11/95	12:27	DKS	S	CONC
6	PREPBLKTJA	950811B	ICP2	08/11/95	12:32	DKS	S	CONC
7	S95T001402_L	950811B	ICP2	08/11/95	12:36	DKS	S	CONC
8	S95T001402_	950811B	ICP2	08/11/95	12:40	DKS	S	CONC
9	S95T001402_D	950811B	ICP2	08/11/95	12:44	DKS	S	CONC
10	S95T001402_S	950811B	ICP2	08/11/95	12:50	DKS	S	CONC
11	CCV	950811B	ICP2	08/11/95	13:03	DKS	Q	CONC
12	CCB	950811B	ICP2	08/11/95	13:07	DKS	Q	CONC
13	S95T001403_L	950811B	ICP2	08/11/95	13:12	DKS	S	CONC
14	S95T001403_	950811B	ICP2	08/11/95	13:16	DKS	S	CONC
15	S95T001403_D	950811B	ICP2	08/11/95	13:20	DKS	S	CONC
16	S95T001403_A	950811B	ICP2	08/11/95	13:25	DKS	S	CONC
17	ICSA	950811B	ICP2	08/11/95	13:31	DKS	Q	CONC
18	ICSAB	950811B	ICP2	08/11/95	13:37	DKS	Q	CONC
19	CCV_1	950811B	ICP2	08/11/95	13:45	DKS	Q	CONC
20	CCB_1	950811B	ICP2	08/11/95	13:49	DKS	Q	CONC

JK [signature]
08-11-95

T-108 S95T001402
S95T001403

Worklist# 1985

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 89 TO 93.

WHC-SD-WM-DP-141, REV.1

#	Sample Name	Ag	Al	As	B	Ba	Be
1	ICV	4.912	5.036	5.181	5.078	4.996	5.234
2	ICB	.0017	-.0061	.0113	.0050	.0001	-.0001
3	ICSA	.0008	245.0	-.1532	-.0011	.0018	.0000
4	ICSAB	.9274	245.4	-.1478	-.0012	.4620	.4744
5	PREPSTDTJA	.8037	5.014	4.625	5.817	4.640	4.994
6	PREPBLKTJA	.0006	.0220	-.0027	.0181	.0004	-.0002
7	S95T001402_L	-5.035	206.8	2.941	8.362	.4371	-.7890
8	S95T001402_	.8345	246.5	11.84	3.468	.7394	-.1412
9	S95T001402_D	1.387	301.0	8.653	42.99	.8480	-.1273
10	S95T001402_S	84.29	828.9	498.6	584.2	447.2	489.4
11	CCV	4.849	4.971	5.134	5.014	4.909	5.166
12	CCB	.0007	-.0169	.0119	.0070	.0000	-.0002
13	S95T001403_L	4.108	4235.	26.76	366.5	8.339	-.7407
14	S95T001403_	1.926	4244.	12.02	351.5	8.135	-.1699
15	S95T001403_D	1.587	4367.	7.201	346.2	7.324	-.3645
16	S95T001403_A	647.3	5154.	1006.	1322.	936.9	994.1
17	ICSA	.0001	244.8	-.1674	-.0092	.0017	-.0001
18	ICSAB	.9178	244.2	-.1556	-.0045	.4559	.4677
19	CCV_1	4.851	4.968	5.145	5.050	4.898	5.193
20	CCB_1	-.0002	-.0144	.0070	.0070	.0000	-.0003

#	Sample Name	Bi	Ca	Cd	Ce	Co	Cr
1	ICV	5.103	5.214	5.200	5.108	5.217	5.188
2	ICB	.0319	-.0037	.0006	-.0042	.0020	.0008
3	ICSA	.0246	238.8	-.0002	.0123	.0009	.0081
4	ICSAB	.0059	240.0	.9336	.0095	.4641	.4768
5	PREPSTDTJA	4.491	4.832	4.570	4.781	4.713	4.687
6	PREPBLKTJA	-.0049	.5467	.0005	.0003	.0002	.0020
7	S95T001402_L	87.65	72.75	.6560	-27.50	-8.057	.8804
8	S95T001402_	95.13	84.56	.4000	-1.975	1.222	4.672
9	S95T001402_D	103.3	89.67	.3429	2.328	1.160	4.895
10	S95T001402_S	570.7	618.9	489.9	465.2	491.5	491.0
11	CCV	5.036	5.160	5.145	5.025	5.161	5.133
12	CCB	.0287	-.0019	.0011	.0002	.0011	.0011
13	S95T001403_L	1140.	230.0	1.664	-30.58	-5.071	35.43
14	S95T001403_	1128.	245.9	.5653	-7.269	.5182	31.17
15	S95T001403_D	1095.	287.6	-.3281	.4065	-.3005	33.79
16	S95T001403_A	2105.	1247.	992.9	980.0	1001.	1029.
17	ICSA	-.0184	235.3	-.0018	.0081	-.0007	.0061
18	ICSAB	-.0082	235.4	.9180	.0103	.4572	.4703
19	CCV_1	4.997	5.192	5.133	5.029	5.148	5.124
20	CCB_1	.0232	-.0017	.0013	.0001	-.0028	.0003

#	Sample Name	Cu	Eu	Fe	K	La	Li
1	ICV	5.097	.0085	5.162	5.025	5.100	5.053
2	ICB	.0008	.0002	.0003	.1404	-.0004	.0000
3	ICSA	-.0110	.0208	92.09	.1376	-.0040	.0026
4	ICSAB	.4728	.0207	91.89	.1769	-.0040	.9840
5	PREPSTDTJA	4.672	.0048	4.662	4.529	4.790	4.724

#	Sample Name	Cu	Eu	Fe	K	La	Li
6	PREPBLKTJA	.0032	.0001	.0244	-.0615	-.0005	-.0010
7	S95T001402_L	-1.370	2.632	650.5	98.35	-3.280	1.592
8	S95T001402_	.9654	-.3467	619.2	-19.36	.1466	-.3184
9	S95T001402_D	1.131	.2309	629.4	110.7	.1007	.6355
10	S95T001402_S	463.4	1.664	1125.	606.1	468.1	456.3
11	CCV	5.014	.0118	5.103	4.926	5.016	4.948
12	CCB	.0008	.0024	.0002	.0529	-.0006	.0019
13	S95T001403_L	13.58	9.125	12280.	739.0	-1.084	10.58
14	S95T001403_	4.831	.1946	12040.	-174.3	-.1248	2.540
15	S95T001403_D	4.599	.7245	11140.	-161.5	.6031	3.296
16	S95T001403_A	966.3	2.864	12940.	1046.	967.5	953.4
17	ICSA	-.0127	.0389	91.12	-.0443	-.0052	.0067
18	ICSAB	.4666	.0396	90.74	.0080	-.0047	.9870
19	CCV_1	5.018	.0112	5.093	4.673	5.023	4.979
20	CCB_1	-.0003	.0018	.0017	-.1194	.0003	.0013

#	Sample Name	Mg	Mn	Mo	Na	Nd	Ni
1	ICV	5.023	5.045	5.168	5.015	5.236	5.155
2	ICB	.0126	.0001	-.0003	.0011	.0024	.0025
3	ICSA	248.7	-.0075	-.0075	193.1	.0087	-.0209
4	ICSAB	248.9	.4392	-.0081	193.1	.0068	.8964
5	PREPSTDTJA	4.546	4.554	4.710	5.788	4.775	4.678
6	PREPBLKTJA	.0279	.0000	-.0005	.0589	.0033	.0041
7	S95T001402_L	1.203	87.53	-3.476	252900.	-7.277	-2.518
8	S95T001402_	9.409	85.10	2.442	247300.	.6233	5.342
9	S95T001402_D	22.12	92.90	-1.248	244900.	4.176	9.244
10	S95T001402_S	480.8	569.4	490.8	237200.	468.0	494.3
11	CCV	4.967	4.985	5.116	4.944	5.139	5.095
12	CCB	.0165	.0007	-.0010	.0213	.0056	-.0016
13	S95T001403_L	100.8	287.6	-4.342	202900.	15.30	33.25
14	S95T001403_	58.24	281.8	.0204	200800.	3.766	11.92
15	S95T001403_D	49.65	267.6	-.9458	200200.	3.880	7.538
16	S95T001403_A	1016.	1222.	996.1	198600.	998.2	993.3
17	ICSA	248.3	-.0075	-.0051	189.2	.0052	-.0246
18	ICSAB	247.6	.4336	-.0096	192.7	.0058	.8823
19	CCV_1	4.957	4.960	5.111	4.960	5.165	5.110
20	CCB_1	.0053	.0004	.0006	.0125	.0005	.0015

#	Sample Name	P	Pb	S	Sb	Se	Si
1	ICV	5.031	5.166	5.111	4.865	5.078	4.957
2	ICB	.0080	.0014	.0036	.0029	.0057	.0138
3	ICSA	-.0326	.0110	-.0330	.0084	-.0488	.0046
4	ICSAB	-.0229	.9529	-.0263	.0081	-.0891	.0002
5	PREPSTDTJA	4.465	4.522	4.447	4.326	4.641	15.02
6	PREPBLKTJA	.0108	-.0068	.0403	.0103	-.0022	.1017
7	S95T001402_L	2163.	25.70	43.80	-27.62	-1021.	114.4
8	S95T001402_	2164.	84.45	73.95	.7681	-972.6	60.81
9	S95T001402_D	6296.	107.4	75.11	-1.562	-952.2	157.0
10	S95T001402_S	2888.	576.8	559.1	459.5	-420.0	1794.
11	CCV	5.216	5.125	5.120	4.803	5.035	4.914

#	Sample Name	P	Pb	S	Sb	Se	Si
12	CCB	.0120	-.0056	.0003	-.0001	.0203	.0182
13	S95T001403_L	72290.	975.8	837.7	16.32	-695.3	3126.
14	S95T001403_	71660.	1021.	849.8	.0948	-782.6	2995.
15	S95T001403_D	69550.	918.7	485.8	-.3871	-761.1	2812.
16	S95T001403_A	72320.	2009.	1837.	930.0	245.1	3953.
17	ICSA	.0017	.0081	-.0076	-.0147	-.0653	.0061
18	ICSAB	-.0074	.9480	-.0250	.0055	-.0773	.0040
19	CCV_1	5.231	5.102	5.103	4.793	5.068	4.918
20	CCB_1	.0057	.0010	.0074	-.0051	.0110	.0152

#	Sample Name	Sm	Sr	Th	Ti	Tl	U
1	ICV	5.105	4.996	-.0031	4.977	4.996	10.18
2	ICB	.0030	.0001	.0016	.0006	.0010	.0094
3	ICSA	-.0036	.0019	-.0051	.0018	.0140	.0946
4	ICSAB	.0010	.0019	-.0061	.0018	.0247	.1003
5	PREPSTDTJA	4.787	4.697	-.0072	4.654	4.513	9.578
6	PREPBLKTJA	-.0039	.0003	-.0001	.0008	.0223	-.0199
7	S95T001402_L	24.02	4.150	-15.47	.0352	44.47	150.6
8	S95T001402_	-2.591	3.730	1.261	1.071	9.672	48.41
9	S95T001402_D	4.031	4.663	-1.259	.7207	14.01	168.4
10	S95T001402_S	477.4	464.0	-5.484	468.1	460.3	1065.
11	CCV	5.040	4.904	.0108	4.889	4.926	10.04
12	CCB	.0252	.0003	-.0078	.0010	.0008	.0980
13	S95T001403_L	109.8	36.93	-26.11	7.843	20.10	2417.
14	S95T001403_	15.52	35.61	-2.114	4.248	-21.23	1995.
15	S95T001403_D	20.60	38.87	-5.088	4.274	9.690	2070.
16	S95T001403_A	984.1	979.5	.6512	950.3	954.5	3923.
17	ICSA	.0112	.0017	-.0073	.0012	.0283	.1531
18	ICSAB	.0122	.0017	-.0089	.0021	.0317	.1657
19	CCV_1	5.048	4.924	.0135	4.904	4.989	10.04
20	CCB_1	.0174	.0002	-.0023	.0010	.0068	.0737

#	Sample Name	V	Y	Zn	Zr
1	ICV	5.180	.0144	5.159	5.073
2	ICB	-.0000	.0001	.0002	.0007
3	ICSA	-.0031	.0081	-.0005	-.0036
4	ICSAB	.4644	.0080	.9591	-.0036
5	PREPSTDTJA	4.654	.0107	4.457	4.730
6	PREPBLKTJA	-.0011	-.0003	.0249	-.0016
7	S95T001402_L	4.692	1.635	23.61	5.996
8	S95T001402_	-.9632	-.1869	24.91	.3189
9	S95T001402_D	.7592	.3263	25.27	2.042
10	S95T001402_S	478.0	2.005	513.6	474.3
11	CCV	5.111	.0158	5.100	4.994
12	CCB	.0050	.0014	.0009	.0045
13	S95T001403_L	23.37	8.583	79.75	36.38
14	S95T001403_	4.491	2.263	73.20	16.11
15	S95T001403_D	5.490	2.586	86.84	15.59
16	S95T001403_A	995.2	5.774	1056.	979.1
17	ICSA	-.0011	.0087	-.0008	-.0009

#	Sample Name	V	Y	Zn	Zr
18	ICSAB	.4605	.0088	.9502	-.0004
19	CCV_1	5.126	.0157	5.097	5.001
20	CCB_1	.0034	.0012	.0014	.0017

JK Lab
08-11-95

WHC-SD-WM-DP-141, REV. 1

~~FILE# 950829A~~

08/29/95 08:04 FILE# 950830A Page:
A-0004-1

LABCORE Data Entry Template for Worklist# 2125

Analyst: B. Goecke Instrument: ICP01 _____ Book# 46B4813

Method: LA-505-151 Rev/Mod D-3

WHC-SD-WM-DP-141, REV. 1

Worklist Comment: ICP T-108 WATER DIGEST WITH ACID

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	PREPBLKARL				@ICP-I01	SOLID		
6	SAMPLE	S95T001338	0	I	@ICP-I01	SOLID	95000097	T-108
		Analytes Requested:			AG-I-01 , AL-I-01 , AS-I-01 , B-I-01 , BA-I-01 , BE-I-01 , BI-I-01 , CA-I-01 , CD-I-01 , CE-I-01 , CO-I-01 , CR-I-01 , CU-I-01 , FE-I-01 , K-I-01 , LA-I-01 , LI-I-01 , MG-I-01 , MN-I-01 , MO-I-01 , NA-I-01 , ND-I-01 , NI-I-01 , P-I-01 , PB-I-01 , S-I-01 , SB-I-01 , SE-I-01 , SI-I-01 , SM-I-01 , SR-I-01 , TI-I-01 , TL-I-01 , U-I-01 , V-I-01 , ZN-I-01 , ZR-I-01			
7	DUP	S95T001338	0	I	@ICP-I01	SOLID		
8	SPK	S95T001338	0	I	@ICP-I01	SOLID		
9	CCV				@ICP-QC	QC		
10	CCB				@ICP-QC	QC		
11	SAMPLE	S95T001339	0	I	@ICP-I01	SOLID	95000099	T-108
		Analytes Requested:			AG-I-01 , AL-I-01 , AS-I-01 , B-I-01 , BA-I-01 , BE-I-01 , BI-I-01 , CA-I-01 , CD-I-01 , CE-I-01 , CO-I-01 , CR-I-01 , CU-I-01 , FE-I-01 , K-I-01 , LA-I-01 , LI-I-01 , MG-I-01 , MN-I-01 , MO-I-01 , NA-I-01 , ND-I-01 , NI-I-01 , P-I-01 , PB-I-01 , S-I-01 , SB-I-01 , SE-I-01 , SI-I-01 , SM-I-01 , SR-I-01 , TI-I-01 , TL-I-01 , U-I-01 , V-I-01 , ZN-I-01 , ZR-I-01			
12	DUP	S95T001339	0	I	@ICP-I01	SOLID		

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 2125

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
13	SPK	S95T001339	0	I	@ICP-I01	SOLID		
14	ICSA				@ICP-QC	QC		WHC-SD-WM-DP-141, REV. 1
15	ICSAB				@ICP-QC	QC		
16	CCV				@ICP-QC	QC		
17	CCB				@ICP-QC	QC		

Final page for worklist # 2125

Reviewed and Validated by:

[signature] 8-30-95
Analyst Signature Date

[signature] 08/31/95
Analyst Signature Date

PREPBLKHAL	DIRECT	DF
S95T001338_L	1.0140g in 100mL - ~~1mL-4mL~~ .5-9.5mL - 1mL-4mL	~~2500~~ 5000
S95T001338	1.0140g in 100mL - ~~1mL-4mL~~ .5-9.5mL	~~500~~ 1000
S95T001338_D	1.0240g in 100mL - ~~1mL-4mL~~ .5-9.5mL	~~500~~ 1000
S95T001338_A	1.0140g in 100mL ~~1mL-1mL-3mL~~ .5-2-7.5mL	~~500~~ 1000
S95T001339_L	1.0257g in 100mL ~~1mL-4mL~~ .5-9.5mL - 1mL-4mL	~~2500~~ 5000
S95T001339	1.0257g in 100mL - ~~1mL-4mL~~ .5-9.5mL	~~500~~ 1000
S95T001339_D	1.0204g in 100mL - ~~1mL-4mL~~ .5-9.5mL	~~500~~ 1000
S95T001339_A	1.0257g in 100mL - ~~1mL-1mL-3mL~~ .5-2-7.5mL	~~500~~ 1000

Data Entry Comments:

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

Identity 1: ICV Identity 2: Quality Control 9:17 AM August 30, 1995
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

WHC-SD-WM-DP-141, REV. 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	5.008	5.008	4.995	4.969	4.999	5.132	5.061	5.021
S.D.	0.013	0.015	0.011	0.007	0.005	0.007	0.015	0.009
% R.S.D.	0.258	0.290	0.222	0.143	0.108	0.135	0.303	0.174

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.195	5.051	5.018	5.074	4.930	5.152	5.134	9.555
S.D.	0.009	0.012	0.036	0.010	0.018	0.012	0.059	0.027
% R.S.D.	0.183	0.229	0.718	0.193	0.355	0.230	1.141	0.281

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	5.098	5.110	5.012	5.147	5.064	5.045	5.120	4.999
S.D.	0.017	0.017	0.017	0.267	0.087	0.006	0.033	0.015
% R.S.D.	0.333	0.341	0.332	5.184	1.714	0.122	0.645	0.292

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	5.188	5.070	4.978	5.103	4.988	5.093	5.105	5.029
S.D.	0.008	0.028	0.004	0.034	0.012	0.013	0.011	0.011
% R.S.D.	0.151	0.543	0.072	0.675	0.240	0.263	0.216	0.225

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	5.074	4.756	5.143	5.214	4.822
S.D.	0.010	0.062	0.013	0.012	0.009
% R.S.D.	0.188	1.300	0.245	0.224	0.184

[illegible] 8-30-95
T-108
FILE # 950830A
5957001338
5957001339

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 96 TO 115.

Identity 1: ICB Identity 2: Quality Control 9:21 AM August 30, 1995

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 1.00

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

WHC-SD-WM-DP-141, REV.1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.001	0.000	-0.002	0.011	-0.004	-0.005	0.000	0.001
S.D.	0.000	0.000	0.008	0.002	0.004	0.000	0.000	0.000
% R.S.D.	26.819	25.000	361.353	18.381	84.805	0.000	45.681	29.064

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.002	0.003	0.004	0.006	0.000	0.002	0.012	0.045
S.D.	0.000	0.000	0.001	0.001	0.000	0.002	0.003	0.006
% R.S.D.	9.839	12.277	29.833	11.894	170.362	101.612	25.130	12.365

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.026	0.012	0.000	0.003	0.011	0.000	0.004	0.009
S.D.	0.008	0.004	0.000	0.005	0.006	0.000	0.002	0.003
% R.S.D.	28.939	34.899	20.787	154.375	48.103	43.301	55.083	37.114

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.001	-0.008	0.001	0.001	0.001	0.000	0.004	0.016
S.D.	0.001	0.007	0.000	0.008	0.000	0.000	0.001	0.004
% R.S.D.	219.908	84.119	22.187	1259.371	13.964	86.839	26.952	23.617

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.000	0.007	-0.000	-0.000	0.022
S.D.	0.000	0.023	0.000	0.000	0.006
% R.S.D.	124199.396	326.916	123.938	44.029	27.285

Identity 1: ICSA Identity 2: Quality Control 9:23 AM August 30, 1995

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 1.00

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

WHC-SD-WM-DP-141, REV. 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.008	0.002	-0.031	0.029	253.649	-0.002	0.004	0.000
S.D.	0.001	0.000	0.016	0.004	0.550	0.002	0.001	0.000
% R.S.D.	9.346	3.226	51.308	15.604	0.217	86.353	15.487	24.599

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	-0.007	0.006	0.001	98.207	102.798	-0.000	0.091	0.011
S.D.	0.000	0.000	0.001	0.186	0.115	0.001	0.006	0.015
% R.S.D.	4.900	7.137	93.873	0.190	0.112	242.439	6.316	137.724

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.024	0.030	0.005	0.029	-0.014	99.605	-0.007	188.344
S.D.	0.004	0.002	0.000	0.008	0.013	0.253	0.007	0.752
% R.S.D.	16.378	6.381	1.560	26.671	92.005	0.254	102.628	0.399

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	-0.000	-0.000	0.002	-0.007	-0.000	0.003	0.017	-0.019
S.D.	0.001	0.014	0.000	0.008	0.000	0.001	0.000	0.009
% R.S.D.	120.187	3195.831	7.129	110.918	1433.783	31.099	1.733	50.297

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.015	0.044	-0.000	0.003	0.014
S.D.	0.001	0.027	0.001	0.000	0.006
% R.S.D.	4.149	62.136	343.211	3.708	43.139

Identity 1: ICSAB Identity 2: Quality Control 9:26 AM August 30, 1995
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

WHC-SD-WM-DP-141, REV. 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.003	0.002	-0.049	0.023	252.277	0.493	0.502	0.942
S.D.	0.001	0.000	0.007	0.000	0.175	0.003	0.001	0.003
% R.S.D.	25.772	2.857	15.277	1.966	0.069	0.645	0.294	0.297

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.988	0.962	0.001	98.000	103.113	0.498	0.110	-0.011
S.D.	0.001	0.001	0.002	0.118	0.125	0.002	0.007	0.023
% R.S.D.	0.123	0.118	216.671	0.120	0.121	0.449	6.775	219.757

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.038	0.024	0.504	0.047	-0.027	98.893	-0.012	188.071
S.D.	0.001	0.002	0.000	0.012	0.013	0.113	0.007	0.532
% R.S.D.	1.452	8.959	0.064	24.843	49.401	0.114	58.122	0.283

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	-0.002	0.042	1.009	0.981	0.000	0.989	0.016	-0.011
S.D.	0.001	0.027	0.001	0.010	0.000	0.003	0.001	0.009
% R.S.D.	75.330	64.146	0.085	0.969	63.298	0.254	8.960	81.143

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.510	0.074	0.496	0.495	0.005
S.D.	0.002	0.025	0.001	0.002	0.008
% R.S.D.	0.381	33.380	0.240	0.397	163.576

Identity 1: PREPBLK Identity 2: Quality Control 9:29 AM August 30, 1995
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

WHC-SD-WM-[illegible] /41, REV. 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.002	0.002	-0.023	0.089	-0.001	0.001	0.001	0.001
S.D.	0.001	0.000	0.003	0.001	0.002	0.000	0.000	0.000
% R.S.D.	57.508	8.660	12.938	0.699	240.097	0.001	24.157	16.911

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.005	0.002	-0.004	0.000	0.051	0.005	0.017	-0.040
S.D.	0.000	0.001	0.001	0.001	0.001	0.001	0.005	0.039
% R.S.D.	3.061	89.310	26.805	408.050	1.357	13.881	31.826	98.264

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.045	-0.021	0.001	0.018	0.004	0.004	0.004	0.561
S.D.	0.008	0.011	0.000	0.003	0.004	0.000	0.005	0.013
% R.S.D.	17.269	51.743	19.871	15.215	98.683	4.225	122.377	2.312

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	-0.001	0.012	0.002	0.017	-0.000	0.002	0.005	0.102
S.D.	0.001	0.008	0.001	0.008	0.000	0.000	0.000	0.015
% R.S.D.	48.047	65.237	31.016	45.893	245.501	31.219	7.572	15.176

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.000	0.050	0.002	0.000	0.045
S.D.	0.000	0.014	0.001	0.000	0.025
% R.S.D.	110.021	27.459	38.509	94.461	55.647

-.5-9.5-1-4

Identity 1: S95T001338_L Identity 2: 1.0140gin100-~~1-4-1-4~~ 9:42 AM August 30, 1995

Task name : OPTIMA

Sample Weight : 1.0140 Solution Volume : 5000.00

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

WHC-SD-WM-DP-141, REV. 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-1.254	2.315	-48.142	297.117	-44.082	27.185	3.488	3.220
S.D.	4.958	0.578	56.344	6.638	25.533	7.848	1.892	0.918
% R.S.D.	395.476	24.980	117.038	2.234	57.921	28.867	54.225	28.506

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	57.510	-0.022	-11.862	28.033	341.077	4.653	52.822	-23.645
S.D.	2.202	14.072	6.870	11.546	1.036	6.695	33.696	177.517
% R.S.D.	3.829	64919.648	57.917	41.188	0.304	143.895	63.791	750.769

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	112.428	-59.585	2.141	3835.917	35.253	3.463	-13.088	122989.448
S.D.	40.042	45.629	0.903	258.687	29.180	0.461	23.516	1247.812
% R.S.D.	35.616	76.579	42.176	6.744	82.773	13.323	179.674	1.015

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	3.221	-4.781	5.857	53.432	0.492	0.388	5.717	87.881
S.D.	6.185	63.751	1.956	52.395	0.066	2.461	4.838	31.630
% R.S.D.	192.058	1333.360	33.400	98.059	13.338	634.129	84.627	35.992

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.701	381.193	-1.976	-0.003	112.324
S.D.	1.544	43.340	2.651	0.023	101.131
% R.S.D.	220.192	11.370	134.169	750.769	90.035

Identity 1: S95T001338 Identity 2: 1.0140gin100-.5-9.5 9:46 AM August 30, 1995

Task name : OPTIMA

Sample Weight : 1.0140 Solution Volume : 1000.00

WHC-SD-WM-DP-141, REV. 1

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

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.183	1.167	-16.176	304.945	10.828	-3.625	1.168	1.026
S.D.	1.273	0.096	9.275	1.699	2.039	1.570	0.151	0.284
% R.S.D.	695.276	8.248	57.336	0.557	18.835	43.302	12.897	27.687

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	13.745	1.977	-0.783	1.529	95.147	5.475	14.943	25.703
S.D.	0.450	0.993	0.026	1.895	0.299	0.615	4.677	53.884
% R.S.D.	3.275	50.240	3.311	123.950	0.314	11.226	31.300	209.645

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	41.102	-6.345	0.941	4165.395	43.649	1.971	0.367	120594.663
S.D.	14.474	12.217	0.312	94.078	1.754	0.185	3.649	615.740
% R.S.D.	35.214	192.528	33.116	2.259	4.018	9.362	995.162	0.511

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.736	19.578	2.330	24.618	0.343	1.577	2.449	73.119
S.D.	0.760	4.828	0.686	10.800	0.155	0.596	1.348	14.962
% R.S.D.	103.239	24.660	29.428	43.872	45.025	37.762	55.024	20.463

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.732	94.567	0.924	0.431	8.451
S.D.	0.000	11.624	0.236	0.113	25.241
% R.S.D.	0.030	12.291	25.572	26.116	298.693

Identity 1: S95T001338_D Identity 2: 1.0240gin100-.5-9.5 9:51 AM August 30, 1995
Task name : OPTIMA
Sample Weight : 1.0240 Solution Volume : 1000.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

WHC-SD-WM-DP- 141, REV. 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.861	0.917	-4.459	256.792	6.533	-5.384	-0.127	0.258
S.D.	1.650	0.084	9.243	5.668	8.352	1.554	0.576	0.238
% R.S.D.	191.716	9.165	207.281	2.207	127.840	28.868	454.520	92.274

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	10.475	2.074	0.411	3.601	84.428	3.621	-0.807	54.572
S.D.	0.533	1.819	1.180	1.177	0.542	1.082	2.865	55.160
% R.S.D.	5.090	87.722	287.251	32.678	0.641	29.870	355.045	101.077

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	8.564	-8.429	0.139	3808.070	34.544	1.741	-7.224	122955.389
S.D.	12.454	10.393	0.197	60.259	4.101	0.091	5.354	1066.835
% R.S.D.	145.422	123.302	141.751	1.582	11.872	5.249	74.117	0.868

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	-1.139	9.685	-0.020	9.128	0.318	0.468	0.808	13.230
S.D.	0.910	5.046	0.741	6.520	0.615	0.811	1.565	8.354
% R.S.D.	79.913	52.097	3770.789	71.432	193.566	173.451	193.584	63.147

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.025	-3.429	-1.696	-0.114	17.780
S.D.	0.153	14.337	0.771	0.281	14.943
% R.S.D.	608.140	418.127	45.445	246.389	84.045

Identity 1: S95T001338_A Identity 2: 1.0140g-100-.5-2-7.5 9:56 AM August 30, 1995
Task name : OPTIMA
Sample Weight : 1.0140 Solution Volume : 1000.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

WHC-SD-WM-DP-141, REV. 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	979.086	982.847	960.255	1279.285	976.999	997.701	999.592	954.729
S.D.	2.172	1.197	9.659	6.078	3.861	3.139	0.726	4.230
% R.S.D.	0.222	0.122	1.006	0.475	0.395	0.315	0.073	0.443

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	1015.523	991.122	983.543	999.817	1025.576	1011.791	1042.912	1830.181
S.D.	1.962	5.592	3.598	4.648	1.560	2.591	3.147	40.768
% R.S.D.	0.193	0.564	0.366	0.465	0.152	0.256	0.302	2.228

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	1019.648	989.722	980.244	4876.999	1004.141	975.906	1009.064	120451.049
S.D.	16.867	9.728	0.830	266.645	28.600	3.050	12.088	470.883
% R.S.D.	1.654	0.983	0.085	5.467	2.848	0.313	1.198	0.391

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	1005.160	1010.921	967.311	997.283	971.704	995.148	988.609	991.432
S.D.	2.486	5.680	1.141	15.012	1.322	2.041	5.144	17.049
% R.S.D.	0.247	0.562	0.118	1.505	0.136	0.205	0.520	1.720

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	993.948	943.444	1005.754	1009.475	943.079
S.D.	0.772	22.199	1.391	2.295	17.508
% R.S.D.	0.078	2.353	0.138	0.227	1.856

dentity 1: CCV Identity 2: Quality Control 10:00 AM August 30, 1995
'ask name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

WHC-SD-WM-DP-141, REV. 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	4.953	4.917	5.008	4.932	4.901	5.110	4.961	4.880
S.D.	0.013	0.012	0.019	0.005	0.009	0.016	0.010	0.008
% R.S.D.	0.267	0.242	0.387	0.102	0.187	0.307	0.200	0.159

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.193	5.057	4.977	5.103	4.863	5.154	5.132	9.338
S.D.	0.004	0.012	0.012	0.031	0.009	0.010	0.009	0.037
% R.S.D.	0.086	0.242	0.247	0.616	0.184	0.191	0.179	0.398

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	4.966	5.010	4.908	5.376	5.099	5.031	5.090	4.881
S.D.	0.020	0.017	0.012	0.238	0.083	0.010	0.032	0.004
% R.S.D.	0.398	0.331	0.239	4.436	1.619	0.206	0.623	0.080

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	5.139	4.944	4.962	5.111	4.921	5.101	5.070	5.031
S.D.	0.010	0.022	0.007	0.017	0.011	0.010	0.010	0.019
% R.S.D.	0.200	0.444	0.142	0.332	0.226	0.192	0.199	0.370

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	5.069	4.749	5.122	5.152	4.756
S.D.	0.008	0.034	0.012	0.015	0.029
% R.S.D.	0.164	0.722	0.233	0.288	0.605

Identity 1: CCB Identity 2: Quality Control 10:09 AM August 30, 1995
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

WHC-SD-WM-DP-141, REV. 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.001	0.000	0.003	0.006	-0.008	0.003	0.001	0.001
S.D.	0.001	0.000	0.002	0.004	0.003	0.004	0.000	0.000
% R.S.D.	68.433	32.733	63.563	62.961	36.393	152.750	53.030	38.542

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.002	-0.000	-0.000	0.004	-0.001	0.003	0.012	-0.055
S.D.	0.000	0.000	0.001	0.002	0.000	0.002	0.003	0.024
% R.S.D.	21.182	180.445	328.382	37.014	30.526	71.222	26.314	44.580

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.022	-0.017	0.000	0.014	0.000	-0.000	0.006	0.010
S.D.	0.010	0.006	0.000	0.006	0.001	0.000	0.005	0.006
% R.S.D.	42.731	36.051	53.592	45.843	346.716	115.470	95.414	60.279

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.001	0.011	0.001	0.015	0.000	0.001	0.002	0.017
S.D.	0.001	0.014	0.000	0.008	0.000	0.001	0.000	0.003
% R.S.D.	136.080	125.642	25.043	54.236	1763.607	114.642	21.976	19.086

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.000	0.014	0.001	-0.000	0.001
S.D.	0.000	0.012	0.001	0.000	0.018
% R.S.D.	100.054	80.799	99.781	112.592	2316.415

Identity 1: S95T001339_L Identity 2: 1.0257g-100-.5-9.5-5 10:13 AM August 30, 1995
Task name : OPTIMA
Sample Weight : 1.0257 Solution Volume : 5000.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

WHC-SD-WM-DP-141, REV. 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-1.731	2.288	-91.981	64.409	857.998	0.000	2.343	3.460
S.D.	5.098	0.419	87.234	22.497	25.326	7.758	2.906	1.126
% R.S.D.	294.561	18.330	94.839	34.929	2.952	22196330.140	124.039	32.537

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	61.782	4.306	0.364	78.137	347.681	7.522	78.001	794.066
S.D.	2.484	6.937	6.830	5.904	3.123	7.465	25.904	190.829
% R.S.D.	4.020	161.122	1873.977	7.557	0.898	99.235	33.210	24.032

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	91.743	-20.655	2.551	33418.917	228.812	3.686	13.781	101064.885
S.D.	36.918	32.239	0.476	525.029	13.421	0.000	17.304	169.810
% R.S.D.	40.240	156.084	18.660	1.571	5.866	0.000	125.568	0.168

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	-5.230	0.608	1.977	56.602	1.778	2.712	12.110	364.881
S.D.	5.802	56.684	2.373	16.988	3.528	1.788	3.480	52.478
% R.S.D.	110.945	9320.743	120.044	30.013	198.460	65.938	28.734	14.382

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	8.557	56.112	-6.749	-0.805	60.300
S.D.	0.763	41.817	5.303	1.549	92.184
% R.S.D.	8.922	74.525	78.575	192.407	152.876

Identity 1: S95T001339 Identity 2: 1.0257g-100-.5-9.5 10:17 AM August 30, 1995
Task name : OPTIMA
Sample Weight : 1.0257 Solution Volume : 1000.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

WHC-SD-WM-DP-141, REV. 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	1.661	1.281	21.389	69.372	960.305	1.792	1.523	0.990
S.D.	0.212	0.032	3.112	0.628	3.018	1.552	0.091	0.150
% R.S.D.	12.756	2.474	14.550	0.906	0.314	86.600	5.994	15.121

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	14.312	2.729	0.061	82.542	77.298	10.085	3.811	931.595
S.D.	0.414	2.256	1.341	3.371	0.234	0.364	0.948	20.320
% R.S.D.	2.895	82.648	2188.370	4.084	0.303	3.611	24.873	2.181

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	13.889	12.852	0.548	33619.061	240.883	3.160	2.867	98405.831
S.D.	8.459	3.904	0.134	1570.869	5.371	0.091	2.499	885.027
% R.S.D.	60.900	30.375	24.421	4.673	2.230	2.887	87.172	0.899

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	1.365	-14.504	-0.687	29.114	0.905	1.229	2.448	39.624
S.D.	0.830	4.236	0.144	5.091	0.312	0.271	0.214	5.247
% R.S.D.	60.809	29.207	20.887	17.488	34.465	22.034	8.727	13.242

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	8.141	13.118	-2.093	-0.063	-6.280
S.D.	0.000	9.788	0.699	0.183	7.185
% R.S.D.	0.002	74.618	33.377	291.856	114.408

Identity 1: S95T001339_D Identity 2: 1.0204g-100-.5-9.5 10:22 AM August 30, 1995
Task name : OPTIMA
Sample Weight : 1.0204 Solution Volume : 1000.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

WHC-SD-WM-DP-141, REV. 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.696	1.583	23.665	77.128	970.316	2.702	1.551	1.298
S.D.	0.742	0.139	12.891	0.905	2.315	1.560	0.199	0.182
% R.S.D.	106.629	8.779	54.475	1.174	0.239	57.733	12.838	14.045

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	15.458	3.257	-2.344	105.468	82.442	7.421	16.601	814.886
S.D.	0.363	1.229	0.664	3.161	0.370	1.614	7.933	39.297
% R.S.D.	2.349	37.738	28.305	2.997	0.448	21.743	47.786	4.822

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	33.803	-3.845	1.010	33154.329	242.103	2.117	3.814	99666.554
S.D.	12.626	9.331	0.289	1203.168	2.739	0.092	2.430	872.654
% R.S.D.	37.352	242.685	28.565	3.629	1.131	4.330	63.710	0.876

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	1.006	2.479	1.728	28.502	0.168	0.838	2.136	23.759
S.D.	1.578	16.510	0.822	3.445	0.219	0.272	0.650	21.270
% R.S.D.	156.817	665.993	47.547	12.086	129.764	32.474	30.404	89.523

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	8.977	52.677	0.182	-0.139	28.683
S.D.	0.000	11.559	0.988	0.109	17.472
% R.S.D.	0.003	21.944	541.667	78.556	60.913

Identity 1: S95T001339_A Identity 2: 1.0257g-100-.5-2-7.5 10:27 AM August 30, 1995
Task name : OPTIMA
Sample Weight : 1.0257 Solution Volume : 1000.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

WHC-CD-WM-DP-141, REV. 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	978.360	975.645	993.892	1040.046	1905.189	998.862	995.731	952.369
S.D.	1.766	1.765	11.970	3.162	4.929	4.105	2.941	11.513
% R.S.D.	0.180	0.181	1.204	0.304	0.259	0.411	0.295	1.209

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	1024.143	999.236	981.344	1088.815	1002.357	1016.409	1040.128	2708.176
S.D.	1.685	3.942	1.791	9.399	1.697	2.645	9.174	47.247
% R.S.D.	0.164	0.394	0.182	0.863	0.169	0.260	0.882	1.745

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	990.167	984.705	970.489	35406.738	1220.156	982.074	993.385	99372.635
S.D.	10.166	5.035	2.455	157.233	7.810	2.599	5.462	1123.235
% R.S.D.	1.027	0.511	0.253	0.444	0.640	0.265	0.550	1.130

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	1005.247	932.929	969.982	1034.137	966.131	998.434	1007.231	1042.687
S.D.	5.122	15.089	2.552	18.415	0.877	6.306	4.347	6.017
% R.S.D.	0.510	1.617	0.263	1.781	0.091	0.632	0.432	0.577

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	1006.073	959.264	1009.446	1009.072	897.111
S.D.	4.943	11.400	2.633	1.984	25.634
% R.S.D.	0.491	1.188	0.261	0.197	2.857

Identity 1: ICSA Identity 2: Quality Control 10:37 AM August 30, 1995
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

WHC-SD-WM-DP-141, REV. 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.008	0.002	-0.014	0.023	251.991	0.005	0.005	0.001
S.D.	0.001	0.000	0.004	0.002	0.248	0.002	0.000	0.000
% R.S.D.	6.173	2.857	27.048	10.075	0.099	28.998	4.022	8.971

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	-0.005	0.006	0.005	99.504	102.807	0.002	0.105	0.001
S.D.	0.000	0.001	0.001	0.129	0.267	0.001	0.006	0.011
% R.S.D.	1.459	25.317	25.799	0.130	0.260	82.582	5.397	1006.094

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.043	0.006	0.005	0.043	-0.003	101.287	-0.018	185.725
S.D.	0.004	0.003	0.000	0.005	0.001	0.318	0.009	0.371
% R.S.D.	10.163	43.740	1.638	11.748	41.802	0.314	49.599	0.200

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	-0.001	-0.008	0.002	0.008	0.001	0.003	0.017	0.088
S.D.	0.001	0.012	0.000	0.008	0.000	0.000	0.000	0.003
% R.S.D.	148.147	140.983	14.566	97.495	16.077	12.290	1.296	3.724

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.014	0.036	0.002	0.003	0.041
S.D.	0.000	0.019	0.001	0.000	0.016
% R.S.D.	2.581	52.500	30.198	3.908	40.179

Identity 1: ICSAB Identity 2: Quality Control 10:41 AM August 30, 1995
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

WHC-SD-WM-DP-141, REV. 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.007	0.002	-0.043	0.023	251.713	0.497	0.494	0.925
S.D.	0.000	0.000	0.009	0.001	0.203	0.004	0.001	0.004
% R.S.D.	6.235	0.000	20.444	6.426	0.081	0.847	0.174	0.439

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	1.010	0.980	0.005	99.670	103.446	0.508	0.094	0.142
S.D.	0.001	0.003	0.001	0.102	0.043	0.002	0.003	0.011
% R.S.D.	0.148	0.333	24.021	0.102	0.041	0.444	2.940	7.900

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.019	0.036	0.497	0.074	0.023	101.549	-0.009	185.680
S.D.	0.003	0.003	0.001	0.014	0.001	0.035	0.006	0.835
% R.S.D.	15.024	9.530	0.130	19.427	5.372	0.034	59.871	0.450

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	-0.002	-0.000	1.020	0.994	0.001	0.999	0.017	0.116
S.D.	0.002	0.029	0.002	0.019	0.000	0.001	0.001	0.008
% R.S.D.	92.414	6159.368	0.186	1.885	17.998	0.075	4.930	6.985

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.515	0.083	0.499	0.495	-0.006
S.D.	0.002	0.017	0.000	0.000	0.006
% R.S.D.	0.291	20.946	0.097	0.022	96.255

Identity 1: CCV_1 Identity 2: CCV_1 10:51 AM August 30, 1995
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

WHC-SD-WM-DP-141, REV. 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	4.965	4.956	4.976	4.924	4.931	5.091	4.998	4.944
S.D.	0.004	0.009	0.010	0.007	0.014	0.012	0.011	0.043
% R.S.D.	0.080	0.183	0.206	0.135	0.278	0.244	0.226	0.875

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.157	5.031	4.998	5.087	4.874	5.109	5.174	9.434
S.D.	0.010	0.004	0.011	0.035	0.004	0.017	0.022	0.028
% R.S.D.	0.191	0.076	0.218	0.697	0.088	0.326	0.419	0.292

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	5.037	5.051	4.948	5.159	5.016	5.006	5.101	4.950
S.D.	0.008	0.004	0.009	0.213	0.099	0.007	0.022	0.046
% R.S.D.	0.168	0.074	0.191	4.120	1.970	0.131	0.427	0.923

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	5.133	5.031	4.932	5.068	4.921	5.075	5.074	5.006
S.D.	0.014	0.024	0.002	0.041	0.005	0.012	0.006	0.025
% R.S.D.	0.273	0.487	0.049	0.801	0.096	0.237	0.113	0.509

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	5.033	4.743	5.107	5.156	4.764
S.D.	0.007	0.035	0.006	0.001	0.010
% R.S.D.	0.132	0.729	0.108	0.017	0.200

Identity 1: CCB-1 Identity 2: CCB_1 10:54 AM August 30, 1995

Task name : OPTIMA

Sample Weight : 1.0000 Solution Volume : 1.00

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

WHC-SD-WM-DP-141, REV. 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.001	0.000	-0.004	0.014	-0.006	-0.004	0.000	0.001
S.D.	0.001	0.000	0.003	0.006	0.002	0.003	0.000	0.000
% R.S.D.	76.443	12.372	69.532	41.041	36.786	86.604	83.541	32.186

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.002	-0.001	-0.001	0.002	-0.001	0.004	0.002	0.043
S.D.	0.001	0.002	0.001	0.001	0.000	0.002	0.001	0.009
% R.S.D.	28.128	270.297	153.819	84.460	12.642	49.796	46.900	21.322

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.024	-0.016	0.000	0.015	-0.000	0.000	0.005	0.013
S.D.	0.003	0.004	0.000	0.008	0.003	0.000	0.004	0.002
% R.S.D.	12.556	24.019	7.196	51.466	852.826	43.301	78.560	15.006

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.000	0.007	0.000	0.019	0.001	0.002	0.005	0.099
S.D.	0.000	0.006	0.000	0.003	0.000	0.000	0.001	0.008
% R.S.D.	86.579	93.109	38.152	16.708	13.079	24.144	25.356	7.783

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.000	-0.023	-0.000	-0.000	0.001
S.D.	0.000	0.004	0.001	0.000	0.007
% R.S.D.	86.451	15.518	941.061	51.045	462.596

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