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To Distribution	From Characterization Plans, Coordination and Reports	Page 1 of 2
		Date: 06/21/95
Project Title/Work Order WHC-SD-WM-DP-133, Rev. 0, "45-Day Safety Screen Results and Final Report for Tank 241-SX-113, Auger Samples 95-AUG-028 and 95-AUG-029"		EDT NO.: EDT-612163
		ECN NO.: N/A

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Project Title/Work Order WHC-SD-WM-DP-133, Rev. 0, "45-Day Safety Screen Results and Final Report for Tank 241-SX-113, Auger Samples 95-AUG-028 and 95-AUG-029"		EDT NO.: EDT-612163	
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ENGINEERING DATA TRANSMITTAL

Page 1 of 1

1. EDT No 612163

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2	1	QA W.A. Hendricksen	<i>W.A. Hendricksen</i>	6/21/95	TU-03
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RELEASE AUTHORIZATION

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Document Title: 45-Day Safety Screen Results and Final Report for Tank 241-SX-113, Auger Samples 94-AUG-028 AND 95-AUG-029

Release Date: 6/22/95

**This document was reviewed following the
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WHC Information Release Administration Specialist:

Kara M. Broz

June 22, 1995

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45-Day Safety Screen Results and Final Report for Tank 241-SX-113, Auger Samples 95-AUG-028 and 95-AUG-029

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WHC-SD-WM-DP-133

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6. Author

Name: Leela M. Sasaki

L M Sasaki
Signature

Organization/Charge Code 75310/MDR21

7. Abstract

N/A

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WHC-SD-WM-DP-133, REV. 0

ANALYTICAL SERVICES

**45-DAY SAFETY SCREEN RESULTS AND FINAL REPORT FOR
TANK 241-SX-113, AUGER SAMPLES, 95-AUG-028 AND 95-AUG-029**

Date Printed:

JUNE 21, 1995

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NARRATIVE

SUMMARY

Two auger samples from tank 241-SX-113 were received by the 222-S Laboratory and underwent safety screen analyses - differential scanning calorimetry (DSC), thermogravimetric analysis (TGA), and total alpha analysis - in accordance with the tank characterization plan (TCP). (Reference).

No safety screening notification limits were exceeded. No exotherms were observed in the DSC analyses, the TGA results were all above the required 17 weight percent water, and the total alpha results were well below the safety screening notification limit.

SCOPE

This document serves as the 45-day report deliverable for the tank 241-SX-113 auger samples collected on May 9 and 10, 1995. The samples were received, extruded, and analyzed by the 222-S Laboratory in accordance with the TCP (Reference). Any exceptions to the plan are discussed in the following sections. This is the final report for tank 241-SX-113 auger samples 95-AUG-028 and 95-AUG-029.

This report includes the primary safety screening results (DSC, TGA, and total alpha) obtained from the analyses and copies of all DSC and TGA raw data scans as requested per the TCP. As the final report, the following are also included: chains of custody; the extrusion logbook; sample preparation data; and total alpha analysis raw data.

SAMPLE RECEIPT, EXTRUSION, AND SUBSAMPLING

Auger Sample 95-AUG-028, Riser 7

Auger sample 95-AUG-028 was collected from riser 7 of tank 241-SX-113 on May 9, 1995 using a 20-inch auger bit. The auger sample was received at the 222-S Laboratory and extruded on May 11, 1995. 248.66 grams of sample were recovered from the sample. There was material on all flutes of the auger sampler. Most the material resembled a gray clay. The texture of the material was such that a large majority of the sample adhered to the sampler. The upper portion of the auger sample (flutes 1 through 7) had more material than the lower portion (flutes 8 through 18). The material on flutes 8 through 18 appeared crumbly. There appeared to be no crust and no liquid was visible. The sample was divided into two half-segments: 161.01 grams of upper half solids and 87.65 grams of lower half solids.

Auger Sample 95-AUG-029, Riser 6

Auger sample 95-AUG-029 was collected from riser 6 of tank 241-SX-113 on May 10, 1995 using a 20-inch auger bit. The auger sample was received at the 222-S Laboratory on May 11, 1995 and extruded on May 12, 1995. 97.83 grams of sample were recovered from the sample. Most of the material was on the lower half of the auger. The lower half material was brown and moist looking with a texture resembling wet soil. The material on the upper half was light gray to beige in color and had a clay or putty-like texture. A small piece of plastic (like a piece of cellophane) was on the first (top) flute of the sampler; this material was removed from the sample and was not analyzed. The sample was divided into two half-segments: 28.19 grams of upper half solids and 69.64 grams of lower half solids.

ANALYTICAL RESULTS

Analytical results appear in the Sample Data Summary. Sample and duplicate results are presented in the tables of the Sample Data Summary while any additional results are provided in footnotes to the tables.

TGA (Moisture)

The weight percent water by TGA was performed under a nitrogen purge using either procedure LA-560-112, Rev. A-2 on a Mettler TG 50 instrument or procedure LA-514-114, Rev. B-0 on a Perkin-Elmer TGA 7 instrument. All samples had moisture contents above the notification limit of 17 weight percent water (notification would have been required if the sample was analyzed at less than 17 percent). The samples averaged from 41.98 to 52.96 weight percent water. The relative percent differences (RPDs) between samples and duplicates were below 10 percent for all but one sample. Sample S95T000931 (the lower half solids for 95-AUG-029) had an RPD of 23.0 percent. A triplicate analyses was run on sample S95T000931; the triplicate analyses had a result of 36.01 percent, resulting in a mean TGA result of 39.99 percent and a standard deviation of 5.93 percent (the relative standard deviation is 16.5 percent, still above the 10 percent requirement). However, all three results for sample S95T000931 were well above the 17 weight percent requirement. The Laboratory Measurement Control System (LMCS) control standard for all samples was well within the program's specified accuracy control limits of 90 to 110 percent.

DSC

DSC analyses were performed under a nitrogen purge using either procedure LA-514-113, Rev. B-1 on a Mettler DSC 20 instrument or procedure LA-514-114, Rev. B-0 on a Perkin-Elmer DSC 7 instrument. The DSC scans from these two instruments use different sign conventions which show exotherms differently; exotherms on the Perkin-Elmer are shown as downward peaks while the Mettler shows them as upward peaks. No exotherms were observed for any of the samples and therefore the notification limit of 481 joules/gram dry sample was not

exceeded. The LMCS control standards for the samples ranged from 100.1 to 107.2 percent and were within the program's specified accuracy control limits of 90 to 110 percent.

Total Alpha

The total alpha analyses were performed using procedure LA-508-101, Rev. D-2. All total alpha results were well below the notification limit of 41 microcuries/gram, with the highest observed value of any sample or duplicate being 0.481 microcuries/gram. RPDs, where they could be calculated, were within the program requirement of 10%. Spike recoveries for two samples were within the program's required 90 to 110 percent. Spike recoveries for the other two samples were low at 84.10 and 88.10 percent (these numbers are typical for the total alpha analyses). No reruns were requested for these samples as the total alpha results were at least a factor of 85 below the notification limit of 41 microcuries/gram.

Project Coordinator: Leela Sasaki

Reference:

WHC-SD-WM-TP-324, Rev. 0, "Tank 241-SX-113 Tank Characterization Plan," dated April 7, 1995, Westinghouse Hanford Company, Richland, Washington.

WHC-SD-WM-DP-133, REV. 0

SAMPLE DATA SUMMARY

45-Day Safety Screen Results for 95-AUG-028 and 95-AUG-029
SX-113

CORE NUMBER: 95-AUG-028
SEGMENT #: n/a

SEGMENT PORTION: U Upper Half of Segment

Sample#	R	A#	Analyte	Unit	Action Limits		Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count	Err %
					Lower	Upper										
S95T000919			% Water by TGA using Mettler	%	17.000	200.000	100.7	n/a	52.11	53.80	52.95	3.19	n/a	n/a		n/a
S95T000919			DSC Exotherm Dry Calculated	Joules/g Dry	-1.000	481.000	n/a	n/a	0.00e+00	0	0.000	n/a	n/a	n/a		n/a
S95T000919			DSC Exotherm using Mettler	Joules/g	-1.000	481.000	107.2	n/a	0.00e+00	0	0.000	n/a	n/a	n/a		n/a
S95T000921	F		Alpha of Digested Solid	uCi/g	-1.000	41.000	100.8	<3.35e-03	5.26e-02	5.26e-2	5.26e-02	0.00	84.10	7.00e-03	1613	

L Lower Half of Segment: L Lower Half of Segment

Sample#	R	A#	Analyte	Unit	Action Limits		Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count	Err %
					Lower	Upper										
S95T000923			% Water by TGA using Mettler	%	17.000	200.000	100.7	n/a	46.07	42.71	44.39	7.57	n/a	n/a		n/a
S95T000923			DSC Exotherm Dry Calculated	Joules/g Dry	-1.000	481.000	n/a	n/a	0.00e+00	0	0.000	n/a	n/a	n/a		n/a
S95T000923			DSC Exotherm using Mettler	Joules/g	-1.000	481.000	107.2	n/a	0.00e+00	0	0.000	n/a	n/a	n/a		n/a
S95T000925	F		Alpha of Digested Solid	uCi/g	-1.000	41.000	100.8	<3.35e-03	6.17e-02	5.98e-2	6.07e-02	3.13	88.10	1.50e-02	2413	

=> Limit violated

=> Selected Limit

WHC-SD-WM-DP-133, REV. 0

19-jun-1995 09:34:18
A-0002-1

45-Day Safety Screen Results for 95-AUG-028 and 95-AUG-029
SX-113

CORE NUMBER: 95-AUG-029
SEGMENT #: n/a

SEGMENT PORTION: U Upper Half of Segment

Sample#	R	A#	Analyte	Unit	Action Limits		Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count	Err%
					Lower	Upper										
S95T000927			% Water by TGA on Perkin Elmer	%	17.000	200.000	96.99	n/a	46.41	47.77	47.09	2.89	n/a	n/a		n/a
S95T000927			DSC Exotherm on Perkin Elmer	Joules/g	-1.000	481.000	100.1	n/a	0.00e+00	0	0.000	n/a	n/a	n/a		n/a
S95T000927			DSC Exotherm Dry Calculated	Joules/g Dry	-1.000	481.000	n/a	n/a	0.00e+00	0	0.000	n/a	n/a	n/a		n/a
S95T000929	F		Alpha of Digested Solid	uCi/g	-1.000	41.000	99.62	<5.63e-02	< 1.19e-1	<7.44e-2	n/a	n/a	105.2	1.28e-01	500.0	

L Lower Half of Segment: L Lower Half of Segment

Sample#	R	A#	Analyte	Unit	Action Limits		Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count	Err%
					Lower	Upper										
S95T000931	1		% Water by TGA on Perkin Elmer	%	17.000	200.000	96.99	n/a	46.81	37.15	41.98	23.0	n/a	n/a		n/a
S95T000931			DSC Exotherm on Perkin Elmer	Joules/g	-1.000	481.000	100.1	n/a	0.00e+00	0	0.000	n/a	n/a	n/a		n/a
S95T000931			DSC Exotherm Dry Calculated	Joules/g Dry	-1.000	481.000	n/a	n/a	0.00e+00	0	0.000	n/a	n/a	n/a		n/a
S95T000933	F		Alpha of Digested Solid	uCi/g	-1.000	41.000	99.62	<5.63e-02	4.81e-01	<4.52e-1	n/a	n/a	103.0	6.56e-01	113.2	

=> Limit violated

=> Selected Limit

Note: TGA for sample# S95T000931 was rerun. Rerun result was 36.01%.

WHC-SD-WA-DP-133, REV. 0

WHC-SD-WM-DP-133, REV. 0

CHAIN OF CUSTODY FORMS

CHAIN-OF-CUSTODY RECORD FOR AUGER SAMPLING

COPY

(1) Shipment Number 200W-08-TF (2) Sample Number 95-AUG-029 (3) Supervisor R.J. PRZANIK
 (4) Tank SX-113 (5) Floor 6 (6) Cask Serial Number SN C1030

Radiation Survey Data:		(7) FIELD	(31) LABORATORY	(8) Shipment Description	
Over Top Dose Rate	<u><1.5 mR/hr</u>	<u><1.5 mR/hr</u>	<u><1.5 mR/hr</u>	A. Work Package Number	<u>WS-95-00069-0</u>
Side Dose Rate	<u>2 mR/hr</u>	<u>1.5 mR/hr</u>	<u>1.5 mR/hr</u>	B. Cask Seal Number	<u>1035</u>
Bottom Dose Rate	<u>1.2 mR/hr</u>	<u>0.7 mR/hr</u>	<u>0.7 mR/hr</u>	C. Date and Time Sample	<u>5-10-95 / 1150 hrs</u>
Smearable Contamination	<u><20 dpm/100cm²</u> (Alpha)	<u><20 dpm/100cm²</u> (Alpha)	<u><20 dpm/100cm²</u> (Alpha)	Removed from Tank	<u>109%</u>
	<u><1000 dpm/100cm²</u> (Beta-Gamma)	<u><1000 dpm/100cm²</u> (Beta-Gamma)	<u><1000 dpm/100cm²</u> (Beta-Gamma)	D. Expected Liquid Content	<u>90%</u>
RCT*	<u>[Signature]</u> (Signature)	RCT*	<u>[Signature]</u> (Signature)	E. Expected Solid Content	<u>50 mR/hr</u>
				F. Dose Rate Through Drill String	<u>7"</u>
				G. Expected Sample Length	

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

(10) Field Comments

(32) Laboratory Comments

(11) Point of Origin <u>SX-113</u>	(12) Destination <u>6</u>	(13) Sender Name (Sign and PRINT) <u>DA KRAHN</u>	(14) Date/Time <u>5-11-95 1010</u>	(15) Sender Comments
(17) Relinquished By (Sign and PRINT) <u>DA KRAHN</u>	(18) Received By (Sign and PRINT) <u>James R. Fubart</u>	(19) Date/Time <u>5-11-95 / 1010</u>	(20) Receiver Comments	
(21) Relinquished By (Sign and PRINT) <u>James R. Fubart</u>	(22) Received By (Sign and PRINT) <u>EE Dickes</u>	(23) Date/Time <u>5-11-95 / 1:46</u>	(24) Receiver Comments	
(25) Relinquished By (Sign and PRINT)	(26) Received By (Sign and PRINT)	(27) Date/Time	(28) Receiver Comments	
(16) Seal Intact Upon Release? ☒ Yes ☐ No		(29) Seal Intact Upon Receipt? ☒ Yes ☐ No		(30) Seal Data Consistent with this Record? ☒ Yes ☐ No
Shipment No. ☒ Yes ☐ No		Cask Seal No. ☒ Yes ☐ No		Sample No. ☒ Yes ☐ No

WHC-SD-WM-DP-133, REV. 0

COPY

CHAIN-OF-CUSTODY RECORD FOR AUGER SAMPLING

R.J. Penzance

(1) Shipment Number 200W-08-TF (2) Sample Number 95-ALG-028 (3) Supervisor(4) Tank 5X-113 (6) Riser 7 (9) Cook Seal Number C1023

Radiation Survey Data:

Over Top Dose Rate

4.5 m/hr

Side Dose Rate

1.7 m/hr

Bottom Dose Rate

1 m/hr

Smearable Contamination

< 20 pCi/m/100 cm²

(31) LABORATORY

< 5 m/hr2 m/hr10 m/hr< 20 pCi/m/100 cm²< 1000 dpm/100 cm²< 1000 dpm/100 cm²< 1000 dpm/100 cm²< 1000 dpm/100 cm²

(Alpha)

(Beta-Gamma)

(Signature)

RCT*

RCT*

(8) Shipment Description

A. Work Package Number

B. Cook Seal Number

C. Date and Time Sample

Removed from Tank

D. Expected Liquid Content

E. Expected Solid Content

F. Dose Rate Through Drill String

G. Expected Sample Length

WS-95-00069-B10345-9-95/1210 hrs10%90%50 m/hr5 1/2"

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

WHC-SD-WM-DP-133, REV 0

10

(10) Field Comments

(32) Laboratory Comments

(11) Point of Origin

5X-113

(12) Destination

2225 LBS

(13) Sender Name (Sign and PRINT)

DA KRAHN

(14) Date/Time

5-11-95/1010

(15) Sender Comments

(16) Receiver By (Sign and PRINT)

James E. Dubois

(17) Receiver By (Sign and PRINT)

James E. Dubois

(18) Receiver By (Sign and PRINT)

James E. Dubois

(19) Date/Time

5-11-95/1034

(20) Receiver Comments

(21) Receiver Comments

(22) Receiver Comments

(23) Receiver Comments

(24) Receiver Comments

(25) Receiver Comments

(16) Seal Intact Upon Release?

☒ Yes ☐ No

(29) Seal Intact Upon Receipt?

☒ Yes ☐ No

Shipment No.

☒ Yes ☐ No

Cook Seal No.

☒ Yes ☐ No

(30) Seal Data Consistent with this Record?

Sample No.

☒ Yes ☐ No

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HOT CELL LOGBOOKS

NOTEBOOK/LOGBOOK UNCLASSIFIED COVERSHEET			
SECTION I <div style="text-align: center;"> RECORD COPY NOT FOR CIRCULATION APR 04 1995 RECEIVED WHC BCSE DOCUMENT CONTROL </div>		<div style="display: flex; justify-content: space-between;"> <div> Notebook No. <div style="border-bottom: 1px solid black; width: 100%;">WHC-N-1145 1</div> </div> <div> Date of Issue <div style="border-bottom: 1px solid black; width: 100%;">APR 04 1995</div> </div> <div> Copy <div style="border-bottom: 1px solid black; width: 100%;">1</div> </div> </div> <div style="margin-top: 5px;"> Title <div style="border-bottom: 1px solid black; width: 100%;">241-SX-113</div> <div style="border-bottom: 1px solid black; width: 100%; margin-top: 5px;"></div> <div style="border-bottom: 1px solid black; width: 100%; margin-top: 5px;"></div> </div>	
Author <div style="border-bottom: 1px solid black; width: 100%;">R.K. Fuller</div>		If continued from another notebook give the notebook number	
This is a Controlled Notebook. The assigned custodian is responsible for this book. When the book is completed, contact your Records Management Specialist for a Retention Schedule. Complete Section II of this form and return the Notebook to Unclassified Document Control, A4-18.			
Responsible Custodian	Payroll No.	MSIN	Date Assigned
R.K. Fuller	67528	T6-31	APR 04 1995
SECTION II Complete this section prior to returning notebook to Unclassified Document Control, A4-18			
Abstract:	(Give brief description of notebook contents) <div style="border-bottom: 1px solid black; height: 20px; margin-top: 5px;"></div> <div style="border-bottom: 1px solid black; height: 20px; margin-top: 5px;"></div> <div style="border-bottom: 1px solid black; height: 20px; margin-top: 5px;"></div>		
Period Covered:	(Inclusive dates - Month/Day/Year) _____		
Certification Statement:	This notebook does ☐ does not ☐ contain any Quality Assurance Record Material (as described in Section 9.0 of WHC-CM-3-5) and has been verified to be a complete and legible record.		
_____ Custodian's Signature and Date			
Retention Schedule:	Specialist Concurrence Name	Custodian's Manager's Name	

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WHC-SD-WM-DP-133, REV. 0

pages 2 and 3 were intentionally left blank.

COPY

CHAIN-OF-CUSTODY RECORD FOR AUGER SAMPLING

(1) Shipment Number 200W-08-TF (2) Sample Number 95-AUG-028 (3) Supervisor R.J. Penznik
 (4) Tank SX-113 (5) Riser 7 (6) Cask Serial Number C1023

Radiation Survey Data:		(7) FIELD	(31) LABORATORY	(8) Shipment Description	
Over Top Dose Rate	<u>< 5 mR/hr</u>	<u>< 5 mR/hr</u>		A. Work Package Number	<u>WS-95-00069-D</u>
Side Dose Rate	<u>1.7 mR/hr</u>	<u>2 mR/hr</u>		B. Cask Seal Number	<u>1034</u>
Bottom Dose Rate	<u>1 mR/hr</u>	<u>1 mR/hr</u>		C. Date and Time Sample	<u>5-9-95/1210hrs</u>
Smearable Contamination	<u>< 20 dpm/100cm²</u>	<u>< 20 dpm/100cm²</u>		Removed from Tank	<u>10%</u>
	(Alpha)	(Alpha)		D. Expected Liquid Content	<u>90%</u>
	<u>< 1000 dpm/100cm²</u>	<u>< 1000 dpm/100cm²</u>		E. Expected Solid Content	<u>50 mR/hr</u>
	(Beta-Gamma)	(Beta-Gamma)		F. Dose Rate Through Drill String	<u>5 1/2"</u>
RCT*	<u>[Signature]</u>	RCT*	<u>[Signature]</u>	G. Expected Sample Length	
	(Signature)		(Signature)		

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

15

(10) Field Comments		(32) Laboratory Comments			
(11) Point of Origin <u>SX-113</u>	(12) Destination <u>2225 LABS</u>	(13) Sender Name (Sign and PRINT) <u>DA KRAHN</u>		(14) Date/Time <u>5-11-95-1010</u>	(15) Sender Comments
(17) Relinquished By (Sign and PRINT) <u>DA KRAHN</u>		(18) Received By (Sign and PRINT) <u>James E. Dubes</u>		(19) Date/Time <u>5-11-95/1010</u>	(20) Receiver Comments
(21) Relinquished By (Sign and PRINT) <u>James E. Dubes</u>		(22) Received By (Sign and PRINT) <u>E. E. Dubes</u>		(23) Date/Time <u>5-11-95/1034</u>	(24) Receiver Comments
(25) Relinquished By (Sign and PRINT)		(26) Received By (Sign and PRINT)		(27) Date/Time	(28) Receiver Comments
(16) Seal Intact Upon Release? ☒ Yes ☐ No		(29) Seal Intact Upon Receipt? ☒ Yes ☐ No		(30) Seal Data Consistent with this Record?	
		Shipment No. ☒ Yes ☐ No		Cask Seal No. ☒ Yes ☐ No	Sample No. ☒ Yes ☐ No

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

WHC-SD-WM-DP-133, REV. 0

SX 113 - 95-Aug - 028

5-11-95

Lab Core # S95T000916
 work List # 1392
 P.C. Leela Sasaki

BEST AVAILABLE COPY

Tape SX Farm #10 Hassleblad extra frames #3 + #4 of roll

Hot Cell Temperature + Humidity

Temp 79.1 F Humid-28%

Check Weights 20 gram = 19.99 grams 500 gram = 499.98 grams

Extrusion Description

Material is on all Flutes of Auger.

Flutes 1 thru 7 mat. located Heavily on these Flutes

Flutes 8-18 mat. appears crumbly

Flutes 1-7 Appearance Smooth

Some mat from Flutes 8-18 fell off Auger to tray

mat on all Flutes Has the appearance of gray clay

no crust mat. visible

no Liquid Visible

Divided into 2- $\frac{1}{2}$ Seg 1-7 is upper Seg.

8-18 is Lower Seg.

texture of mat is such a large majority of sample
 Adheres to Auger

g2c Lower half Sample Description SX 113 95-Aug-028

Flutes 8-18

* VIAL 6792

S95T000922

IAL size-125 mL

INAL wt 217.59

Initial wt 129.94

Net wt 87.65

Physical Description - Crumbly + Gray in color
 material is soft.

Keith Hull
 5/11/95

SX 113 - 95-AUG - 028

5-11-95

Upper half Solids #UAR #6946 (250ml)

VIAL Size (250ml)	Flutes 1-7	
ABC INITIAL FINAL WT.	385.87 g	595T000918
INITIAL WT.	224.86 g	
Net WT.	161.01 Net WT.	161.01 g

Physical Description: mat very soft Caulky in appearance.

ABC 5-11-95

SX 113 95-AUG-028
PHOTOGRAPHY

5/11/95

BEST AVAILABLE COPY

SX-113 95-AUG-028 R158A 7

5/11/95

COPY

CHAIN-OF-CUSTODY RECORD FOR AUGER SAMPLING

(1) Shipment Number 200W-08-TF (2) Sample Number 95-AUG-029 (3) Supervisor R.S. Parnick
 (4) Tank 5X113 (5) Riser 6 (6) Cask Serial Number 5N C1030

Radiation Survey Data:		(7) FIELD		(31) LABORATORY		(8) Shipment Description	
Over Top Dose Rate	<u>2.5 m/hr</u>			<u>2.5 m/hr</u>		A. Work Package Number	<u>WS-95-00069-0</u>
Side Dose Rate	<u>2 m/hr</u>			<u>1.5 m/hr</u>		B. Cask Seal Number	<u>1035</u>
Bottom Dose Rate	<u>6.2 m/hr</u>			<u>0.7 m/hr</u>		C. Date and Time Sample Removed from Tank	<u>5-10-95 / 1150 hrs</u>
Smearable Contamination	<u>200 dpm / 100 cm²</u>			<u>200 dpm / 100 cm²</u>		D. Expected Liquid Content	<u>10%</u>
	<u>1000 dpm / 100 cm²</u>			<u>1000 dpm / 100 cm²</u>		E. Expected Solid Content	<u>90%</u>
RCT*	<u>[Signature]</u>			<u>[Signature]</u>		F. Dose Rate Through Drill String	<u>50 m/hr</u>
						G. Expected Sample Length	<u>7"</u>

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

10

(10) Field Comments		(32) Laboratory Comments	
(11) Point of Origin	(12) Destination	(13) Sender Name (Sign and PRINT)	(14) Date/Time
<u>5X113</u>	<u>6</u>	<u>Michael DA KRAWN</u>	<u>5-11-95 1010</u>
(17) Relinquished By (Sign and PRINT)		(18) Received By (Sign and PRINT)	(19) Date/Time
<u>Michael DA KRAWN</u>		<u>James R. Furbach</u>	<u>5/11/95 / 1010</u>
(21) Relinquished By (Sign and PRINT)		(22) Received By (Sign and PRINT)	(23) Date/Time
<u>James R. Furbach</u>		<u>James R. Furbach</u>	<u>5-11-95 / 1214</u>
(25) Relinquished By (Sign and PRINT)		(26) Received By (Sign and PRINT)	(27) Date/Time
(16) Seal Intact Upon Release?		(29) Seal Intact Upon Receipt?	
☒ Yes ☐ No	☒ Yes ☐ No	☒ Yes ☐ No	
(30) Seal Data Consistent with this Record?		Cask Seal No. ☒ Yes ☐ No	
		Sample No. ☒ Yes ☐ No	

SX113 95-AUG-029

Lab Core # S95T000917

BEST AVAILABLE COPY

work list # 1394

P. C. Leela Sasaki

Tape SX Farm # 10 Hasselblad extra frames #5 + #6 of roll

Hot Cell Temp + Humidity

Temp 77°

Humidity 20%

Extrusion Description

most of sample on Lower half. ALL Flutes appear to have some sample on them.

- Upper half Flutes (1-7) have a light tan/gray material like Clay/Putty. Small piece of plastic on first Flute.
- Lower half (8-18) Flutes have a dark Brown crumbly type material and it is intermixed with a lighter material. it has a texture like coarse sand but sticks together and doesn't fall apart.

(# SX-113 95-AUG-029 (Lower-Half Solids) Sample Description

- Lower half (# 6791 Jar)

Jar # 6791 (125 mL)

S95T000930

Final WT. 199.95 g

Initial WT. 130.31 g

net WT. 69.64 g

SX-113-95-AUG-029 (Upper Half Solids).
Sample Description

- upper half (# 6793 Jar)

Jar # 6793 (125 mL)

S95T000926

Final WT. 156.35 g

Initial WT. 128.16 g

Net WT. 28.19 g

SX113 95-AUG-029

5-12-95

~~AMP~~
5-16-95

SX 113 95-AUG-029
PHOTOGRAPHY

5/12/95

SX-113

95-AUG-029

Riser 4

5/12/95

May 12, 1995

Homogenization & Subsampling

SX-113 95-AUG-028 Riser #7

- Transferred 4.48 grams into vial #6988, submitted to the Lab for analysis: DSC, TGA, total α.
- Transferred 33.68 grams into vial #7174, which is now the Archive sample.

SX-113 95-AUG-028 Riser #7

- Transferred 4.74 grams into vial #6989, submitted to the Lab for analysis: DSC, TGA, total α.
- Transferred 30.40 grams into vial #7176, which is now the Archive sample.

May 12, 1995

Homogenization & Subsampling

SX-113 95-AUG-029 Riser # 6

- Transferred 4.17 grams into vial # 6990, submitted to the Lab for analysis: DSC, TGA, total α.
- Transferred 21.29 grams into vial # 7177, which is now the Archive sample.
- * - Note: Parent jar # 6793 Used In Process

SX-113 95-AUG-029 Riser # 6

- Transferred 4.49 grams into vial # 6991, submitted to the Lab for analysis: DSC, TGA, total α.
- Transferred 35.12 grams into vial # 7178, which is now the Archive sample.

WHC-SD-WM-DP-133, REV. 0

PHOTOGRAPHS

SX113 95-AUG-028

Date: May 11, 1995
Sample number: 95-AUG-028
Cask serial #: 1023
Logbook #: WHC-N-1145
Labcore #: S95T000916

Notes:

- * Temp inside hotcell was 79.1 degrees F. Humidity = 28%.
- * Check weights 20 gm = 19.99 grams 500 gm = 499.98 grams
- * Dose rate through drill string = 50 mR/hr.
- * Expected sample length - 5.5 inches.
- * This was a 20 inch auger from riser #7.
- * Set auger assembly on auger stand and removed sleeve.
- * Performed photography.

Sample information:

- * Collected 248.66 grams of solid material. There was material on all flutes of the auger and resembled a gray clay. Flutes 1 - 7 had more material than flutes 8 through 18. The material on flutes 8 through 18 appeared crumbly. There appeared to be no crust material and no liquid was visible. The texture of the material is such that a large majority of the sample adheres to the auger.

Subsample information:

- * Subsampled Solids:
SX-113 95-AUG-028 Lower Half Solids:
-Jar # 6792 (125 mL vial size)
-87.65 grams net weight
- * Subsampled Solids:
SX-113 95-AUG-028 Upper Half Solids:
-Jar # 6946 (250 mL vial size)
-161.01 grams net weight

Notes: Collected 248 grams of solids. The dose rate through the drill string was 50 mR/hr.

SX-113 95-AUG-028

5/11/95

WHC-SD-WM-DP-133, REV. 0

SX-113 95-AUG-29 RISER 6

Date: May 12, 1995
Sample number: 95-AUG-029
Cask serial #: SNC1030
Logbook # : WHC-N-1145
Labcore # : S95T000917

Notes:

- * Temp inside hotcell was 77 degrees F. Humidity = 20%.
- * Check weights 20 gm = 19.99 grams 500 gm = 499.99 grams
- * Dose rate through drill string = 50 mR/hr.
- * Expected sample length - 7 inches.
- * This was a 20 inch auger from riser #6.
- * Set auger assembly on auger stand and removed sleeve.
- * Performed photography.

Sample information:

- * Collected 97.83 grams of solid material. Most of the material was on the lower half of the auger. The lower half material was dark brown and moist with a texture resembling wet soil. The material on the upper half was light gray to beige in color and had a clay or putty-like texture. A small piece of plastic was on the first flute and looked like cellophane. The sample was divided into half segments. There were no drainable liquids present.

Subsample information:

- * Subsampled Solids:
SX-113 95-AUG-029 Upper Half Solids:
-Jar # 6793 (125 mL jar size)
-28.19 grams net weight
- * Subsampled Solids:
SX-113 95-AUG-029 Lower Half Solids:
-Jar # 6791 (125 mL jar size)
-69.64 grams net weight

Notes: Collected 97.83 grams of solids. The dose rate through the drill string was 50 mR/hr.

SX-113 95-AUG-029

5/12/95

KODAK Color Control Patches

WHC-SD-WM-DP-133, REV. 0

SAMPLE HANDLING

LABCORE Data Entry Template for Worklist# 1392

Analyst: SL Instrument: BA000 Book # NA

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

Worklist Comment: SX-113 95-AUG-028 Riser 7 Extrusion

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT	
		1 INSTCHK01			EXTRUD01	SOLID	<u>20</u>	<u>19.99</u>	<u>N/A</u>		
		2 INSTCHK02			EXTRUD01	SOLID	<u>500</u>	<u>499.98</u>	<u>N/A</u>		
95000072	SX-113	3 SAMPLE	S95T000916	0	ORGVOL01	SOLID	<u>N/A</u>	<u>0</u>		ml	
95000072	SX-113	4 SAMPLE	S95T000916	0	DLIQVOL1	SOLID	<u>N/A</u>	<u>0</u>		ml	
95000072	SX-113	5 SAMPLE	S95T000916	0	DLIQWT01	SOLID	<u>N/A</u>	<u>0</u>		g	
95000072	SX-113	6 SAMPLE	S95T000916	0	EST.G/ML	SOLID	<u>N/A</u>	<u>0 n/a</u>	<u>6/20/95</u>	g/ml	
95000072	SX-113	7 SAMPLE	S95T000916	0	EXTRUD01	SOLID	<u>N/A</u>	<u>complete</u>			
95000072	SX-113	8 SAMPLE	S95T000916	0	LLIQWT01	SOLID	<u>N/A</u>	<u>0</u>		g	
95000072	SX-113	9 SAMPLE	S95T000916	0	NOTEBOOK	SOLID	<u>N/A</u>	<u>wrk-11-1/45</u>			
95000072	SX-113	10 SAMPLE	S95T000916	0	SLDVOL01	SOLID	<u>N/A</u>	<u>248</u>	<u>n/a</u>	<u>6/20/95</u>	ml
95000072	SX-113	11 SAMPLE	S95T000916	0	SLDWT-01	SOLID	<u>N/A</u>	<u>248</u>	<u>248.66</u>	<u>6/20/95</u>	g

Final page for worklist # 1392

SL 5-12-95
Analyst Signature Date

SL 5-12-95
Analyst Signature Date

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 1394

Analyst: EC Instrument: BA000 Book # NA

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

Worklist Comment: SX-113 95-AUG-029 Riser 6 Extrusion

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 INSTCHK01			EXTRUD01	SOLID	<u>20g</u>	<u>19.99</u>	<u>N/A</u>	
		2 INSTCHK02			EXTRUD01	SOLID	<u>500g</u>	<u>499.99</u>	<u>N/A</u>	
95000073	SX-113	3 SAMPLE	S95T000917	0	DLIQVOL1	SOLID	<u>N/A</u>	<u>0</u>		ml
95000073	SX-113	4 SAMPLE	S95T000917	0	DLIQWT01	SOLID	<u>N/A</u>	<u>0</u>		g
95000073	SX-113	5 SAMPLE	S95T000917	0	EST.G/ML	SOLID	<u>N/A</u>	<u>2</u> n/a		g/mL ^{2ms 6/20/95}
95000073	SX-113	6 SAMPLE	S95T000917	0	EXTRUD01	SOLID	<u>N/A</u>	<u>complete</u>		
95000073	SX-113	7 SAMPLE	S95T000917	0	LLIQWT01	SOLID	<u>N/A</u>	<u>0</u>		g
95000073	SX-113	8 SAMPLE	S95T000917	0	NOTEBOOK	SOLID	<u>N/A</u>	<u>WHC-N-1145</u>		
95000073	SX-113	9 SAMPLE	S95T000917	0	SLDVOL01	SOLID	<u>N/A</u>	<u>97</u> n/a		ml ^{2ms 6/20/95}
95000073	SX-113	10 SAMPLE	S95T000917	0	SLDWT-01	SOLID	<u>N/A</u>	<u>97</u> 97.83		g ^{2ms 6/20/95}
95000073	SX-113	11 SAMPLE	S95T000917	0	ORGVOL01	SOLID	<u>N/A</u>	<u>0</u>		ml

Final page for worklist # 1394

EC 5-12-95
Analyst Signature Date

EC 5-12-95
Analyst Signature Date

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 1409

Analyst: ABB Instrument: BA000 Book # 14

Method: LO-160-103 Rev/Mod 2-1

Worklist Comment: SX-113 Archive Samples

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 INSTCHK01			EXTRUD01	SOLID	<u>20</u>	<u>19.99</u>	<u>N/A</u>	
		2 INSTCHK02			EXTRUD01	SOLID	<u>520</u>	<u>499.76</u>	<u>N/A</u>	
95000072	SX-113	3 SAMPLE	S95T000920	0 X 6946	ARCHIV01 7176	SOLID	<u>N/A</u>	<u>30.46</u>		g
95000072	SX-113	4 SAMPLE	S95T000924	0 X 6792	ARCHIV01 7174	SOLID	<u>N/A</u>	<u>33.68</u>		g
95000073	SX-113	5 SAMPLE	S95T000928	0 X 6793	ARCHIV01 7177	SOLID	<u>N/A</u>	<u>21.29</u>		g
95000073	SX-113	6 SAMPLE	S95T000932	0 X 6791	ARCHIV01 7178	SOLID	<u>N/A</u>	<u>35.12</u>		g

Final page for worklist # 1409

Abb B. Day 5-16-95
Analyst Signature Date

EAC 5-16-95
Analyst Signature Date

Data Entry Comments:

Reviewed by RK Fuller
5/16/95

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.

WHC-SD-WM-DP-133, REV. 0

SAMPLE PREPARATION

LABCORE Data Entry Template for Worklist# 1418

Analyst:

QJM

Instrument:

FUS01 AL11066

Book #

N/A

Method: LA-549-141 Rev/Mod

C-3

Worklist Comment: SX-113 FUSION - 919->921, 923->925

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			FUSION01	SOLID	<u>250ml</u>		<u>N/A</u>	g/L
95000072	SX-113	2 SAMPLE	S95T000921	0 F	FUSION01	SOLID	<u>N/A</u>	<u>2.3276</u>		g/L
		<u>.5819g → 250ml</u>								
95000072	SX-113	3 DUP	S95T000921	0 F	FUSION01	SOLID	<u>2.3276</u>	<u>2.2388</u>	<u>N/A</u>	g/L
		<u>.5597g → 250ml</u>								
95000072	SX-113	4 SAMPLE	S95T000925	0 F	FUSION01	SOLID	<u>N/A</u>	<u>2.0768</u>		g/L
		<u>.5192g → 250ml</u>								
95000072	SX-113	5 DUP	S95T000925	0 F	FUSION01	SOLID	<u>2.0768</u>	<u>2.3536</u>	<u>N/A</u>	g/L
		<u>.5884g → 250ml</u>								

Final page for worklist # 1418

Analyst Signature

Date

DATA ENTERED

Analyst Signature

Date

Data Entry Comments:

Scale calibrated 200/100/100 921 Sample 1% green-gray solids, clear liquid. 921 Dup 1% green-gray solid, clear liquid. 925 Sample 1% green solid, clear liquid. 925 Dup. 2% green solid, clear liquid. 20ml HCl in all samples & cups. Dose rate - 40mrad/hr. HPT - sent in lab. 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.

B2 II 35 6-7-95

LABCORE Data Entry Template for Worklist# 1419

Analyst: AM

Instrument: FUS01 AL11066 Book # NA

Method: LA-549-141 Rev/Mod C-3

Worklist Comment: SX-113 FUSION - 927->929, 931->933; USE 0.1 GRAMS ONLY

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			FUSION01	SOLID	<u>250ml</u>		<u>N/A</u>	g/L
95000073	SX-113	2 SAMPLE	S95T000929	0 F	FUSION01	SOLID	<u>N/A</u>	<u>5860</u>		g/L
		<u>-1465g -> 250ml</u>								
95000073	SX-113	3 DUP	S95T000929	0 F	FUSION01	SOLID	<u>5860</u>	<u>6972</u>	<u>N/A</u>	g/L
		<u>-1743g -> 250ml</u>								
95000073	SX-113	4 SAMPLE	S95T000933	0 F	FUSION01	SOLID	<u>N/A</u>	<u>4580</u>		g/L
		<u>-1145g -> 250ml</u>								
95000073	SX-113	5 DUP	S95T000933	0 F	FUSION01	SOLID	<u>4580</u>	<u>4588</u>	<u>N/A</u>	g/L
		<u>-1147g -> 250ml</u>								

Final page for worklist # 1419

AM 6-15-95
Analyst Signature Date

Dany H. Smith 6/16/95
Analyst Signature Date

Data Entry Comments:

Scale calibrated 150.001. 30ml HCl. 929 Sample and dup
new + 190 solids. 933 sample and dup have <190 solids
Solids are grey. Dose rate was 40mrad/hr. HPT was Scott
Hendrickson

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.

Bertand Griffin II 36 6-16-95

WHC-SD-WM-DP-133, REV. 0

PHYSICAL ANALYSES

LABCORE Data Entry Template for Worklist# 1403

Analyst: KPM Instrument: DSC0 1 Book # 12A14-A

Method: LA-514-113 Rev/Mod B-1

Worklist Comment: Please run SX-113 DSC under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	SOLID	<u>28.45</u>	<u>30.5</u>	<u>N/A</u>	Joules/g
95000072	SX-113	2 SAMPLE	S95T000919	0	DSC-01	SOLID	<u>N/A</u>	<u>Ø</u>		Joules/g
95000072	SX-113	3 DUP	S95T000919	0	DSC-01	SOLID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g
95000072	SX-113	4 SAMPLE	S95T000923	0	DSC-01	SOLID	<u>N/A</u>	<u>Ø</u>		Joules/g
95000072	SX-113	5 DUP	S95T000923	0	DSC-01	SOLID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g

Final page for worklist # 1403

Analyst Signature

Date

5-17-95

Verified by Blandina Valenzuela 5/18/95

Analyst Signature

Date

5-18-95

Data Entry Comments:

SAMPLE S95T000923 DARK BROWN DIRT MIXED WITH YELLOW CLUMPS

SAMPLE S95T000919 LIGHT BROWN CLAY

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

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 39 TO 44.

BEST AVAILABLE COPY

DSC STD 12N14-A

6.580 mg

Rate: 10.0 °C/min

File: 00023.001

DSC METTLER

17-May-95

Ident: 0.0

222-S Laboratory

exo

10. mW

Integration

Delta H 201 mJ

30.5 J/g

Peak 158.6 °C

-13.1 mW

120.

140.

160.

180. °C

[Signature]
5-17-95

WHC-SD-WM-DP-133, REV. 0

BEST AVAILABLE COPY

S95T000919 N2
15.872 mg
Rate: 10.0 °C/min
File: 00031.001 DSC METTLER 17-May-95
Ident: 0.0 222-S Laboratory

BEST AVAILABLE COPY

S95T000919 (DUP) N2
15.594 mg
Rate: 10.0 °C/min
File: 00033.001 DSC METTLER 17-May-95
Ident: 0.0 222-S Laboratory

Integration
Delta H19508 mJ
1251.0 J/g
Peak 122.0 °C
-69.7 mW

BEST AVAILABLE COPY

S95T000923 N2

15.014 mg

File: 00025.001 DSC METTLER 17-May-95

Ident: 0.0 222-S Laboratory

Rate: 10.0 °C/min

exo

100.

200.

300.

400.

°C

BEST AVAILABLE COPY

S95T000923 (DUP) N2
10.753 mg

File: 00027.001 DSC METTLER 17-May-95
Ident: 0.0 222-S Laboratory

Rate: 10.0 °C/min

BEST AVAILABLE COPY

S95T000923 (TRIPL) N2
 10.782 mg
 Rate: 10.0 °C/min
 File: 00029.001 DSC METTLER 17-May-95
 Ident: 0.0 222-S Laboratory

LABCORE Data Entry Template for Worklist# 1404

Analyst: KRM Instrument: DSC0 3 Book # 12N14-A

Method: LA-514-114 Rev/Mod B-0

Worklist Comment: Please run SX-113 DSC under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-03	SOLID	<u>28.45</u>	<u>28.48</u>	<u>N/A</u>	Joules/g
95000073	SX-113	2 SAMPLE	S95T000927	0	DSC-03	SOLID	<u>N/A</u>	<u>Ø</u>		Joules/g
95000073	SX-113	3 DUP	S95T000927	0	DSC-03	SOLID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g
95000073	SX-113	4 SAMPLE	S95T000931	0	DSC-03	SOLID	<u>N/A</u>	<u>Ø</u>		Joules/g
95000073	SX-113	5 DUP	S95T000931	0	DSC-03	SOLID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g

Final page for worklist # 1404

See attached for signatures 5/17/95
Analyst Signature BDV Date

Dany Hernandez 5/18/95
Analyst Signature Date

Verified by Blandina Valenzuela 5/18/95

Data Entry Comments: S95T000927 produced three endotherms one at 109.8°C with a
delta H of 905.8 J/g, second at 273°C with a delta H of 7.23 J/g, and third at
462.5°C with a delta H of 19.02 J/g. S95T000931 produced two endotherms one
at 115.0°C with a delta H of 849.8 J/g and second at 294.7°C with a delta H of 69.4 J/g.
Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number,
R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist# 1404

Analyst: KRM Instrument: DSC0 Book # 12N14A

Method: LA-514-¹¹⁴~~113~~ Rev/Mod B-0

Worklist Comment: Please run SX-113 DSC under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			DSC-01	SOLID			N/A	Joules/g
95000073	SX-113	2 SAMPLE	S95T000927	0	DSC-01	SOLID	N/A			Joules/g
95000073	SX-113	3 DUP	S95T000927	0	DSC-01	SOLID			N/A	Joules/g
95000073	SX-113	4 SAMPLE	S95T000931	0	DSC-01	SOLID	N/A			Joules/g
95000073	SX-113	5 DUP	S95T000931	0	DSC-01	SOLID			N/A	Joules/g

Final page for worklist # 1404

Analyst Signature Date 5-17-95

Analyst Signature Date

Other instrument used
5/17/95
BDV

Data Entry Comments:

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

Curve 1: DSC

File info: ind051701 Wed May 17 00:21:02 1995

Sample Weight: 6.687 mg

Indium at 10c/min

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 47 TO 51.

WHC-SD-WM-DP-133, REV.0

N2 exotherm down

TEMP1: 150.0 °C TIME1: 0.0 min RATE1: 10.0 °C/min
TEMP2: 170.0 °C

Temperature (°C)

KR Monteith
PERKIN ELMER
222-S Lab
Wed May 17 00:22:27 1995

[Signature]
5-17-95

Curve 1: DSC

File info: sam051701 Wed May 17 01:38:55 1995

Sample Weight: 7.530 mg

S95T000927, 10C/min

WMC-SD-MM-DP-133, REV.0

exotherm down, nitrogen purge gas
TEMP: 35.0 °C TIME: 0.0 min RATE: 10.0 °C/min
TEMP: 500.0 °C

Temperature (°C)

KR Monteith
PERKIN ELMER
222-S Lab
Wed May 17 02:07:16 1995

Curve 1: DSC

File info: sam051702 Wed May 17 03:08:45 1995

Sample Weight: 11.350 mg

S95T000927 (dup). 10C/min

49

exotherm down, nitrogen purge gas

Temperature (°C)

TEMP: 35.0 °C TIME: 0.0 min RATE: 10.0 °C/min

KR Monteith
PERKIN ELMER
222-S Lab
Wed May 17 03:10:26 1995

WHC-SD-WM-DP-133, REV.0

Curve 1: DSC

File info: sam051703 Wed May 17 04:21:48 1995

Sample Weight: 9.360 mg

S95T000931, 10C/min

WHC-SD-WM-DP-133, REV. 0

exotherm down, nitrogen purge gas
TEMP1: 35.0 °C TIME1: 0.0 min RATE1: 10.0 °C/min
TEMP2: 500.0 °C

Temperature (°C)

KR Monteith
PERKIN ELMER
222-S Lab
Wed May 17 04:59:28 1995

Curve 1: DSC

File info: sam051704 Wed May 17 05:55:09 1995

Sample Weight: 16.860 mg

S95T000931 (dup), 10C/min

51

WHC-SD-WM-DP-133, REV.0

exotherm down, nitrogen purge gas
TEMP1: 35.0 °C TIME1: 0.0 min RATE1: 10.0 °C/min
TEMP2: 500.0 °C

Temperature (°C)

KR Monteith
PERKIN ELMER
222-S Lab
Wed May 17 06:00:13 1995

LABCORE Data Entry Template for Worklist# 1443

Analyst: BDV Instrument: DSC0 2 Book # —

Method: LA-514-113 Rev/Mod —

Worklist Comment: Calculated dry DSC for SX-113. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
95000072	SX-113	1 SAMPLE	S95T000919	0	DSC-02	SOLID	<u>N/A</u>	<u>Ø</u>		Joules/g Dry
95000072	SX-113	2 DUP	S95T000919	0	DSC-02	SOLID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g Dry
95000072	SX-113	3 SAMPLE	S95T000923	0	DSC-02	SOLID	<u>N/A</u>	<u>Ø</u>		Joules/g Dry
95000072	SX-113	4 DUP	S95T000923	0	DSC-02	SOLID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g Dry
95000073	SX-113	5 SAMPLE	S95T000927	0	DSC-02	SOLID	<u>N/A</u>	<u>Ø</u>		Joules/g Dry
95000073	SX-113	6 DUP	S95T000927	0	DSC-02	SOLID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g Dry
95000073	SX-113	7 SAMPLE	S95T000931	0	DSC-02	SOLID	<u>N/A</u>	<u>Ø</u>		Joules/g Dry
95000073	SX-113	8 DUP	S95T000931	0	DSC-02	SOLID	<u>Ø</u>	<u>Ø</u>	<u>N/A</u>	Joules/g Dry

Final page for worklist # 1443

Data entered and verified by

Blandina Valenzuela 5/24/95
Analyst Signature Date

Analyst Signature Date

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 1405

Analyst: KRM Instrument: TGA0 1 Book # 42NBAMethod: LA-560-112 Rev/Mod A-2

Worklist Comment: Please run SX-113 TGA under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID	<u>59.19</u>	<u>59.62</u>	<u>N/A</u>	%
95000072	SX-113	2 SAMPLE	S95T000919	0	TGA-01	SOLID	<u>N/A</u>	<u>52.11</u>		%
95000072	SX-113	3 DUP	S95T000919	0	TGA-01	SOLID	<u>52.11</u>	<u>53.80</u>	<u>N/A</u>	%
95000072	SX-113	4 SAMPLE	S95T000923	0	TGA-01	SOLID	<u>N/A</u>	<u>46.07</u>		%
95000072	SX-113	5 DUP	S95T000923	0	TGA-01	SOLID	<u>46.07</u>	<u>42.71</u>	<u>N/A</u>	%

Final page for worklist # 1405

Analyst Signature

Date

Analyst Signature

Date

Verified by Blandina Valenzuela 5/18/95

Data Entry Comments:

S95T000 919 - LIGHT BROWN CLAYS95T000923 - DARK BROWN "DIRT" WITH YELLOW CLUMPS

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

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 54 TO 58.

TGA STD 42N8-A
14.804 mg
Rate: 10.0 °C/min
File: 00024.001 TG METTLER 17-May-95
Ident: 0.0 222-S Laboratory

Step Analysis
Height -8.83 mg
-59.62 %
Resid. 5.98 mg
40.38 %
Dpeak 80.0 °C

Handwritten Signature
5-17-95

S95T000919 N2

10.969 mg

Rate: 10.0 °C/min

File: 00030.001

TG METTLER

17-May-95

Ident: 0.0

222-S Laboratory

Step Analysis

Height -5.72 mg

-52.11 %

ResidC. 5.25 mg

47.89 %

Dpeak 71.0 °C

S95T000919 (DUP) N2
12.273 mg
Rate: 10.0 °C/min
File: 00032.001 TG METTLER 17-May-95
Ident: 0.0 222-S Laboratory

Step Analysis
Height -5.60 mg
-53.80 %
Resid. 5.67 mg
46.20 %
Dpeak 73.0 °C

S95T000923 (DUP) N2
 9.190 mg

Rate: 10.0 °C/min

File: 00028.001 TG METTLER 17-May-95
 Ident: 0.0 222-S Laboratory

Step Analysis
 Height -3.93 mg
 -42.71 %
 Resid. 5.26 mg
 57.29 %
 Dpeak 63.0 °C

LABCORE Data Entry Template for Worklist# 1406

Analyst: KRM Instrument: TGA0-37 Book # 42N8-A

Method: LA-514-114 Rev/Mod B-0

Worklist Comment: Please run SX-113 TGA under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-03	SOLID	<u>59.19</u>	<u>57.41</u>	<u>N/A</u>	%
95000073	SX-113	2 SAMPLE	S95T000927	0	TGA-03	SOLID	<u>N/A</u>	<u>46.41</u>		%
95000073	SX-113	3 DUP	S95T000927	0	TGA-03	SOLID	<u>46.41</u>	<u>47.77</u>	<u>N/A</u>	%
95000073	SX-113	4 SAMPLE	S95T000931	0	TGA-03	SOLID	<u>N/A</u>	<u>46.81</u>		%
95000073	SX-113	5 DUP	S95T000931	0	TGA-03	SOLID	<u>46.81</u>	<u>37.15</u>	<u>N/A</u>	%
95000073	SX-113	6 TRIPL	S95T000931	0	TGA-03	SOLID	<u>46.81</u>	<u>36.01</u>	<u>N/A</u>	%

Final page for worklist # 1406

See attached for signatures 5/18/95
Analyst Signature Date

 5-18-95
Analyst Signature Date

Verified by Blandina Valenzuela 5/22/95

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# 1406

Analyst: KRM Instrument: TGA0 _____ Book # 42N8A

Method: LA-⁵¹⁴⁻¹¹⁴~~560-112~~ Rev/Mod B-0

Worklist Comment: Please run SX-113 TGA under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID	_____	_____	N/A	%
95000073	SX-113	2 SAMPLE	S95T000927	0	TGA-01	SOLID	N/A	_____	_____	%
95000073	SX-113	3 DUP	S95T000927	0	TGA-01	SOLID	_____	_____	N/A	%
95000073	SX-113	4 SAMPLE	S95T000931	0	TGA-01	SOLID	N/A	_____	_____	%
95000073	SX-113	5 DUP	S95T000931	0	TGA-01	SOLID	_____	_____	N/A	%

Final page for worklist # 1406

Analyst Signature Date 5-17-95

Analyst Signature Date _____

Other instrument used
5/17/95
BDV

Data Entry Comments:

S95T000927 - DARK BROWN CLAY

S95T000931 - DARK BROWN CLAY WITH YELLOW CLUMPS

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

Curve 1: TGA

File info: ter051701 Wed May 17 00:38:30 1995

Sample Weight: 12.520 mg

42N8A Terliq

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 61 TO 66.

61

N2
TEMP1: 35.0 °C
TEMP2: 250.0 °C
TIME1: 0.0 min
RATE1: 10.0 °C/min

Temperature (°C)

KR Monteith
PERKIN-ELMER
7 Series Thermal Analysis System
Wed May 17 00:46:57 1995

WHC-SD-WM-DP-133, REV.0

Curve 1: TGA

File info: sam051701 Wed May 17 01:41:43 1995

Sample Weight: 5.273 mg

S95T000927, 10C/min

WHC-SD-WM-DP-133, REV. 0

N2

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

Temperature (°C)

KA Monteith
PERKIN-ELMER
7 Series Thermal Analysis System
Wed May 17 01:58:58 1995

Curve 1: TGA
 File info: sam051702 Wed May 17 02:52:33 1995
 Sample Weight: 12.874 mg
 S95T000927 (dup). 10C/min

KR Monteith
 PERKIN-ELMER
 7 Series Thermal Analysis System
 Wed May 17 03:17:54 1995

N2
 TEMP: 35.0 °C
 TEMPE: 800.0 °C
 TIMES: 0.0 min
 RATE: 10.0 °C/min

[Signature]
 5-17-95

Curve 1: TGA

File info: sam051703 Wed May 17 04:16:53 1995

Sample Weight: 21.122 mg

S95T000931, 10C/min

WHC-SD-WM-DP-133, REV.0

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

Temperature (°C)

KR Monteith
PERKIN-ELMER
7 Series Thermal Analysis System
Wed May 17 04:53:05 1995

Curve 1: TGA

File info: sam051704 Wed May 17 05:52:33 1995

Sample Weight: 11.904 mg

S95T000931 (dup), 10C/min

WHC-SD-WM-DP-133, REV.0

N2

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

KR Monteith
PERKIN-ELMER
7 Series Thermal Analysis System
Wed May 17 05:54:56 1995

Curve 1: TGA

File info: sam051705 Wed May 17 06:57:42 1995

Sample Weight: 12.834 mg

S95T000931 (trip1), 10C/min

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

KR Monteith
PERKIN-ELMER
7 Series Thermal Analysis System
Wed May 17 06:58:13 1995

WHC-SD-WM-DP-133, REV.0

WHC-SD-WM-DP-133, REV. 0

RADIOCHEMICAL ANALYSES

LABCORE Data Entry Template for Worklist# 1547

Analyst: AKL Instrument: AB00 14 Book # 115B52

Method: LA-508-101 Rev/Mod D-2

Worklist Comment: Determine sample size using Ludlum. Use .100 mL A-SPK. SLF

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
		1 STD			@ALPHA01 ALPHA01E	SOLID			N/A	% Ct. Error
		2 BLNK-PREP			@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
		2 BLNK-PREP			@ALPHA01 ALPHA01E	SOLID			N/A	% Ct. Error
		3 BLNK/BKG	<u>0.83</u>		@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
95000072	SX-113	4 SAMPLE	S95T000921	0 F	@ALPHA01 ALPHA01	SOLID	N/A			uCi/g
95000072	SX-113	4 SAMPLE	S95T000921	0 F	@ALPHA01 ALPHA01E	SOLID	N/A			% Ct. Error
95000072	SX-113	5 DUP	S95T000921	0 F	@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
95000072	SX-113	5 DUP	S95T000921	0 F	@ALPHA01 ALPHA01E	SOLID			N/A	% Ct. Error
95000072	SX-113	6 SPK	S95T000921	0 F	@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
95000072	SX-113	7 SAMPLE	S95T000925	0 F	@ALPHA01 ALPHA01	SOLID	N/A			uCi/g
95000072	SX-113	7 SAMPLE	S95T000925	0 F	@ALPHA01 ALPHA01E	SOLID	N/A			% Ct. Error
95000072	SX-113	8 DUP	S95T000925	0 F	@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
95000072	SX-113	8 DUP	S95T000925	0 F	@ALPHA01 ALPHA01E	SOLID			N/A	% Ct. Error
95000072	SX-113	9 SPK	S95T000925	0 F	@ALPHA01 ALPHA01	SOLID			N/A	uCi/g

Final page for worklist # 1547

G Lewis 6-12-95

Sharon Holden 6-13-95

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 1547

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

Data Entry Comments:

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

AT : LA-508-101 (D-2)

BATCH / WORK-LIST DATA INPUT	Standard	Blank	Sample 1	Duplicate 1	Sample 2	Duplicate 2	Sample 3	Spike 1	Spike 2	Spike Dup 1	End Std
Work List #	1547	1547	1547	1547	1547	1547	1547	1547	1547	1547	1547
AT or TB	AT	AT	AT	AT	AT	AT	AT	AT	AT	AT	AT
Sample #	WRKLIST#1547	S95T921	S95T921	S95T921	S95T925	S95T925		S95T921	S95T925	S95T921	
Analyst (Initials & last name)	AK LEWIS	AK LEWIS	AK LEWIS	AK LEWIS	AK LEWIS	AK LEWIS	AK LEWIS	AK LEWIS	AK LEWIS	AK LEWIS	AK LEWIS
Date (m/d/y)	06/12/95	06/12/95	06/12/95	06/12/95	06/12/95	06/12/95	06/12/95	06/12/95	06/12/95	06/12/95	06/12/95
Time (h:m)	10:00 AM	10:00 AM	10:00 AM	10:00 AM	10:00 AM	10:00 AM	10:00 AM	10:00 AM	10:00 AM	10:00 AM	10:00 AM
Standard Book Number	115B52	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	115B52
Detector #	14	14	14	14	14	14	14	14	14	14	14
Dish Size (1, 2, or 5)	2	2	2	2	2	2	2	2	2	2	2
Matrix (LIQUID or SOLID)	LIQUID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	LIQUID
Sample Volume in mL	0.000	0.100	0.100	0.100	0.050	0.050		0.100	0.050		
Dilution Factor	1	1	1	1	1	1		1	1		
Digest Factor (DDF for Liquids) (D g/L for Solids)	1	2.3276	2.3276	2.3288	2.0788	2.3536		2.3276	2.0788		
Gross Counts	3927	13	214	197	121	120		50293	44570		
Replicate Gross Counts	4074	22	199	202	115	135		42886	52748		
Time Counted in minutes	30	30	30	30	30	30		30	30		
Background in cpm	0.7	0.7	0.7	0.7	0.7	0.7		0.7	0.7		
Spike Volume in mL	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.1	0.1		N/A
Spike Dilution Factor	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	1		N/A
Spike Book #	N/A	N/A	N/A	N/A	N/A	N/A	N/A	94B43	94B43		N/A
Spike Value in µCi/L (Decay Corrected)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.6397E+01	3.6397E+01	ERR	N/A

PRINT STD/BLK/BAK

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RETURN TO SELECTION MENU

RETURN

PRINT DATA INPUT

PRINT DATA INPUT

Form Completed By:	Signature: <i>Sharon J. Miller</i>	Date: 13-Jun-95
Chemist Approval:	Signature: <i>AK LEWIS</i>	Date: 6/13/95

508101WB Revision 1.0

WMC-SD-WM-FDP-133, REV. 0

WHC-SD-WM-DP-133, REV. 0

AT : LA-508-101 (D-2

STANDARD

		STANDARD	REPLICATE
Type	DETECTOR NUMBER	14	14
STANDARD	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	3927	4074
1547	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.7	0.7
AT	SAMPLE SIZE in mL (SS)	10.000	10.000
Test Code	DILUTION FACTOR (DF)	1	1
@AB-01	STANDARD BOOK NUMBER	115B52	115B52
Matrix	EFFICIENCY FACTOR (EFF)	0.2274	0.2274
LIQUID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE	130.200	135.100
Sample #	Concentration in $\mu\text{Ci/L}$ =	2.58E-02	
WRKLST#1547	Replicate Concentration in $\mu\text{Ci/L}$ =	2.68E-02	
Instrument Code			
WB27807	AVERAGE CONCENTRATION in $\mu\text{Ci/L}$ =	2.6276E-02	
Analyst			
AK LEWIS	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Date	ALPHA TOTAL $\mu\text{Ci/L}$ = $R_s \cdot 1000\text{mL/L} \cdot DF / (EFF \cdot SS \cdot 2220000\text{dpm}/\mu\text{Ci})$		
06/12/95	ALPHA TOTAL $\mu\text{Ci/mL}$ = ALPHA TOTAL $\mu\text{Ci/L} / 1000\text{mL/L}$		
Time	Relative Counting Error = $[(The Square Root of TC + BKG \cdot CT) / (TC - BKG \cdot CT)] \cdot 1.96 \cdot 100$		
10:00 AM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		

ALPHA TOTAL CONCENTRATION in $\mu\text{Ci/mL}$	=	2.63E-05	DETECTION LEVEL
			1.59E-07 $\mu\text{Ci/mL}$
RELATIVE COUNTING ERROR	=	3.2%	

Data Entry by: <i>Sharon L. White</i>	Date: 06/13/95
Approved by: <i>[Signature]</i>	Date: 6/13/95

Form 508101WB Rev. 1.0

Page 1 of 1

AT : LA-508-101 (D-2)

SOLIDS

		BLANK	REPLICATE
Type	DETECTOR NUMBER	14	14
BLANK	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	13	22
1547	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.7	0.7
AT	SAMPLE SIZE in mL (SS)	0.100	0.100
Test Code	DILUTION FACTOR (DF)	1	1
@AB-01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.3276	2.3276
Matrix	EFFICIENCY FACTOR (EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.356	0.394
Sample #	Blank Concentration in $\mu\text{Ci/g}$	< 3.03E-03	
S95T921	Replicate Concentration in $\mu\text{Ci/g}$	< 3.35E-03	
Instrument Code			
WB27807	Maximum Concentration in $\mu\text{Ci/g}$	< 3.3530E-03	
Analyst			
AK LEWIS	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Date	$\text{ALPHA TOTAL } \mu\text{Ci/g} = R_s * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$		
06/12/95			
Time	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
10:00 AM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		

v RESULTS v

ALPHA TOTAL	in $\mu\text{Ci/g}$ (Maximum)	=	< 3.35E-03	DETECTION LEVEL
LESS Than Value was Determined from Lc.				6.84E-03
RELATIVE COUNTING ERROR		=	500.0%	$\mu\text{Ci/g}$

Data Entry by: <i>Sharon L. Halil</i>	Date: 06/13/95
Approved by: <i>[Signature]</i>	Date: 6/13/95

Form WB Rev. 1.0

508-1nn_WB & 548/10n_WB

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WHC-SD-WM-DP-133, REV. 0

AT : LA-508-101 (D-2)

SOLIDS

		SAMPLE 1	REPLICATE
Type	DETECTOR NUMBER	14	14
SAMPLE 1	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	214	199
1547	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.7	0.7
AT	SAMPLE SIZE in mL (SS)	0.100	0.100
Test Code	DILUTION FACTOR (DF)	1	1
@AB-01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.3276	2.3276
Matrix	EFFICIENCY FACTOR (EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE	6.433	5.933
Sample #	Blank Concentration in $\mu\text{Ci/g}$	5.48E-02	
S95T921	Replicate Concentration in $\mu\text{Ci/g}$	5.05E-02	
Instrument Code			
WB27807	Average Concentration in $\mu\text{Ci/g}$	5.2622E-02	
Analyst			
AK LEWIS	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Date	ALPHA TOTAL $\mu\text{Ci/g}$ = $R_s * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$		
06/12/95			
Time	Relative Counting Error = $[(The\ Square\ Root\ of\ TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
10:00 AM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		

v RESULTS v

ALPHA TOTAL	in $\mu\text{Ci/g}$ (Average)	=	5.26E-02	DETECTION LEVEL
				6.84E-03 $\mu\text{Ci/g}$
RELATIVE COUNTING ERROR		=	16.3%	

Data Entry by: <i>Sharon L. Kahl</i>	Date: 06/13/95
Approved by: <i>[Signature]</i>	Date: 6/13/95

WHC-SD-WM-DP-133, REV. 0

AT : LA-508-101 (D-2)

LIQUID/SOLIDS

		DUPLICATE 1	REPLICATE
Type	DETECTOR NUMBER	14	14
DUPLICATE 1	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	197	202
1547	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.7	0.7
AT	SAMPLE SIZE in mL (SS)	0.100	0.100
Test Code	DILUTION FACTOR (DF)	1	1
@AB-01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.2388	2.2388
Matrix	EFFICIENCY FACTOR (EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	5.867	6.033
Sample #	Blank Concentration in $\mu\text{Ci/g}$	5.19E-02	
S95T921	Replicate Concentration in $\mu\text{Ci/g}$	5.34E-02	
Instrument ID			
WB27807	Average Concentration in $\mu\text{Ci/g}$	5.2645E-02	
Analyst			
AK LEWIS	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Date	$\text{ALPHA TOTAL } \mu\text{Ci/g} = R_s * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$		
06/12/95			
Time	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
10:00 AM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		

v RESULTS v

ALPHA TOTAL	in $\mu\text{Ci/g}$ (Average)	=	5.26E-02	DETECTION LEVEL
RELATIVE PERCENT DIFFERENCE	(RPD)	=	0.0%	
RELATIVE COUNTING ERROR		=	16.4%	7.11E-03 $\mu\text{Ci/g}$

Data Entry by: <i>Sharon L. Haber</i>	Date: 06/13/95
Approved by: <i>AK</i>	Date: 6/13/95
Form 508101WB Rev. 1.0	Page 1 of 1

WHC-SD-WM-DP-133, REV. 0

AT : LA-508-101 (D-2) SPIKED SAMPLE

		SPIKE 1	REPLICATE
Type	DETECTOR NUMBER	14	14
SPIKE 1	DISH SIZE 1, 2, or 5 (MS)	2	2
Work List	TOTAL COUNTS (TC)	50293	42866
1547	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.7	0.7
AT	SAMPLE VOLUME in mL (Spiked Vial) (SS)	0.100	0.100
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial) (DF)	1	1
@ab-01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.3276	2.3276
Matrix	SPIKE VOLUME in mL (SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR (SDF)	1	1
Sample #	SPIKE BOOK NUMBER	94B43	94B43
S95T921	SPIKE VALUE in $\mu\text{Ci/L}$ (SVal)	3.6397E+01	3.6397E+01
Instrument Code	INSTRUMENT EFFICIENCY FACTOR (EFF)	0.2274	0.2274
WB27807	SAMPLE + SPIKE $\mu\text{Ci/g}$ (S+S)	1.43E+01	1.22E+01
Analyst	AVERAGE or MAXIMUM $\mu\text{Ci/g}$ in SAMPLE	5.2622E-02	
AK LEWIS			
Date			
06/12/95	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Time	SAMPLE + SPIKE $\mu\text{Ci/g}$ = $R_s * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$		
10:00 AM	PERCENT SPIKE RECOVERY = $((S+S \mu\text{Ci/g} - \text{SAMPLE } \mu\text{Ci/g}) * ((SDF/SVol)/(DF/SS/Dg/L)))/SVal * 100$		

AVG. PERCENT SPIKE RECOVERY = 84.1%

Data Entry by: <i>Sharon L. Hatcher</i>	Date: 13-Jun-95
Approved by: <i>AK</i>	Date: 6/13/95

Form 508101WB Rev. 1.0

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WHC-SD-WM-DP-133, REV. 0

AT : LA-508-101 (D-2)

SOLIDS

		SAMPLE 2	REPLICATE
Type	DETECTOR NUMBER	14	14
SAMPLE 2	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	121	115
1547	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.7	0.7
AT	SAMPLE SIZE in mL (SS)	0.050	0.050
Test Code	DILUTION FACTOR (DF)	1	1
@AB-01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.0768	2.0768
Matrix	EFFICIENCY FACTOR (EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	3.333	3.133
Sample #	Blank Concentration in $\mu\text{Ci/g}$	6.36E-02	
S95T925	Replicate Concentration in $\mu\text{Ci/g}$	5.98E-02	
Instrument Code			
WB27807	Average Concentration in $\mu\text{Ci/g}$	6.1680E-02	
Analyst			
AK LEWIS	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Date	$\text{ALPHA TOTAL } \mu\text{Ci/g} = R_s * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$		
06/12/95			
Time	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
10:00 AM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		

RESULTS

ALPHA TOTAL	in $\mu\text{Ci/g}$ (Average)	=	6.17E-02	DETECTION LEVEL
				1.53E-02 $\mu\text{Ci/g}$
RELATIVE COUNTING ERROR		=	24.3%	

Data Entry by: <i>Sharon Haldy</i>	Date: 06/13/95
Approved by: <i>AK</i>	Date: 6/13/95
Form 508101WB Rev. 1.0	Page 1 of 1

AT : LA-508-101 (D-2)

SOLIDS

		DUPLICATE 2	REPLICATE
Type	DETECTOR NUMBER	14	14
DUPLICATE 2	DISH SIZE (1, 2, or 5) (MS)	2	2
Work List	GROSS COUNTS (GC)	120	135
1547	COUNT TIME in MINUTES (CT)	30	30
AT or IB ?	BACKGROUND in cpm (BKG)	0.7	0.7
AT	SAMPLE SIZE in mL (SS)	0.050	0.050
Test Code	DILUTION FACTOR (DF)	1	1
@AB-01	DIGEST GRAMS OF SOLIDS / L (Dg/L)	2.3536	2.3536
Matrix	EFFICIENCY FACTOR (EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs,(SAMPLE RATE) as APPROPRIATE	3.300	3.800
Sample #	Blank Concentration in $\mu\text{Ci/g}$	5.55E-02	
S95T925	Replicate Concentration in $\mu\text{Ci/g}$	6.40E-02	
Instrument Code			
WB27807	Average Concentration in $\mu\text{Ci/g}$	5.9756E-02	
Analyst			
AK LEWIS	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Date	ALPHA TOTAL $\mu\text{Ci/g}$ = $R_s * 1000\text{mL/L} * DF / (EFF * SS * \text{Dg/L} * 2220000\text{dpm}/\mu\text{Ci})$		
06/12/95			
Time	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
10:00 AM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		

v RESULTS v

ALPHA TOTAL	in $\mu\text{Ci/g}$ (Average)	=	5.98E-02	DETECTION LEVEL
RELATIVE PERCENT DIFFERENCE (RPD)		=	3.2%	
RELATIVE COUNTING ERROR		=	23.5%	1.35E-02 $\mu\text{Ci/g}$

Data Entry by: <i>Sharon L. Hager</i>	Date: 06/13/95
Approved by: <i>[Signature]</i>	Date: 6/13/95
Form 508101WB Rev. 1.0	Page 1 of 1

WHC-SD-WM-DP-133, REV. 0

AT : LA-508-101 (D-2) SPIKED SAMPLE

		SPIKE 2	REPLICATE
Type	DETECTOR NUMBER	14	14
SPIKE 2	DISH SIZE 1, 2, or 5 (MS)	2	2
Work List	TOTAL COUNTS (TC)	44570	52748
1547	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.7	0.7
AT	SAMPLE VOLUME in mL (Spiked Vial) (SS)	0.050	0.050
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial) (DF)	1	1
@ab-01	DIGEST GRAMS of SOLIDS / L (Dg/L)	2.0768	2.0768
Matrix	SPIKE VOLUME in mL (SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR (SDF)	1	1
Sample #	SPIKE BOOK NUMBER	94B43	94B43
S95T925	SPIKE VALUE in $\mu\text{Ci/L}$ (SVal)	3.6397E+01	3.6397E+01
Instrument Code	INSTRUMENT EFFICIENCY FACTOR (EFF)	0.2274	0.2274
WB27807	SAMPLE + SPIKE $\mu\text{Ci/g}$ (S+S)	2.83E+01	3.35E+01
Analyst	AVERAGE or MAXIMUM $\mu\text{Ci/g}$ in SAMPLE	6.1680E-02	
AK LEWIS			
Date	Rs (Sample Count Rate) = (TC / CT) - BKG		
06/12/95	SAMPLE + SPIKE $\mu\text{Ci/g}$ = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/ μCi)		
Time	PERCENT SPIKE RECOVERY = . (((S+S $\mu\text{Ci/g}$ - SAMPLE $\mu\text{Ci/g}$) * ((SDF/SVol)/(DF/SS/Dg/L)))/SVal)*10		
10:00 AM			

AVG. PERCENT SPIKE RECOVERY = 88.1%

Data Entry by: <i>Sharon L. Hays</i>	Date: 13-Jun-95
Approved by: <i>[Signature]</i>	Date: 6/13/95
Form 508101WB Rev. 1.0	Page 1 of 1

LABCORE Data Entry Template for Worklist# 1635

Analyst:

ALL

Instrument: AB00

17

Book #

115B2

Method: LA-508-101 Rev/Mod

D-2

Worklist Comment: Determine sample size using Ludlum. Use .100 mL A-SPK. SLF

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
		1 STD			@ALPHA01 ALPHA01E	SOLID			N/A	% Ct. Error
		2 BLNK-PREP			@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
		2 BLNK-PREP			@ALPHA01 ALPHA01E	SOLID			N/A	% Ct. Error
		3 BLNK/BKG	<u>0.50</u>		@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
95000073	SX-113	4 SAMPLE	S95T000929	0 F	@ALPHA01 ALPHA01	SOLID	N/A			uCi/g
95000073	SX-113	4 SAMPLE	S95T000929	0 F	@ALPHA01 ALPHA01E	SOLID	N/A			% Ct. Error
95000073	SX-113	5 DUP	S95T000929	0 F	@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
95000073	SX-113	5 DUP	S95T000929	0 F	@ALPHA01 ALPHA01E	SOLID			N/A	% Ct. Error
95000073	SX-113	6 SPK	S95T000929	0 F	@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
95000073	SX-113	7 SAMPLE	S95T000933	0 F	@ALPHA01 ALPHA01	SOLID	N/A			uCi/g
95000073	SX-113	7 SAMPLE	S95T000933	0 F	@ALPHA01 ALPHA01E	SOLID	N/A			% Ct. Error
95000073	SX-113	8 DUP	S95T000933	0 F	@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
95000073	SX-113	8 DUP	S95T000933	0 F	@ALPHA01 ALPHA01E	SOLID			N/A	% Ct. Error
95000073	SX-113	9 SPK	S95T000933	0 F	@ALPHA01 ALPHA01	SOLID			N/A	uCi/g

Final page for worklist # 1635

Alita Lewis 6/16/95

Chao H. H. 6-19-95

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# 1635

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

Data Entry Comments:

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

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

AT : LA-508-101 (D-2)

LA-548-101 (A-3)

LIQUIDS

		STANDARD	REPLICATE
Type	DETECTOR NUMBER	14	14
STANDARD	DISH SIZE 1, 2, or 5 (MS)	2	2
Work List	TOTAL COUNTS (TC)	4005	3906
1635	COUNT TIME in MINUTES (CT)	30	30
AT or IB ?	BACKGROUND in cpm (BKG)	0.6	0.6
AT	SAMPLE SIZE in mL (SS)	10.000	10.000
Test Code	DILUTION FACTOR (DF)	1	1
@ALPHA01	DIGEST DILUTION FACTOR (DDF)	1	1
Matrix	EFFICIENCY FACTOR (EFF)	0.2274	0.2274
LIQUID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	132.900	129.600
Sample #	Sample Concentration in $\mu\text{Ci/L}$	2.63E-02	BOOK#
WORKLIST#1635	Replicate Concentration in $\mu\text{Ci/L}$	2.57E-02	115B52
Instrument Code			
WB27807	Average Concentration in $\mu\text{Ci/L}$	2.5999E-02	
Analyst			
AKL	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Date	ALPHA TOTAL $\mu\text{Ci/L}$ = $R_s * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$		
06/16/95	ALPHA TOTAL $\mu\text{Ci/mL}$ = ALPHA TOTAL $\mu\text{Ci/L} / 1000\text{mL/L}$		
Time	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
01:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		

v RESULTS v

ALPHA TOTAL	in $\mu\text{Ci/mL}$	(Average)	=	2.60E-05	DETECTION LEVEL
					1.49E-07 $\mu\text{Ci/mL}$
RELATIVE COUNTING ERROR			=	3.2%	

Data Entry by: <i>Sharon L. Gaff</i>	Date: 06/19/95
Approved by: <i>[Signature]</i>	Date: 6/19/95

AT : LA-508-101 (D-2)

LA-548-101 (A-3) SOLIDS

		BLANK	REPLICATE
Type	DETECTOR NUMBER	14	14
BLANK	DISH SIZE 1, 2, or 5 (MS)	2	2
Work List	TOTAL COUNTS (TC)	7	11
1635	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.6	0.6
AT	SAMPLE SIZE in mL (SS)	2.000	2.000
Test Code	DILUTION FACTOR (DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS/L (Dg/L)	0.586	0.586
Matrix	EFFICIENCY FACTOR (EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.330	0.330
Sample #	Sample Concentration in $\mu\text{Ci/g}$	< 5.63E-02	BOOK#
S95T929	Replicate Concentration in $\mu\text{Ci/g}$	< 5.63E-02	
Instrument Code			
WB27807	Maximum Concentration in $\mu\text{Ci/g}$	< 5.6333E-02	
Analyst			
AKL	Rs (Sample Count Rate) = (TC / CT) - BKG		
Date	ALPHA TOTAL $\mu\text{Ci/g}$ = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/ μCi)		
06/16/95			
Time	Relative Counting Error = [(The Square Root of TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100		
01:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		

v RESULTS v

ALPHA TOTAL	in $\mu\text{Ci/g}$	(Maximum) =	< 5.63E-02	DETECTION LEVEL
LESS Than Value was Determined from Lc.				1.28E-01
RELATIVE COUNTING ERROR		=	150.8%	$\mu\text{Ci/g}$

Data Entry by: <i>Sharon L. Harte</i>	Date: 06/19/95
Approved by: <i>[Signature]</i>	Date: 6/19/95

AT : LA-508-101 (D-2)

LA-548-101 (A-3)

SOLIDS

Type	DETECTOR NUMBER	SAMPLE	REPLICATE
SAMPLE	DISH SIZE 1, 2, or 5 (MS)	14	14
Work List	TOTAL COUNTS (TC)	2	2
1635	COUNT TIME in MINUTES (CT)	21	39
AT or TB?	BACKGROUND in cpm (BKG)	30	30
AT	SAMPLE SIZE in mL (SS)	0.6	0.6
Test Code	DILUTION FACTOR (DF)	2.000	2.000
@ALPHA01	DIGEST GRAMS of SOLIDS/L (Dg/L)	101	101
Matrix	EFFICIENCY FACTOR (EFF)	0.586	0.586
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.2274	0.2274
Sample #	Sample Concentration in $\mu\text{Ci/g}$	0.443	0.700
S95T929	Replicate Concentration in $\mu\text{Ci/g}$	7.57E-02	BOOK#
Instrument Code		1.19E-01	
WB27807	Maximum Concentration in $\mu\text{Ci/g}$	< 1.1949E-01	
Analyst			
AKL	Rs (Sample Count Rate) = (TC / CT) - BKG		
Date	ALPHA TOTAL $\mu\text{Ci/g}$ = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/ μCi)		
06/16/95			
Time	Relative Counting Error = $[(\text{The Square Root of TC} + \text{BKG} * \text{CT}) / (\text{TC} - \text{BKG} * \text{CT})] * 1.96 * 100$		
01:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		

v RESULTS v

ALPHA TOTAL	in $\mu\text{Ci/g}$	(Maximum) =	< 1.19E-01	DETECTION LEVEL
LESS THAN Value was Determined from Rs.				1.28E-01
RELATIVE COUNTING ERROR	=	500.0%		$\mu\text{Ci/g}$

Data Entry by: <i>Sharon L. H. H.</i>	Date: 06/19/95
Approved by: <i>[Signature]</i>	Date: 6/19/95

AT : LA-508-101 (D-2)

LA-548-101 (A-3)

SOLIDS

		SAMPLE	REPLICATE
Type	DETECTOR NUMBER	14	14
DUPLICATE	DISH SIZE 1, 2, or 5 (MS)	2	2
Work List	TOTAL COUNTS (TC)	30	23
1635	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.6	0.6
AT	SAMPLE SIZE in mL (SS)	2.000	2.000
Test Code	DILUTION FACTOR (DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS/L (Dg/L)	0.6972	0.6972
Matrix	EFFICIENCY FACTOR (EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.400	0.519
Sample #	Sample Concentration in $\mu\text{Ci/g}$	5.74E-02	BOOK#
S95T929	Replicate Concentration in $\mu\text{Ci/g}$	< 7.44E-02	
Instrument Code			
WB27807	Maximum Concentration in $\mu\text{Ci/g}$	< 7.4443E-02	
Analyst			
AKL	Rs (Sample Count Rate) = (TC / CT) - BKG		
Date	ALPHA TOTAL $\mu\text{Ci/g}$ = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/ μCi)		
06/16/95			
Time	Relative Counting Error = [(The Square Root of TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100		
01:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		

v RESULTS v

ALPHA TOTAL	in $\mu\text{Ci/g}$	(Maximum) =	< 7.44E-02	DETECTION LEVEL
LESS THAN Value was Determined from Rs.				1.08E-01
RELATIVE COUNTING ERROR		=	251.0%	$\mu\text{Ci/g}$

Data Entry by: <i>Sharon H. Walcott</i>	Date: 06/19/95
Approved by: <i>[Signature]</i>	Date: 6/19/95

AT : LA-508-101 (D-2)

LA-548-101 (A-3)

SOLIDS

		SPIKE	REPLICATE
Type	DETECTOR NUMBER	14	14
SPIKE	DISH SIZE 1, 2, or 5 (MS)	2	2
Work List	TOTAL COUNTS (TC)	57813	58087
1635	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.6	0.6
AT	SAMPLE VOLUME in mL (Spiked Vial) (SS)	2.000	2.000
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial) (DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS/L (Dg/L)	0.586	0.586
Matrix	SPIKE VOLUME in mL (SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR (SDF)	1	1
Sample #	SPIKE VALUE in $\mu\text{Ci/L}$ (SVal)	36.362	36.362
S95T929	INSTRUMENT EFFICIENCY FACTOR (EFF)	0.2274	0.2274
Instrument Code	SAMPLE + SPIKE $\mu\text{Ci/g}$ (S+S)	3.29E+02	3.30E+02
WB27807	AVERAGE or MAXIMUM $\mu\text{Ci/g}$ from FORM C	<1.1949E-1	
Analyst	BOOK#	94B43	
AKL	$R_s \text{ (Sample Count Rate)} = (TC / CT) - BKG$		
Date	$\text{SAMPLE} + \text{SPIKE } \mu\text{Ci/g} = R_s * 1000\text{mL/L} * DF / (EFF * SS * \text{Dg/L} * 2220000\text{dpm}/\mu\text{Ci})$		
06/16/95	$\text{PERCENT SPIKE RECOVERY} = (((S+S \mu\text{Ci/g} - \text{SAMPLE } \mu\text{Ci/g}) * ((SDF/SVol)/(DF/SS/Dg/L)))/SVal) * 100$		
Time			
01:00 PM			

RESULT **AVG. PERCENT SPIKE RECOVERY = 105.2%**Data Entry by: *Sharon L. G. G.*

Date: 19-Jun-95

Approved by: *St. J. H.*

Date: 6/19/95

AT : LA-508-101 (D-2)

LA-548-101 (A-3)

SOLIDS

		SAMPLE	REPLICATE
Type	DETECTOR NUMBER	14	14
SAMPLE	DISH SIZE 1, 2, or 5 (MS)	2	2
Work List	TOTAL COUNTS (TC)	39	30
1635	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.6	0.6
AT	SAMPLE SIZE in mL (SS)	0.500	0.500
Test Code	DILUTION FACTOR (DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS/L (Dg/L)	0.458	0.458
Matrix	EFFICIENCY FACTOR (EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.700	0.400
Sample #	Sample Concentration in $\mu\text{Ci/g}$	6.12E-01	BOOK#
S95T933	Replicate Concentration in $\mu\text{Ci/g}$	3.49E-01	
Instrument Code			
WB27807	Average Concentration in $\mu\text{Ci/g}$	4.8051E-01	
Analyst			
AKL	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Date	ALPHA TOTAL $\mu\text{Ci/g}$ = $R_s * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$		
06/16/95			
Time	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
01:00 PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		

v RESULTS v

ALPHA TOTAL	in $\mu\text{Ci/g}$	(Average)	=	4.81E-01	DETECTION LEVEL
					6.56E-01 $\mu\text{Ci/g}$
RELATIVE COUNTING ERROR			=	113.2%	

Data Entry by: *Sharon L. Hylleberg*
 Approved by: *St. P. Hylleberg*
 Form 508101_C Rev. 1.3

Date: 06/19/95

Date: 6/19/95

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AT : LA-508-101 (D-2)

LA-548-101 (A-3)

SOLIDS

		SAMPLE	REPLICATE
Type	DETECTOR NUMBER	14	14
DUPLICATE	DISH SIZE 1, 2, or 5 (MS)	2	2
Work List	TOTAL COUNTS (TC)	23	16
1635	COUNT TIME in MINUTES (CT)	30	30
AT or TB?	BACKGROUND in cpm (BKG)	0.6	0.6
AT	SAMPLE SIZE in mL (SS)	0.500	0.500
Test Code	DILUTION FACTOR (DF)	101	101
@ALPHA01	DIGEST GRAMS of SOLIDS/L (Dg/L)	0.4588	0.4588
Matrix	EFFICIENCY FACTOR (EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.519	0.330
Sample #	Sample Concentration in $\mu\text{Ci/g}$	< 4.52E-01	BOOK#
S95T933	Replicate Concentration in $\mu\text{Ci/g}$	< 2.88E-01	
Instrument Code			
WB27807	Maximum Concentration in $\mu\text{Ci/g}$	< 4.5250E-01	
Analyst			
AKL	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Date	ALPHA TOTAL $\mu\text{Ci/g}$ = $R_s \cdot 1000\text{mL/L} \cdot DF / (EFF \cdot SS \cdot Dg/L \cdot 2220000\text{dpm}/\mu\text{Ci})$		
06/16/95			
Time	Relative Counting Error = $[(The\ Square\ Root\ of\ TC + BKG \cdot CT) / (TC - BKG \cdot CT)] \cdot 1.96 \cdot 100$		
01:00:PM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		

v RESULTS v

ALPHA TOTAL in $\mu\text{Ci/g}$ (Maximum) =	< 4.52E-01	DETECTION LEVEL
LESS THAN Value was Determined from Rmax.		6.55E-01 $\mu\text{Ci/g}$
RELATIVE COUNTING ERROR =	500.0%	

Data Entry by: *Sharon L. Hinkle*

Date: 06/19/95

Approved by: *ST*

Date: 6/19/95

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-133, REV. 0

AT : LA-508-101 (D-2)

LA-548-101 (A-3)

SOLIDS

			SPIKE	REPLICATE
Type	DETECTOR NUMBER		14	14
SPIKE	DISH SIZE 1, 2, or 5 (MS)		2	2
Work List	TOTAL COUNTS (TC)		57185	56328
1635	COUNT TIME in MINUTES (CT)		30	30
AT or TB ?	BACKGROUND in cpm (BKG)		0.6	0.6
AT	SAMPLE VOLUME in mL (Spiked Vial) (SS)		0.500	0.500
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial) (DF)		101	101
@ALPHA01	DIGEST GRAMS of SOLIDS/L (Dg/L)		0.458	0.458
Matrix	SPIKE VOLUME in mL (SVol)		0.100	0.100
SOLID	SPIKE DILUTION FACTOR (SDF)		1	1
Sample #	SPIKE VALUE in $\mu\text{Ci/L}$ (SVal)		36.362	36.362
S95T933	INSTRUMENT EFFICIENCY FACTOR (EFF)		0.2274	0.2274
Instrument Code	SAMPLE + SPIKE $\mu\text{Ci/g}$ (S+S)		1.66E+03	1.64E+03
WB27807	AVERAGE or MAXIMUM $\mu\text{Ci/g}$ from FORM C		4.8051E-01	
Analyst	BOOK#		94B43	
AKL	Rs (Sample Count Rate) = (TC / CT) - BKG			
Date	SAMPLE + SPIKE $\mu\text{Ci/g}$ = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/ μCi)			
06/16/95	PERCENT SPIKE RECOVERY = (((S+S $\mu\text{Ci/g}$ - SAMPLE $\mu\text{Ci/g}$) * ((SDF/SVol)/(DF/SS/Dg/L)))/(SVal))*100			
Time				
01:00 PM				

RESULT AVG. PERCENT SPIKE RECOVERY = 103.0%

Data Entry by: <i>Sharon L. Gabel</i>	Date: 19-Jun-95
Approved by: <i>St. [Signature]</i>	Date: 6/19/95

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