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COMPLETE

ENGINEERING CHANGE NOTICE

Page 1 of 2

1. ECN 629022

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 []	Robert F. Eggers, Data Assessment & Integration/R2-12/372-0005	[] Yes [X] No	03-19-96
	5. Project Title/No./Work Order No. Tank 241-SX-108	6. Bldg./Sys./Fac. No. NA	7. Approval Designator Q
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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)	NA	N/A ~~R. F. Eggers~~ R.F.E. 3/28/96 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.

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13a. Justification (mark one)

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

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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1. ECN (use no. from pg. 1) 629022

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
NA		

20. Approvals

Signature	Date	Signature	Date
OPERATIONS AND ENGINEERING		ARCHITECT-ENGINEER	
Cog. Eng. R. F. Eggers R. F. Eggers	3/28/96	PE	
Cog. Mgr. J. G. Kristofzski John Kristofzski	3/28/96	QA	
AEQA E. W. Miller E. W. Miller	3/28/96	Safety	
QA T. L. Tung Tyn Li Tung	3/28/96	Design	
J. M. Conner J M Conner	3/28/96	Environ.	
Other		Other	
Production Planning & Control A. D. Rice	3-28-96		
		DEPARTMENT OF ENERGY	
		Signature or a Control Number that tracks the Approval Signature	
		ADDITIONAL	

"FINAL REPORT FOR TANK 241-SX-108, AUGER SAMPLES 95-AUG-042, 95-AUG-043 AND 95-AUG-044."

Robert F. Eggers
Westinghouse Hanford Company, Richland, WA 99352
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Westinghouse
Hanford Company

P.O. Box 1970 Richland, WA 99352

WHC-SD-WM-DP-151, REV. 1

ANALYTICAL SERVICES

FINAL REPORT FOR TANK 241-SX-108, AUGER SAMPLES 95-AUG-042, 95-AUG-043 AND 95-AUG-044

Project Coordinator: ROBERT F. EGGERS

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

by

Westinghouse Hanford Company
Box 1970
Richland, Washington

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Part II consists of pages 2-1 through 2-44, plus pages 2-14 and 2-18 were intentionally left blank.

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NARRATIVE

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1.0 INTRODUCTION AND SUMMARY

This is a follow-on report to the 45-day safety screening report for tank 241-SX-108 (Eggers, November, 1995). Three auger penetrations into the dry waste of SX-108 were attempted in September, 1995. Two augers produced samples.

The sampling and analysis plan that applies to this tank is entitled, *Tank 241-SX-108 Auger Sampling and Analysis Plan*. The document number is WHC-SD-WM-TSAP-007, Revision 0 (Eggers, September, 1995). The Data Quality Objectives that apply to SX-108 are as follows:

* Safety Screening: *Tank Safety Screening Data Quality Objective*, WHC-SD-WM-SP-004, Rev. 2.

* Pretreatment: *Strategy for Sampling Hanford Site Tank Wastes for Development of Disposal Technology*, WHC-SD-WM-TA-154, Rev. 1.

* Historical Model: *Historical Model Evaluation Data Requirements*, WHC-SD-WM-DQO-018,Rev. 0.

This report summarizes the results of the safety screen, describes how the requirements of the Pretratment DQO were met and evaluates waste measurement data against the historical models for the tank.

1.1 SUMMARY OF AUGER SAMPLING AND NEED FOR CORE SAMPLING

Three auger samples were attempted in three risers. Sample material was produced from two risers. Sampling information for the three auger events is summarized below in Table 1.

TABLE 1: AUGER SAMPLING INFORMATION FOR TANK 241-SX-108

Auger Number	Riser Number	Date Sample Removed from Tank	Total Sample Recovered
95-AUG-042	16	9/15/95	81.3 Grams
95-AUG-043	7	9/19/95	144.1 Grams
95-AUG-044	17	9/25/95	None

Because sampling the top of the waste with augers does not provide a complete profile of all of the solid waste, the safety screen for this tank will not be complete until cores to the bottom of the tank in at least two risers have been obtained and analyzed.

1.2 SUMMARY OF SAFETY SCREENING RESULTS

Samples were divided into lower half and upper half segments. Material from each half segment was measured for the amount of exothermic energy available, the percent water present and total alpha activity. The results of these three measurements are as follows:

Exotherm Measurement Results: Exotherms were measured using differential scanning calorimetry (DSC). All DSC measurement results were zero. The dry-basis exotherm notification threshold is 480 J/g.

Total Organic Carbon (TOC) Measurement Results: Measurements of TOC are not required as part of the set of primary measurements for the Safety Screening DQO. However, the Historical DQO requires TOC measurements on wastes that pass the Fingerprint test, that the Historical DQO provides. TOC results ranged from 90.7 ug C/g to 1680 ug C/g. The notification threshold for TOC is 30,000 ug C/g. The low TOC results agree with the low exotherm result.

Percent Moisture Measurement Results: Percent moisture was measured using thermogravimetric analysis (TGA). Measured values ranged from 0.7% to 3.2%. The 95% confidence low values ranged from 0% to 1.2%. Gravimetric determinations of percent water in 95-AUG-042 produced values of 0.5% and 0.5% for the lower and upper halves. Samples from 95-AUG-043 were not measured by the gravimetric method, because of high dose rates.

Sample Material Dose Rate and Handling Characteristic: Operators working with the samples observed that the material was dry and flighty. Sample dose rates were high during the first round of analyses (up to 50 R/hr) and during the gravimetric determinations they exceeded 50 R/hr.

Total Alpha Radioactivity: Alpha particle radioactivity measurement results ranged from about 1.6 to 5.4 uCi/g. The 95% confidence high value ranged from 2.0 to 7.4 uCi/g. The notification limit for alpha activity is 41 uCi/g.

Industrial Hygiene and Safety Vapor Survey: The vapor survey found a flammable vapor concentration of 0% of the lower flammability limit, an oxygen concentration of 20.9% by volume, an ammonia gas concentration of 0.0 PPM and a total organic vapor concentration of 0.0 PPM.

Overall Result of Safety Screening Top Nineteen Inches of Waste:

* The top 48 cm (19 in) of the solid waste material are safe from a self-propagating chemical reaction and spontaneous nuclear chain reaction.

* The gas in the vapor space above the solid waste was safe from a self-propagating chemical raaction at the time the gas was sniffed.

1.3 SECONDARY SAFETY SCREENING ANALYSIS

Analysis of the solid waste according to the procedures listed as secondary screening analyses was not necessary, because no notification limits were exceeded.

2.0 MEETING REQUIREMENTS OF THE PRETREATMENT AND HISTORICAL DATA QUALITY OBJECTIVE DOCUMENTS

2.1 MEETING REQUIREMENTS OF THE PRETREATMENT DQO

The requirements of the Pretreatment DQO were met by providing samples of SX-108 waste to the Pacific Northwest National Laboratory. A sample was provided from the lower half of 95-AUG-042 and the upper half of 95-AUG-043.

2.2 MEETING REQUIREMENTS OF THE HISTORICAL MODEL DQO

The requirements of the Historical Model DQO were met in two steps as follows. First, the waste was evaluated for compliance with the Fingerprint of R-type waste. This was accomplished by comparing the measured concentrations of the Fingerprint analytes in SX-108 waste with the reference values for those analytes in R-type waste. Reference values are provided in the Historical DQO (see Table 2 below).

The Historical DQO provides a criterion for passing the Fingerprint test. The criterion is as follows.

The waste passes the Fingerprint test, if the concentration of each of the Fingerprint analytes is at least one-tenth of the reference value concentration for that analyte.

Both augers 95-AUG-042 and 95-AUG-043 passed the Fingerprint test, if low percent water values are accounted for by the waste drying out over the years it has been present in the tank. Table 2 below shows the Historical DQO reference value, one-tenth of the reference value and the average values of the analytes for 95-AUG-042 and 95-AUG-043.

TABLE 2: COMPARISON OF MEASURED VALUES OF ANALYTE CONCENTRATION WITH HISTORICAL DQO REFERENCE VALUES				
Fingerprint Analyte	Fingerprint Reference Value	1/10th of Reference Value	95-AUG-042 Average Value	95-AUG-043 Average Value
Na	27,300 ug/g	2,730 ug/g	216,000 ug/g	153,000 ug/g
Al	56,400 ug/g	5,640 ug/g	23,850 ug/g	52,300 ug/g
Cr	12,500 ug/g	1,250 ug/g	7,915 ug/g	10,225 ug/g
% H_2O	38% - 56%	3.8% - 5.6%	3.15%	0.911%
^{137}Cs	41 u Ci/g	4.1 uCi/g	191.1 uCi/g	199 uCi/g
^{90}Sr	94 u Ci/g	9.4 uCi/g	1465 uCi/g	4665 uCi/g

The second step needed to comply with the Historical DQO comes into play if the waste passes the Fingerprint test. The second step is to make additional measurements of the waste as described in the Historical DQO. This was done for SX-108 waste except for the measurement of sample bulk density (see Section 2.2.1). The results of all measurements of the waste are summarized in Section 3.0.

2.2.1 SAMPLE BULK DENSITY MEASUREMENT

The Historical Model DQO requires that all analytes listed in the DQO be measured, if the sample material passes the fingerprint test. Bulk density is one of the analytes listed in the DQO.

In this case sample bulk density was not measured for two reasons; sample high dose rate and sample dryness and flightiness.

Sample Bulk Density Not Measured in Hood in 222S Laboratory

The dose limit for hoods in the 222S Laboratory is about 50 R/hr. Samples of the size necessary to measure bulk density produced dose rates up to about 90 R/hr. The high dose rate of the samples made it impractical to measure bulk density in hoods outside the hot cell area. The alternate approach is to attempt to measure bulk density in a hot cell, using manipulators to handle the sample.

Sample Bulk Density Not Measured in Hot Cell

The method of measuring bulk density in the hot cell is to centrifuge the sample in a graduated container and compute the bulk density of the material from the bulk volume and weight of the centrifuged material. Because of the dryness and flightiness of the sample, it was estimated that the results of this process would not be very accurate.

The considerations outlined above plus the time required to carry out the measurement in a hot cell and the limited impact of not making the measurement on the process of validating the historical models for SX-108 led to the decision to not measure sample density. If further evaluation of this issue indicates that a measurement of sample density is critical to validation of waste models for SX-108, consideration will be given to measuring it in the future.

3.0 RESULTS OF ANALYSES OF SAMPLES

Tables 3, 4 and 5 summarize the results of all analyses for analytes of interest to the Safety Screening DQO and the Historical DQO. A full list of analysis results are given in the Sample Data Summary.

Table 3 summarizes the results of analyses for metals using acid digestion of the sample and Inductively Coupled Plasma determination of the make up of the sample. Table 3 also shows safety screening related results including weight percent water, dry basis exotherm and TOC.

Table 4 summarizes the results of analysis for anions such as nitrate using the method of Ion Chromatography. It also shows the concentration of nuclear elements and isotopes in the sample. The elements and isotopes shown are those addressed by the Historical DQO and the Safety Screening DQO.

Table 5 shows the results of analysis for metals by ICP, after the sample was prepared, using a water digestion method. A comparison of the metals concentration results from Tables 3 and 5 provides an indication of the relative solubility of the metal compounds present in water, as compared to acid.

TABLE 3: TANK SX-108 METALS BY ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA ANALYSIS PLUS SAFETY SCREENING AND HISTORICAL DQO COMMON ANALYTES

		Historical Data		95 - AUG - 042					95 - AUG - 043				
Analyte Measured	Units	Finger Print Value (FP)	Historical Tnk Cont. Est. Value (HTCE)	Lower Half (LH)	Upper Half (UH)	Average (A)	Ratio - AVG to FP (A/FP)	Ratio - AVG to HTCE (A/HTCE)	Lower Half (LH)	Upper Half (UH)	Average (A)	Ratio - AVG to FP (A/FP)	Ratio - AVG to HTCE (A/HTCE)
METALS by ACID DIGESTION and INDUCTIVELY COUPLED PLASMA (ICP)													
Na	ug/g	27300	30900	203000	229000	216000	7.91	6.99	146000	160000	153000	5.60	4.95
Al	ug/g	56400	74100	23300	24400	23850	0.42	0.32	59900	44700	52300	0.93	0.71
Fe	ug/g	-n-	6770	8170	12600	10385	-cna-	1.5	26000	24900	25450	-cna-	3.8
Cr	ug/g	12500	38600	9580	6250	7915	0.63	0.21	12200	8250	10225	0.82	0.26
Bi	ug/g	-n-	-n-	<ldl	<ldl	-cna-	-cna-	-cna-	55.84	55.32	55.58	-cna-	-cna-
La	ug/g	-n-	-n-	53.1	69.2	61.15	-cna-	-cna-	199.7	160.1	179.9	-cna-	-cna-
Ce	ug/g	-n-	-n-	93.1	113.9	103.5	-cna-	-cna-	344.4	239.3	291.85	-cna-	-cna-
Zr	ug/g	-n-	-n-	198.6	259.1	228.85	-cna-	-cna-	744	528.6	636.3	-cna-	-cna-
Pb	ug/g	-n-	-n-	105.7	130.7	118.2	-cna-	-cna-	357.5	343.3	350.4	-cna-	-cna-
Ni	ug/g	-n-	-n-	561.1	713.6	637.35	-cna-	-cna-	2030	1460	1745	-cna-	-cna-
Sr	ug/g	-n-	-n-	253.3	333.9	293.6	-cna-	-cna-	954.1	712.4	833.25	-cna-	-cna-
Mn	ug/g	-n-	-n-	2650	3410	3030	-cna-	-cna-	10700	7180	8940	-cna-	-cna-
Ca	ug/g	-n-	-n-	693.1	1050	871.55	-cna-	-cna-	2400	2850	2625	-cna-	-cna-
K	ug/g	-n-	-n-	263.7	377.6	330.65	-cna-	-cna-	1050	815.5	932.75	-cna-	-cna-
Li	ug/g	-n-	-n-	15	19.1	17.05	-cna-	-cna-	55.93	37.32	46.625	-cna-	-cna-
SAFETY SCREEN AND HISTORICAL DQO COMMON ANALYTES													
H_2O (TGA)	wt %	47	49	3.13	3.17	3.15	0.07	0.06	0.716	1.106	0.911	0.02	0.02
H2O (Grav)	wt %	47	49	0.45	0.5	0.475	0.01	0.01		-nm-	-cna-	-cna-	-cna-
TOC	ug C/g	-n-	0	90.7	148	119.35	-cna-	-cna-	1680	-nm-	1680	-cna-	-cna-
DSC (Dry)	J/g	-n-	-n-	0	0	0	-cna-	-cna-	0	0	0	-cna-	-cna-

TABLE 4: TANK SX-108 ANIONS BY ION CHROMATOGRAPHY PLUS NUCLEAR ELEMENTS AND ACTIVITY ADDRESSED BY THE HISTORICAL AND SAFETY SCREENING DQOS

		Historical Data		95 - AUG - 042					95 - AUG - 043				
Analyte Measured	Units	Finger Print Value (FP)	Historical Tnk Cont. Est. Value (HTCE)	Lower Half (LH)	Upper Half (UH)	Average (A)	Ratio - AVG to FP (A/FP)	Ratio - AVG to HTCE (A/HTCE)	Lower Half (LH)	Upper Half (UH)	Average (A)	Ratio - AVG to FP (A/FP)	Ratio - AVG to HTCE (A/HTCE)
ANIONS by ION CHROMATOGRAPHY (IC)													
NO_3	ug/g	-n-	-n-	540000	602000	571000	-cna-	-cna-	191000	155000	173000	-cna-	-cna-
NO_2	ug/g	-n-	-n-	22500	18200	20350	-cna-	-cna-	8640	13300	10970	-cna-	-cna-
PO_4	ug/g	-n-	-n-	<ldl	<ldl	-cna-	-cna-	-cna-	<ldl	<ldl	-cna-	-cna-	-cna-
SO_4	ug/g	-n-	-n-	8150	10100	9125	-cna-	-cna-	4940	4160	4550	-cna-	-cna-
F	ug/g	-n-	-n-	<ldl	<ldl	-cna-	-cna-	-cna-	633.8	739.9	686.85	-cna-	-cna-
Cl	ug/g	-n-	-n-	1700	1580	1640	-cna-	-cna-	2730	2630	2680	-cna-	-cna-
Br	ug/g	-n-	-n-	<ldl	<ldl	-cna-	-cna-	-cna-	<ldl	<ldl	-cna-	-cna-	-cna-
NUCLEAR ELEMENTS & ISOTOPES ADDRESSED BY HISTORICAL ESTIMATE AND/OR SAFETY SCREENING													
Total Alph	uCi/g	-n-	-n-	1.63	1.955	1.79	-cna-	-cna-	5.39	4.195	4.7925	-cna-	-cna-
Pu	uCi/g	-n-	0.26	-nm-	-nm-	-cna-	-cna-	-cna-	-nm-	-nm-	-cna-	-cna-	-cna-
U (ICP)	ug/g	-n-	600	2320	3070	2695	-cna-	4.5	9100	6120	7610	-cna-	12.7
U(Phosph.)	ug/g	-n-	600 (*1)	3190	3380	3285	-cna-	5.5	11800	11800	11800	-cna-	19.7
^{137}Cs	uCi/g	41	44	236.3	145.8	191.1	4.7	4.3	226.2	171.7	198.95	4.9	4.5
^{90}Sr	uCi/g	94	1430	1390	1540	1465	15.6	1.0	5010	4320	4665	49.6	3.3
Total Beta	uCi/g	-n-	-n-	3210	3420	3315	-cna-	-cna-	10400	10700	10550	-cna-	-cna-

FOOTNOTES:

(*1) Uranium measurement instrument printouts for 95-AUG-042 lost. Values constructed from electronic records of data.

-n- Historical DQO or Historical Tank Content Estimate does not provide a value.

-nm- Not measured.

-cna- Computation not applicable.

TABLE 5: TANK SX-108 METALS BY WATER DIGESTION AND INDUCTIVELY COUPLED PLASMA ANALYSIS

		Historical Data		95 - AUG - 042					95 - AUG - 043				
Analyte Measured	Units	Finger Print Value (FP)	Historical Tnk Cont. Est. Value (HTCE)	Lower Half (LH)	Upper Half (UH)	Average (A)	Ratio - AVG to FP (A/FP)	Ratio - AVG to HTCE (A/HTCE)	Lower Half (LH)	Upper Half (UH)	Average (A)	Ratio - AVG to FP (A/FP)	Ratio - AVG to HTCE (A/HTCE)
METALS by H_2O DIGESTION and INDUCTIVELY COUPLED PLASMA (ICP)													
Na	ug/g			244000	286000	265000			128000	122000	125000		
Al	ug/g			691.5	536.5	614			13000	10600	11800		
Fe	ug/g			<ldl	<ldl	-cna-			<ldl	<ldl	-cna-		
Cr	ug/g			6490	5540	6015			7180	6960	7070		
Bi	ug/g			<ldl	<ldl	-cna-			<ldl	<ldl	-cna-		
La	ug/g			<ldl	<ldl	-cna-			<ldl	<ldl	-cna-		
Ce	ug/g			<ldl	<ldl	-cna-			<ldl	<ldl	-cna-		
Zr	ug/g			<ldl	<ldl	-cna-			<ldl	<ldl	-cna-		
Pb	ug/g			<ldl	<ldl	-cna-			<ldl	<ldl	-cna-		
Ni	ug/g			<ldl	<ldl	-cna-			<ldl	<ldl	-cna-		
Sr	ug/g			<ldl	<ldl	-cna-			<ldl	<ldl	-cna-		
Mn	ug/g			<ldl	<ldl	-cna-			<ldl	<ldl	-cna-		
Ca	ug/g			123	507.5	315.25			<ldl	43.75	-cna-		
K	ug/g			491	482.5	486.75			820.5	837.5	829		
Li	ug/g			<ldl	<ldl	-cna-			<ldl	<ldl	-cna-		
U	ug/g			<ldl	<ldl	-cna-			<ldl	<ldl	-cna-		

4.0 DISCUSSION OF DATA QUALITY

The following addresses data quality as interpreted by the repeatability of duplicate measurements. Labcore labels the outcome of sample measurements as "result" and "duplicate" values. Measurement of the first sample from the jar or vial generates the result. Measurement of the second sample of material from the same jar or vial produces the duplicate.

Relative percent differences (RPDs) are computed from result and duplicate values. In addition result and duplicate values can be used to compute estimates of the mean value of the measurement and the standard deviation of the measurement data. These estimates can be used to determine the 95% confidence limit.

Relative percent difference values shown below in Tables 6 through 12, that exceed sampling and analysis plan target limits, are evaluated against laboratory control limits and, as applicable, data fitness for use criteria in computing 95% confidence limits or historical analyte average values to determine data acceptability or measurement rerun. For tank SX-108 principles of ALARA (as low as reasonably achievable), as applied to radiation dose rates, pointed toward not rerunning "hot" samples if the results of the initial result and duplicate measurements were fit for use.

4.1 DIFFERENTIAL SCANNING CALORIMETRY RESULTS

All result and duplicte values of Differential Scanning Calorimetry (DSC) measurements were zero. For this situation the mean and standard deviation of the data are also zero.

4.2 THERMOGRAVIMETRIC ANALYSIS OF WEIGHT PERCENT WATER

Table 6 below shows RPDs for the different cores and segment halves. Though the RPDs run from about 19% to 93%, the average measured value is only about 2% and therefore the RPDs suggest a measurement uncertainty of about 1%, which is reasonable for an average value of 2%.

TABLE 6: RELATIVE PERCENT DIFFERENCE VALUES FOR TGA

Auger Number	Segment Half	Relative Percent Difference	Average Value
95-AUG-042	UPPER	19.6	3.17
95-AUG-042	LOWER	27.5	3.13
95-AUG-043	UPPER	93.1	1.106
95-AUG-043	LOWER	50.6	0.716

4.3 TOTAL ALPHA PARTICLE RADIOACTIVITY

Relative percent difference values for total alpha activity measurements are shown below in Table 7. The values appear reasonable.

TABLE 7: RELATIVE PERCENT DIFFERENCE VALUES FOR TOTAL ALPHA ACTIVITY

Auger Number	Segment Half	Relative Percent Difference	Average Value
95-AUG-042	UPPER	0.51	1.955
95-AUG-042	LOWER	13.5	1.63
95-AUG-043	UPPER	5.96	4.195
95-AUG-043	LOWER	11.5	5.39

4.4 CESIUM 137 MEASUREMENTS

Relative percent difference values for measurements of ^{137}Cs are shown in Table 8. The high RPD on the lower half of 95-AUG-042 is probably due to sample inhomogeneity.

TABLE 8: RELATIVE PERCENT DIFFERENCE VALUES FOR ^{137}Cs MEASUREMENTS

Auger Number	Segment Half	Relative Percent Difference - %	Average Value uCi/g
95-AUG-042	UPPER	8.93	145.8
95-AUG-042	LOWER	20.7	236.3
95-AUG-043	UPPER	1.75	171.7
95-AUG-043	LOWER	4.42	226.2

4.5 STRONTIUM 90 MEASUREMENTS

Relative percent difference values for measurements of Sr 89/90 are shown in Table 9.

TABLE 9: RELATIVE PERCENT DIFFERENCE VALUES FOR Sr 89/90 MEASUREMENT			
Auger Number	Segment Half	Relative Percent Difference	Average Value
95-AUG-042	UPPER	12.4	1540
95-AUG-042	LOWER	5.76	1390
95-AUG-043	UPPER	8.80	4320
95-AUG-043	LOWER	3.99	5010

4.6 SODIUM MEASUREMENTS BY ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA

Relative percent difference values for measurements of sodium using acid digestion of the sample and measurement of sodium concentration in the digest by inductively coupled plasma are shown in Table 10.

TABLE 10: RELATIVE PERCENT DIFFERENCE VALUES FOR SODIUM			
Auger Number	Segment Half	Relative Percent Difference	Average Value
95-AUG-042	UPPER	0.05	229000
95-AUG-042	LOWER	2.36	203000
95-AUG-043	UPPER	7.97	160000
95-AUG-043	LOWER	1.34	146000

4.7 ALUMINUM MEASUREMENTS BY ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA

Relative percent difference values for measurements of aluminum using acid digestion of the sample and measurement of aluminum concentration by inductively coupled plasma are shown in Table 11. The large relative percent difference for 95-AUG-042 is attributed to sample inhomogeneity.

TABLE 11: RELATIVE PERCENT DIFFERENCE VALUES FOR ALUMINUM			
Auger Number	Segment Half	Relative Percent Difference	Average Value
95-AUG-042	UPPER	50.0	24400
95-AUG-042	LOWER	5.85	23300
95-AUG-043	UPPER	5.91	44700
95-AUG-043	LOWER	8.45	59900

4.8 CHROMIUM MEASUREMENTS BY ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA

Relative percent difference values for measurements of chromium using acid digestion and inductively coupled plasma are shown in Table 12.

TABLE 12: RELATIVE PERCENT DIFFERENCE VALUES FOR CHROMIUM

Auger Number	Segment Half	Relative Percent Difference	Average Value
95-AUG-042	UPPER	16.9	6250
95-AUG-042	LOWER	11.4	9580
95-AUG-043	UPPER	4.6	8250
95-AUG-043	LOWER	5.7	12200

5.0 REFERENCES

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SAMPLE DATA SUMMARY

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FINAL ANALYTICAL DATA REPORT FOR TANK 241-SX-108 FOR AUGER SAMPLES 95-AUG-042, 95-AUG-043 AND 95-AUG-044

SX-108

CORE NUMBER: na
SEGMENT #: 95-AUG-042

SEGMENT PORTION: U Upper Half of Segment

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T002475			Homogenize Sample		n/a	n/a	Complete	n/a	n/a	n/a	n/a	1.000e-4	n/a
S95T002480			% Water by Gravimetric	%	100.4	n/a	5.00e-01	5.000e-1	5.000e-1	0.00	n/a	1.000e-2	n/a
S95T002480			TOC by Persulfate/Coulometry	ug/g	95.03	3.300	1.42e+02	1.540e2	1.480e2	8.11	n/a	40.00	n/a
S95T002480			% Water by TGA using Mettler	%	100.9	n/a	2.860	3.480e0	3.170e0	19.6	n/a	n/a	n/a
S95T002480			Amount of Sam/Present/hotcell	g	n/a	n/a	10.30	n/a	n/a	n/a	n/a	n/a	n/a
S95T002480			DSC Exotherm on Perkin Elmer	Joules/g	99.61	n/a	0.00e+00	0.000e0	0.000e0	0.00	n/a	n/a	n/a
S95T002480			DSC Exotherm Dry Calculated	Joules/g Dry	n/a	n/a	0.00e+00	n/a	n/a	n/a	n/a	n/a	n/a
S95T002480			Dose Rate(hotcell) in mrad/hr	mrad/hour	n/a	n/a	1.30e+04	n/a	n/a	n/a	n/a	1.000e-1	n/a
S95T002481	F		Fusion with KOH	g/L	n/a	1.000	1.633	1.762e0	1.698e0	7.59	n/a	1.000e-5	n/a
S95T002481			Dose Rate(samp prep)in mrad/hr	mrad/hour	n/a	1.000	2.60e+02	1.762e0	1.309e2	7.59	n/a	1.000e-1	n/a
S95T002481	F		Alpha of Digested Solid	uCi/g	108.9	<1.210e-1	1.960	1.950e0	1.955e0	0.51	106.9	2.780e-1	2.26E+01
S95T002481	F		Ce/Pr-144 by GEA	uCi/g	n/a	<1.270	< 5.443	<5.03e0	n/a	n/a	n/a	1.270	n/a
S95T002481	F		Cobalt-60 by GEA	uCi/g	98.61	<1.570e-1	<2.11e-01	<1.46e-1	n/a	n/a	n/a	1.570e-1	n/a
S95T002481	F		Cesium-134 by GEA	uCi/g	n/a	<1.260e-1	<3.17e-01	<3.08e-1	n/a	n/a	n/a	1.260e-1	n/a
S95T002481	F		Cesium-137 by GEA	uCi/g	100.4	<3.500e-1	1.52e+02	1.390e2	1.458e2	8.93	n/a	3.500e-1	1.38
S95T002481	F		Europium-154 by GEA	uCi/g	n/a	<3.950e-1	<8.14e-01	<7.89e-1	n/a	n/a	n/a	3.950e-1	n/a
S95T002481	F		Europium-155 by GEA	uCi/g	n/a	<3.440e-1	< 1.463	<1.36e0	n/a	n/a	n/a	3.440e-1	n/a
S95T002481	F		Niobium-94 by GEA	uCi/g	n/a	<1.160e-1	<2.06e-01	<1.74e-1	n/a	n/a	n/a	1.160e-1	n/a
S95T002481	F		Radium-226 by GEA	uCi/g	n/a	<2.610	< 9.613	<8.97e0	n/a	n/a	n/a	2.610	n/a
S95T002481	F		Ru/Rh-106 by GEA	uCi/g	n/a	<2.770	< 6.553	<6.07e0	n/a	n/a	n/a	2.770	n/a
S95T002481	F		Strontium-89/90 High Level	uCi/g	102.8	<6.160e-1	1.63e+03	1.440e3	1.540e3	12.4	n/a	6.190e-1	8.33E-01
S95T002482			Dose Rate(samp prep)in mrad/hr	mrad/hour	n/a	1.000	8.00e+02	9.601e0	4.048e2	2.95	n/a	1.000e-1	n/a
S95T002482	A		Acid Dig.ICP/AA/Radchem Aliq.	g/L	n/a	1.000	9.888	9.601e0	9.745e0	2.95	n/a	1.000e-4	n/a
S95T002482	A		Silver -ICP-Acid Digest	ug/g	92.11	1.00e-04	< 10.11	<10.4200	n/a	n/a	102.7	10.10	n/a
S95T002482	A		Aluminium -ICP-Acid Digest	ug/g	105.0	2.20e-02	1.83e+04	3.050e4	2.440e4	50.0	n/a	50.60	n/a
S95T002482	A		Arsenic -ICP-Acid Digest	ug/g	94.80	-2.20e-2	< 50.55	<52.1000	n/a	n/a	98.57	50.60	n/a
S95T002482	A		Boron -ICP-Acid Digest	ug/g	126.2	1.70e-02	< 50.55	<52.1000	n/a	n/a	105.7	50.60	n/a
S95T002482	A		Barium -ICP-Acid Digest	ug/g	95.52	3.00e-04	87.00	8.280e1	8.490e1	4.94	95.83	50.60	n/a
S95T002482	A		Beryllium -ICP-Acid Digest	ug/g	103.8	1.00e-04	< 5.055	<5.2100	n/a	n/a	102.7	5.050	n/a
S95T002482	A		Bismuth -ICP-Acid Digest	ug/g	93.87	1.00e-02	<1.01e+02	<104.200	n/a	n/a	100.9	101.0	n/a
S95T002482	A		Calcium -ICP-Acid Digest	ug/g	115.9	6.35e-01	1.14e+03	9.484e2	1.050e3	18.6	88.35	101.0	n/a
S95T002482	A		Cadmium -ICP-Acid Digest	ug/g	93.15	-1.00e-3	< 10.11	<10.4200	n/a	n/a	101.8	10.10	n/a
S95T002482	A		Cerium -ICP-Acid Digest	ug/g	98.88	-3.00e-3	1.19e+02	1.089e2	1.139e2	8.68	100.5	101.0	n/a
S95T002482	A		Cobalt -ICP-Acid Digest	ug/g	94.89	0.00e+00	< 20.22	<20.8400	n/a	n/a	103.1	20.20	n/a
S95T002482	A		Chromium -ICP-Acid Digest	ug/g	95.55	2.00e-04	6.77e+03	5.720e3	6.250e3	16.9	n/a	10.10	n/a
S95T002482	A		Copper -ICP-Acid Digest	ug/g	93.61	4.00e-04	32.68	3.082e1	3.175e1	5.86	97.23	10.10	n/a
S95T002482	A		Iron -ICP-Acid Digest	ug/g	96.38	1.30e-02	1.31e+04	1.200e4	1.260e4	8.81	n/a	50.60	n/a
S95T002482	A		Potassium -ICP-Acid Digest	ug/g	94.71	2.68e-01	3.68e+02	3.872e2	3.776e2	5.06	87.75	303.0	n/a
S95T002482	A		Lanthanum -ICP-Acid Digest	ug/g	98.09	-1.00e-4	71.32	6.710e1	6.921e1	6.11	100.1	50.60	n/a
S95T002482	A		Lithium -ICP-Acid Digest	ug/g	94.65	-1.00e-3	19.66	1.854e1	1.910e1	5.88	97.01	10.10	n/a
S95T002482	A		Magnesium -ICP-Acid Digest	ug/g	95.99	8.00e-03	1.74e+02	1.587e2	1.662e2	8.97	96.82	101.0	n/a
S95T002482	A		Manganese -ICP-Acid Digest	ug/g	93.04	5.00e-04	3.53e+03	3.290e3	3.410e3	7.05	66.66	10.10	n/a
S95T002482	A		Molybdenum -ICP-Acid Digest	ug/g	96.38	4.00e-04	< 50.55	<52.1000	n/a	n/a	102.6	50.60	n/a

Sample# R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T002482	A	Sodium -ICP-Acid Digest	ug/g	153.9	1.91e-01	2.29e+05	2.290e5	2.290e5	0.05	n/a	101.0	n/a
S95T002482	A	Neodymium -ICP-Acid Digest	ug/g	95.76	-2.00e-3	2.09e+02	2.001e2	2.045e2	4.32	96.10	101.0	n/a
S95T002482	A	Nickel -ICP-Acid Digest	ug/g	94.91	-2.00e-3	7.42e+02	6.853e2	7.136e2	7.93	97.50	20.20	n/a
S95T002482	A	Phosphorus -ICP-Acid Digest	ug/g	96.22	5.90e-02	<2.02e+02	<208.400	n/a	n/a	104.2	202.0	n/a
S95T002482	A	Lead -ICP-Acid Digest	ug/g	96.65	-4.00e-3	1.41e+02	1.200e2	1.307e2	16.3	95.39	101.0	n/a
S95T002482	A	Sulfur -ICP-Acid Digest	ug/g	89.85	3.40e-02	2.50e+03	3.270e3	2.880e3	26.8	88.41	50.60	n/a
S95T002482	A	Antimony -ICP-Acid Digest	ug/g	88.35	-5.00e-3	<2.02e+02	<208.400	n/a	n/a	91.05	202.0	n/a
S95T002482	A	Selenium -ICP-Acid Digest	ug/g	92.06	1.80e-02	<1.01e+02	<104.200	n/a	n/a	103.2	101.0	n/a
S95T002482	A	Silicon -ICP-Acid Digest	ug/g	9.190	8.60e-02	2.95e+02	2.057e2	2.502e2	35.6	79.37	50.60	n/a
S95T002482	A	Samarium -ICP-Acid Digest	ug/g	95.28	-1.60e-2	<1.01e+02	<104.200	n/a	n/a	105.2	101.0	n/a
S95T002482	A	Strontium -ICP-Acid Digest	ug/g	95.82	3.00e-04	3.45e+02	3.231e2	3.339e2	6.45	94.80	10.10	n/a
S95T002482	A	Titanium-ICP-Acid Digest	ug/g	94.98	0.00e+00	32.39	2.866e1	3.052e1	12.2	96.40	10.10	n/a
S95T002482	A	Thallium -ICP-Acid Digest	ug/g	90.59	1.00e-02	<2.02e+02	<208.400	n/a	n/a	94.20	202.0	n/a
S95T002482	A	Uranium -ICP-Acid Digest	ug/g	93.14	-4.60e-2	3.18e+03	2.950e3	3.070e3	7.63	79.09	404.0	n/a
S95T002482	A	Vanadium -ICP-Acid Digest	ug/g	93.50	-1.00e-3	< 50.55	<52.1000	n/a	n/a	101.6	50.60	n/a
S95T002482	A	Zinc -ICP-Acid Digest	ug/g	89.40	2.20e-02	48.45	4.637e1	4.741e1	4.37	99.00	10.10	n/a
S95T002482	A	Zirconium -ICP-Acid Digest	ug/g	95.93	-4.00e-4	2.67e+02	2.512e2	2.591e2	6.13	95.53	10.10	n/a
S95T002504	X	Archive aliq of sample/hotcell	g	n/a	n/a	20.50	n/a	n/a	n/a	n/a	n/a	n/a

L Lower Half of Segment: L Lower Half of Segment

Sample# R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T002486		Homogenize Sample		n/a	n/a	Complete	n/a	n/a	n/a	n/a	1.000e-4	n/a
S95T002489		% Water by Gravimetric	%	100.4	n/a	5.00e-01	4.000e-1	4.500e-1	22.2	n/a	1.000e-2	n/a
S95T002489		TOC by Persulfate/Coulometry	ug/g	95.03	3.300	55.40	1.260e2	9.070e1	77.8	99.30	40.00	n/a
S95T002489		% Water by TGA using Mettler	%	100.9	n/a	2.700	3.560e0	3.130e0	27.5	n/a	n/a	n/a
S95T002489		Amount of Sam/Present/hotcell	g	n/a	n/a	9.800	n/a	n/a	n/a	n/a	n/a	n/a
S95T002489		DSC Exotherm on Perkin Elmer	Joules/g	99.61	n/a	0.00e+00	0.000e0	0.000e0	0.00	n/a	n/a	n/a
S95T002489		DSC Exotherm Dry Calculated	Joules/g Dry	n/a	n/a	0.00e+00	n/a	n/a	n/a	n/a	n/a	n/a
S95T002489		Dose Rate(hotcell) in mrad/hr	mrad/hour	n/a	n/a	1.30e+04	n/a	n/a	n/a	n/a	1.000e-1	n/a
S95T002500	F	Fusion with KOH	g/L	n/a	1.000	1.791	1.763e0	1.777e0	1.58	n/a	1.000e-5	n/a
S95T002500		Dose Rate(samp prep)in mrad/hr	mrad/hour	n/a	1.000	2.50e+02	1.763e0	1.259e2	1.58	n/a	1.000e-1	n/a
S95T002500	F	Alpha of Digested Solid	uCi/g	108.9	<1.210e-1	1.740	1.520e0	1.630e0	13.5	n/a	2.540e-1	2.23E+01
S95T002500	F	Ce/Pr-144 by GEA	uCi/g	n/a	<1.270	< 5.583	<6.07e0	n/a	n/a	n/a	1.270	n/a
S95T002500	F	Cobalt-60 by GEA	uCi/g	98.61	<1.570e-1	<1.94e-01	<1.85e-1	n/a	n/a	n/a	1.570e-1	n/a
S95T002500	F	Cesium-134 by GEA	uCi/g	n/a	<1.260e-1	<3.47e-01	<3.67e-1	n/a	n/a	n/a	1.260e-1	n/a
S95T002500	F	Cesium-137 by GEA	uCi/g	100.4	<3.500e-1	2.12e+02	2.610e2	2.363e2	20.7	n/a	3.500e-1	1.12
S95T002500	F	Europium-154 by GEA	uCi/g	n/a	<3.950e-1	<8.60e-01	<8.45e-1	n/a	n/a	n/a	3.950e-1	n/a
S95T002500	F	Europium-155 by GEA	uCi/g	n/a	<3.440e-1	< 1.412	<1.54e0	n/a	n/a	n/a	3.440e-1	n/a
S95T002500	F	Niobium-94 by GEA	uCi/g	n/a	<1.160e-1	<2.12e-01	<1.83e-1	n/a	n/a	n/a	1.160e-1	n/a
S95T002500	F	Radium-226 by GEA	uCi/g	n/a	<2.610	< 9.937	<1.11e1	n/a	n/a	n/a	2.610	n/a
S95T002500	F	Ru/Rh-106 by GEA	uCi/g	n/a	<2.770	< 7.034	<7.94e0	n/a	n/a	n/a	2.770	n/a
S95T002500	F	Strontium-89/90 High Level	uCi/g	102.8	<6.160e-1	1.35e+03	1.430e3	1.390e3	5.76	n/a	5.510e-1	8.64E-01
S95T002501		Dose Rate(samp prep)in mrad/hr	mrad/hour	n/a	1.000	5.50e+02	1.146e1	2.807e2	2.65	n/a	1.000e-1	n/a
S95T002501	A	Acid Dig.ICP/AA/Radchem Aliq.	g/L	n/a	1.000	11.77	1.146e1	1.162e1	2.65	n/a	1.000e-4	n/a
S95T002501	A	Silver -ICP-Acid Digest	ug/g	89.69	-1.00e-3	< 5.098	<5.2350	n/a	n/a	95.31	5.100	n/a
S95T002501	A	Aluminium -ICP-Acid Digest	ug/g	101.2	7.60e-02	2.40e+04	2.260e4	2.330e4	5.85	n/a	25.50	n/a
S95T002501	A	Arsenic -ICP-Acid Digest	ug/g	94.24	7.00e-03	< 25.49	<26.1750	n/a	n/a	94.20	25.50	n/a
S95T002501	A	Boron -ICP-Acid Digest	ug/g	126.1	4.65e-01	< 25.49	<26.1750	n/a	n/a	93.74	25.50	n/a
S95T002501	A	Barium -ICP-Acid Digest	ug/g	94.53	2.00e-03	69.72	6.274e1	6.623e1	10.5	87.13	25.50	n/a

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T002501		A	Beryllium -ICP-Acid Digest	ug/g	100.9	1.00e-04	< 2.549	<2.6175	n/a	n/a	94.52	2.550	n/a
S95T002501		A	Bismuth -ICP-Acid Digest	ug/g	91.07	-4.00e-3	< 50.98	<52.3500	n/a	n/a	94.44	51.00	n/a
S95T002501		A	Calcium -ICP-Acid Digest	ug/g	101.2	1.18e-01	7.33e+02	6.532e2	6.931e2	11.5	88.89	51.00	n/a
S95T002501		A	Cadmium -ICP-Acid Digest	ug/g	89.87	-1.00e-3	< 5.098	<5.2350	n/a	n/a	94.15	5.100	n/a
S95T002501		A	Cerium -ICP-Acid Digest	ug/g	97.45	-7.00e-3	98.55	8.756e1	9.305e1	11.8	91.06	51.00	n/a
S95T002501		A	Cobalt -ICP-Acid Digest	ug/g	92.25	3.00e-03	< 10.20	<10.4700	n/a	n/a	94.99	10.20	n/a
S95T002501		A	Chromium -ICP-Acid Digest	ug/g	92.98	5.00e-03	1.01e+04	9.030e3	9.580e3	11.4	n/a	5.100	n/a
S95T002501		A	Copper -ICP-Acid Digest	ug/g	93.24	5.00e-03	21.42	2.146e1	2.144e1	0.17	87.94	5.100	n/a
S95T002501		A	Iron -ICP-Acid Digest	ug/g	94.89	1.69e-01	8.13e+03	8.220e3	8.170e3	1.11	n/a	25.50	n/a
S95T002501		A	Potassium -ICP-Acid Digest	ug/g	91.18	-1.82e-1	3.43e+02	2.242e2	2.837e2	41.9	61.24	153.0	n/a
S95T002501		A	Lanthanum -ICP-Acid Digest	ug/g	96.37	-1.00e-3	55.41	5.084e1	5.312e1	8.60	89.84	25.50	n/a
S95T002501		A	Lithium -ICP-Acid Digest	ug/g	95.90	-2.00e-3	15.77	1.429e1	1.503e1	9.85	86.84	5.100	n/a
S95T002501		A	Magnesium -ICP-Acid Digest	ug/g	91.12	1.50e-02	1.23e+02	1.141e2	1.188e2	7.90	86.20	51.00	n/a
S95T002501		A	Manganese -ICP-Acid Digest	ug/g	90.50	5.00e-04	2.78e+03	2.530e3	2.650e3	9.44	97.77	5.100	n/a
S95T002501		A	Molybdenum -ICP-Acid Digest	ug/g	97.42	-2.00e-3	< 25.49	<26.1750	n/a	n/a	98.83	25.50	n/a
S95T002501		A	Sodium -ICP-Acid Digest	ug/g	137.2	6.82e-01	2.06e+05	2.010e5	2.030e5	2.36	n/a	51.00	n/a
S95T002501		A	Neodymium -ICP-Acid Digest	ug/g	94.66	1.00e-03	1.64e+02	1.481e2	1.560e2	10.1	87.18	51.00	n/a
S95T002501		A	Nickel -ICP-Acid Digest	ug/g	91.63	-6.00e-3	5.94e+02	5.285e2	5.611e2	11.6	92.38	10.20	n/a
S95T002501		A	Phosphorus -ICP-Acid Digest	ug/g	98.64	1.40e-02	<1.02e+02	<104.700	n/a	n/a	100.2	102.0	n/a
S95T002501		A	Lead -ICP-Acid Digest	ug/g	89.51	4.00e-03	1.08e+02	1.033e2	1.057e2	4.61	94.29	51.00	n/a
S95T002501		A	Sulfur -ICP-Acid Digest	ug/g	93.69	1.19e-01	3.05e+03	2.220e3	2.640e3	31.8	98.72	25.50	n/a
S95T002501		A	Antimony -ICP-Acid Digest	ug/g	89.60	-2.00e-3	<1.02e+02	<104.700	n/a	n/a	90.42	102.0	n/a
S95T002501		A	Selenium -ICP-Acid Digest	ug/g	91.10	2.70e-02	< 50.98	<52.3500	n/a	n/a	94.27	51.00	n/a
S95T002501		A	Silicon -ICP-Acid Digest	ug/g	379.0	7.10e-02	8.73e+02	8.470e2	8.602e2	3.07	126.2	25.50	n/a
S95T002501		A	Samarium -ICP-Acid Digest	ug/g	93.99	-3.20e-2	< 50.98	<52.3500	n/a	n/a	95.25	51.00	n/a
S95T002501		A	Strontium -ICP-Acid Digest	ug/g	94.50	-2.00e-4	2.65e+02	2.417e2	2.533e2	9.13	88.23	5.100	n/a
S95T002501		A	Titanium-ICP-Acid Digest	ug/g	96.17	2.00e-04	20.31	1.781e1	1.906e1	13.1	88.75	5.100	n/a
S95T002501		A	Thallium -ICP-Acid Digest	ug/g	87.44	-8.00e-3	<1.02e+02	<104.700	n/a	n/a	86.10	102.0	n/a
S95T002501		A	Uranium -ICP-Acid Digest	ug/g	92.13	-1.03e-1	2.44e+03	2.200e3	2.320e3	10.0	86.86	204.0	n/a
S95T002501		A	Vanadium -ICP-Acid Digest	ug/g	91.48	-5.00e-3	< 25.49	<26.1750	n/a	n/a	94.46	25.50	n/a
S95T002501		A	Zinc -ICP-Acid Digest	ug/g	86.49	1.10e-02	36.14	3.487e1	3.550e1	3.57	91.47	5.100	n/a
S95T002501		A	Zirconium -ICP-Acid Digest	ug/g	96.60	-4.00e-3	2.08e+02	1.888e2	1.986e2	9.93	90.33	5.100	n/a
S95T002502		P	Ship aliquot of sample to PNL		n/a	n/a	complete	n/a	n/a	n/a	n/a	1.000e-3	n/a
S95T002502			Dose Rate(hotcell) in mrad/hr	mrad/hour	n/a	n/a	15,000	n/a	n/a	n/a	n/a	1.000e-1	n/a
S95T002503		X	Archive aliq of sample/hotcell	g	n/a	n/a	16.50	n/a	n/a	n/a	n/a	n/a	n/a
S95T003886		W	Water Digest-NO ACID Aliquot	g/L	n/a	1.00e-01	2.745	3.405e0	3.075e0	21.5	n/a	1.000e-4	n/a
S95T003886			Dose Rate(samp prep)in mrad/hr	mrad/hour	n/a	1.00e-01	3.000	3.405e0	3.202e0	21.5	n/a	1.000e-1	n/a
S95T003886		W	Bromide by Ion Chromatograph	ug/g	93.74	<1.260e-1	<1.88e+03	<1.52e3	n/a	n/a	n/a	1.111	n/a
S95T003886		W	Chloride-IC-Dionex 4000i/4500	ug/g	97.09	3.50e-02	1.84e+03	1.570e3	1.700e3	15.8	n/a	1.510e-1	n/a
S95T003886		W	Fluoride-IC-Dionex 4000i/4500	ug/g	100.7	5.10e-02	<1.94e+02	<1.57e2	n/a	n/a	n/a	1.160e-1	n/a
S95T003886		W	Nitrite-IC - Dionex 4000i/4500	ug/g	99.45	<1.070e-1	2.36e+04	2.140e4	2.250e4	9.78	n/a	9.510e-1	n/a
S95T003886		W	Nitrate by IC-Dionex4000i/4500	ug/g	100.3	3.16e-01	5.15e+05	5.650e5	5.400e5	9.26	n/a	1.243	n/a
S95T003886		W	Oxalate by IC - Dionex 4000i	ug/g	96.12	<1.050e-1	4.93e+03	<1.26e3	n/a	n/a	n/a	9.320e-1	n/a
S95T003886		W	Phosphate-IC-Dionex 4000i/4500	ug/g	95.06	<1.190e-1	<1.79e+03	<1.44e3	n/a	n/a	n/a	1.065	n/a
S95T003886		W	Sulfate by IC-Dionex4000i/4500	ug/g	95.88	<1.360e-1	9.10e+03	7.190e3	8.150e3	23.4	n/a	1.208	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%
S95T002426			Solids Recovered - Weight	g	n/a	n/a	81.30	n/a	n/a	n/a	n/a	1.000e-2	n/a
S95T002426			Solids Recovered - Volume	mL	n/a	n/a	na	n/a	n/a	n/a	n/a	1.000e-1	n/a
S95T002426			Organic Vol Present / hotcell	mL	n/a	n/a	0.00e+00	n/a	n/a	n/a	n/a	n/a	n/a
S95T002426			Notebook with source data		n/a	n/a	N-1268	n/a	n/a	n/a	n/a	n/a	n/a
S95T002426			Liner Liquid Recoverd - Weight	g	n/a	n/a	0.00e+00	n/a	n/a	n/a	n/a	n/a	n/a
S95T002426			Extrusion of a Segment		n/a	n/a	complete	n/a	n/a	n/a	n/a	n/a	n/a
S95T002426			Estimated g/mL - Calculated	g/mL	n/a	n/a	0.00e+00	n/a	n/a	n/a	n/a	n/a	n/a
S95T002426			Drainable Liquid Recoverd - Wt	g	n/a	n/a	0.00e+00	n/a	n/a	n/a	n/a	n/a	n/a
S95T002426			Drainable Liquid Recovrd - Vol	mL	n/a	n/a	0.00e+00	n/a	n/a	n/a	n/a	n/a	n/a

SX-108

CORE NUMBER: na
SEGMENT #: 95-AUG-043

SEGMENT PORTION: U Upper Half of Segment

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T002557			Homogenize Sample		n/a	n/a	complete	n/a	n/a	n/a	n/a	1.000e-4	n/a
S95T002567			% Water by TGA on Perkin Elmer	%	100.9	n/a	5.91e-01	1.620e0	1.106e0	93.1	n/a	n/a	n/a
S95T002567			Amount of Sam/Present/hotcell	g	n/a	n/a	9.500	n/a	n/a	n/a	n/a	n/a	n/a
S95T002567			DSC Exotherm Dry Calculated	Joules/g Dry	n/a	n/a	0.00e+00	n/a	n/a	n/a	n/a	n/a	n/a
S95T002567			DSC Exotherm using Mettler	Joules/g	98.77	n/a	0.00e+00	0.000e0	0.000e0	0.00	n/a	n/a	n/a
S95T002567			Dose Rate(hotcell) in mrad/hr	mrad/hour	n/a	n/a	2.30e+04	n/a	n/a	n/a	n/a	1.000e-1	n/a
S95T002572	F		Fusion with KOH	g/L	n/a	1.000	1.835	1.898e0	1.867e0	3.39	n/a	1.000e-5	n/a
S95T002572			Dose Rate(samp prep)in mrad/hr	mrad/hour	n/a	1.000	7.50e+02	1.898e0	3.759e2	3.39	n/a	1.000e-1	n/a
S95T002572	F		Alpha of Digested Solid	uCi/g	97.40	<2.970e-1	4.070	4.320e0	4.195e0	5.96	98.66	5.140e-1	1.96E+01
S95T002572	F		Ce/Pr-144 by GEA	uCi/g	n/a	<14.10	< 31.00	<2.95e1	n/a	n/a	n/a	14.10	N/A
S95T002572	F		Cobalt-60 by GEA	uCi/g	96.74	<1.610	< 1.477	<1.87e0	n/a	n/a	n/a	1.610	N/A
S95T002572	F		Cesium-134 by GEA	uCi/g	n/a	<1.530	< 1.891	<2.00e0	n/a	n/a	n/a	1.530	N/A
S95T002572	F		Cesium-137 by GEA	uCi/g	98.82	<3.800	1.73e+02	1.700e2	1.717e2	1.75	n/a	3.800	4.47
S95T002572	F		Europium-154 by GEA	uCi/g	n/a	<4.410	< 4.283	<5.85e-1	n/a	n/a	n/a	4.410	N/A
S95T002572	F		Europium-155 by GEA	uCi/g	n/a	<4.010	< 8.173	<8.80e0	n/a	n/a	n/a	4.010	N/A
S95T002572	F		Niobium-94 by GEA	uCi/g	n/a	<1.250	< 1.733	<1.85e0	n/a	n/a	n/a	1.250	N/A
S95T002572	F		Radium-226 by GEA	uCi/g	n/a	<32.10	< 48.93	<4.62e1	n/a	n/a	n/a	32.10	N/A
S95T002572	F		Ru/Rh-106 by GEA	uCi/g	n/a	<25.90	< 39.89	<3.99e1	n/a	n/a	n/a	25.90	N/A
S95T002572	F		Strontium-89/90 High Level	uCi/g	98.17	23.30	4.13e+03	4.510e3	4.320e3	8.80	n/a	1.150	7.48E-01
S95T002573			Dose Rate(samp prep)in mrad/hr	mrad/hour	n/a	1.000	8.00e+02	1.079e1	4.054e2	0.28	n/a	1.000e-1	n/a
S95T002573	A		Acid Dig.ICP/AA/Radchem Aliq.	g/L	n/a	1.000	10.82	1.079e1	1.081e1	0.28	n/a	1.000e-4	n/a
S95T002573	A		Silver -ICP-Acid Digest	ug/g	86.68	0.00e+00	6.968	7.178e0	7.073e0	2.97	87.36	3.700	n/a
S95T002573	A		Aluminium -ICP-Acid Digest	ug/g	96.03	1.70e-02	4.60e+04	4.340e4	4.470e4	5.91	n/a	18.50	n/a
S95T002573	A		Arsenic -ICP-Acid Digest	ug/g	89.44	-1.20e-2	< 18.48	<18.5300	n/a	n/a	102.4	18.50	n/a
S95T002573	A		Boron -ICP-Acid Digest	ug/g	116.5	5.00e-03	21.00	1.975e1	2.038e1	6.15	106.7	18.50	n/a
S95T002573	A		Barium -ICP-Acid Digest	ug/g	91.28	1.00e-03	1.76e+02	1.705e2	1.733e2	3.22	98.05	18.50	n/a
S95T002573	A		Beryllium -ICP-Acid Digest	ug/g	99.43	-2.00e-4	< 1.848	<1.8530	n/a	n/a	111.9	1.850	n/a
S95T002573	A		Bismuth -ICP-Acid Digest	ug/g	87.46	6.00e-03	50.64	6.000e1	5.532e1	16.9	105.1	37.00	n/a
S95T002573	A		Calcium -ICP-Acid Digest	ug/g	93.70	1.72e-01	2.88e+03	2.820e3	2.850e3	2.40	n/a	37.00	n/a
S95T002573	A		Cadmium -ICP-Acid Digest	ug/g	88.20	1.00e-03	30.04	2.922e1	2.963e1	2.76	109.6	3.700	n/a
S95T002573	A		Cerium -ICP-Acid Digest	ug/g	94.71	8.00e-03	2.44e+02	2.348e2	2.393e2	3.79	104.3	37.00	n/a
S95T002573	A		Cobalt -ICP-Acid Digest	ug/g	91.07	5.00e-03	19.07	1.829e1	1.868e1	4.17	110.6	7.390	n/a
S95T002573	A		Chromium -ICP-Acid Digest	ug/g	91.61	2.00e-03	8.44e+03	8.060e3	8.250e3	4.60	n/a	3.700	n/a
S95T002573	A		Copper -ICP-Acid Digest	ug/g	89.24	9.00e-03	61.23	5.841e1	5.982e1	4.73	101.8	3.700	n/a
S95T002573	A		Iron -ICP-Acid Digest	ug/g	91.35	3.10e-02	2.41e+04	2.570e4	2.490e4	6.31	n/a	18.50	n/a
S95T002573	A		Potassium -ICP-Acid Digest	ug/g	90.47	1.61e-01	8.11e+02	8.197e2	8.155e2	1.04	95.60	111.0	n/a
S95T002573	A		Lanthanum -ICP-Acid Digest	ug/g	93.68	1.00e-03	1.63e+02	1.570e2	1.601e2	3.88	101.7	18.50	n/a
S95T002573	A		Lithium -ICP-Acid Digest	ug/g	90.39	-5.00e-4	37.95	3.669e1	3.732e1	3.39	101.5	3.700	n/a
S95T002573	A		Magnesium -ICP-Acid Digest	ug/g	86.06	2.60e-02	4.06e+02	3.669e2	3.866e2	10.2	93.31	37.00	n/a
S95T002573	A		Manganese -ICP-Acid Digest	ug/g	88.91	4.00e-04	7.31e+03	7.050e3	7.180e3	3.56	n/a	3.700	n/a
S95T002573	A		Molybdenum -ICP-Acid Digest	ug/g	94.59	-2.00e-3	24.34	2.114e1	2.274e1	14.1	109.9	18.50	n/a
S95T002573	A		Sodium -ICP-Acid Digest	ug/g	118.0	2.78e-01	1.66e+05	1.530e5	1.600e5	7.97	n/a	37.00	n/a
S95T002573	A		Neodymium -ICP-Acid Digest	ug/g	91.67	4.00e-03	4.53e+02	4.330e2	4.429e2	4.48	92.02	37.00	n/a

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Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T002573		A	Nickel -ICP-Acid Digest	ug/g	90.18	-8.00e-3	1.48e+03	1.430e3	1.460e3	3.61	76.90	7.390	n/a
S95T002573		A	Phosphorus -ICP-Acid Digest	ug/g	92.26	-3.00e-3	1.19e+02	1.195e2	1.190e2	0.87	108.3	73.90	n/a
S95T002573		A	Lead -ICP-Acid Digest	ug/g	87.62	1.40e-02	3.51e+02	3.357e2	3.433e2	4.44	90.74	37.00	n/a
S95T002573		A	Sulfur -ICP-Acid Digest	ug/g	87.66	1.04e-01	1.45e+03	1.530e3	1.490e3	5.47	74.07	18.50	n/a
S95T002573		A	Antimony -ICP-Acid Digest	ug/g	85.06	6.00e-03	< 73.92	<74.1200	n/a	n/a	105.9	73.90	n/a
S95T002573		A	Selenium -ICP-Acid Digest	ug/g	87.98	3.20e-02	< 36.96	<37.0600	n/a	n/a	110.7	37.00	n/a
S95T002573		A	Silicon -ICP-Acid Digest	ug/g	333.9	4.90e-02	1.97e+03	1.700e3	1.840e3	14.7	n/a	18.50	n/a
S95T002573		A	Samarium -ICP-Acid Digest	ug/g	91.61	-3.00e-3	1.08e+02	1.080e2	1.082e2	0.29	103.7	37.00	n/a
S95T002573		A	Strontium -ICP-Acid Digest	ug/g	91.73	1.00e-04	7.25e+02	6.996e2	7.124e2	3.60	86.04	3.700	n/a
S95T002573		A	Titanium-ICP-Acid Digest	ug/g	92.56	2.00e-03	70.43	6.315e1	6.679e1	10.9	106.0	3.700	n/a
S95T002573		A	Thallium -ICP-Acid Digest	ug/g	86.30	-9.00e-3	< 73.92	<74.1200	n/a	n/a	111.9	73.90	n/a
S95T002573		A	Uranium -ICP-Acid Digest	ug/g	89.72	-8.00e-3	6.24e+03	6.010e3	6.120e3	3.78	n/a	148.0	n/a
S95T002573		A	Vanadium -ICP-Acid Digest	ug/g	89.79	-1.00e-3	22.79	2.236e1	2.258e1	1.90	107.3	18.50	n/a
S95T002573		A	Zinc -ICP-Acid Digest	ug/g	84.90	9.00e-03	1.07e+02	1.067e2	1.068e2	0.19	107.9	3.700	n/a
S95T002573		A	Zirconium -ICP-Acid Digest	ug/g	93.65	-1.00e-3	5.38e+02	5.189e2	5.286e2	3.68	96.19	3.700	n/a
S95T002574		P	Ship aliquot of sample to PNL		n/a	n/a	complete	n/a	n/a	n/a	n/a	1.000e-3	n/a
S95T002574			Dose Rate(hotcell) in mrad/hr	mrad/hour	n/a	n/a	25,000	n/a	n/a	n/a	n/a	1.000e-1	n/a
S95T002575		X	Archive aliq of sample/hotcell	g	n/a	n/a	60.60	n/a	n/a	n/a	n/a	n/a	n/a

L Lower Half of Segment: L Lower Half of Segment

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T002576			Homogenize Sample		n/a	n/a	complete	n/a	n/a	n/a	n/a	1.000e-4	n/a
S95T002577			% Water by TGA on Perkin Elmer	%	100.9	n/a	5.35e-01	8.970e-1	7.160e-1	50.6	n/a	n/a	n/a
S95T002577			Amount of Sam/Present/hotcell	g	n/a	n/a	4.600	n/a	n/a	n/a	n/a	n/a	n/a
S95T002577			DSC Exotherm Dry Calculated	Joules/g Dry	n/a	n/a	0.00e+00	n/a	n/a	n/a	n/a	n/a	n/a
S95T002577			DSC Exotherm using Mettler	Joules/g	98.77	n/a	0.00e+00	0.000e0	0.000e0	0.00	n/a	n/a	n/a
S95T002577			Dose Rate(hotcell) in mrad/hr	mrad/hour	n/a	n/a	1.30e+04	n/a	n/a	n/a	n/a	1.000e-1	n/a
S95T002578		F	Fusion with KOH	g/L	n/a	1.000	1.660	1.891e0	1.776e0	13.0	n/a	1.000e-5	n/a
S95T002578			Dose Rate(samp prep)in mrad/hr	mrad/hour	n/a	1.000	8.00e+02	1.891e0	4.009e2	13.0	n/a	1.000e-1	n/a
S95T002578		F	Alpha of Digested Solid	uCi/g	97.40	<2.970e-1	5.080	5.700e0	5.390e0	11.5	94.87	5.680e-1	1.86E+01
S95T002578		F	Ce/Pr-144 by GEA	uCi/g	n/a	<14.10	< 33.14	<3.26e1	n/a	n/a	n/a	14.10	n/a
S95T002578		F	Cobalt-60 by GEA	uCi/g	96.74	<1.610	< 1.747	<1.53e0	n/a	n/a	n/a	1.610	n/a
S95T002578		F	Cesium-134 by GEA	uCi/g	n/a	<1.530	< 2.086	<1.87e0	n/a	n/a	n/a	1.530	n/a
S95T002578		F	Cesium-137 by GEA	uCi/g	98.82	<3.800	2.21e+02	2.310e2	2.262e2	4.42	n/a	3.800	4.31
S95T002578		F	Europium-154 by GEA	uCi/g	n/a	<4.410	< 6.456	<6.35e0	n/a	n/a	n/a	4.410	n/a
S95T002578		F	Europium-155 by GEA	uCi/g	n/a	<4.010	< 9.293	<9.26e0	n/a	n/a	n/a	4.010	n/a
S95T002578		F	Niobium-94 by GEA	uCi/g	n/a	<1.250	< 1.817	<1.31e0	n/a	n/a	n/a	1.250	n/a
S95T002578		F	Radium-226 by GEA	uCi/g	n/a	<32.10	< 56.09	<5.40e1	n/a	n/a	n/a	32.10	n/a
S95T002578		F	Ru/Rh-106 by GEA	uCi/g	n/a	<25.90	< 46.49	<3.92e1	n/a	n/a	n/a	25.90	n/a
S95T002578		F	Strontium-89/90 High Level	uCi/g	98.17	23.30	4.91e+03	5.110e3	5.010e3	3.99	n/a	1.250	7.15E-01
S95T002579			Dose Rate(samp prep)in mrad/hr	mrad/hour	n/a	1.000	2.00e+03	1.241e1	1.010e3	1.72	n/a	1.000e-1	n/a
S95T002579		A	Acid Dig.ICP/AA/Radchem Aliq.	g/L	n/a	1.000	12.20	1.241e1	1.230e1	1.72	n/a	1.000e-4	n/a
S95T002579		A	Silver -ICP-Acid Digest	ug/g	86.68	0.00e+00	9.832	5.300e0	7.566e0	59.9	n/a	3.280	n/a
S95T002579		A	Aluminium -ICP-Acid Digest	ug/g	96.03	1.70e-02	5.74e+04	6.240e4	5.990e4	8.45	n/a	16.40	n/a
S95T002579		A	Arsenic -ICP-Acid Digest	ug/g	89.44	-1.20e-2	< 16.39	<16.1150	n/a	n/a	n/a	16.40	n/a
S95T002579		A	Boron -ICP-Acid Digest	ug/g	116.5	5.00e-03	23.77	2.386e1	2.381e1	0.40	n/a	16.40	n/a
S95T002579		A	Barium -ICP-Acid Digest	ug/g	91.28	1.00e-03	2.39e+02	2.263e2	2.328e2	5.56	n/a	16.40	n/a
S95T002579		A	Beryllium -ICP-Acid Digest	ug/g	99.43	-2.00e-4	< 1.639	<1.6115	n/a	n/a	n/a	1.640	n/a
S95T002579		A	Bismuth -ICP-Acid Digest	ug/g	87.46	6.00e-03	61.30	5.037e1	5.584e1	19.6	n/a	32.80	n/a

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T002579		A	Calcium -ICP-Acid Digest	ug/g	93.70	1.72e-01	2.48e+03	2.310e3	2.400e3	7.47	n/a	32.80	n/a
S95T002579		A	Cadmium -ICP-Acid Digest	ug/g	88.20	1.00e-03	23.66	2.462e1	2.414e1	3.96	n/a	3.280	n/a
S95T002579		A	Cerium -ICP-Acid Digest	ug/g	94.71	8.00e-03	3.57e+02	3.313e2	3.444e2	7.57	n/a	32.80	n/a
S95T002579		A	Cobalt -ICP-Acid Digest	ug/g	91.07	5.00e-03	26.18	2.455e1	2.537e1	6.42	n/a	6.560	n/a
S95T002579		A	Chromium -ICP-Acid Digest	ug/g	91.61	2.00e-03	1.25e+04	1.180e4	1.220e4	5.70	n/a	3.280	n/a
S95T002579		A	Copper -ICP-Acid Digest	ug/g	89.24	9.00e-03	75.81	7.241e1	7.411e1	4.60	n/a	3.280	n/a
S95T002579		A	Iron -ICP-Acid Digest	ug/g	91.35	3.10e-02	2.58e+04	2.620e4	2.600e4	1.64	n/a	16.40	n/a
S95T002579		A	Potassium -ICP-Acid Digest	ug/g	90.47	1.61e-01	1.02e+03	1.090e3	1.050e3	6.50	n/a	98.40	n/a
S95T002579		A	Lanthanum -ICP-Acid Digest	ug/g	93.68	1.00e-03	2.05e+02	1.944e2	1.997e2	5.26	n/a	16.40	n/a
S95T002579		A	Lithium -ICP-Acid Digest	ug/g	90.39	-5.00e-4	58.07	5.378e1	5.593e1	7.68	n/a	3.280	n/a
S95T002579		A	Magnesium -ICP-Acid Digest	ug/g	86.06	2.60e-02	4.54e+02	3.541e2	4.038e2	24.6	n/a	32.80	n/a
S95T002579		A	Manganese -ICP-Acid Digest	ug/g	88.91	4.00e-04	1.10e+04	1.040e4	1.070e4	5.62	n/a	3.280	n/a
S95T002579		A	Molybdenum -ICP-Acid Digest	ug/g	94.59	-2.00e-3	40.61	3.142e1	3.601e1	25.5	n/a	16.40	n/a
S95T002579		A	Sodium -ICP-Acid Digest	ug/g	118.0	2.78e-01	1.45e+05	1.470e5	1.460e5	1.34	n/a	32.80	n/a
S95T002579		A	Neodymium -ICP-Acid Digest	ug/g	91.67	4.00e-03	6.31e+02	5.816e2	6.065e2	8.21	n/a	32.80	n/a
S95T002579		A	Nickel -ICP-Acid Digest	ug/g	90.18	-8.00e-3	2.09e+03	1.970e3	2.030e3	6.06	n/a	6.560	n/a
S95T002579		A	Phosphorus -ICP-Acid Digest	ug/g	92.26	-3.00e-3	1.00e+02	1.132e2	1.067e2	12.2	n/a	65.60	n/a
S95T002579		A	Lead -ICP-Acid Digest	ug/g	87.62	1.40e-02	3.52e+02	3.628e2	3.575e2	2.97	n/a	32.80	n/a
S95T002579		A	Sulfur -ICP-Acid Digest	ug/g	87.66	1.04e-01	1.10e+03	5.939e2	8.479e2	59.9	n/a	16.40	n/a
S95T002579		A	Antimony -ICP-Acid Digest	ug/g	85.06	6.00e-03	< 65.58	<64.4600	n/a	n/a	n/a	65.60	n/a
S95T002579		A	Selenium -ICP-Acid Digest	ug/g	87.98	3.20e-02	33.51	3.562e1	3.457e1	6.11	n/a	32.80	n/a
S95T002579		A	Silicon -ICP-Acid Digest	ug/g	333.9	4.90e-02	1.82e+03	1.020e3	1.420e3	56.6	n/a	16.40	n/a
S95T002579		A	Samarium -ICP-Acid Digest	ug/g	91.61	-3.00e-3	1.49e+02	1.407e2	1.448e2	5.71	n/a	32.80	n/a
S95T002579		A	Strontium -ICP-Acid Digest	ug/g	91.73	1.00e-04	9.87e+02	9.217e2	9.541e2	6.80	n/a	3.280	n/a
S95T002579		A	Titanium-ICP-Acid Digest	ug/g	92.56	2.00e-03	61.68	5.535e1	5.851e1	10.8	n/a	3.280	n/a
S95T002579		A	Thallium -ICP-Acid Digest	ug/g	86.30	-9.00e-3	< 65.58	<64.4600	n/a	n/a	n/a	65.60	n/a
S95T002579		A	Uranium -ICP-Acid Digest	ug/g	89.72	-8.00e-3	9.48e+03	8.730e3	9.100e3	8.18	n/a	131.0	n/a
S95T002579		A	Vanadium -ICP-Acid Digest	ug/g	89.79	-1.00e-3	36.24	3.637e1	3.631e1	0.34	n/a	16.40	n/a
S95T002579		A	Zinc -ICP-Acid Digest	ug/g	84.90	9.00e-03	1.12e+02	1.106e2	1.112e2	1.10	n/a	3.280	n/a
S95T002579		A	Zirconium -ICP-Acid Digest	ug/g	93.65	-1.00e-3	7.73e+02	7.149e2	7.440e2	7.84	n/a	3.280	n/a
S95T002580		X	Archive aliq of sample/hotcell	g	n/a	n/a	2.700	n/a	n/a	n/a	n/a	n/a	n/a
S96T000660			TOC by Persulfate/Coulometry	ug/g	94.03	9.00e-01	1.83e+03	1.520e3	1.680e3	18.5	107.0	80.00	n/a
S96T000660			Amount of Sam/Present/hotcell	g	n/a	n/a	2.700	n/a	n/a	n/a	n/a	n/a	n/a
S96T000660			Dose Rate(hotcell) in mrad/hr	mrad/hour	n/a	n/a	6.00e+03	n/a	n/a	n/a	n/a	1.000e-1	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%
S95T002535			Solids Recovered - Weight	g	n/a	n/a	1.44e+02	n/a	n/a	n/a	n/a	1.000e-2	n/a
S95T002535			Solids Recovered - Volume	mL	n/a	n/a	na	n/a	n/a	n/a	n/a	1.000e-1	n/a
S95T002535			Organic Vol Present / hotcell	mL	n/a	n/a	0.00e+00	n/a	n/a	n/a	n/a	n/a	n/a
S95T002535			Notebook with source data		n/a	n/a	N-1268	n/a	n/a	n/a	n/a	n/a	n/a
S95T002535			Liner Liquid Recoverd - Weight	g	n/a	n/a	0.00e+00	n/a	n/a	n/a	n/a	n/a	n/a
S95T002535			Extrusion of a Segment		n/a	n/a	complete	n/a	n/a	n/a	n/a	n/a	n/a
S95T002535			Estimated g/mL - Calculated	g/mL	n/a	n/a	0.00e+00	n/a	n/a	n/a	n/a	n/a	n/a
S95T002535			Drainable Liquid Recoverd - Wt	g	n/a	n/a	0.00e+00	n/a	n/a	n/a	n/a	n/a	n/a
S95T002535			Drainable Liquid Recovrd - Vol	mL	n/a	n/a	0.00e+00	n/a	n/a	n/a	n/a	n/a	n/a

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CORE NUMBER: na
SEGMENT #: 95-AUG-044

SEGMENT PORTION: W Whole Segment

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T002594			Solids Recovered - Weight	g	n/a	n/a	1.00e-02	n/a	n/a	n/a	n/a	1.000e-2	n/a
S95T002594			Solids Recovered - Volume	mL	n/a	n/a	na	n/a	n/a	n/a	n/a	1.000e-1	n/a
S95T002594			Organic Vol Present / hotcell	mL	n/a	n/a	0.00e+00	n/a	n/a	n/a	n/a	n/a	n/a
S95T002594			Notebook with source data		n/a	n/a	N-1268	n/a	n/a	n/a	n/a	n/a	n/a
S95T002594			Liner Liquid Recoverd - Weight	g	n/a	n/a	0.00e+00	n/a	n/a	n/a	n/a	n/a	n/a
S95T002594			Extrusion of a Segment		n/a	n/a	complete	n/a	n/a	n/a	n/a	n/a	n/a
S95T002594			Estimated g/mL - Calculated	g/mL	n/a	n/a	0.00e+00	n/a	n/a	n/a	n/a	n/a	n/a
S95T002594			Drainable Liquid Recoverd - Wt	g	n/a	n/a	0.00e+00	n/a	n/a	n/a	n/a	n/a	n/a
S95T002594			Drainable Liquid Recovrd - Vol	mL	n/a	n/a	0.00e+00	n/a	n/a	n/a	n/a	n/a	n/a

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CORE NUMBER: na
SEGMENT #: 95-aug-043

SEGMENT PORTION: U Upper Half of Segment

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S96T000659			Amount of Sam/Present/hotcell	g	n/a	n/a	3.800	n/a	n/a	n/a	n/a	n/a	n/a
S96T000659			Dose Rate(hotcell) in mrad/hr	mrad/hour	n/a	n/a	1.00e+04	n/a	n/a	n/a	n/a	1.000e-1	n/a

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CORE NUMBER: na
SEGMENT #: AUG-042 Lower Half

SEGMENT PORTION: L Lower Half of Segment

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T003887		I	Water Digest-ACID Aliquot-ICP	g/L	n/a	1.00e-01	2.675	3.319e0	2.997e0	21.5	n/a	1.000e-4	n/a
S95T003887			Dose Rate(samp prep)in mrad/hr	mrad/hour	n/a	1.00e-01	8.00e-01	3.319e0	2.059e0	21.5	n/a	1.000e-1	n/a
S95T003887		I	Silver -ICP-H20 Dig/Acid	ug/g	99.60	<1.000e-2	17.90	1.750e1	1.770e1	2.26	n/a	7.480	n/a
S95T003887		I	Aluminium -ICP-H20 Dig/Acid	ug/g	96.20	<5.000e-2	7.38e+02	6.450e2	6.915e2	13.4	n/a	37.40	n/a
S95T003887		I	Arsenic -ICP-H20 Dig/Acid	ug/g	103.4	<1.000e-1	< 74.90	<6.03e1	n/a	n/a	n/a	74.80	n/a
S95T003887		I	Boron -ICP-H20 Dig/Acid	ug/g	99.20	2.580	1.14e+03	8.790e2	1.010e3	25.9	n/a	37.40	n/a
S95T003887		I	Barium -ICP-H20 Dig/Acid	ug/g	101.6	<5.000e-2	< 37.40	<3.01e1	n/a	n/a	n/a	37.40	n/a
S95T003887		I	Beryllium -ICP-H20 Dig/Acid	ug/g	102.2	<5.000e-3	< 3.740	<3.01e0	n/a	n/a	n/a	3.740	n/a
S95T003887		I	Bismuth -ICP-H20 Dig/Acid	ug/g	102.0	<1.000e-1	< 74.90	<6.03e1	n/a	n/a	n/a	74.80	n/a
S95T003887		I	Calcium -ICP-H20 Dig/Acid	ug/g	101.0	1.86e-01	1.36e+02	1.100e2	1.230e2	21.1	n/a	74.80	n/a
S95T003887		I	Cadmium -ICP-H20 Dig/Acid	ug/g	101.0	<5.000e-3	< 3.740	<3.01e0	n/a	n/a	n/a	3.740	n/a
S95T003887		I	Cerium -ICP-H20 Dig/Acid	ug/g	104.4	<1.000e-1	< 74.90	<6.03e1	n/a	n/a	n/a	74.80	n/a
S95T003887		I	Cobalt -ICP-H20 Dig/Acid	ug/g	100.8	<2.000e-2	< 14.20	<1.22e1	n/a	n/a	n/a	14.10	n/a
S95T003887		I	Chromium -ICP-H20 Dig/Acid	ug/g	102.0	<1.000e-2	7.24e+03	5.740e3	6.490e3	23.1	n/a	7.480	n/a
S95T003887		I	Copper -ICP-H20 Dig/Acid	ug/g	102.2	<1.000e-2	< 7.490	<6.03e0	n/a	n/a	n/a	7.480	n/a
S95T003887		I	Iron -ICP-H20 Dig/Acid	ug/g	101.4	<5.000e-2	< 37.40	<3.01e1	n/a	n/a	n/a	37.40	n/a
S95T003887		I	Potassium -ICP-H20 Dig/Acid	ug/g	102.0	<5.000e-1	5.30e+02	4.520e2	4.910e2	15.9	n/a	374.0	n/a
S95T003887		I	Lanthanum -ICP-H20 Dig/Acid	ug/g	102.6	<5.000e-2	< 37.40	<3.01e1	n/a	n/a	n/a	37.40	n/a
S95T003887		I	Lithium -ICP-H20 Dig/Acid	ug/g	100.4	<1.000e-2	< 7.490	<6.03e0	n/a	n/a	n/a	7.480	n/a
S95T003887		I	Magnesium -ICP-H20 Dig/Acid	ug/g	97.20	<1.000e-1	< 74.90	<6.03e1	n/a	n/a	n/a	74.80	n/a
S95T003887		I	Manganese -ICP-H20 Dig/Acid	ug/g	98.80	<1.000e-2	< 7.490	<6.03e0	n/a	n/a	n/a	7.480	n/a
S95T003887		I	Molybdenum -ICP-H20 Dig/Acid	ug/g	101.2	<5.000e-2	< 37.40	<3.01e1	n/a	n/a	n/a	37.40	n/a
S95T003887		I	Sodium -ICP-H20 Dig/Acid	ug/g	99.40	3.510	2.45e+05	2.430e5	2.440e5	0.82	n/a	74.80	n/a
S95T003887		I	Neodymium -ICP-H20 Dig/Acid	ug/g	103.4	<1.000e-1	< 74.90	<6.03e1	n/a	n/a	n/a	74.80	n/a
S95T003887		I	Nickel -ICP-H20 Dig/Acid	ug/g	100.4	<2.000e-2	< 14.20	<1.22e1	n/a	n/a	n/a	14.10	n/a
S95T003887		I	Phosphorus -ICP-H20 Dig/Acid	ug/g	103.0	<2.000e-1	<1.42e+02	<1.22e2	n/a	n/a	n/a	141.0	n/a
S95T003887		I	Lead -ICP-H20 Dig/Acid	ug/g	101.2	<1.000e-1	< 74.90	<6.03e1	n/a	n/a	n/a	74.80	n/a
S95T003887		I	Sulfur -ICP-H20 Dig/Acid	ug/g	97.00	<1.000e-1	2.21e+03	1.830e3	2.020e3	18.8	n/a	74.80	n/a
S95T003887		I	Antimony -ICP-H20 Dig/Acid	ug/g	95.40	<6.000e-2	< 45.00	<3.63e1	n/a	n/a	n/a	44.90	n/a
S95T003887		I	Selenium -ICP-H20 Dig/Acid	ug/g	98.60	<1.000e-1	< 74.90	<6.03e1	n/a	n/a	n/a	74.80	n/a
S95T003887		I	Silicon -ICP-H20 Dig/Acid	ug/g	96.20	3.590	1.58e+03	1.740e3	1.660e3	9.64	n/a	37.40	n/a
S95T003887		I	Samarium -ICP-H20 Dig/Acid	ug/g	100.2	<1.000e-1	< 74.90	<6.03e1	n/a	n/a	n/a	74.80	n/a
S95T003887		I	Strontium -ICP-H20 Dig/Acid	ug/g	101.0	<1.000e-2	< 7.490	<6.03e0	n/a	n/a	n/a	7.480	n/a
S95T003887		I	Titanium-ICP-H20 Dig/Acid	ug/g	99.20	<1.000e-2	< 7.490	<6.03e0	n/a	n/a	n/a	7.480	n/a
S95T003887		I	Thallium -ICP-H20 Dig/Acid	ug/g	97.20	<2.000e-1	<1.42e+02	<1.22e2	n/a	n/a	n/a	141.0	n/a
S95T003887		I	Uranium -ICP-H20 Dig/Acid	ug/g	97.30	<5.000e-1	<3.74e+02	<3.01e2	n/a	n/a	n/a	374.0	n/a
S95T003887		I	Vanadium -ICP-H20 Dig/Acid	ug/g	100.2	<5.000e-2	< 37.40	<3.01e1	n/a	n/a	n/a	37.40	n/a
S95T003887		I	Zinc -ICP-H20 Dig/Acid	ug/g	98.40	<1.000e-2	11.50	1.100e1	1.125e1	4.44	n/a	7.480	n/a
S95T003887		I	Zirconium -ICP-H20 Dig/Acid	ug/g	99.40	<1.000e-2	< 7.490	<6.03e0	n/a	n/a	n/a	7.480	n/a
S95T003890		F	Fusion with KOH	g/L	n/a	2.00e-01	1.970	2.127e0	2.049e0	7.62	n/a	1.000e-5	n/a
S95T003890			Dose Rate(samp prep)in mrad/hr	mrad/hour	n/a	2.00e-01	2.00e+02	2.127e0	1.011e2	7.62	n/a	1.000e-1	n/a
S95T003890		F	Beta of Solid Sample	uCi/g	104.8	5.13e-01	3.40e+03	3.020e3	3.210e3	11.8	101.8	7.700e-1	2.89E-01
S95T003890		F	Uranium by Phosphorescence	ug/g	94.20	26.00	3.57e+03	2.810e3	3.190e3	23.8	112.0	20.70	1.52E+00

WHC-SD-WM-DP-151, REV. 1

SX-108

CORE NUMBER: na
SEGMENT #: AUG-042 UPPER HALF

SEGMENT PORTION: U Upper Half of Segment

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T003881		W	Water Digest-NO ACID Aliquot	g/L	n/a	1.00e-01	3.182	2.756e0	2.969e0	14.3	n/a	1.000e-4	n/a
S95T003881			Dose Rate(samp prep)in mrad/hr	mrad/hour	n/a	1.00e-01	2.500	2.756e0	2.628e0	14.3	n/a	1.000e-1	n/a
S95T003881		W	Bromide by Ion Chromatograph	ug/g	93.74	<1.260e-1	<1.62e+03	<1.87e3	n/a	n/a	94.43	9.660e-1	n/a
S95T003881		W	Chloride-IC-Dionex 4000i/4500	ug/g	97.09	3.50e-02	1.32e+03	1.850e3	1.580e3	33.4	92.15	1.300e-1	n/a
S95T003881		W	Fluoride-IC-Dionex 4000i/4500	ug/g	100.7	5.10e-02	<1.68e+02	<1.93e2	n/a	n/a	100.3	1.000e-1	n/a
S95T003881		W	Nitrite-IC - Dionex 4000i/4500	ug/g	99.45	<1.070e-1	1.45e+04	2.190e4	1.820e4	40.7	93.55	8.200e-1	n/a
S95T003881		W	Nitrate by IC-Dionex4000i/4500	ug/g	100.3	3.16e-01	4.52e+05	7.520e5	6.020e5	49.8	101.1	1.072	n/a
S95T003881		W	Oxalate by IC - Dionex 4000i	ug/g	96.12	<1.050e-1	<1.35e+03	<1.56e3	n/a	n/a	94.77	8.050e-1	n/a
S95T003881		W	Phosphate-IC-Dionex 4000i/4500	ug/g	95.06	<1.190e-1	<1.54e+03	<1.78e3	n/a	n/a	93.96	9.190e-1	n/a
S95T003881		W	Sulfate by IC-Dionex4000i/4500	ug/g	95.88	<1.360e-1	8.96e+03	1.170e4	1.030e4	26.5	96.20	1.042	n/a
S95T003882		I	Water Digest-ACID Aliquot-ICP	g/L	n/a	1.00e-01	3.101	2.686e0	2.894e0	14.3	n/a	1.000e-4	n/a
S95T003882			Dose Rate(samp prep)in mrad/hr	mrad/hour	n/a	1.00e-01	6.00e-01	2.686e0	1.643e0	14.3	n/a	1.000e-1	n/a
S95T003882		I	Silver -ICP-H20 Dig/Acid	ug/g	99.60	<1.000e-2	16.40	2.620e1	2.130e1	46.0	98.00	6.450	n/a
S95T003882		I	Aluminium -ICP-H20 Dig/Acid	ug/g	96.20	<5.000e-2	4.71e+02	6.020e2	5.365e2	24.4	94.50	32.20	n/a
S95T003882		I	Arsenic -ICP-H20 Dig/Acid	ug/g	103.4	<1.000e-1	< 64.50	<7.46e1	n/a	n/a	102.5	64.50	n/a
S95T003882		I	Boron -ICP-H20 Dig/Acid	ug/g	99.20	2.580	9.61e+02	1.150e3	1.060e3	17.9	96.50	32.20	n/a
S95T003882		I	Barium -ICP-H20 Dig/Acid	ug/g	101.6	<5.000e-2	< 32.20	<3.72e1	n/a	n/a	97.50	32.20	n/a
S95T003882		I	Beryllium -ICP-H20 Dig/Acid	ug/g	102.2	<5.000e-3	< 3.220	<3.72e0	n/a	n/a	100.5	3.220	n/a
S95T003882		I	Bismuth -ICP-H20 Dig/Acid	ug/g	102.0	<1.000e-1	< 64.50	<7.46e1	n/a	n/a	98.00	64.50	n/a
S95T003882		I	Calcium -ICP-H20 Dig/Acid	ug/g	101.0	1.86e-01	2.50e+02	7.650e2	5.075e2	101	108.3	64.50	n/a
S95T003882		I	Cadmium -ICP-H20 Dig/Acid	ug/g	101.0	<5.000e-3	< 3.220	<3.72e0	n/a	n/a	100.5	3.220	n/a
S95T003882		I	Cerium -ICP-H20 Dig/Acid	ug/g	104.4	<1.000e-1	< 64.50	<7.46e1	n/a	n/a	102.0	64.50	n/a
S95T003882		I	Cobalt -ICP-H20 Dig/Acid	ug/g	100.8	<2.000e-2	< 12.90	<1.49e1	n/a	n/a	101.0	12.90	n/a
S95T003882		I	Chromium -ICP-H20 Dig/Acid	ug/g	102.0	<1.000e-2	4.18e+03	6.900e3	5.540e3	49.1	97.00	6.450	n/a
S95T003882		I	Copper -ICP-H20 Dig/Acid	ug/g	102.2	<1.000e-2	< 6.450	<7.46e0	n/a	n/a	98.00	6.450	n/a
S95T003882		I	Iron -ICP-H20 Dig/Acid	ug/g	101.4	<5.000e-2	< 32.20	<3.72e1	n/a	n/a	101.0	32.20	n/a
S95T003882		I	Potassium -ICP-H20 Dig/Acid	ug/g	102.0	<5.000e-1	4.80e+02	4.850e2	4.825e2	1.04	75.10	322.0	n/a
S95T003882		I	Lanthanum -ICP-H20 Dig/Acid	ug/g	102.6	<5.000e-2	< 32.20	<3.72e1	n/a	n/a	99.50	32.20	n/a
S95T003882		I	Lithium -ICP-H20 Dig/Acid	ug/g	100.4	<1.000e-2	< 6.450	<7.46e0	n/a	n/a	95.50	6.450	n/a
S95T003882		I	Magnesium -ICP-H20 Dig/Acid	ug/g	97.20	<1.000e-1	< 64.50	<7.46e1	n/a	n/a	98.00	64.50	n/a
S95T003882		I	Manganese -ICP-H20 Dig/Acid	ug/g	98.80	<1.000e-2	< 6.450	<7.46e0	n/a	n/a	96.50	6.450	n/a
S95T003882		I	Molybdenum -ICP-H20 Dig/Acid	ug/g	101.2	<5.000e-2	< 32.20	<3.72e1	n/a	n/a	102.5	32.20	n/a
S95T003882		I	Sodium -ICP-H20 Dig/Acid	ug/g	99.40	3.510	2.18e+05	3.550e5	2.860e5	47.8	n/a	64.50	n/a
S95T003882		I	Neodymium -ICP-H20 Dig/Acid	ug/g	103.4	<1.000e-1	< 64.50	<7.46e1	n/a	n/a	100.0	64.50	n/a
S95T003882		I	Nickel -ICP-H20 Dig/Acid	ug/g	100.4	<2.000e-2	< 12.90	<1.49e1	n/a	n/a	100.0	12.90	n/a
S95T003882		I	Phosphorus -ICP-H20 Dig/Acid	ug/g	103.0	<2.000e-1	<1.29e+02	<1.49e2	n/a	n/a	101.5	129.0	n/a
S95T003882		I	Lead -ICP-H20 Dig/Acid	ug/g	101.2	<1.000e-1	< 64.50	<7.46e1	n/a	n/a	100.0	64.50	n/a
S95T003882		I	Sulfur -ICP-H20 Dig/Acid	ug/g	97.00	<1.000e-1	2.29e+03	3.100e3	2.700e3	30.1	95.80	64.50	n/a
S95T003882		I	Antimony -ICP-H20 Dig/Acid	ug/g	95.40	<6.000e-2	< 38.70	<4.47e1	n/a	n/a	95.50	38.70	n/a
S95T003882		I	Selenium -ICP-H20 Dig/Acid	ug/g	98.60	<1.000e-1	< 64.50	<7.46e1	n/a	n/a	98.00	64.50	n/a
S95T003882		I	Silicon -ICP-H20 Dig/Acid	ug/g	96.20	3.590	2.00e+03	1.710e3	1.860e3	15.6	103.2	32.20	n/a
S95T003882		I	Samarium -ICP-H20 Dig/Acid	ug/g	100.2	<1.000e-1	< 64.50	<7.46e1	n/a	n/a	98.00	64.50	n/a
S95T003882		I	Strontium -ICP-H20 Dig/Acid	ug/g	101.0	<1.000e-2	< 6.450	<7.46e0	n/a	n/a	97.50	6.450	n/a

WHC-SD-WM-DP-151, REV. 1

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T003882		I	Titanium-ICP-H20 Dig/Acid	ug/g	99.20	<1.000e-2	< 6.450	<7.46e0	n/a	n/a	97.50	6.450	n/a
S95T003882		I	Thallium -ICP-H20 Dig/Acid	ug/g	97.20	<2.000e-1	<1.29e+02	<1.49e2	n/a	n/a	92.50	129.0	n/a
S95T003882		I	Uranium -ICP-H20 Dig/Acid	ug/g	97.30	<5.000e-1	<3.22e+02	<3.72e2	n/a	n/a	103.0	322.0	n/a
S95T003882		I	Vanadium -ICP-H20 Dig/Acid	ug/g	100.2	<5.000e-2	< 32.20	<3.72e1	n/a	n/a	100.0	32.20	n/a
S95T003882		I	Zinc -ICP-H20 Dig/Acid	ug/g	98.40	<1.000e-2	14.70	3.480e1	2.475e1	81.2	99.80	6.450	n/a
S95T003882		I	Zirconium -ICP-H20 Dig/Acid	ug/g	99.40	<1.000e-2	< 6.450	<7.46e0	n/a	n/a	97.50	6.450	n/a

SX-108

CORE NUMBER: na
SEGMENT #: AUG-042 Upper Half

SEGMENT PORTION: U Upper Half of Segment

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T003885		F	Fusion with KOH	g/L	n/a	2.00e-01	2.239	2.459e0	2.349e0	9.37	n/a	1.000e-5	n/a
S95T003885			Dose Rate(samp prep)in mrad/hr	mrad/hour	n/a	2.00e-01	2.00e+02	2.459e0	1.012e2	9.37	n/a	1.000e-1	n/a
S95T003885		F	Beta of Solid Sample	uCi/g	104.8	5.13e-01	3.59e+03	3.260e3	3.420e3	9.64	107.1	8.470e-1	2.96E-01
S95T003885		F	Uranium by Phosphorescence	ug/g	94.20	26.00	3.58e+03	3.180e3	3.380e3	11.8	116.9	1.650	3.32E+00

SX-108

CORE NUMBER: na
SEGMENT #: AUG-043 Lower Half

SEGMENT PORTION: L Lower Half of Segment

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T003896		W	Water Digest-NO ACID Aliquot	g/L	n/a	1.00e-01	4.490	4.692e0	4.591e0	4.40	n/a	1.000e-4	n/a
S95T003896			Dose Rate(samp prep)in mrad/hr	mrad/hour	n/a	1.00e-01	5.000	4.692e0	4.846e0	4.40	n/a	1.000e-1	n/a
S95T003896		W	Bromide by Ion Chromatograph	ug/g	91.65	<1.260e-1	<1.43e+03	<1.37e3	n/a	n/a	n/a	1.430e3	n/a
S95T003896		W	Chloride-IC-Dionex 4000i/4500	ug/g	91.90	4.70e-02	2.74e+03	2.720e3	2.730e3	0.73	n/a	193.1	n/a
S95T003896		W	Fluoride-IC-Dionex 4000i/4500	ug/g	95.25	<1.300e-2	6.42e+02	6.250e2	6.338e2	2.68	n/a	147.6	n/a
S95T003896		W	Nitrite-IC - Dionex 4000i/4500	ug/g	96.87	<1.070e-1	8.79e+03	8.490e3	8.640e3	3.47	n/a	1.220e3	n/a
S95T003896		W	Nitrate by IC-Dionex4000i/4500	ug/g	97.72	2.840e-1	1.88e+05	1.940e5	1.910e5	3.14	n/a	1.590e3	n/a
S95T003896		W	Oxalate by IC - Dionex 4000i	ug/g	92.83	<1.050e-1	6.51e+03	7.180e3	6.850e3	9.79	n/a	1.190e3	n/a
S95T003896		W	Phosphate-IC-Dionex 4000i/4500	ug/g	93.41	<1.190e-1	<1.36e+03	<1.30e3	n/a	n/a	n/a	1.360e3	n/a
S95T003896		W	Sulfate by IC-Dionex4000i/4500	ug/g	93.98	<1.360e-1	4.97e+03	4.910e3	4.940e3	1.21	n/a	1.540e3	n/a
S95T003897		I	Water Digest-ACID Aliquot-ICP	g/L	n/a	1.00e-01	4.609	4.817e0	4.713e0	4.40	n/a	1.000e-4	n/a
S95T003897			Dose Rate(samp prep)in mrad/hr	mrad/hour	n/a	1.00e-01	1.500	4.817e0	3.159e0	4.40	n/a	1.000e-1	n/a
S95T003897		I	Silver -ICP-H20 Dig/Acid	ug/g	99.60	<1.000e-2	10.00	1.020e1	1.010e1	1.98	n/a	4.340	n/a
S95T003897		I	Aluminium -ICP-H20 Dig/Acid	ug/g	96.20	<5.000e-2	1.22e+04	1.380e4	1.300e4	12.3	n/a	21.70	n/a
S95T003897		I	Arsenic -ICP-H20 Dig/Acid	ug/g	103.4	<1.000e-1	< 43.40	<4.15e1	n/a	n/a	n/a	43.40	n/a
S95T003897		I	Boron -ICP-H20 Dig/Acid	ug/g	99.20	2.580	6.96e+02	6.530e2	6.745e2	6.38	n/a	21.70	n/a
S95T003897		I	Barium -ICP-H20 Dig/Acid	ug/g	101.6	<5.000e-2	< 21.70	<2.08e1	n/a	n/a	n/a	21.70	n/a
S95T003897		I	Beryllium -ICP-H20 Dig/Acid	ug/g	102.2	<5.000e-3	< 2.170	<2.08e0	n/a	n/a	n/a	2.170	n/a
S95T003897		I	Bismuth -ICP-H20 Dig/Acid	ug/g	102.0	<1.000e-1	< 43.40	<4.15e1	n/a	n/a	n/a	43.40	n/a
S95T003897		I	Calcium -ICP-H20 Dig/Acid	ug/g	101.0	1.86e-01	< 43.40	<4.15e1	n/a	n/a	n/a	43.40	n/a
S95T003897		I	Cadmium -ICP-H20 Dig/Acid	ug/g	101.0	<5.000e-3	< 2.170	<2.08e0	n/a	n/a	n/a	2.170	n/a
S95T003897		I	Cerium -ICP-H20 Dig/Acid	ug/g	104.4	<1.000e-1	< 43.40	<4.15e1	n/a	n/a	n/a	43.40	n/a
S95T003897		I	Cobalt -ICP-H20 Dig/Acid	ug/g	100.8	<2.000e-2	< 8.680	<8.30e0	n/a	n/a	n/a	8.680	n/a
S95T003897		I	Chromium -ICP-H20 Dig/Acid	ug/g	102.0	<1.000e-2	6.86e+03	7.490e3	7.180e3	8.78	n/a	4.340	n/a
S95T003897		I	Copper -ICP-H20 Dig/Acid	ug/g	102.2	<1.000e-2	< 4.340	<4.15e0	n/a	n/a	n/a	4.340	n/a
S95T003897		I	Iron -ICP-H20 Dig/Acid	ug/g	101.4	<5.000e-2	< 21.70	<2.08e1	n/a	n/a	n/a	21.70	n/a
S95T003897		I	Potassium -ICP-H20 Dig/Acid	ug/g	102.0	<5.000e-1	7.75e+02	8.660e2	8.205e2	11.1	n/a	217.0	n/a
S95T003897		I	Lanthanum -ICP-H20 Dig/Acid	ug/g	102.6	<5.000e-2	< 21.70	<2.08e1	n/a	n/a	n/a	21.70	n/a
S95T003897		I	Lithium -ICP-H20 Dig/Acid	ug/g	100.4	<1.000e-2	< 4.340	<4.15e0	n/a	n/a	n/a	4.340	n/a
S95T003897		I	Magnesium -ICP-H20 Dig/Acid	ug/g	97.20	<1.000e-1	< 43.40	<4.15e1	n/a	n/a	n/a	43.40	n/a
S95T003897		I	Manganese -ICP-H20 Dig/Acid	ug/g	98.80	<1.000e-2	< 4.340	<4.15e0	n/a	n/a	n/a	4.340	n/a
S95T003897		I	Molybdenum -ICP-H20 Dig/Acid	ug/g	101.2	<5.000e-2	< 21.70	2.380e1	n/a	n/a	n/a	21.70	n/a
S95T003897		I	Sodium -ICP-H20 Dig/Acid	ug/g	99.40	3.510	1.23e+05	1.330e5	1.280e5	7.81	n/a	43.40	n/a
S95T003897		I	Neodymium -ICP-H20 Dig/Acid	ug/g	103.4	<1.000e-1	< 43.40	<4.15e1	n/a	n/a	n/a	43.40	n/a
S95T003897		I	Nickel -ICP-H20 Dig/Acid	ug/g	100.4	<2.000e-2	< 8.680	<8.30e0	n/a	n/a	n/a	8.680	n/a
S95T003897		I	Phosphorus -ICP-H20 Dig/Acid	ug/g	103.0	<2.000e-1	< 86.80	<8.30e1	n/a	n/a	n/a	86.80	n/a
S95T003897		I	Lead -ICP-H20 Dig/Acid	ug/g	101.2	<1.000e-1	< 43.40	<4.15e1	n/a	n/a	n/a	43.40	n/a
S95T003897		I	Sulfur -ICP-H20 Dig/Acid	ug/g	97.00	<1.000e-1	8.15e+02	8.800e2	8.475e2	7.67	n/a	43.40	n/a
S95T003897		I	Antimony -ICP-H20 Dig/Acid	ug/g	95.40	<6.000e-2	< 26.00	<2.49e1	n/a	n/a	n/a	26.00	n/a
S95T003897		I	Selenium -ICP-H20 Dig/Acid	ug/g	98.60	<1.000e-1	< 43.40	<4.15e1	n/a	n/a	n/a	43.40	n/a
S95T003897		I	Silicon -ICP-H20 Dig/Acid	ug/g	96.20	3.590	3.41e+02	2.500e2	2.955e2	30.8	n/a	21.70	n/a
S95T003897		I	Samarium -ICP-H20 Dig/Acid	ug/g	100.2	<1.000e-1	< 43.40	<4.15e1	n/a	n/a	n/a	43.40	n/a
S95T003897		I	Strontium -ICP-H20 Dig/Acid	ug/g	101.0	<1.000e-2	< 4.340	<4.15e0	n/a	n/a	n/a	4.340	n/a

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T003897		I	Titanium-ICP-H2O Dig/Acid	ug/g	99.20	<1.000e-2	< 4.340	<4.15e0	n/a	n/a	n/a	4.340	n/a
S95T003897		I	Thallium -ICP-H2O Dig/Acid	ug/g	97.20	<2.000e-1	< 86.80	<8.30e1	n/a	n/a	n/a	86.80	n/a
S95T003897		I	Uranium -ICP-H2O Dig/Acid	ug/g	97.30	<5.000e-1	<2.17e+02	<2.08e2	n/a	n/a	n/a	217.0	n/a
S95T003897		I	Vanadium -ICP-H2O Dig/Acid	ug/g	100.2	<5.000e-2	< 21.70	<2.08e1	n/a	n/a	n/a	21.70	n/a
S95T003897		I	Zinc -ICP-H2O Dig/Acid	ug/g	98.40	<1.000e-2	5.410	6.650e0	6.030e0	20.6	n/a	4.340	n/a
S95T003897		I	Zirconium -ICP-H2O Dig/Acid	ug/g	99.40	<1.000e-2	< 4.340	<4.15e0	n/a	n/a	n/a	4.340	n/a
S95T003900		F	Fusion with KOH	g/L	n/a	2.50e-01	1.632	1.794e0	1.713e0	9.48	n/a	1.000e-5	n/a
S95T003900			Dose Rate(samp prep)in mrad/hr	mrad/hour	n/a	2.50e-01	4.00e+02	1.794e0	2.009e2	9.48	n/a	1.000e-1	n/a
S95T003900		F	Beta of Solid Sample	uCi/g	95.87	<8.820e-1	1.04e+04	1.030e4	1.040e4	0.97	100.0	1.820	2.85E-01
S95T003900		F	Uranium by Phosphorescence	ug/g	103.0	227.0	1.10e+04	1.270e4	1.180e4	14.3	n/a	2.270	4.23E+00

SX-108

CORE NUMBER: na
SEGMENT #: AUG-043 Upper Half

SEGMENT PORTION: U Upper Half of Segment

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T003891		W	Water Digest-NO ACID Aliquot	g/L	n/a	1.00e-01	5.341	5.324e0	5.332e0	0.32	n/a	1.000e-4	n/a
S95T003891			Dose Rate(samp prep)in mrad/hr	mrad/hour	n/a	1.00e-01	5.000	5.324e0	5.162e0	0.32	n/a	1.000e-1	n/a
S95T003891		W	Bromide by Ion Chromatograph	ug/g	91.65	<1.260e-1	<1.20e+03	<1.21e3	n/a	n/a	90.43	1.200e3	n/a
S95T003891		W	Chloride-IC-Dionex 4000i/4500	ug/g	91.90	4.70e-02	2.62e+03	2.640e3	2.630e3	0.76	90.37	162.3	n/a
S95T003891		W	Fluoride-IC-Dionex 4000i/4500	ug/g	95.25	<1.300e-2	7.13e+02	7.670e2	7.399e2	7.30	89.13	124.1	n/a
S95T003891		W	Nitrite-IC - Dionex 4000i/4500	ug/g	96.87	<1.070e-1	1.30e+04	1.360e4	1.330e4	4.51	96.44	1.020e3	n/a
S95T003891		W	Nitrate by IC-Dionex4000i/4500	ug/g	97.72	2.840e-1	1.36e+05	1.750e5	1.550e5	25.1	106.1	1.340e3	n/a
S95T003891		W	Oxalate by IC - Dionex 4000i	ug/g	92.83	<1.050e-1	<1.00e+03	1.210e3	n/a	n/a	92.25	1.000e3	n/a
S95T003891		W	Phosphate-IC-Dionex 4000i/4500	ug/g	93.41	<1.190e-1	<1.14e+03	<1.15e3	n/a	n/a	85.71	1.140e3	n/a
S95T003891		W	Sulfate by IC-Dionex4000i/4500	ug/g	93.98	<1.360e-1	4.13e+03	4.180e3	4.160e3	1.20	89.67	1.300e3	n/a
S95T003892		I	Water Digest-ACID Aliquot-ICP	g/L	n/a	1.00e-01	5.483	5.466e0	5.474e0	0.32	n/a	1.000e-4	n/a
S95T003892			Dose Rate(samp prep)in mrad/hr	mrad/hour	n/a	1.00e-01	1.500	5.466e0	3.483e0	0.32	n/a	1.000e-1	n/a
S95T003892		I	Silver -ICP-H20 Dig/Acid	ug/g	99.60	<1.000e-2	10.30	1.080e1	1.055e1	4.74	n/a	3.650	n/a
S95T003892		I	Aluminium -ICP-H20 Dig/Acid	ug/g	96.20	<5.000e-2	1.08e+04	1.050e4	1.060e4	2.82	n/a	18.20	n/a
S95T003892		I	Arsenic -ICP-H20 Dig/Acid	ug/g	103.4	<1.000e-1	< 36.50	<3.66e1	n/a	n/a	n/a	36.50	n/a
S95T003892		I	Boron -ICP-H20 Dig/Acid	ug/g	99.20	2.580	4.04e+02	5.930e2	4.985e2	37.9	n/a	18.20	n/a
S95T003892		I	Barium -ICP-H20 Dig/Acid	ug/g	101.6	<5.000e-2	< 18.20	<1.83e1	n/a	n/a	n/a	18.20	n/a
S95T003892		I	Beryllium -ICP-H20 Dig/Acid	ug/g	102.2	<5.000e-3	< 1.820	<1.83e0	n/a	n/a	n/a	1.820	n/a
S95T003892		I	Bismuth -ICP-H20 Dig/Acid	ug/g	102.0	<1.000e-1	< 36.50	<3.66e1	n/a	n/a	n/a	36.50	n/a
S95T003892		I	Calcium -ICP-H20 Dig/Acid	ug/g	101.0	1.86e-01	43.50	4.400e1	4.375e1	1.14	n/a	36.50	n/a
S95T003892		I	Cadmium -ICP-H20 Dig/Acid	ug/g	101.0	<5.000e-3	< 1.820	<1.83e0	n/a	n/a	n/a	1.820	n/a
S95T003892		I	Cerium -ICP-H20 Dig/Acid	ug/g	104.4	<1.000e-1	< 36.50	<3.66e1	n/a	n/a	n/a	36.50	n/a
S95T003892		I	Cobalt -ICP-H20 Dig/Acid	ug/g	100.8	<2.000e-2	< 7.220	<7.32e0	n/a	n/a	n/a	7.300	n/a
S95T003892		I	Chromium -ICP-H20 Dig/Acid	ug/g	102.0	<1.000e-2	6.93e+03	6.990e3	6.960e3	0.86	n/a	3.650	n/a
S95T003892		I	Copper -ICP-H20 Dig/Acid	ug/g	102.2	<1.000e-2	< 3.650	<3.66e0	n/a	n/a	n/a	3.650	n/a
S95T003892		I	Iron -ICP-H20 Dig/Acid	ug/g	101.4	<5.000e-2	< 18.20	<1.83e1	n/a	n/a	n/a	18.20	n/a
S95T003892		I	Potassium -ICP-H20 Dig/Acid	ug/g	102.0	<5.000e-1	8.51e+02	8.240e2	8.375e2	3.22	n/a	182.0	n/a
S95T003892		I	Lanthanum -ICP-H20 Dig/Acid	ug/g	102.6	<5.000e-2	< 18.20	<1.83e1	n/a	n/a	n/a	18.20	n/a
S95T003892		I	Lithium -ICP-H20 Dig/Acid	ug/g	100.4	<1.000e-2	< 3.650	<3.66e0	n/a	n/a	n/a	3.650	n/a
S95T003892		I	Magnesium -ICP-H20 Dig/Acid	ug/g	97.20	<1.000e-1	< 36.50	<3.66e1	n/a	n/a	n/a	36.50	n/a
S95T003892		I	Manganese -ICP-H20 Dig/Acid	ug/g	98.80	<1.000e-2	< 3.650	<3.66e0	n/a	n/a	n/a	3.650	n/a
S95T003892		I	Molybdenum -ICP-H20 Dig/Acid	ug/g	101.2	<5.000e-2	23.60	2.440e1	2.400e1	3.33	n/a	18.20	n/a
S95T003892		I	Sodium -ICP-H20 Dig/Acid	ug/g	99.40	3.510	1.17e+05	1.260e5	1.220e5	7.41	n/a	36.50	n/a
S95T003892		I	Neodymium -ICP-H20 Dig/Acid	ug/g	103.4	<1.000e-1	< 36.50	<3.66e1	n/a	n/a	n/a	36.50	n/a
S95T003892		I	Nickel -ICP-H20 Dig/Acid	ug/g	100.4	<2.000e-2	< 7.220	<7.32e0	n/a	n/a	n/a	7.300	n/a
S95T003892		I	Phosphorus -ICP-H20 Dig/Acid	ug/g	103.0	<2.000e-1	< 72.20	<7.32e1	n/a	n/a	n/a	72.10	n/a
S95T003892		I	Lead -ICP-H20 Dig/Acid	ug/g	101.2	<1.000e-1	< 36.50	<3.66e1	n/a	n/a	n/a	36.50	n/a
S95T003892		I	Sulfur -ICP-H20 Dig/Acid	ug/g	97.00	<1.000e-1	6.95e+02	6.780e2	6.865e2	2.48	n/a	36.50	n/a
S95T003892		I	Antimony -ICP-H20 Dig/Acid	ug/g	95.40	<6.000e-2	< 21.90	<2.11e1	n/a	n/a	n/a	21.90	n/a
S95T003892		I	Selenium -ICP-H20 Dig/Acid	ug/g	98.60	<1.000e-1	< 36.50	<3.66e1	n/a	n/a	n/a	36.50	n/a
S95T003892		I	Silicon -ICP-H20 Dig/Acid	ug/g	96.20	3.590	1.85e+02	3.290e2	2.570e2	56.0	n/a	18.20	n/a
S95T003892		I	Samarium -ICP-H20 Dig/Acid	ug/g	100.2	<1.000e-1	< 36.50	<3.66e1	n/a	n/a	n/a	36.50	n/a
S95T003892		I	Strontium -ICP-H20 Dig/Acid	ug/g	101.0	<1.000e-2	< 3.650	<3.66e0	n/a	n/a	n/a	3.650	n/a

32.1

WHC-SD-WM-TP-151, REV 1

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T003892		I	Titanium-ICP-H2O Dig/Acid	ug/g	99.20	<1.000e-2	< 3.650	<3.66e0	n/a	n/a	n/a	3.650	n/a
S95T003892		I	Thallium -ICP-H2O Dig/Acid	ug/g	97.20	<2.000e-1	< 72.20	<7.32e1	n/a	n/a	n/a	72.10	n/a
S95T003892		I	Uranium -ICP-H2O Dig/Acid	ug/g	97.30	<5.000e-1	<1.82e+02	<1.83e2	n/a	n/a	n/a	182.0	n/a
S95T003892		I	Vanadium -ICP-H2O Dig/Acid	ug/g	100.2	<5.000e-2	< 18.20	<1.83e1	n/a	n/a	n/a	18.20	n/a
S95T003892		I	Zinc -ICP-H2O Dig/Acid	ug/g	98.40	<1.000e-2	5.960	5.460e0	5.710e0	8.76	n/a	3.650	n/a
S95T003892		I	Zirconium -ICP-H2O Dig/Acid	ug/g	99.40	<1.000e-2	< 3.650	<3.66e0	n/a	n/a	n/a	3.650	n/a
S95T003895		F	Fusion with KOH	g/L	n/a	2.50e-01	1.756	1.854e0	1.805e0	5.45	n/a	1.000e-5	n/a
S95T003895			Dose Rate(samp prep)in mrad/hr	mrad/hour	n/a	2.50e-01	5.00e+02	1.854e0	2.509e2	5.45	n/a	1.000e-1	n/a
S95T003895		F	Beta of Solid Sample	uCi/g	95.87	<8.820e-1	1.05e+04	1.090e4	1.070e4	3.74	98.22	1.690	2.74E-01
S95T003895		F	Uranium by Phosphorescence	ug/g	103.0	227.0	1.20e+04	1.150e4	1.180e4	4.26	126.4	2.110	4.29E+00

32.2

CHAIN OF CUSTODY FORMS

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Core II for Hugen

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CHAIN-OF-CUSTODY RECORD FOR AUGER SAMPLING

Shipment Number 200W-08-TP (2) Sample Number (95-AUG-042) (3) Supervisor R.J. Prazniк

Tank SX 108 (5) Riser 16 (6) Cask Serial Number C1031

Station Survey Data:	(7) FIELD	(31) LABORATORY
Cask Top Dose Rate	0.5 mR/hr	0.5 mR/hr
Side Dose Rate	11 mR/hr	9 mR/hr
Bottom Dose Rate	41.5 mR/hr	4 mR/hr
Removable Contamination	<20 (Alpha)	<20 (Alpha)
	<1000 (Beta-Gamma)	<1000 (Beta-Gamma)
RCT*	T.M. (Signature)	RCT* (Signature)

(8) Shipment Description

A. Work Package Number	WS-95-00129-0
B. Cask Seal Number	2526
C. Date and Time Sample Removed from Tank	9.15.95/1145 hrs
D. Expected Liquid Content	2%
E. Expected Solid Content	* 98%
F. Dose Rate Through Drill String	250 mR/hr
G. Expected Sample Length	≈ 3"

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

WHC-SD-WM-DP-157 Rev. 1

Field Comments

* USE EXTRA CAUTION... SAMPLE MEDIUM IS VERY FLIGHTY (POWDER LIKE) 9-18-95

(32) Laboratory Comments

9:50 AM

Point of Origin	(12) Destination	(13) Sender Name (Sign and PRINT)	(14) Date/Time	(15) Sender Comments
SX 108 Riser #16	222S	DA Krahn DA KRAHN	9-18-95	
Relinquished By (Sign and PRINT)		**(18) Received By (Sign and PRINT)**	**(19) Date/Time**	**(20) Receiver Comments**
DA Krahn DAKRAHN		Iubal D. Helms Iubal Helms	9-18-95 1000	
Relinquished By (Sign and PRINT)		**(22) Received By (Sign and PRINT)**	**(23) Date/Time**	**(24) Receiver Comments**
Iubal Helms Iubal Helms		FE Reeder	9-18-95 1025	
Relinquished By (Sign and PRINT)		**(26) Received By (Sign and PRINT)**	**(27) Date/Time**	**(28) Receiver Comments**

(5) 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

09/18/95 10:28 509 373 1432 001

CHAIN-OF-CUSTODY RECORD FOR AUGER SAMPLING

(1) Shipment Number 200W-OX-TF (2) Sample Number 95-AUG-043 (3) Supervisor R.J. PRAZNIK

(4) Tank SX-108 (5) Riser 7 (6) Cask Serial Number C1050

Radiation Survey Data:	(7) FIELD	(31) LABORATORY
Over Top Dose Rate	<5 mr/hr	<0.5 mr/hr
Side Dose Rate	15 mr/hr	15 mr/hr
Bottom Dose Rate	8 mr/hr	8 mr/hr
Smearable Contamination	<20 (Alpha)	<20 dpm (Alpha)
	<1K (Beta-Gamma)	<1K dpm (Beta-Gamma)
RCT*	(Signature)	(Signature)

(8) Shipment Description

A. Work Package Number	WS-95-00129-0
B. Cask Seal Number	2527
C. Date and Time Sample Removed from Tank	9-19-95 / 1140 hrs
D. Expected Liquid Content	2%
E. Expected Solid Content *	98%
F. Dose Rate Through Drill String	1.2 R/hr
G. Expected Sample Length	13"

(9) INFORMATION (Inclu

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To Bob Eggers	From Ernie
Co.	Co.
Dept.	Phone #
Fax #	Fax #

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WHC-SD-WM-OP-151 Rev. 1

(10) Field Comments

* SAMPLE MEDIUM EXTREMLY FLIGHTY, Possible FOREIGN MATERIAL MIXED IN SAMPLE.

(32) Laboratory Comments

(11) Point of Origin	(12) Destination	(13) Sender Name (Sign and PRINT)	(14) Date/Time	(15) Sender Comments
SX-108 Tank 7	222-S LABS	DA Krahn DA KRAHN	9-20-95 10:30 Am	
(17) Relinquished By (Sign and PRINT)		**(18) Received By (Sign and PRINT)**	**(19) Date/Time**	**(20) Receiver Comments**
DA Krahn DA KRAHN		David Keane David Keane	9-20-95 10:40	
(21) Relinquished By (Sign and PRINT)		**(22) Received By (Sign and PRINT)**	**(23) Date/Time**	**(24) Receiver Comments**
David Keane Dave Keane		EE Dubes EE Dubes	9-20-95 1105	
(25) Relinquished By (Sign and PRINT)		**(26) Received By (Sign and PRINT)**	**(27) Date/Time**	**(28) Receiver Comments**

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

DISTRIBUTION: White - Office of Sample Management Yellow - Recipient of Sample Pink - Waste Tank Sampling 77-12 Goldenrod - [illegible]

9-26-95

595T002594

CHAIN-OF-CUSTODY RECORD FOR AUGER SAMPLING

COPY

(1) Shipment Number 20042-08-TF (2) Sample Number ~~94~~ 95-AW6-044 (3) Supervisor R. J. PRAZNIK

(4) Tank SX108 (5) Riser Riser 17 (6) Cask Serial Number C1034

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 (Alpha)	<20 (Alpha)
	<1K (Beta-Gamma)	<1K (Beta-Gamma)
RCT*	(Signature)	(Signature)

(8) Shipment Description

A. Work Package Number	WS-95-00129-0
B. Cask Seal Number	1041
C. Date and Time Sample Removed from Tank	9-25-95 / 1245 hrs
D. Expected Liquid Content	1%
E. Expected Solid Content	* 99%
F. Dose Rate Through Drill String	1.5 mR/hr
G. Expected Sample Length	6"

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

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

To Bob Eggers	From Ernie
Co.	Co.
Dept.	Phone #
Fax #	Fax #

(10) Field Comments

* SAMPLE MEDIUM FLIGHTY MATERIAL USE EXTREME CAUTION.

(32) L

(11) Point of Origin	(12) Destination	(13) Sender Name (Sign and PRINT)	(14) Date/Time	(15) Sender Comments
SX108 Riser 17	222S	PRAZNIK, R.J. / [signature]	9-26-95/0915	
(17) Relinquished By (Sign and PRINT)		**(18) Received By (Sign and PRINT)**	**(19) Date/Time**	**(20) Receiver Comments**
[signature] R.J. PRAZNIK		David Keane David J Keane	9-26-95 1045	
(21) Relinquished By (Sign and PRINT)		**(22) Received By (Sign and PRINT)**	**(23) Date/Time**	**(24) Receiver Comments**
David J Keane David J Keane		[signature] E E Dubbs	9-26-95 1000	
(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-6001-326 (03/94)

EFD-WM-DP-15 Rev. 1

PHOTOGRAPHS

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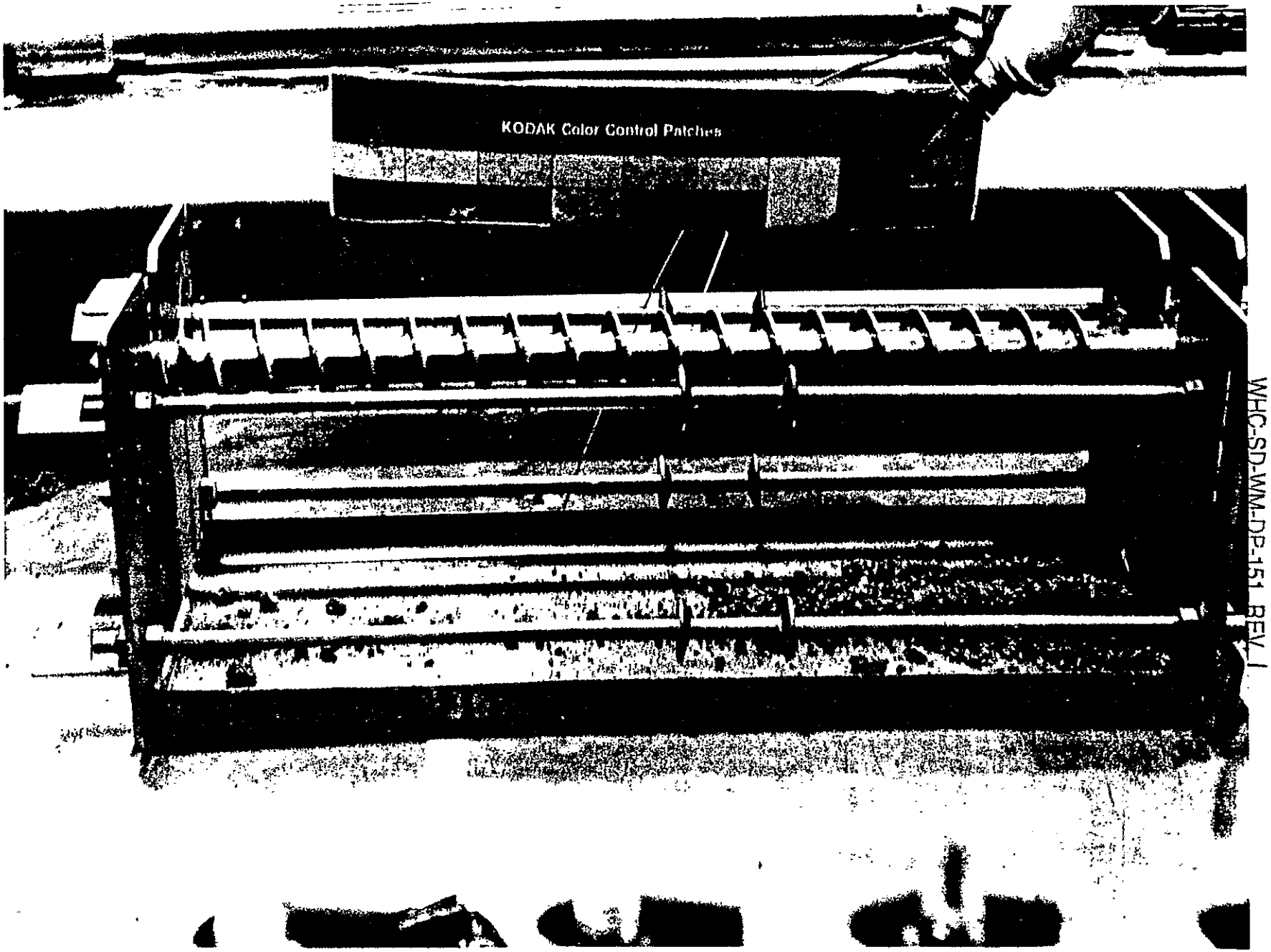
9-20-95

SX-108 95-AUG-042

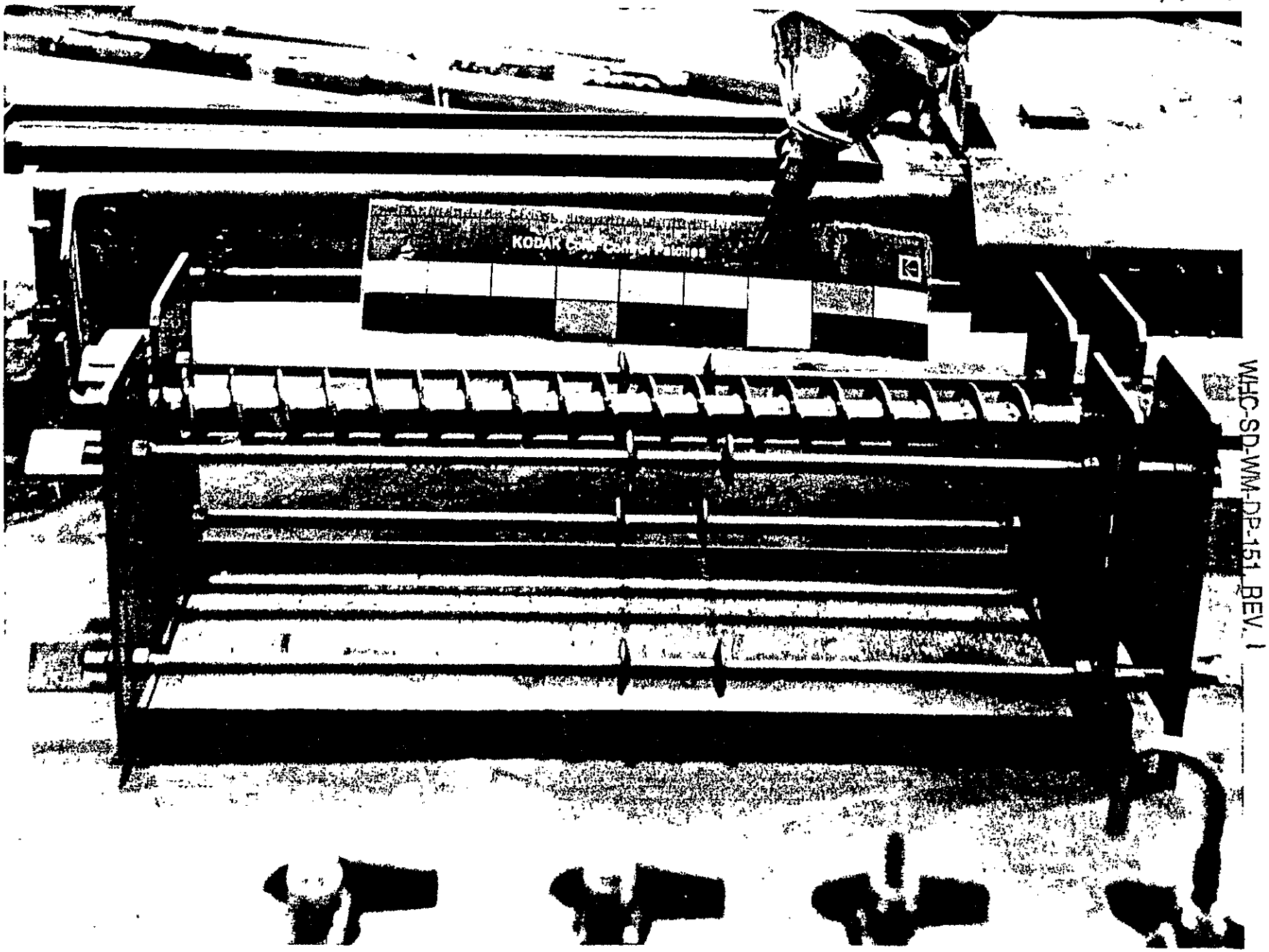
SX-108 95-AUG-043

9-25-95



SX-108 95-AUG-044

9-28-95



SAMPLE HANDLING

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LABCORE Data Entry Template for Worklist# 2472

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

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

Worklist Comment: SX-108 95-AUG-042 Riser 16 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	499.72	N/A	
95000136	SX-108	3 SAMPLE	S95T002426	0		DLIQVOL1	SOLID	N/A	0		mL
95000136	SX-108	4 SAMPLE	S95T002426	0		DLIQWT01	SOLID	N/A	0		g
95000136	SX-108	5 SAMPLE	S95T002426	0		EST.G/ML	SOLID	N/A	0		g/mL
95000136	SX-108	6 SAMPLE	S95T002426	0		EXTRUD01	SOLID	N/A	Complete		
95000136	SX-108	7 SAMPLE	S95T002426	0		LLIQWT01	SOLID	N/A	0		g
95000136	SX-108	8 SAMPLE	S95T002426	0		NOTEBOOK	SOLID	N/A	N-1268		
95000136	SX-108	9 SAMPLE	S95T002426	0		SLDVOL01	SOLID	N/A	NA		mL
95000136	SX-108	10 SAMPLE	S95T002426	0		SLDWT-01	SOLID	N/A	81.3		g
95000136	SX-108	11 SAMPLE	S95T002426	0		ORGVOL01	SOLID	N/A	0		mL

Final page for worklist # 2472

EC 9-25-95
Analyst Signature Date

EC 9-25-95
Analyst Signature Date

Reviewed by RK Fuller 9/26/95

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 2573

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

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

Worklist Comment: SX-108 95-AUG-043 RISER 7 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	499.73	N/A	
95000136	SX-108	3	SAMPLE	S95T002535	0		DLIQVOL1	SOLID	N/A	0		mL
95000136	SX-108	4	SAMPLE	S95T002535	0		DLIQWT01	SOLID	N/A	0		g
95000136	SX-108	5	SAMPLE	S95T002535	0		EST.G/ML	SOLID	N/A	0		g/mL
95000136	SX-108	6	SAMPLE	S95T002535	0		EXTRUD01	SOLID	N/A	Complete		
95000136	SX-108	7	SAMPLE	S95T002535	0		LLIQWT01	SOLID	N/A	0		g
95000136	SX-108	8	SAMPLE	S95T002535	0		NOTEBOOK	SOLID	N/A	N-1268		
95000136	SX-108	9	SAMPLE	S95T002535	0		SLDVOL01	SOLID	N/A	NA		mL
95000136	SX-108	10	SAMPLE	S95T002535	0		SLDWT-01	SOLID	N/A	144.1		g
95000136	SX-108	11	SAMPLE	S95T002535	0		ORGVOL01	SOLID	N/A	0		mL

Final page for worklist # 2573

EC 9-25-95
Analyst Signature Date

EC 9-25-95
Analyst Signature Date

Reviewed by RR Fuller 9/26/95

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 2644

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

Method: LO-160-103 Rev/Mod A7

Worklist Comment: SX-108 95-AUG-044 Riser 17 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	499.72	N/A	
95000136	SX-108	3	SAMPLE	S95T002594	0		DLIQVOL1	SOLID	N/A	0		mL
95000136	SX-108	4	SAMPLE	S95T002594	0		DLIQWT01	SOLID	N/A	0		g
95000136	SX-108	5	SAMPLE	S95T002594	0		EST.G/ML	SOLID	N/A	0		g/mL
95000136	SX-108	6	SAMPLE	S95T002594	0		EXTRUD01	SOLID	N/A	complete		
95000136	SX-108	7	SAMPLE	S95T002594	0		LLIQWT01	SOLID	N/A	0		g
95000136	SX-108	8	SAMPLE	S95T002594	0		NOTEBOOK	SOLID	N/A	N-1268		
95000136	SX-108	9	SAMPLE	S95T002594	0		SLDVOL01	SOLID	N/A	NA		mL
95000136	SX-108	10	SAMPLE	S95T002594	0		SLDWT-01	SOLID	N/A	0		g
95000136	SX-108	11	SAMPLE	S95T002594	0		ORGVOL01	SOLID	N/A	0		mL

Final page for worklist # 2644

EC 9-29-95
Analyst Signature Date

EC 9-29-95
Analyst Signature Date

Received by [illegible] 9-29-95

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.

SAMPLE PREPARATIONS

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worklistrpt Version 2.1 05/15/95
10/06/95 12:25

LABCORE Data Entry Template for Worklist# 2809

Analyst: lmh **Instrument:** FUS01 AL 11066 **Book #** N/A

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

Worklist Comment: SX-108, FUSION, 2480->2481, 2489-2500 SKM

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			FUSION01	SOLID	250	250	N/A	g/L
95000136	SX-108	2 SAMPLE	S95T002481	0 F	FUSION01	SOLID	N/A	1.6332		g/L
		.4083g → .250l								
95000136	SX-108	3 SAMPLE	S95T002481	0	DOSE-02	SOLID	N/A	260		mrad/hour
95000136	SX-108	4 DUP	S95T002481	0 F	FUSION01	SOLID	1.6332	1.7620	N/A	g/L
		.4405g → .250l								
95000136	SX-108	5 DUP	S95T002481	0	DOSE-02	SOLID	N/A	280	N/A	mrad/hour
95000136	SX-108	6 SAMPLE	S95T002500	0 F	FUSION01	SOLID	N/A	1.7912		g/L
		.4478g → .250l								
95000136	SX-108	7 SAMPLE	S95T002500	0	DOSE-02	SOLID	N/A	~~280~~ 250	10-13-95	mrad/hour
95000136	SX-108	8 DUP	S95T002500	0 F	FUSION01	SOLID	1.7912	1.7632	N/A	g/L
		.4408g → .250l								
95000136	SX-108	9 DUP	S95T002500	0	DOSE-02	SOLID	N/A	260	N/A	mrad/hour

Final page for worklist # 2809

Analyst Signature Date 10-13-95

Analyst Signature Date 10-14-95

For all Samples and QC.
HCl - 20ml
HNO_3 - 10ml

< 1% Solids
- The few solids left in all samples and QC are dark brown.

Data Entry Comments:
HPT: Sig Landoe
Dose Rate: 210 mrad p/hr & 25mr p/hr

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

Reviewed 10-16-95

10-16-95

LABCORE Data Entry Template for Worklist# 2810

Analyst: lmh **Instrument:** FUS01A L11066 **Book #** NA

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

Worklist Comment: SX-108, FUSION, 2567->2572, 2577->2578 SKM

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			FUSION01	SOLID	250	250	N/A	g/L
95000136	SX-108	2 SAMPLE .4588g → .250l	S95T002572	0 F	FUSION01	SOLID	N/A	1.8352		g/L
95000136	SX-108	3 SAMPLE	S95T002572	0	DOSE-02	SOLID	N/A	250		mrad/hour
95000136	SX-108	4 DUP .4746g → .250l	S95T002572	0 F	FUSION01	SOLID	1.8352	1.8984	N/A	g/L
95000136	SX-108	5 DUP	S95T002572	0	DOSE-02	SOLID		800	N/A	mrad/hour
95000136	SX-108	6 SAMPLE .4151g → .250l	S95T002578	0 F	FUSION01	SOLID	N/A	1.6604		g/L
95000136	SX-108	7 SAMPLE	S95T002578	0	DOSE-02	SOLID	N/A	~~[illegible]~~ 800 (10-17-95)		mrad/hour
95000136	SX-108	8 DUP .4727g → .250l	S95T002578	0 F	FUSION01	SOLID	1.6604	1.8908	N/A	g/L
95000136	SX-108	9 DUP	S95T002578	0	DOSE-02	SOLID		600	N/A	mrad/hour

Final page for worklist # 2810

Analyst Signature Date 10-13-95

Analyst Signature Date 10-14-95

For all Samples & Q.C.
HCl - 20ml
HNO_3 - 10ml

< 1% solids
solids left are
dark brown in color.

Data Entry Comments:
HPT- Sig Landoe
Dose Rate: 1 Rad p/hr & 50 mr/hr

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

51 Reviewed 10-16-95

10-16-95

LABCORE Data Entry Template for Worklist# 5106

Analyst: SAM **Instrument:** FUS01 SN16355 **Book #** _____

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

Worklist Comment: SX-108 95-AUG-042 Fusion Digestion rkf

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			FUSION01	SOLID	1	.200	N/A	g/L
95000136	SX-108	2 SAMPLE .4478g → .200l	S95T003885	0 F	FUSION01	SOLID	N/A	2.2390		g/L
95000136	SX-108	3 SAMPLE	S95T003885	0	DOSE-02	SOLID	N/A	200		mrad/hour
95000136	SX-108	4 DUP .4918g → .200l	S95T003885	0 F	FUSION01	SOLID	2.2390	2.4590	N/A	g/L
95000136	SX-108	5 DUP	S95T003885	0	DOSE-02	SOLID	200	200	N/A	mrad/hour
95000136	SX-108	6 SAMPLE .3941g → .200l	S95T003890	0 F	FUSION01	SOLID	N/A	1.9705		g/L
95000136	SX-108	7 SAMPLE	S95T003890	0	DOSE-02	SOLID	N/A	200		mrad/hour
95000136	SX-108	8 DUP .4253g → .200l	S95T003890	0 F	FUSION01	SOLID	1.9705	2.1265	N/A	g/L
95000136	SX-108	9 DUP	S95T003890	0	DOSE-02	SOLID	200	220	N/A	mrad/hour

Final page for worklist # 5106

SAMurphy 1-24-96
Analyst Signature Date

Keith Fuller 1/26/95
Analyst Signature Date

2480 → 3885 42 Upper
2489 → 3890 42 Lower

→ Reviewed by RK Fuller 1/26/96

Data Entry Comments: 40 ml HNO3, <1% acids - All samples & QC
Sam Shemal was the HPT

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# 5811

Analyst: [signature] **Instrument:** FUS01 3R116355 **Book #** _____

Method: LA-549-141 Rev/Mod E.0

Worklist Comment: SX-108 95-AUG-043 Upper/Lower half Fusions rkf

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			FUSION01	SOLID	1	.250	N/A	g/L
95000136	SX-108	2 SAMPLE	S95T003895	0 F	FUSION01	SOLID	N/A	1.7560		g/L
		.4390g → .250l								
95000136	SX-108	3 SAMPLE	S95T003895	0	DOSE-02	SOLID	N/A	500		mrad/hour
95000136	SX-108	4 DUP	S95T003895	0 F	FUSION01	SOLID	1.7560	1.8549	N/A	g/L
		.4636g → .250l								
95000136	SX-108	5 DUP	S95T003895	0	DOSE-02	SOLID	500	600	N/A	mrad/hour
95000136	SX-108	6 SAMPLE	S95T003900	0 F	FUSION01	SOLID	N/A	1.6320		g/L
		.4080g → .250l								
95000136	SX-108	7 SAMPLE	S95T003900	0	DOSE-02	SOLID	N/A	400		mrad/hour
95000136	SX-108	8 DUP	S95T003900	0 F	FUSION01	SOLID	1.6320	1.7944	N/A	g/L
		.4486g → .250l								
95000136	SX-108	9 DUP	S95T003900	0	DOSE-02	SOLID	400	450	N/A	mrad/hour

Final page for worklist # 5811

[signature] 2-26-96
Analyst Signature Date

[signature] 02-27-96
Analyst Signature Date
Keith Fuller Dir.

S95T000659 → S95T003895
660 → 3900

Reviewed by RK Fuller 2/27/96

Data Entry Comments: All samples & QC - 20ml HCl, 40ml HNO3, <10% solids
HPT: Bill Cook

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

worklistrpt Version 2.1 05/15/95
02/07/96 09:05

LABCORE Data Entry Template for Worklist# 5120

Analyst: RKF for TAM **Instrument:** H2O01 SN16355 **Book #** _____

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

Worklist Comment: SX-108 95-AUG-042 Upper/Lower Half-Water Dig. ICP dil rkf

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			H2ODIG01	SOLID	1	0.100	N/A	g/L
95000136	SX-108	2 SAMPLE	S95T003881	0 W	H2ODIG01	SOLID	N/A	3.1820		g/L
		0.3182g → 0.100l								
95000136	SX-108	3 SAMPLE	S95T003881	0	DOSE-02	SOLID	N/A	2.5		mrad/hour
95000136	SX-108	4 DUP	S95T003881	0 W	H2ODIG01	SOLID	3.1820	2.7560	N/A	g/L
		0.2756g → 0.100l								
95000136	SX-108	5 DUP	S95T003881	0	DOSE-02	SOLID	2.5	4	N/A	mrad/hour
95000136	SX-108	6 SAMPLE	S95T003882	0 I	H2OICP01	SOLID	N/A	3.1013		g/L
		15mL → 15.4mL								
95000136	SX-108	7 SAMPLE	S95T003882	0	DOSE-02	SOLID	N/A	0.6		mrad/hour
95000136	SX-108	8 DUP	S95T003882	0 I	H2OICP01	SOLID	3.1013	2.6861	N/A	g/L
		15mL → 15.4mL								
95000136	SX-108	9 DUP	S95T003882	0	DOSE-02	SOLID	0.6	0.6	N/A	mrad/hour
95000136	SX-108	10 SAMPLE	S95T003886	0 W	H2ODIG01	SOLID	N/A	2.7450		g/L
		0.2745g → 0.100l								
95000136	SX-108	11 SAMPLE	S95T003886	0	DOSE-02	SOLID	N/A	3		mrad/hour
95000136	SX-108	12 DUP	S95T003886	0 W	H2ODIG01	SOLID	2.7450	3.4050	N/A	g/L
		0.3405g → 0.100l								
95000136	SX-108	13 DUP	S95T003886	0	DOSE-02	SOLID	3	3	N/A	mrad/hour
95000136	SX-108	14 SAMPLE	S95T003887	0 I	H2OICP01	SOLID	N/A	2.6754		g/L
		15mL → 15.4mL								
95000136	SX-108	15 SAMPLE	S95T003887	0	DOSE-02	SOLID	N/A	0.8		mrad/hour
95000136	SX-108	16 DUP	S95T003887	0 I	H2OICP01	SOLID	2.6754	3.3187	N/A	g/L
		15mL → 15.4mL								
95000136	SX-108	17 DUP	S95T003887	0	DOSE-02	SOLID	0.8	0.8	N/A	mrad/hour

ICP

Data Entry Comments: HPT was Sam Shenal

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# 5120

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT

RKFulle for 2/7/96

Final page for worklist # 5120

TA Murphy 1-26-96
Analyst Signature Date

Keith Fulle 2/7/96
Analyst Signature Date

Direct		H_2O Digest		ICP dilution
S95T002480	→	3881	→	3882
2489	→	3886	→	3887

All dilutions for ICP were performed by diluting 15 mLs of H_2O Digest with 0.4 mL of 1:1 HNO_3.

$$\text{Dilution factor} = \frac{15.4\text{ mLs}}{15\text{ mLs}} = 1.026$$

RKFulle
2/7/96

Override by RKFulle 2/7/96
#10866

Reviewed by RKFulle 2/7/96

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 5799

Analyst: GKM **Instrument:** H2O01 3RU1635S **Book #** _____

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

Worklist Comment: SX-108 95-AUG-043 Upper/Lower Half-Water Digestion (ICP) rkf

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK-PREP				H2OIG01	SOLID	1	.100	N/A	g/L
95000136	SX-108	2	SAMPLE	S95T003891	0	W	H2OIG01	SOLID	N/A	5.3410		g/L
			.5341g → .100l									
95000136	SX-108	3	SAMPLE	S95T003891	0		DOSE-02	SOLID	N/A	5		mrad/hour
95000136	SX-108	4	DUP	S95T003891	0	W	H2OIG01	SOLID	5.3410	5.3290	N/A	g/L
			.5324g → .100l									
95000136	SX-108	5	DUP	S95T003891	0		DOSE-02	SOLID	6	6	N/A	mrad/hour
95000136	SX-108	6	SAMPLE	S95T003892	0	I	H2OICP01	SOLID	N/A	5.4830		g/L
			15ml + .4ml of 1:1 HNO_3									
95000136	SX-108	7	SAMPLE	S95T003892	0		DOSE-02	SOLID	N/A	1.5		mrad/hour
							ICP					
95000136	SX-108	8	DUP	S95T003892	0	I	H2OICP01	SOLID	5.4830	5.4656	N/A	g/L
			15ml + .4ml of 1:1 HNO_3									
95000136	SX-108	9	DUP	S95T003892	0		DOSE-02	SOLID	1.5	1.5	N/A	mrad/hour
95000136	SX-108	10	SAMPLE	S95T003896	0	W	H2OIG01	SOLID	N/A	4.4900		g/L
			.4490g → .100l									
95000136	SX-108	11	SAMPLE	S95T003896	0		DOSE-02	SOLID	N/A	5		mrad/hour
95000136	SX-108	12	DUP	S95T003896	0	W	H2OIG01	SOLID	4.4900	4.6920	N/A	g/L
			.4692g → .100l									
95000136	SX-108	13	DUP	S95T003896	0		DOSE-02	SOLID	5	5	N/A	mrad/hour
95000136	SX-108	14	SAMPLE	S95T003897	0	I	H2OICP01	SOLID	N/A	4.6094		g/L
			15ml + 0.4ml of 1:1 HNO_3									
95000136	SX-108	15	SAMPLE	S95T003897	0		DOSE-02	SOLID	N/A	1.5		mrad/hour
							ICP					
95000136	SX-108	16	DUP	S95T003897	0	I	H2OICP01	SOLID	4.6094	4.8168	N/A	g/L
			15ml + 0.4ml of 1:1 HNO_3									
95000136	SX-108	17	DUP	S95T003897	0		DOSE-02	SOLID	1.5	1.5	N/A	mrad/hour

Data Entry Comments: <100 DDWs

HPT: TAD MIERS

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# 5799

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT

Final page for worklist # 5799

Analyst Signature 2-26-96 Date

Analyst Signature 02-27-96 Date
Keith Fullen DIR.

Direct	H_2O digest	ICP dilution
S96T000659 →	S96T003891 →	S96T003892
S96T000660 →	S96T003896 →	S96T003897

Deleted old WL# 4728 on 2/20/96 and created new WL# 5799. RKFullen 2/20/96

Batch # 96-168

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# 2972

Analyst: CAM/LMH **Instrument:** ACD01 AL11066 **Book #** WHC1A/G4J WHC1A1U1G WHC2/G3M WHC2U1G

Method: LA-505-159 Rev/Mod C-O

Worklist Comment: SX-108 ACID DGST - 2480->2482; USE .5G ONLY!

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK-PREP				ACIDIG01	SOLID	.100	.100	N/A	g/L
		2	STD-PREP				ACIDIG01	SOLID	20	20	N/A	g/L
			5 ml of each in .100l									
95000136	SX-108	3	SAMPLE	S95T002482	0	A	ACIDIG01	SOLID	N/A	9.8880		g/L
			.9888g → .100l									
95000136	SX-108	4	SAMPLE	S95T002482	0		DOSE-02	SOLID	N/A	800		mrad/hour
95000136	SX-108	5	DUP	S95T002482	0	A	ACIDIG01	SOLID	9.8880	9.6010	N/A	g/L
			.9601g → .100l									
95000136	SX-108	6	DUP	S95T002482	0		DOSE-02	SOLID		700	N/A	mrad/hour
95000136	SX-108	7	SPK	S95T002482	0	A	ACIDIG01	SOLID	20	20	N/A	g/L 9.3150g/L
			.9315g → .100l									
95000136	SX-108	8	SPK	S95T002482	0		DOSE-02	SOLID		200	N/A	mrad/hour

Final page for worklist # 2972

CAMurphy 10-24-95
Analyst Signature Date

[illegible] 10-26-95
Analyst Signature Date

HPT: Gerry Gununsky
Dose Rate for batch: 200mrad/hr and 5mr

Data Entry Comments: <1% Solids after digestion for all Sam. & QC.

Bertram Gerg II 10-30-95

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# 2973

Analyst: [illegible] **Instrument:** ACD01 AL11066 **Book #** WHC1A/G4J WH WHC2/G3MWHC2NIG

Method: LA-505-159 Rev/Mod C-O

Worklist Comment: SX-108 ACID DGST - 2567->2573, 2577->2579; USE .5G ONLY!

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK-PREP				ACIDIG01	SOLID	.050	.050	N/A	g/L
		2	STD-PREP				ACIDIG01	SOLID	20	20	N/A	g/L
95000136	SX-108	3	SAMPLE	S95T002573	0	A	ACIDIG01	SOLID	N/A	10.8240		g/L
			.5412g → .050ℓ									
95000136	SX-108	4	SAMPLE	S95T002573	0		DOSE-02	SOLID	N/A	800		mrad/hour
95000136	SX-108	5	DUP	S95T002573	0	A	ACIDIG01	SOLID	10.8240	10.7940	N/A	g/L
			.5397g → .050ℓ									
95000136	SX-108	6	DUP	S95T002573	0		DOSE-02	SOLID		1300	N/A	mrad/hour
95000136	SX-108	7	SPK	S95T002573	0	A	ACIDIG01	SOLID	20	20	N/A	g/L (11.3260g)
			.5663g → .050ℓ									
95000136	SX-108	8	SPK	S95T002573	0		DOSE-02	SOLID		1000	N/A	mrad/hour
95000136	SX-108	9	SAMPLE	S95T002579	0	A	ACIDIG01	SOLID	N/A	12.2000		g/L
			.6100g → .050ℓ									
95000136	SX-108	10	SAMPLE	S95T002579	0		DOSE-02	SOLID	N/A	2000		mrad/hour
95000136	SX-108	11	DUP	S95T002579	0	A	ACIDIG01	SOLID	12.2000	12.4120	N/A	g/L
			.6206g → .050ℓ									
95000136	SX-108	12	DUP	S95T002579	0		DOSE-02	SOLID		2000	N/A	mrad/hour

Final page for worklist # 2973

[illegible] 11-7-95
Analyst Signature Date

[illegible] II 11-16-95
Analyst Signature Date

Data Entry Comments:
< 1% Solids left after digestion.
HPT was Jim Evans
[illegible] II 11-16-95

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# 3279

Analyst: [illegible] **Instrument:** ACD01 AL11066 **Book #** WHC-1A/G4JWHC1A2 WHC-2/G3MWHC2U1

Method: LA-505-159 Rev/Mod C-0

Worklist Comment: SX-108 ACID DGST - 2489->2501; USE .5G ONLY

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK-PREP				ACIDIG01	SOLID	.050	.050	N/A	g/L
		2	STD-PREP				ACIDIG01	SOLID	20	20	N/A	g/L
95000136	SX-108	3	SAMPLE	S95T002501 .5885g → .050ℓ	0	A	ACIDIG01	SOLID	N/A	11.7700		g/L
95000136	SX-108	4	SAMPLE	S95T002501 ~~57~~ DNO 11-7-95	0		DOSE-02	SOLID	N/A	550		mrad/hour
95000136	SX-108	5	DUP	S95T002501 .5731g → .050ℓ	0	A	ACIDIG01	SOLID	11.7700	11.4620	N/A	g/L
95000136	SX-108	6	DUP	S95T002501	0		DOSE-02	SOLID		600	N/A	mrad/hour
95000136	SX-108	7	SPK	S95T002501 .5538g → .050ℓ	0	A	ACIDIG01	SOLID	20	20	N/A	g/L 11.0765
95000136	SX-108	8	SPK	S95T002501	0		DOSE-02	SOLID	~~20~~ gam 11-7-95	~~600~~ gam 11-7-95	N/A	mrad/hour

Final page for worklist # 3279

[illegible] 11-7-95
Analyst Signature Date

[illegible] II 11-16-95
Analyst Signature Date

Data Entry Comments:

<1% Solids left after digestion
-PT was Jim Evans
[illegible] II 11-16-95

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.

INORGANIC ANALYSES

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SD-WM-DP-151
Rev 001

Due to the large volume,
a copy of the data
supporting the Data
Validation Report and
the Sample Data Summary,

Pages 63 thru 362,

is available only from
Central Files.

WHC-SD-WM-DP-151, REV. 0

ANALYTICAL SERVICES

45-DAY SAFETY SCREENING RESULTS FOR TANK 241-SX-108, AUGER SAMPLES 95-AUG-042, 95-AUG-043, AND 95-AUG 044

DATE PRINTED: NOVEMBER 9, 1995

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ATTACHMENTS

Sample Data Summary 9.1

Inorganic Analyses 11.1

Differential Scanning Calorimetry (DSC)

DSC Worklist # 2537 12
DSC Worklist # 2622 19

Thermogravimetric Analysis (TGA)
TGA Worklist # 2545 25
TGA Worklist # 2619 31

This Document consists of pages 1 through 37, plus page 9.1 and 11.1.

LIST OF TERMS

DQO	data quality objective
DSC	differential scanning calorimetry
ICP	inductively coupled plasma
Northwest Laboratory	Pacific Northwest National Laboratory
REDOX	Reduction-Oxidation
RPD	High Relative Percent Difference
SST	single-shell tank
TGA	

FORTY-FIVE-DAY SAFETY SCREENING RESULTS FOR TANK 241-SX-108 AUGER SAMPLES 95-AUG-042, 95-AUG-043, AND 95-AUG-044

1.0 INTRODUCTION AND SUMMARY

Single-Shell Tank (SST) 241-SX-108 contains about 435,321 L (435 m^3) [115,000 gal (15,370 ft^3)] of waste received from the Reduction-Oxidation (REDOX) facility. The waste is classified as REDOX high-level waste. The height of the waste in the tank is about 122 cm (48 in.).

Brevick et al. (1994) predicted that the waste consists of sludge with some drainable liquid. The tank is not classified as a high-heat tank, but is estimated to generate heat at a rate of about 40,000 Btu/hr (2.6 Btu/hr/ft^3).

1.1 SCOPE AND APPLICABLE SAFETY SCREENING DATA QUALITY OBJECTIVE DOCUMENT

This document is the 45-day safety screening report for SX-108. The safety screening DQO applicable at the time this tank was sampled, September, 1995, is WHC-SD-WM-SP-004, Rev. 2, *Tank Safety Screening Data Quality Objective*, (Dukelow et al. 1995). The sampling was carried out in compliance with the following sampling and analysis plan, *Tank 241-SX-108 Auger Sampling and Analysis Plan* (Eggers, 1995), WHC-SD-WM-TSAP-007, Rev. 0.

Three auger samples were attempted in three risers. Sample was produced from only two risers. Sampling information for the three auger events is summarized in Table 1.

Table 1. Sampling Information for Tank 241-SX-108.

Auger number	Riser number	Date sample removed from tank	Date sample arrived at laboratory
95-AUG-042	16	9/15/95	9/18/95
95-AUG-043	7	9/19/95	9/20/95
95-AUG-044	17	9/25/95 No sample	9/26/95

Because sampling the top of the solid waste with augers does not provide a complete profile of all of the solid waste, the safety screen for this tank will not be completed until cores to the bottom of the tank in at least two risers have been obtained and analyzed. The results of additional sampling will be reported in a final tank characterization report for SX-108.

Only safety screening analysis results are presented in this document. Measurements made to meet the requirements at other DQOs addressed in the sampling and analysis plan will be discussed in a revision of this report.

1.2 SAFETY SCREENING MEASUREMENTS MADE

Samples of solid waste material were obtained from two risers. The samples were analyzed in the 222S Laboratory to determine the following:

1. The exothermic reaction potential of solid waste on a dry weight basis
2. The percent water in the waste
3. The total alpha activity in the waste.

In addition an Industrial Health and Safety Vapor Survey of tank gases was carried out.

1.3 SUMMARY OF SAFETY SCREEN RESULTS

The following addresses the adequacy of the sampling plan and summarizes the results of safety screening analyses performed.

- Sample coverage compliance with safety screening DQO

  The gathering of sample material from two risers meets the intent of the current safety screening DQO for lateral separation of samples, but 48-cm (19-in.) auger samples from the top of the waste do not meet the requirement to vertically profile all of the waste. Because the waste is 122 cm (48 in.) deep, additional core samples are required to provide sample material from the bottom 75 cm (30 in.) of waste. Additional core samples will be gathered to meet this requirement.

- Exotherm measurement results

  The dry-basis-corrected exotherms measured using differential scanning calorimetry (DSC) were zero for the two augers that produced samples. The 95% confidence limit high values were also zero. The notification value is 480 J/g.

- Percent moisture results

  The measured weight percent (wt%) moisture values for the two cores ranged from 0.7% to 3.2%. The 95% confidence low values ranged from 0% to 1.2%. Under the current DQO, there is no notification limit for wt% moisture.

- Total alpha radioactivity measurement results

  The alpha radioactivity measurement results ranged from about 1.6 to 5.4 μCi/g. The 95% confidence high value ranged from 2.0 to 7.4 μCi/g. These values are well below the notification limit of 41 μCi/g.

- Results of Industrial Hygiene and Safety Vapor Survey

  A vapor survey or sniff test of the gases in the tank twenty feet inside the riser gave the results shown in Table 2. The results are included with Work Package Number WS-95-00129-0.

  The concentration of flammable vapor in SX-108 - expressed as a percent of the concentration of gases at the lower flammability limit - is zero. The notification level is 25 percent.

Table 2. Results of Industrial Hygiene and Safety Vapor Survey in Tank SX-108.

Vapor Characteristics Measured	Results
Flammable vapor concentration as percent of lower flammability limit	0%
Volume percent oxygen gas	20.9%
Concentration of ammonia gas in parts per million	0.0 PPM
Concentration of total organic vapor in parts per million	0.0 PPM

- Overall results of safety screen testing

  The safety screen information summarized earlier suggests the following:

  The top 48 cm (19 in.) of the solid waste material at the bottom of the tank are safe from a self-propagating chemical reaction (fuel-energy-concentration effect) and a spontaneous nuclear chain reaction or criticality (fissile-isotope-concentration effect).

  The gas in the vapor space above the waste was safe from a self-propagating chemical reaction (flammable-gas-concentration effect) at the time the gas was sniffed.

  These results are for a limited portion of the solid waste in the tank. Therefore, they cannot be extrapolated to cover all of the solid waste in the tank. Additional core samples are required to provide material from the bottom 75 cm (30 in.) of waste in the tank.

2.0 DESCRIPTION OF EXTRUSIONS AND SAMPLES

Three auger-type samples of the top 48 cm (19 in.) of the waste were attempted. Two augers produced useful-sized samples. The third did not produce any sample. The samples were very dry and contained no drainable liquid. The material was seen to be flighty, i.e., did not appear to be cohesive and could readily move around if not confined. Also, the dose rates of the samples were high. The analytical laboratory was concerned that the high dose rate and "flightiness" of the material might cause problems during the sample handling and analysis processes. Table 3 summarizes the sampling results.

Table 3. Single-Shell Tank SX-108 Auger Sample Summary.

Auger no.	Riser no. & drill string dose	Drainable liquid	Segment half	Jar no. & sample description	Recovery amount
95-AUG-042	16 ---------- Drl strg dose = 250 mR/hr	0	Upper	J-7731; very dry, gray, powdery.	30.8g
			Lower	J-7730; some large chunks	50.5g
			Total recovery		81.3g
95-AUG-043	7 ---------- Drl strg dose = 1200 mR/hr	0	Upper	J-7737; dry, gray-black, powdery, large chunks	135.0g
			Lower	J-7738; gray fine powder	9.1g
			Total recovery		144.1g
95-AUG-044	17 ---------- Drl strg dose = 1.5 mR/hr	0	NA		NA
			NA		NA
			Total recovery		0

2.1 DIVISION OF AUGER SAMPLE 95-AUG-042 INTO SUBSAMPLES

The extrusion of 95-AUG-042 was divided into lower-half and upper-half samples. The upper-half sample was homogenized and divided into samples for safety screening analysis, inductively coupled plasma (ICP) analysis, and archiving. The subsample net weights are as follows.

- 95-AUG-042 upper-half sample division weights

Safety screening and ICP analyses	10.3 g
Archive sample	20.5 g.

The lower half of Sample 95-AUG-042 was divided into the following three subsamples.

- 95-AUG-042 lower-half sample division weights

Safety screening and ICP analyses	9.8 g
Archive sample	16.5 g
Pretreatment DQO sample to Pacific Northwest Laboratory (PNL)	24.2 g.

2.2 DIVISION OF AUGER SAMPLE 95-AUG-043 INTO SUBSAMPLES

The extrusion of Sample 95-AUG-043 was divided into lower-half and upper-half samples, which were further divided into the following subsamples.

- 95-AUG-043 upper-half sample division weights

Safety screening and ICP analyses	9.5 g
Archive sample	60.6 g
Pretreatment DQO sample to PNL	30.0 g.

- 95-AUG-043 lower-half sample division weights

Safety screening and ICP analyses	4.6 g
Archive sample	2.7 g.

3.0 RESULTS OF SAFETY SCREENING ANALYSES

The following sections describe the results of safety screening analyses performed on Samples 95-AUG-042 and 95-AUG-043.

3.1 RESULTS OF SAFETY SCREENING ANALYSES FOR 95-AUG-042

Table 4 summarizes the results of exotherm, wt% water and total alpha measurements on 95-AUG-042.

Differential Scanning Calorimetry measurements for exothermic reactions were performed according to method LA-514-114, Rev. C, Mod. 0. Thermogravimetric analysis (TGA) measurements for percent water were performed according to method LA-560-112, Rev. B, Mod. 0. Total alpha activity measurements were made according to procedure LA-508-101, Rev. D, Mod. 2.

High Relative Percent Difference (RPD) values of 19.6% (upper half segment) and 27.5% (lower half segment) for % water by TGA are attributed to the low average values of water, 3.2% and 3.1 % respectively, for the upper and lower halves.

Percent water values will be redetermined using the gravimetric analysis method to check the results produced by TGA methods. The results of this work will be reported in the final report for SX-108.

3.2 RESULTS OF SAFETY SCREENING ANALYSES FOR 95-AUG-043

Table 5 summarizes the results of exotherm, wt% water and total alpha measurements on 95-AUG-043.

Differential Scanning Calorimetry was performed according to method LA-514-113, Rev. C, Mod. 0. Thermogravimetric Analysis measurements for percent water were performed according to method LA-514-114, Rev. C, Mod. 0. Total alpha activity measurements were made according to procedure LA-508-101, Rev. D, Mod. 2.

High RPD values of 93% (upper half segment) and 51% (lower half segment) for % water by TGA are attributed to the low average values of water, 1.1% and 0.7% respectively, for the upper and lower halves of the segment.

Percent water values determined by TGA will be redetermined by the gravimetric method. The results of this work will be reported in the final report for SX-108.

3.3 ATTACHED DATA

DSC and TGA scans are attached, because these tests are interpretive in nature. Safety screening report data summary tables printed directly from Labcore are attached as well.

3.4 THERMOGRAVIMETRIC DATA ANALYSIS

Thermogravimetric data will be further reviewed to resolve questions concerning possible instrument noise (as seen on traces on pages 27-30 and 35-37) and the difference in appearance of the traces between Sample S95002567 (pg. 34) and the duplicate Sample S95002567 (pg. 35). Results of the reveiw will be reported in the final report.

Table 4. 45-Day Safety Screening Results for 95-AUG-042.

Auger No.: 95-AUG-042											
Segment half	Measurement	Units	Notif. limit & accept. range	Sample meas. result	Dupl. meas. result	Avg. value	Std. dev. of avg.	95% Conf. mult.	95% Conf. limit Low/High	95% Conf. limit value	Pass notif. limit test?
Upper	Exotherm-dry calculated	J/g	< 480	0.00	0.00	0.00	0.00	6.314	High	0.00	Pass
Upper	% water, TGA by Mettler	%	None	2.86	3.48	3.17	0.31	6.314	Low	1.21	NA
Upper	Total alpha radioactivity	uCi/g	< 41	1.96	1.95	1.955	0.01	6.314	High	1.99	Pass
Lower	Exotherm-dry calculated	J/g	< 480	0.00	0.00	0.00	0.00	6.314	High	0.00	Pass
Lower	% water, TGA by Mettler	%	None	2.70	3.56	3.13	0.43	6.314	Low	0.41	NA
Lower	Total alpha radioactivity	uCi/g	< 41	1.74	1.52	1.63	0.11	6.314	High	2.32	Pass

TGA thermo-gravimetric analysis

Table 5. 45-Day Safety Screening Results for 95-AUG-043.

Auger No.: 95-AUG-043											
Segment half	Measurement	Units	Notif. limit & accept. range	Sample meas. result	Dupl. meas. result	Avg. value	Std. dev. of avg.	95% Conf. mult.	95% Conf. limit Low/High	95% Conf. limit value	Pass notif. limit test?
Upper	Exotherm-dry calculated	J/g	< 480	0.00	0.00	0.00	0.00	6.314	High	0.	Pass
Upper	% water, TGA by Mettler	%	None	0.591	1.62	1.11	0.52	6.314	Low	0.0	NA
Upper	Total alpha radioactivity	uCi/g	< 41	4.07	4.32	4.195	0.125	6.314	High	4.98	Pass
Lower	Exotherm-dry calculated	J/g	< 480	0.00	0.00	0.00	0.00	6.314	High	0.00	Pass
Lower	% water, TGA by Mettler	%	None	0.535	0.897	0.72	0.18	6.314	Low	0.0	NA
Lower	Total alpha radioactivity	uCi/g	< 41	5.08	5.70	5.39	0.31	6.314	High	7.35	Pass

TGA thermo-gravimetric analysis

4.0 REFERENCES

Brevick, C. H., L.A. Gaddis, W. W. Pickett, 1994, *Historical Tank Content Estimate for the Southwest Quadrant of the Hanford 200 West Area*, WHC-SD-WM-ER-352, ICF Kaiser Hanford Company, Richland, Washington.

Eggers, 1995, *Tank 241-SX-108 Auger Sampling and Analysis Plan*, WHC-SD-WM-TSAP-007, Rev. 0, Westinghouse Hanford Company, Richland, Washington.

Dukelow, G. T., J. W. Hunt, H. Babad, and J. E. Meacham, 1995, *Tank Safety Screening Data Quality Objective*, WHC-SD-WM-SP-004, Rev. 2, Westinghouse Hanford Company, Richland, Washington.

WHC-SD-WM-DP-151, REV. 0

SAMPLE DATA SUMMARY

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INTERIM

SX-108 AUGER SAMPLES
SX-108

CORE NUMBER: 95-AUG-042,95-AUG-043,95-AUG-044
SEGMENT #: 95-AUG-042

SEGMENT PORTION: U Upper Half of Segment

Sample#	R	A#	Analyte	Unit	Action Limits Lower	Action Limits Upper	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T002480			% Water by TGA using Mettler	%	None	None	100.9	n/a	2.860	3.480	3.170	19.6	n/a	n/a	n/a
S95T002480			DSC Exotherm on Perkin Elmer	Joules/g	-1.0e+01	480.0	99.61	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S95T002480			DSC Exotherm Dry Calculated	Joules/g Dry	-1.0e+01	480.0	n/a	n/a	0.00e+00	n/a	n/a	n/a	n/a	n/a	n/a
S95T002481		F	Alpha of Digested Solid	uCi/g	-1.0e+01	41.00	108.9	<1.21e-01	1.960	1.950	1.955	0.51	106.9	2.78e-01	2.26E+01

L Lower Half of Segment: L Lower Half of Segment

Sample#	R	A#	Analyte	Unit	Action Limits Lower	Action Limits Upper	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T002489			% Water by TGA using Mettler	%	None	None	100.9	n/a	2.700	3.560	3.130	27.5	n/a	n/a	n/a
S95T002489			DSC Exotherm on Perkin Elmer	Joules/g	-1.0e+01	480.0	99.61	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S95T002489			DSC Exotherm Dry Calculated	Joules/g Dry	-1.0e+01	480.0	n/a	n/a	0.00e+00	n/a	n/a	n/a	n/a	n/a	n/a
S95T002500		F	Alpha of Digested Solid	uCi/g	-1.0e+01	41.00	108.9	<1.21e-01	1.740	1.520	1.630	13.5	n/a	2.54e-01	2.23E+01

=> Limit violated
=> Selected Limit

INTERIM

INTERIM

SX-108 AUGER SAMPLES
SX-108

CORE NUMBER: 95-AUG-042,95-AUG-043,95-AUG-044
SEGMENT #: 95-AUG-043

SEGMENT PORTION: U Upper Half of Segment

Sample#	R	A#	Analyte	Unit	Action Limits Lower	Action Limits Upper	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T002567			% Water by TGA on Perkin Elmer	%	None	None	100.9	n/a	5.91e-01	1.620	1.106	93.1	n/a	n/a	n/a
S95T002567			DSC Exotherm Dry Calculated	Joules/g Dry	-1.0e+01	480.0	n/a	n/a	0.00e+00	n/a	n/a	n/a	n/a	n/a	n/a
S95T002567			DSC Exotherm using Mettler	Joules/g	-1.0e+01	480.0	98.77	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S95T002572	F		Alpha of Digested Solid	uCi/g	-1.0e+01	41.00	97.40	<2.97e-01	4.070	4.320	4.195	5.96	98.66	5.14e-01	1.96E+01

L Lower Half of Segment: L Lower Half of Segment

Sample#	R	A#	Analyte	Unit	Action Limits Lower	Action Limits Upper	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T002577			% Water by TGA on Perkin Elmer	%	None	None	100.9	n/a	5.35e-01	8.97e-01	7.16e-01	50.6	n/a	n/a	n/a
S95T002577			DSC Exotherm Dry Calculated	Joules/g Dry	-1.0e+01	480.0	n/a	n/a	0.00e+00	n/a	n/a	n/a	n/a	n/a	n/a
S95T002577			DSC Exotherm using Mettler	Joules/g	-1.0e+01	480.0	98.77	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S95T002578	F		Alpha of Digested Solid	uCi/g	-1.0e+01	41.00	97.40	<2.97e-01	5.080	5.700	5.390	11.5	94.87	5.68e-01	1.86E+01

=> Limit violated
=> Selected Limit

INTERIM

WHC-SD-WM-DP-151, REV. 0

INORGANIC ANALYSES

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a copy of the data
supporting the Data
Validation Report and
the Sample Data Summary,

Pages 2-19 thru 2-44,

is available only from
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