DISTRIBUTION SHEET

To Distribution	From Characterization Plans and Reports	Page 1 of 2	
		Date: 05/16/95	
Project Title/Work Order WHC-SD-WM-DP-112, Rev. 0, "45-Day Safety Screen Results and Final Report for Tank 241-C-203, Auger Samples 95-AUG-020 and 95-AUG-021"		EDT NO.: EDT-612156	
		ECN NO.: N/A	
Name	MSIN	Text With all Attach	EDT/ECN ONLY

Pacific Northwest Laboratory

J. R. Gormsen	K7-28		X
S. J. Harris	K7-22	X	
K. L. Silvers	P7-27		X

U.S. Department of Energy, RL

C. A. Babel	S7-54	X	
-------------	-------	---	--

Westinghouse Hanford Company

J. N. Appel	G3-21		X
H. Babad	S7-30	X	
R. J. Cash	S7-15	X	
J. M. Conner	R2-12	X	
J. L. Deichman	H4-19		X
G. D. Forehand	S7-31		X
C. E. Golberg	H5-49		X
V. W. Hall	H4-21		X
D. C. Hetzer	S6-31		X
L. Jensen	T6-07	X	
G. D. Johnson	S7-15	X	
N. W. Kirch	R2-11	X	
J. G. Kristofzski	T6-06	X	
M. J. Kupfer	H5-49	X	
E. J. Lipke	S7-14		X
N. G. McDuffie	S7-15	X	
J. E. Meacham	S7-15	X	
P. M. Morant	H4-25	X	
B. C. Simpson	R2-12		X
D. A. Turner	S7-15	X	
J. A. Voogd	R4-01		X
Central Files	L8-04	2	
EDMC	H6-08	X	
LTIC	T6-03		X
OSTI	L8-07	2	
TCRC	R2-12	2	
TFIC (Tank Farm Information Center)	R1-20		X

DISCLAIMER

Portions of this document may be illegible in electronic image products. Images are produced from the best available original document.

DISTRIBUTION SHEET

To Distribution	From Characterization Plans and Reports		Page 2 of 2	
			Date: 05/16/95	
Project Title/Work Order WHC-SD-WM-DP-112, Rev. 0, "45-Day Safety Screen Results and Final Report for Tank 241-C-203, Auger Samples 95-AUG-020 and 95-AUG-021"			EDT NO.: EDT-612156	
			ECN NO.: N/A	
Name	MSIN	Text With all Attach	EDT/ECN ONLY	

Washington State Department of Ecology

Single-Shell Tank Unit Manager

S. E. McKinney

P.O. Box 47600

Olympia, Washington 98504-7600

X

Environmental Protection Agency

Single-Shell Tank Unit Manager

D. R. Einan

712 Swift Boulevard, Suite 5

Richland, Washington 99352

X

U. S. Department of Energy

Jim Poppiti

12800 Middlebrook Rd.

Trevion II, EM-36

Germantown, MD 20874

X

Los Alamos Technical Associates

A. T. DiCenso

750 Swift Boulevard

Suite # 4

Richland, WA 99352

X

MAY 18 1995
55 Sta. 5

ENGINEERING DATA TRANSMITTAL

Page 1 of 1
1. EDT No 612156

2. To: (Receiving Organization) Distribution		3. From: (Originating Organization) Characterization Plans and Reports		4. Related EDT No.: N/A							
5. Proj./Prog./Dept./Div.: Tank 241-C-203/Waste Management/CPR/Char. Eng.		6. Cog. Engr.: John M. Conner		7. Purchase Order No.: N/A							
8. Originator Remarks: This document is being released into the Supporting Document System for retrievability purposes.				9. Equip./Component No.: N/A							
				10. System/Bldg./Facility: N/A							
11. Receiver Remarks: For Release.				12. Major Assm. Dwg. No.: N/A							
				13. Permit/Permit Application No.: N/A							
				14. Required Response Date: 05/16/95							
15. DATA TRANSMITTED											
(A) Item No.	(B) Document/Drawing No.	(C) Sheet No.	(D) Rev. No.	(E) Title or Description of Data Transmitted	(F) Approval Designator	(G) Reason for Transmittal	(H) Originator Disposition	(I) Receiver Disposition			
1	WHC-SD-WM-DP-112	N/A	0	45-Day Safety Screen Results and Final Report for Tank 241-C-203, Auger Samples 95-AUG-020 and 95-AUG-021	Q	2	1				
16. KEY											
Approval Designator (F)		Reason for Transmittal (G)			Disposition (H) & (I)						
E, S, Q, D or N/A (see WHC-CM-3-5, Sec.12.7)		1. Approval 2. Release 3. Information 4. Review 5. Post-Review 6. Dist. (Receipt Acknow. Required)			1. Approved 2. Approved w/comment 3. Disapproved w/comment 4. Reviewed no/comment 5. Reviewed w/comment 6. Receipt acknowledged						
17. SIGNATURE/DISTRIBUTION (See Approval Designator for required signatures)											
(G)	(H)	(J) Name	(K) Signature	(L) Date	(M) MSIN	(J) Name	(K) Signature	(L) Date	(M) MSIN	(G)	(H)
Reason	Disp.									Reason	Disp.
2	1	Cog. Eng.	J.M. Conner	5-16-95	HS-27						
2	1	Cog. Mgr.	J.G. Kristofzski	5/16/95	TU-02						
2	1	QA	W. A. Hendricksen	5/17/95	TU-05						
		Safety									
		Env.									
18.		19.		20.		21. DOE APPROVAL (if required) Ctrl. No.					
A.E. Young Signature of EDT Originator 5-16-95		Authorized Representative for Receiving Organization		J.G. Kristofzski Cognizant Manager 5/16/95		☐ Approved ☐ Approved w/comments ☐ Disapproved w/comments					

BD-7400-172-2 (04/94) GEF097

BD-7400-172-1

RELEASE AUTHORIZATION

Document Number: WHC-SD-WM-DP-112, REV 0

Document Title: 45-Day Safety Screen Results and Final Report for Tank 241-C-203, Auger Samples 95-AUG-020 and 95-AUG-021

Release Date: 5/18/95

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

APPROVED FOR PUBLIC RELEASE

WHC Information Release Administration Specialist:

Kara M. Broz

May 18, 1995

TRADEMARK DISCLAIMER. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof or its contractors or subcontractors.

This report has been reproduced from the best available copy. Available in paper copy and microfiche. Printed in the United States of America. Available to the U.S. Department of Energy and its contractors from:

U.S. Department of Energy
Office of Scientific and Technical Information (OSTI)
P.O. Box 62
Oak Ridge, TN 37831
Telephone: (615) 576-8401

Available to the public from: U.S. Department of Commerce
National Technical Information Service (NTIS)
5285 Port Royal Road
Springfield, VA 22161
Telephone: (703) 487-4650

DISTRIBUTION OF THIS DOCUMENT IS UNLIMITED *SR*

SUPPORTING DOCUMENT		1. Total Pages 86
2. Title 45-Day Safety Screen Results and Final Report for Tank 241-C-203, Auger Samples 95-AUG-020 and 95-AUG-021	3. Number WHC-SD-WM-DP-112	4. Rev No. 0
5. Key Words 45-Day Safety Screen, Safety Screen, Final Report, Tank 241-C-203, Tank C-203, C-203, Auger Sample, 95-AUG-020, 95-AUG-021	6. Author Name: John M. Conner Signature <i>John M. Conner</i> Organization/Charge Code 75310/MDR21	
7. Abstract N/A		
<p style="text-align: center;">DISCLAIMER</p> <p>This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.</p>		
		8. RELEASE STAMP <div style="border: 1px solid black; padding: 5px; text-align: center;"> OFFICIAL RELEASE BY WHC DATE MAY 18 1995 55 Sta. 5 </div>

Westinghouse
Hanford Company

P.O. Box 1970 Richland, WA 99352

WHC-SD-WM-DP-112, REV. 0

ANALYTICAL SERVICES

**45-DAY SAFETY SCREEN RESULTS AND FINAL REPORT FOR TANK 241-C-203,
AUGER SAMPLES 95-AUG-020 AND 95-AUG-021**

Date Printed:

MAY 17, 1995

TABLE OF CONTENTS

Narrative	1
Sample Data Summary	6
Photographs	9
Chain of Custody Forms	12
Sample Analyses Results	15
Extrusion Worklist # 1005	16
Extrusion Worklist # 1006	17
Archive Worklist # 1276	18
Bulk Density Worklist # 1322	19
Fusion Worklist # 1173	20
Fusion Worklist # 1174	21
Differential Scanning Calorimetry(DSC)	
DSC Worklist # 1216	22
DSC Worklist # 1217	28
DSC Worklist # 1401	35
Thermogravimetric Analyses (TGA)	
TGA Worklist # 1237	37
TGA Worklist # 1238	43
Total Alpha/Total Beta Worklist # 1318	52
Total Alpha/Total Beta Worklist # 1366	60
Total Alpha/Total Beta Worklist # 1367	68
Total Alpha/Total Beta Worklist # 1402	75

This Document consists of pages 1 through 83.

WHC-SD-WM-DP-112, REV. 0

NARRATIVE

45-DAY SAFETY SCREEN RESULTS AND FINAL REPORT FOR TANK 241-C-203,
AUGER SAMPLES 95-AUG-020 AND 95-AUG-021

ANALYTICAL SUMMARY

Two core samples from tank 241-C-203 (C-203) were received at the 222-S Laboratories and underwent safety screening analysis, consisting of differential scanning calorimetry (DSC), thermogravimetric analysis (TGA), and total alpha activity. No notification limits were exceeded for the analyses. Two samples were submitted for a density determination at the request of Characterization Plant Engineering.

SCOPE

This document serves as the 45-day report deliverable for the tank C-203 auger samples collected on April 5, 1995 (samples 95-AUG-20 and 95-AUG-021). As no secondary analyses were required and no other analyses have been requested, this document also serves as the final report for C-203 auger sampling. Each sample was received, extruded, and analyzed by the 222-S Laboratories in accordance with the Tank Characterization Plan (TCP) referenced below. Included in this report are the primary safety screening results (DSC, TGA, and alpha) and density results. The worklists and raw data are included in this report. Photographs of the auger samples were taken during extrusion and, although not included in this report, are available.

SAMPLE RECEIPT, EXTRUSION, AND SUBSAMPLING

95-AUG-020

Sample 95-AUG-020 was collected from riser 7 (east coordinate) of tank C-203 using a 20-inch auger sampler. The sample was taken on April 5, 1995 at 0943 hours. It was received into the 222-S Laboratories on April 6 and extruded on April 7. The sampler was almost completely full. A total of 493.21 grams of solid material were collected, with no drainable liquid. The samples appeared to be yellow/cream colored overlaid with brown to dark brown sludge. Upon subsampling (and incidental mixing), the material appeared brown. The auger sample was divided into half segments for analyses. Archive samples of each half segment have been retained in the hot cell. The subsamples are identified in Table 1.

95-AUG-021

Sample 95-AUG-021 was collected from riser 7 (west coordinate) of tank C-203 using a 20-inch auger sampler. The sample was taken on April 5, 1995 at 1135 hours. It was received into the 222-S Laboratories on April 6 and extruded on April 7. The auger was completely full. A total of 627.69 grams of solid

material were collected, with no drainable liquid. The solids ranged from a yellow/cream color to dark brown. More yellow material was noticed on the upper half than on the lower half of the auger. Upon subsampling (and incidental mixing), the material appeared brown. The auger sample was divided into half segments for analyses. Archive samples of each half segment have been retained in the hot cell. The subsamples are identified in Table 1.

Table 1. Sample Identification

LABCORE #	Sample Description	Analysis
S95T000699	95-AUG-020 (riser 7-east) auger sample	extrusion
S95T000702	95-AUG-021 (riser 7-west) auger sample	extrusion
S95T000798	95-AUG-021 upper half	density
S95T000799	95-AUG-021 upper half, direct analysis	DSC/TGA
S95T000800	95-AUG-021 upper half, fusion/digest	Total alpha
S95T000801	95-AUG-021 upper half, archive	archive
S95T000802	95-AUG-021 lower half	density
S95T000803	95-AUG-021 lower half, direct analysis	DSC/TGA
S95T000804	95-AUG-021 lower half, fusion/digest	Total alpha
S95T000805	95-AUG-021 lower half, archive	archive
S95T000806	95-AUG-020 lower half	n/a
S95T000807	95-AUG-020 lower half, direct analysis	DSC/TGA
S95T000808	95-AUG-020 lower half, fusion/digest	Total alpha
S95T000809	95-AUG-020 lower half, archive	archive
S95T000810	95-AUG-020 upper half	n/a
S95T000811	95-AUG-020 upper half, direct analysis	DSC/TGA
S95T000812	95-AUG-020 upper half, fusion/digest	Total alpha
S95T000813	95-AUG-020 upper half, archive	archive

ANALYTICAL RESULTS

Analytical results are presented in Tables 2 and 3, with the applicable notification limits shaded.

DSC (Energetics Content)

DSC analyses were performed under a nitrogen atmosphere using either procedure LA-514-113, Rev. B-1 (Mettler instrument) or procedure LA-514-114, Rev. B-0 (Perkin-Elmer instrument). The results are given in Tables 2 and 3. Exotherms were detected for all four samples and their duplicates. The exotherms ranged from 30.82 to 97.33 J/g on a dry weight basis, or approximately 6 to 20 percent of the safety screening limit of 481 J/g. The relative percent differences (RPDs) between sample and duplicate results ranged from 1.04 to 6.38 on a dry weight basis. These results are within the TCP target of 10%. The three Laboratory Measurement Control System (LMCS) control standards exhibited recoveries of between 94.27 and 99.82 percent, which were within the program's specified accuracy control limits of 90 to 110 percent recovery.

TGA (Moisture Content)

Weight percent water was performed under a nitrogen atmosphere using either procedure LA-560-112, Rev. A-2 (Mettler instrument), or procedure LA-514-114, Rev. B-0 (Perkin-Elmer instrument). Results for the four samples and their duplicates ranged in value from 30.98 to 52.12 percent water by weight. Results for sample S95T000807 exceeded the RPD target of 10%. A triplicate analysis was performed, resulting in a determination of 39.79 weight percent water, compared to 41.04% and 33.26%. The triplicate result does not appear in the summary tables, but is included in the raw data.

There was a significant variation in results between samples, with upper half samples being drier than lower half samples. All samples were well above the safety screening minimum of 17 weight percent. Three LMCS control standards were run for these TGA analyses and exhibited recoveries ranging from 96.77 to 99.70 percent, which were within the program's specified accuracy control limits of 90 to 110 percent.

Total Alpha Activity

Analyses for total alpha activity were performed on four samples (S95T000800, S95T000804, S95T000808, and S95T000812). Samples were prepared by fusion using procedure LA-549-141, Rev. C-2, and analyses were performed using procedure LA-508-101, Rev. D-2. A sample duplicate was performed on each sample. Due to the poor sample reproducibility and spike recovery, the samples were rerun. Rerun results for samples S95T000808 and S95T000812 were retained, with the original results being rejected. However, the results of the rerun for samples S95T000800 and S95T000804 were less satisfactory than the original results (poorer spike recovery). Therefore, the original results for these samples were retained, and the results of the rerun were rejected.

Sample and duplicate results ranged from 0.55 to 2.83 $\mu\text{Ci/g}$. The RPDs for samples S95T000800 and S95T000804 were 9.90% and 18.5%, respectively. The TCP

target value is 10%. The RPDs for samples S95T000808 and S95T000812 were exceptionally high; 91.8% and 101% respectively. The chemist speculated that perhaps the duplicate samples were inadvertently mislabeled. If this assumption were correct, the sample and duplicate results would match much more closely (recalculated RPDs would be 4.33% and 16.8%).

Two control standards were run, with recoveries of 92.57 and 91.89%, within the TCP target of 90 to 110%. A spike was performed on sample S95T000800, with a recovery of 68.4%. This is outside of the TCP target recovery of 90 to 110%. Spike recoveries for alpha have typically been below the target criterion, particularly when solids can be observed on the sample mount (solids will be self-shielding to some extent).

The above problems were considered, but deemed not significant enough to warrant another set of digestions and analyses since the results were far below the safety screening limit of 41 $\mu\text{Ci/g}$ (highest sample result is only 7% of the limit).

Density

Characterization Plant Engineering requested a density determination on several auger samples. Their need was to verify that a Safety Analysis Report for Packaging (SARP-002) limit on the volume of waste allowed to be shipped in an auger sampler was not exceeded. The density was determined by procedure LO-160-103, Rev. A-7. Subsamples were centrifuged in a tared, graduated centrifuge cone. Two samples were submitted for density determination, with the results being 1.72 and 1.51 g/mL. These results are presented in Tables 2 and 3.

REFERENCE Schreiber, R. D., 1995, WHC-SD-WM-TP-306, Revision 0, "*Tank 241-C-203 Tank Characterization Plan*", dated March 6, 1995.

WHC-SD-WM-DP-112, REV. 0

SAMPLE DATA SUMMARY

SAFETY SCREENING AND FINAL RESULTS FOR AUGERS 95-AUG-020/21
C-203

TABLE 2

CORE NUMBER: n/a
SEGMENT #: 95-AUG-020

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										
S95T000811			% Water by TGA on Perkin Elmer	%	17.000	110.000	97.45	n/a	30.98	31.78	31.38	2.55	n/a	n/a		n/a
S95T000811			DSC Exotherm on Perkin Elmer	Joules/g	None	None	94.27	n/a	34.91	33.19	34.05	5.05	n/a	n/a		n/a
S95T000811			DSC Exotherm Dry Calculated	Joules/g Dry	-999.000	481.010	n/a	n/a	50.87	48.37	49.62	5.04	n/a	n/a		n/a
S95T000812	F		Alpha of Digested Solid	uCi/g	-999.000	41.010	91.89	<4.46e-03	8.87e-01	2.71e+0	1.80e+00	101	n/a	1.00e-02		5.1

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										
S95T000807			% Water by TGA on Perkin Elmer	%	17.000	110.000	97.45	n/a	41.04	33.26	37.15	20.9	n/a	n/a		n/a
S95T000807			DSC Exotherm on Perkin Elmer	Joules/g	None	None	94.27	n/a	20.36	19.1	19.73	6.39	n/a	n/a		n/a
S95T000807			DSC Exotherm Dry Calculated	Joules/g Dry	-999.000	481.010	n/a	n/a	32.85	30.82	31.84	6.38	n/a	n/a		n/a
S95T000808	F		Alpha of Digested Solid	uCi/g	-999.000	41.010	91.89	<4.46e-03	2.830	1.05e+0	1.94e+00	91.8	n/a	1.10e-02		3.0

=> Limit violated
=> Selected Limit

WHC-SD-WM-DP-112, REV.0

SAFETY SCREENING AND FINAL RESULTS FOR AUGERS 95-AUG-020/21
C-203

TABLE 3

ORE NUMBER: n/a
SEGMENT #: 95-AUG-021

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									
95T000798			Bulk Density of Sample	g/mL	None	None	n/a	n/a	1.720	n/a	n/a	n/a	n/a	5.00e-01	n/a
95T000799			% Water by TGA using Mettler	%	17.000	110.000	99.54	n/a	33.67	36.66	35.16	8.50	n/a	n/a	n/a
95T000799			DSC Exotherm Dry Calculated	Joules/g Dry	-999.000	481.010	n/a	n/a	66.02	64.32	65.17	2.61	n/a	n/a	n/a
95T000799			DSC Exotherm using Mettler	Joules/g	-999.000	481.010	99.82	n/a	42.80	41.7	42.25	2.60	n/a	n/a	n/a
95T000800	F		Alpha of Digested Solid	uCi/g	-999.000	41.010	92.57	<3.00e-03	1.440	1.59	1.52e+00	9.90	68.40	7.00e-03	3.1

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									
95T000802			Bulk Density of Sample	g/mL	None	None	n/a	n/a	1.510	n/a	n/a	n/a	n/a	5.00e-01	n/a
95T000803			% Water by TGA using Mettler	%	17.000	110.000	99.54	n/a	52.12	49.03	50.58	6.11	n/a	n/a	n/a
95T000803			DSC Exotherm Dry Calculated	Joules/g Dry	-999.000	481.010	n/a	n/a	97.33	96.32	96.82	1.04	n/a	n/a	n/a
95T000803			DSC Exotherm using Mettler	Joules/g	-999.000	481.010	99.82	n/a	48.10	47.6	47.85	1.04	n/a	n/a	n/a
95T000804	F		Alpha of Digested Solid	uCi/g	-999.000	41.010	92.57	<3.00e-03	6.62e-01	5.50e-1	6.06e-01	18.5	n/a	6.00e-03	4.3

=> Limit violated

=> Selected Limit

WHC-SD-WM-DP-112, REV.0

WHC-SD-WM-DP-112, REV. 0

PHOTOGRAPHS

C-203 95-AUG-020 (Riser 7) EC

C-203 95-AUG-021 Riser 7 (W.C.)

WHC-SD-WM-DP-112, REV. 0

CHAIN OF CUSTODY FORMS

04/06/95 12:02 509 372 2928 WESTINGHOUSE LAB DATA MGMT 004

CHAIN-OF-CUSTODY RECORD FOR AUGER SAMPLING

(1) Shipment Number 200W-08-TE (2) Sample Number 95-AUG-021 (3) Supervisor R.J. PRYZNIK / 373-7751
(4) Tank C203 (5) Floor 7 WEST COORD. (6) Cask Serial Number C1022

(7) FIELD		(31) LABORATORY	(8) Shipment Description	
Radiation Survey Data:			A. Work Package Number	<u>ES-95-00011-D</u>
Over Top Dose Rate	<u>20.5</u>	<u>2.5</u>	B. Cask Seal Number	<u>#1029</u>
Side Dose Rate	<u>.5</u>	<u>.5</u>	C. Date and Time Sample	<u>4-5-95 / 1135hrs</u>
Bottom Dose Rate	<u>20.5</u>	<u>2.5</u>	Removed from Tank	<u>5%</u>
Smearable Contamination	<u>220</u>	<u>220</u>	D. Expected Liquid Content	<u>95%</u>
	(Alpha)	(Alpha)	E. Expected Solid Content	<u>17 mR/hr</u>
	<u>21K</u>	<u>21K</u>	F. Dose Rate Through Drill String	<u>15"</u>
	(Beta-Gamma)	(Beta-Gamma)	G. Expected Sample Length	
RCT* <u>Am Brakes</u>		RCT* <u>U. J. Harn</u>		
(Signature)		(Signature)		

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

(10) Field Comments		(32) Laboratory Comments		
(11) Point of Origin	(12) Destination	(13) Sender Name (Sign and PRINT)	(14) Date/Time	(15) Sender Comments
<u>C203-R/7 WEST COORD.</u>	<u>2225-LABS</u>	<u>DA KRAH DA KRAHN</u>	<u>4-6-95/1025</u>	
(17) Relinquished By (Sign and PRINT)		(18) Received By (Sign and PRINT)	(19) Date/Time	(20) Receiver Comments
<u>DA KRAH DA KRAHN</u>		<u>Charles E. Dukes</u>	<u>4-6-95 10:25</u>	
(21) Relinquished By (Sign and PRINT)		(22) Received By (Sign and PRINT)	(23) Date/Time	(24) Receiver Comments
<u>Charles E. Dukes</u>		<u>EE Dukes</u>	<u>4-6-95</u>	
(25) Relinquished By (Sign and PRINT)		(26) Received By (Sign and PRINT)	(27) Date/Time	(28) Receiver Comments

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

WHC-SD-WM-DP-112, REV. 0

CHAIN-OF-CUSTODY RECORD FOR AUGER SAMPLING

COPY

(1) Shipment Number 200W-08-TF (2) Sample Number 95-AUG-020 (3) Supervisor R.J. Penznik / 373-7751
 (4) Tank C203 (5) Riser R7, EAST (6) Cask Serial Number C1038

Radiation Survey Data: Over Top Dose Rate <u><0.5</u> Side Dose Rate <u>.8</u> Bottom Dose Rate <u><0.5</u> Smearable Contamination <u><20</u> (Alpha) <u><1K</u> (Beta-Gamma) RCT* <u>EmBrewer</u> (Signature)		(7) FIELD (31) LABORATORY Over Top Dose Rate <u><.5</u> Side Dose Rate <u>.5</u> Bottom Dose Rate <u><.5</u> Smearable Contamination <u><20</u> (Alpha) <u>A1K</u> (Beta-Gamma) RCT* <u>LB Kuhn</u> (Signature)		(8) Shipment Description A. Work Package Number <u>ES-95-00011-0</u> B. Cask Seal Number <u>#1028</u> C. Date and Time Sample Removed from Tank <u>4-5-95 / 0943hrs</u> D. Expected Liquid Content <u>5%</u> E. Expected Solid Content <u>95%</u> F. Dose Rate Through Drill String <u>25 mR/hr</u> G. Expected Sample Length <u>19"</u>	
--	--	--	--	---	--

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

(10) Field Comments

(32) Laboratory Comments

(11) Point of Origin <u>EAST</u>	(12) Destination <u>222S LAB</u>	(13) Sender Name (Sign and PRINT) <u>DA KRAHN DA Kuhn</u>	(14) Date/Time <u>4-6-95/10:25</u>	(15) Sender Comments
(17) Relinquished By (Sign and PRINT) <u>DA Krah</u>	(18) Received By (Sign and PRINT) <u>DA KRAHN</u>	(19) Date/Time <u>4-6-95</u>	(20) Receiver Comments	
(21) Relinquished By (Sign and PRINT) <u>Subal D. Helms</u>	(22) Received By (Sign and PRINT) <u>Subal D. Helms</u>	(23) Date/Time <u>4-6-95 11:10</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	Shipment No. ☒ Yes ☐ No	Cask Seal No. ☒ Yes ☐ No	Sample No. ☒ Yes ☐ No
---	---	---	--	---

WHC-SD-MM-DP-112, REV. 0

14

WHC-SD-WM-DP-112, REV. 0

SAMPLE ANALYSES RESULTS

LABCORE Data Entry Template for Worklist# 1005

Analyst: EC Instrument: BA000 Book # NA

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

Worklist Comment: C-203 95-AUG-021 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>	
95000056	C-203	3	SAMPLE	S95T000699	0		DLIQVOL1	SOLID	<u>N/A</u>	<u>0</u>		mL
95000056	C-203	4	SAMPLE	S95T000699	0		DLIQWT01	SOLID	<u>N/A</u>	<u>0</u>		g
95000056	C-203	5	SAMPLE	S95T000699	0		EST.G/ML	SOLID	<u>N/A</u>	<u>0</u>		g/mL
95000056	C-203	6	SAMPLE	S95T000699	0		EXTRUD01	SOLID	<u>N/A</u>	<u>Complete</u>		
95000056	C-203	7	SAMPLE	S95T000699	0		LLIQWT01	SOLID	<u>N/A</u>	<u>0</u>		g
95000056	C-203	8	SAMPLE	S95T000699	0		NOTEBOOK	SOLID	<u>N/A</u>	<u>WHC-N-1141</u>		
95000056	C-203	9	SAMPLE	S95T000699	0		SLDVOL01	SOLID	<u>N/A</u>	<u>627</u>		mL
95000056	C-203	10	SAMPLE	S95T000699	0		SLDWT-01	SOLID	<u>N/A</u>	<u>627</u>		g
95000056	C-203	11	SAMPLE	S95T000699	0		ORGVOL01	SOLID	<u>N/A</u>	<u>0</u>		mL

Final page for worklist # 1005

EC 4-12-95
Analyst Signature Date

EC 4-12-95
Analyst Signature Date

Data Entry Comments:

Reviewed by
PKT 4/14/95

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# 1006

Analyst: EC Instrument: BA000 Book # N/A

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

Worklist Comment: C-203 95-AUG-020 Riser 7 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>499.98</u>	<u>N/A</u>	
95000056	C-203	3 SAMPLE	S95T000702	0	DLIQVOL1	SOLID	<u>N/A</u>	<u>0</u>		mL
95000056	C-203	4 SAMPLE	S95T000702	0	DLIQWT01	SOLID	<u>N/A</u>	<u>0</u>		g
95000056	C-203	5 SAMPLE	S95T000702	0	EST.G/ML	SOLID	<u>N/A</u>	<u>0</u>		g/mL
95000056	C-203	6 SAMPLE	S95T000702	0	EXTRUD01	SOLID	<u>N/A</u>	<u>complete</u>		
95000056	C-203	7 SAMPLE	S95T000702	0	LLIQWT01	SOLID	<u>N/A</u>	<u>0</u>		g
95000056	C-203	8 SAMPLE	S95T000702	0	NOTEBOOK	SOLID	<u>N/A</u>	<u>WHC-N-1141</u>		
95000056	C-203	9 SAMPLE	S95T000702	0	SLDVOL01	SOLID	<u>N/A</u>	<u>493</u>		mL
95000056	C-203	10 SAMPLE	S95T000702	0	SLDWT-01	SOLID	<u>N/A</u>	<u>493</u>		g
95000056	C-203	11 SAMPLE	S95T000702	0	ORGVOL01	SOLID	<u>N/A</u>	<u>0</u>		mL

Final page for worklist # 1006

EC
Analyst Signature Date 4-10-95

EC
Analyst Signature Date 4-10-95

Data Entry Comments:

Reviewed by
PK Fuller
4/12/95

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# 1276

Analyst: Sc Instrument: BA000 Book # NA

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

Worklist Comment: U-202, C-101, and C-203 Archives

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 INSTCHK01			EXTRUD01	SOLID	<u>20</u>	<u>19.99</u>	N/A	
		2 INSTCHK02			EXTRUD01	SOLID	<u>500</u>	<u>499.72</u>	N/A	
95000043	U-202	3 SAMPLE	S95T000604 603	0 X 687	ARCHIV01	6913 SOLID	N/A	<u>77.12</u>		g
95000048	C-101	4 SAMPLE	S95T000825	0 X	ARCHIV01	7151 SOLID	N/A	<u>8.47</u>		g
95000048	C-101	5 SAMPLE	S95T000829	0 X	ARCHIV01	6909 SOLID	N/A	<u>63.56</u>		g
95000048	C-101	6 SAMPLE	S95T000833	0 X	ARCHIV01	6908 SOLID	N/A	<u>57.86</u>		g
95000048	C-101	7 SAMPLE	S95T000821	0 X	ARCHIV01	6893 LIQUID	N/A	<u>28.23</u>		g
95000056	C-203	8 SAMPLE	S95T000801	0 X	ARCHIV01	7161 SOLID	N/A	<u>58.51</u>		g
95000056	C-203	9 SAMPLE	S95T000805	0 X	ARCHIV01	7160 SOLID	N/A	<u>61.69</u>		g
95000056	C-203	10 SAMPLE	S95T000809	0 X	ARCHIV01	6919 SOLID	N/A	<u>69.27</u>		g
95000056	C-203	11 SAMPLE	S95T000813	0 X	ARCHIV01	6920 SOLID	N/A	<u>68.26</u>		g

Final page for worklist # 1276

EAL 5-1-95
Analyst Signature Date

EAL 5-1-95
Analyst Signature Date

Data Entry Comments:

reviewed by [signature] 5/2/95

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# 1322

Analyst: ABD Instrument: BA000 Book # NA

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

Worklist Comment: C-101 and C-203 Bulk Density Determinations

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>	
95000056	C-203	3 SAMPLE	S95T000798	0 6781	BLKDEN01	SOLID	<u>N/A</u>	<u>1.72</u>		g/mL
95000056	C-203	4 SAMPLE	S95T000802	0 6780	BLKDEN01	SOLID	<u>N/A</u>	<u>1.51</u> <u>ABD 5/4/95</u>		g/mL
95000048	C-101	5 SAMPLE	S95T000826	0 6936	BLKDEN01	SOLID	<u>N/A</u>	<u>1.84</u>		g/mL
95000048	C-101	6 SAMPLE	S95T000830	0 6937	BLKDEN01	SOLID	<u>N/A</u>	<u>1.73</u>		g/mL

Final page for worklist # 1322

ABD 5-4-95
Analyst Signature Date

ABD 5-7-95
Analyst Signature Date

Data Entry Comments:

reviewed by ABD 5-4-95

LABCORE Data Entry Template for Worklist# 1173

Analyst: QAM Instrument: FUS01 C-2 Book # _____Method: LA-549-141 Rev/Mod C-2

Worklist Comment: C-203 FUSION - 799->800, 803->804

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
95000056	C-203	2 SAMPLE	S95T000800	0 F	FUSION01	SOLID	<u>N/A</u>	<u>1.9860</u>		g/L
		<u>.4965g → 250ml</u>								
95000056	C-203	3 DUP	S95T000800	0 F	FUSION01	SOLID	<u>1.9860</u>	<u>1.9180</u>	<u>N/A</u>	g/L
		<u>.4745g → 250ml</u>								
95000056	C-203	4 SAMPLE	S95T000804	0 F	FUSION01	SOLID	<u>N/A</u>	<u>2.1224</u>		g/L
		<u>.5304g → 250ml</u>								
95000056	C-203	5 DUP	S95T000804	0 F	FUSION01	SOLID	<u>2.1224</u>	<u>2.1548</u>	<u>N/A</u>	g/L
		<u>.5387g → 250ml</u>								

Final page for worklist # 1173

Vereen Murphy 5-2-95
Analyst Signature Date

Li Jones 5-2-95
Analyst Signature Date

Data Entry Comments:

Scale calibrated 200/100/100. Samples & dups have
<.1% solids. Dose rate is 2mRad/hr HPT is Passel
Bertrand Griffin II 5-2-95 Nones

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# 1174

Analyst: lmh Instrument: FUS01 AL11066 Book # _____

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

Worklist Comment: C-203 FUSION - 807->808, 811->812

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK-PREP			FUSION01	SOLID	<u>250ml</u>	<u>250ml</u>	<u>N/A</u>	g/L
95000056	C-203	2 SAMPLE	S95T000808	0 F	FUSION01	SOLID	<u>N/A</u>	<u>2.0712</u>		g/L
95000056	C-203	3 DUP	S95T000808	0 F	FUSION01	SOLID	<u>2.0712</u>	<u>2.1844</u>	<u>N/A</u>	g/L
95000056	C-203	4 SAMPLE	S95T000812	0 F	FUSION01	SOLID	<u>N/A</u>	<u>2.1900</u>		g/L
95000056	C-203	5 DUP	S95T000812	0 F	FUSION01	SOLID	<u>2.1900</u>	<u>2.1652</u>	<u>N/A</u>	g/L

Final page for worklist # 1174

Analyst Signature

Date

4-27-95

Analyst Signature

Date

Bertand J. II 5-1-95

Data Entry Comments:

OTB: 1 mrad/hr

HT: Jim Evens

B. II 5-1-95

LABCORE Data Entry Template for Worklist# 1216

Analyst: KRM Instrument: DSC01 Book # 12N14-A

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

Worklist Comment: Please run C-203 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>28.4</u>	<u>N/A</u>	Joules/g
95000056	C-203	2 SAMPLE	S95T000799	0	DSC-01	SOLID	<u>N/A</u>	<u>42.8</u>		Joules/g
95000056	C-203	3 DUP	S95T000799	0	DSC-01	SOLID	<u>42.8</u>	<u>41.7</u>	<u>N/A</u>	Joules/g
95000056	C-203	4 SAMPLE	S95T000803	0	DSC-01	SOLID	<u>N/A</u>	<u>48.1</u>		Joules/g
95000056	C-203	5 DUP	S95T000803	0	DSC-01	SOLID	<u>48.1</u>	<u>47.6</u>	<u>N/A</u>	Joules/g

Final page for worklist # 1216

Analyst Signature Date 5-8-95

Analyst Signature Date 5-8-95

Verified by Blandina Valenzuela 5/9/95

S95T000799 - produced two endotherms one at 106.2°C with a delta H of 845.5 J/g and the second at 283.2°C with a delta H of 43.7 J/g.

Data Entry Comments: S95T000803 produced two endotherms one at 112.8°C with a delta H of 761.8 J/g and the second at 283.1°C with a delta H of 48.1 J/g.

BEST AVAILABLE COPY

WHC-SD-WM-DP-112, REV. 0

WHC-SD-WM-DP-112, REV. 0 *HW*
5/17/95

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 23 TO 27.

DSC STD 12N14-A
6.632 mg
Rate: 10.0 °C/min
File: 00014.001
Ident: 0.0
DSC METTLER 08-May-95
222-S Laboratory

EXOV

Integration
Delta H 188 mJ
28.4 J/g
Peak 158.7 °C
-12.9 mW

20. mW

[Signature]
5-895

BEST AVAILABLE COPY

BEST AVAILABLE COPY

S95T000799 (DUP) N2

23.284 mg

Rate: 10.0 °C/min

File: 00023.001

DSC METTLER 08-May-95

Ident: 0.0

222-S Laboratory

WHC-SD-WM-DP-112, REV.0

BEST AVAILABLE COPY

S95T000803 N2

18.803 mg

Rate: 10.0 °C/min

File: 00016.001

DSC METTLER

08-May-95

Ident: 0.0

222-S Laboratory

exo>

20. mW

Integration

Delta H 337 mJ

17.9 J/g

Peak 283.1 °C

-3.0 mW

Integration

Delta H 904 mJ

48.1 J/g

Peak 349.6 °C

3.8 mW

Integration

Delta H 14323 mJ

761.8 J/g

Peak 112.8 °C

-51.9 mW

100.

200.

300.

400.

°C

WHC-SD-WM-DE-112, REV.0

BEST AVAILABLE COPY

S95T000803 (DUP) N2
 13.608 mg
 Rate: 10.0 °C/min
 File: 00019.001 DSC METTLER 08-May-95
 Ident: 0.0 222-S Laboratory

LABCORE Data Entry Template for Worklist# 1217

Analyst: KRM Instrument: DSC01 03 Book # 12N14-A

Method: LA-514-114 Rev/Mod B-0 ^{5/11/95}BDV

Worklist Comment: Please run C-203 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>26.82</u>	<u>N/A</u>	Joules/g
95000056	C-203	2 SAMPLE	S95T000807	0	DSC-03	SOLID	<u>N/A</u>	<u>20.36</u>		Joules/g
95000056	C-203	3 DUP	S95T000807	0	DSC-03	SOLID	<u>20.36</u>	<u>19.1</u>	<u>N/A</u>	Joules/g
95000056	C-203	4 SAMPLE	S95T000811	0	DSC-03	SOLID	<u>N/A</u>	<u>34.91</u>		Joules/g
95000056	C-203	5 DUP	S95T000811	0	DSC-03	SOLID	<u>34.91</u>	<u>33.19</u>	<u>N/A</u>	Joules/g

Final page for worklist # 1217

See attached for signatures 5/11/95
Analyst Signature Date

Analyst Signature Date

S95T000807 produced two endotherms one at 105.7°C with a delta H of 807.9 J/g and the second at 283.3°C with a delta H of 11.8 J/g.

Data Entry Comments: S95T000811 produced two endotherms one at 117.10°C with
a delta H of ^{5/11/95}~~32.7~~ ^{BDV} 522.2 J/g and the second at ^{5/11/95}~~288.8~~ °C
with a delta H of 32.7 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# 1217

Analyst: KRM Instrument: DSC01 Book # 12N14A

Method: ~~LA 514-113~~ Rev/Mod LA 514-114/B-D

Worklist Comment: Please run C-203 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
95000056	C-203	2 SAMPLE	S95T000807	0	DSC-01	SOLID	N/A			Joules/g
95000056	C-203	3 DUP	S95T000807	0	DSC-01	SOLID			N/A	Joules/g
95000056	C-203	4 SAMPLE	S95T000811	0	DSC-01	SOLID	N/A			Joules/g
95000056	C-203	5 DUP	S95T000811	0	DSC-01	SOLID			N/A	Joules/g

Final page for worklist # 1217

Analyst Signature Date 5-8-95

Analyst Signature Date

Data Entry Comments: Other instrument was used.

Curve 1: DSC

File info: ind050801 Mon May 8 16:38:15 1995

Sample Weight: 6.687 mg

Indium at 10c/min

12N14-A
5/9/95 BDL

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 30 TO 34.

BEST AVAILABLE COPY

[Signature] 5-8-95

Curve 1: DSC

File info: sam050801 Mon May 8 18:08:24 1995

Sample Weight: 19.280 mg

S95T000807, 10C/min

BEST AVAILABLE COPY

Curve 1: DSC

File info: sam050802 Mon May 8 19:05:44 1995

Sample Weight: 15.470 mg

S95T000807 (dup). 10C/min

BEST AVAILABLE COPY

WHC-SD-WM-DP-112, REV. 0

KA Monteith
Westinghouse Hanford Co.
222-S Lab
Tue May 9 07:46:10 1995

exotherm down, nitrogen purge gas
TEMP: 38.0 °C
TIME: 0.0 min RATE: 10.0 °C/min

Curve 1: DSC

File info: sam050803 Mon May 8 20:19:51 1995

Sample Weight: 15.819 mg

S95T000811, 10C/min

BEST AVAILABLE COPY

WHC-SD-WM-DP-112, REV.0

exotherm down, nitrogen purge gas

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

KR Monteith
Westinghouse Hanford Co.
222-S Lab
Wed May 10 13:52:38 1995

Curve 1: DSC

File info: sam050804 Mon May 8 22:10:41 1995

Sample Weight: 20.110 mg

S95T000811(dup), 10C/min

BEST AVAILABLE COPY

exotherm down, nitrogen purge gas

Temperature (°C)

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

KR Monteith
Westinghouse Hanford Co.
222-S Lab
Wed May 10 13:59:14 1995

LABCORE Data Entry Template for Worklist# 1401

Analyst: BDV Instrument: DSC0 2 Book # —

Method: LA-514-113 Rev/Mod —

Worklist Comment: Calculated dry DSC for C-203. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-----TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
95000056	C-203	1 SAMPLE	S95T000799	0	DSC-02	SOLID	N/A	<u>66.02</u>		Joules/g Dry
95000056	C-203	2 DUP	S95T000799	0	DSC-02	SOLID	<u>66.02</u> <u>64.32</u>	<u>64.32</u>	N/A	Joules/g Dry
95000056	C-203	3 SAMPLE	S95T000803	0	DSC-02	SOLID	N/A	<u>97.33</u>		Joules/g Dry
95000056	C-203	4 DUP	S95T000803	0	DSC-02	SOLID	<u>97.33</u>	<u>96.32</u>	N/A	Joules/g Dry
95000056	C-203	5 SAMPLE	S95T000807	0	DSC-02	SOLID	N/A	<u>32.85</u>		Joules/g Dry
95000056	C-203	6 DUP	S95T000807	0	DSC-02	SOLID	<u>32.85</u>	<u>30.82</u>	N/A	Joules/g Dry
95000056	C-203	7 SAMPLE	S95T000811	0	DSC-02	SOLID	N/A	<u>50.87</u>		Joules/g Dry
95000056	C-203	8 DUP	S95T000811	0	DSC-02	SOLID	<u>50.87</u>	<u>48.37</u>	N/A	Joules/g Dry

Data entered + verified by

Final page for worklist # 1401

Blandina Valenzuela 5/15/95

Analyst Signature

Date

Analyst Signature

Date

Data Entry Comments:

WHC-SD-WM-DP-112, REV. 0

36

LABCORE Data Entry Template for Worklist# 1237

Analyst: KRM Instrument: TGA01 Book # 42N8A

Method: LA-560-112 Rev/Mod A-2

Worklist Comment: Please run C-203 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>58.92</u>	<u>N/A</u>	%
95000056	C-203	2 SAMPLE	S95T000799	0	TGA-01	SOLID	<u>N/A</u>	<u>33.67</u>		%
95000056	C-203	3 DUP	S95T000799	0	TGA-01	SOLID	<u>33.67</u>	<u>36.66</u>	<u>N/A</u>	%
95000056	C-203	4 SAMPLE	S95T000803	0	TGA-01	SOLID	<u>N/A</u>	<u>52.12</u>		%
95000056	C-203	5 DUP	S95T000803	0	TGA-01	SOLID	<u>52.12</u>	<u>49.03</u>	<u>N/A</u>	%

Final page for worklist # 1237

Analyst Signature

Date

5-8-95

Analyst Signature

Date

Verified by Blandina Valenzuela 5/9/95

Data Entry Comments:

S95T000799 produced another weight loss step of 10.31% at 327.0
S95T000803 produced a second weight loss step of 6.91% at 331.0°C

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 38 TO 42.

BEST AVAILABLE COPY

TGA STD 42N8-A

16.563 mg

Rate: 10.0 °C/min

File: 00015.001

TG

METTLER

09-May-95

Ident: 0.0

222-S Laboratory

Step Analysis

Height -9.76 mg

-58.92 %

ResidC. 6.80 mg

41.08 %

Dpeak 79.2°C

5. mg

50.

100.

150.

200.

°C

WHCSD-MM-DP-112, REV.0

[Signature] 5-8-95

BEST AVAILABLE COPY

S95T000799 N2

10.466 mg

Rate: 10.0 °C/min

File: 00020.001

TG

METTLER

09-May-95

Ident: 0.0

222-S Laboratory

Step Analysis

Height -3.52 mg

-33.67 %

ResiC. 6.92 mg

66.16 %

Dpeak 47.0 °C

Step Analysis

Height -1.08 mg

-10.31 %

ResiC. 5.84 mg

55.78 %

Dpeak 327.0 °C

WHC-SD-WM-DP-112, REV. 0

BEST AVAILABLE COPY

S95T000799 (DUP) N2

20.182 mg

Rate: 10.0 °C/min

File: 00022.001

TG

METTLER

09-May-95

Ident: 0.0

222-S Laboratory

Step Analysis

Height -7.40 mg

-36.66 %

ResiC. 12.76 mg

63.23 %

Dpeak 115.0 °C

Step Analysis

Height -1.68 mg

-8.35 %

ResiC. 11.08 mg

54.88 %

Dpeak 317.0 °C

WHC-SD-WM-DP-112, REV. 0

BEST AVAILABLE COPY

WHC-SD-WM-DP-112, REV. 0

BEST AVAILABLE COPY

S95T000803 (DUP) N2

15.131 mg

Rate: 10.0 °C/min

File: 00018.001

TG

METTLER

09-May-95

Ident: 0.0

222-S Laboratory

Step Analysis

Height -7.42 mg

-49.03 %

ResiC. 7.69 mg

50.80 %

Dpeak 61.0 °C

Step Analysis

Height -0.96 mg

-6.34 %

ResiC. 6.71 mg

44.33 %

Dpeak 311.0 °C

LABCORE Data Entry Template for Worklist# 1238

Analyst: KRM Instrument: TGA01 03 Book # 42N8-A

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

5/11/95 BDV

Worklist Comment: Please run C-203 TGA under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-03	SOLID	59.19	57.39	N/A	%
95000056	C-203	2 SAMPLE	S95T000807 0		TGA-03	SOLID	N/A	41.04		%
95000056	C-203	3 DUP	S95T000807 0		TGA-03	SOLID	41.04	33.26	N/A	%
		4 STD			TGA-03	SOLID	59.19	57.68	N/A	%
95000056	C-203	5 TRIPL	S95T000807 0		TGA-03	SOLID	41.04	39.79	N/A	%
95000056	C-203	6 SAMPLE	S95T000811 0		TGA-03	SOLID	N/A	30.98		%
95000056	C-203	7 DUP	S95T000811 0		TGA-03	SOLID	30.98	31.78	N/A	%

Final page for worklist # 1238

See attached for other signatures 5/10/95
Analyst Signature Date

Susie M. Dalton 5-10-95
Analyst Signature Date

BDV 5-11-95
Verified by Blandina Valenzuela 5/10/95 5/11/95 BDV

S95T000807 produced a second weight loss step of 5.95% at approximately 310°C. The triplicate for this sample was analyzed a couple of days after initial analysis, once chemist was able to look at the data.

S95T000811 produced a second weight loss step of 5.72% at approximately 310°C

Data Entry Comments:

S95000807 - Dark Brown, thick, creamy material

S95000811 - Dark Brown, thick, stiff material

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# 1238

Analyst: KRM Instrument: TGA01 _____ Book # 42NBA

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

Worklist Comment: Please run C-203 TGA under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST-----	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD			TGA-01	SOLID	_____	_____	N/A	%
95000056	C-203	2 SAMPLE	S95T000807	0	TGA-01	SOLID	N/A	_____	_____	%
95000056	C-203	3 DUP	S95T000807	0	TGA-01	SOLID	_____	_____	N/A	%
95000056	C-203	4 SAMPLE	S95T000811	0	TGA-01	SOLID	N/A	_____	_____	%
95000056	C-203	5 DUP	S95T000811	0	TGA-01	SOLID	_____	_____	N/A	%

Final page for worklist # 1238

Analyst Signature

5-8-95
Date

Analyst Signature

Date

Data Entry Comments:

Other instrument was used.

Curve 1: TGA

File info: ter050801 Mon May 8 16:54:45 1995

Sample Weight: 16.157 mg

42NBA Terliq

BEST AVAILABLE COPY

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT
COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 45 TO 51.

WHC-SD-WM-DP-112, REV.0

N2

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

KR Monteith
PERKIN-ELMER
7 Series Thermal Analysis System
Mon May 8 17:17:01 1995

KR Monteith
5-8-95

Curve 1: TGA

File info: sam050801 Mon May 8 18:11:48 1995

Sample Weight: 14.481 mg

S95T000570 (DUP), 10C/min

807

BEST AVAILABLE COPY

WHC-SD-WM-DP-112, 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
Mon May 8 18:22:54 1995

Curve 1: TGA

File info: sam050802 Mon May 8 19:18:11 1995

Sample Weight: 12.083 mg

S95T000802 (dup), 10C/min

07

BEST AVAILABLE COPY

WHC-SD-WM-DP-112, REV. 0

Curve 1: TGA
 File info: TER051001 Wed May 10 08:19:56 1995
 Sample Weight: 14.049 mg
 42N8A Terliq

BEST AVAILABLE COPY

WHC-SD-WM-DP-112, REV. 0

N2
 TEMPERATURE 35.0 C
 RATE 10.0 C/min
 TIME 0.0 min

Temperature (°C)

SM Fulton
 PERKIN ELMER
 222-S Lab
 Wed May 10 08:40:45 1995

Curve 1: TGA

File info: SAM051001 Wed May 10 09:48:38 1995

Sample Weight: 11.901 mg

S95T000807 (TRIPL), 10C/min

BEST AVAILABLE COPY

Curve 1: TGA

File info: sam050803 Mon May 8 20:25:35 1995

Sample Weight: 14.450 mg

S95T000811, 10C/min

BEST AVAILABLE COPY

WHC-SD-WM-DP-112, REV.0

N2

TEMP: 35.0 C TIME: 0.0 min RATE: 10.0 C/min
TEMP: 500.0 C

Temperature (°C)

KR Monteith
PERKIN-ELMER
7 Series Thermal Analysis System
Mon May 8 21:11:26 1995

Curve 1: TGA
File info: sam050804 Mon May 8 22:08:15 1995
Sample Weight: 15.985 mg
S95T000811 (dup), 10C/min

BEST AVAILABLE COPY

WHC-SD-WM-DP-112, 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
Mon May 8 22:21:23 1995

LABCORE Data Entry Template for Worklist# 1318

Analyst: TLM Instrument: AB00 14 Book # 107B52

Method: LA-508-101 Rev/Mod D-2 W027807

Worklist Comment: Run under RWP 273 if dose rate warrants. 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>.73</u>			@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
95000056	C-203	4	SAMPLE	S95T000800	0	F	@ALPHA01 ALPHA01	SOLID	N/A			uCi/g
95000056	C-203	4	SAMPLE	S95T000800	0	F	@ALPHA01 ALPHA01E	SOLID	N/A			% Ct. Error
95000056	C-203	5	DUP	S95T000800	0	F	@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
95000056	C-203	5	DUP	S95T000800	0	F	@ALPHA01 ALPHA01E	SOLID			N/A	% Ct. Error
95000056	C-203	6	SPK	S95T000800	0	F	@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
95000056	C-203	7	SAMPLE	S95T000804	0	F	@ALPHA01 ALPHA01	SOLID	N/A			uCi/g
95000056	C-203	7	SAMPLE	S95T000804	0	F	@ALPHA01 ALPHA01E	SOLID	N/A			% Ct. Error
95000056	C-203	8	DUP	S95T000804	0	F	@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
95000056	C-203	8	DUP	S95T000804	0	F	@ALPHA01 ALPHA01E	SOLID			N/A	% Ct. Error

Final page for worklist # 1318

Clara Mix 5/5/95
Analyst Signature Date

Sharon L. Wahl 5-8-95
Analyst Signature Date

Data Entry Comments:

SPK recovery is out of limits. Batch will
be rerun. At TLM 5/9/95

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.

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-112, REV. 0

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)	4145	4193
1318	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.5	0.5
AT	SAMPLE SIZE in mL (SS)	10.000	10.000
Test Code	DILUTION FACTOR (DF)	1	1
@ALPHA01	DIGEST DILUTION FACTOR (DDF)	1	1
Matrix	EFFICIENCY FACTOR (EFF)	0.2274	0.2274
LIQUID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	137.667	139.267
Sample #	Sample Concentration in $\mu\text{Ci/L}$	2.73E-02	BOOK#
WRKLST#1318	Replicate Concentration in $\mu\text{Ci/L}$	2.76E-02	107B52
Instrument Code			
WB27807	Average Concentration in $\mu\text{Ci/L}$	2.7428E-02	
Analyst			
TLM	Rs (Sample Count Rate) = (TC / CT) - BKG		
Date	ALPHA TOTAL $\mu\text{Ci/L}$ = $R_s * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$		
05/05/95	ALPHA TOTAL $\mu\text{Ci/mL}$ = ALPHA TOTAL $\mu\text{Ci/L} / 1000\text{mL/L}$		
Time	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
10:30 AM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		

v RESULTS v

ALPHA TOTAL	in $\mu\text{Ci/mL}$	(Average)	=	2.74E-05	DETECTION LEVEL
RELATIVE COUNTING ERROR			=	3.1%	1.37E-07 $\mu\text{Ci/mL}$

Data Entry by:

Date: 05/08/95

Approved by:

Date: 5/8/95

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)	11	11
1318	COUNT TIME in MINUTES (CT)	30	30
AT or TB?	BACKGROUND in cpm (BKG)	0.5	0.5
AT	SAMPLE SIZE in mL (SS)	0.100	0.100
Test Code	DILUTION FACTOR (DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS/L (Dg/L)	1.986	1.986
Matrix	EFFICIENCY FACTOR (EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.301	0.301
Sample #	Sample Concentration in $\mu\text{Ci/g}$	< 3.00E-03	BOOK#
S95T800	Replicate Concentration in $\mu\text{Ci/g}$	< 3.00E-03	
Instrument Code			
WB27807	Maximum Concentration in $\mu\text{Ci/g}$	< 3.0047E-03	
Analyst			
TLM	Rs (Sample Count Rate) = $(TC / CT) - BKG$		
Date	ALPHA TOTAL $\mu\text{Ci/g}$ = $Rs * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$		
05/05/95			
Time	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
10:30 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) =	< 3.00E-03	DETECTION LEVEL
LESS Than Value was Determined from Lc.				6.91E-03 $\mu\text{Ci/g}$
RELATIVE COUNTING ERROR	=	249.9%		

Data Entry by: <i>Sharon G. Hable</i>	Date: 05/08/95
Approved by: <i>[Signature]</i>	Date: 5/8/95

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-112, REV. 0

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)	4106	4582
1318	COUNT TIME in MINUTES (CT)	30	30
AT or TB?	BACKGROUND in cpm (BKG)	0.5	0.5
AT	SAMPLE SIZE in mL (SS)	0.100	0.100
Test Code	DILUTION FACTOR (DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS/L (Dg/L)	1.986	1.986
Matrix	EFFICIENCY FACTOR (EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	136.367	152.233
Sample #	Sample Concentration in $\mu\text{Ci/g}$	1.36E+00	BOOK#
S95T800	Replicate Concentration in $\mu\text{Ci/g}$	1.52E+00	
Instrument Code			
WB27807	Average Concentration in $\mu\text{Ci/g}$	1.4393E+00	
Analyst			
TLM	Rs (Sample Count Rate) = $(TC / CT) - BKG$		
Date	ALPHA TOTAL $\mu\text{Ci/g}$ = $Rs * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$		
05/05/95			
Time	Relative Counting Error = $[(The\ Square\ Root\ of\ TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
10:30 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)	=	1.44E+00	DETECTION LEVEL
					6.91E-03 $\mu\text{Ci/g}$
RELATIVE COUNTING ERROR			=	3.1%	

Data Entry by:

Sharon L. H. Feld

Date:

05/08/95

Approved by:

Date:

5/18/95

Form 508101_C Rev. 1.3

Page 1 of 1

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)	4761	4494
1318	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.5	0.5
AT	SAMPLE SIZE in mL (SS)	0.100	0.100
Test Code	DILUTION FACTOR (DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS/L (Dg/L)	1.918	1.918
Matrix	EFFICIENCY FACTOR (EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	158.200	149.300
Sample #	Sample Concentration in $\mu\text{Ci/g}$	1.63E+00	BOOK#
S95T800	Replicate Concentration in $\mu\text{Ci/g}$	1.54E+00	
Instrument Code			
WB27807	Average Concentration in $\mu\text{Ci/g}$	1.5879E+00	
Analyst			
TLM	Rs (Sample Count Rate) = (TC / CT) - BKG		
Date	ALPHA TOTAL $\mu\text{Ci/g}$ = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/ μCi)		
05/05/95			
Time	Relative Counting Error = $[(\text{The Square Root of TC} + \text{BKG} * \text{CT}) / (\text{TC} - \text{BKG} * \text{CT})] * 1.96 * 100$		
10:30 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)	=	1.59E+00	DETECTION LEVEL
					7.16E-03 $\mu\text{Ci/g}$
RELATIVE COUNTING ERROR			=	2.9%	

Data Entry by: *Sharon J. Hall*
 Approved by: *Sharon J. Hall*

Date: 05/08/95

Date: 5/8/95

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-112, 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)	41929	42062
1318	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.5	0.5
AT	SAMPLE VOLUME in mL (Spiked Vial) (SS)	0.100	0.100
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial) (DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS/L (Dg/L)	1.986	1.986
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)	36.372	36.372
S95T800	INSTRUMENT EFFICIENCY FACTOR (EFF)	0.2274	0.2274
Instrument Code	SAMPLE + SPIKE $\mu\text{Ci/g}$ (S+S)	1.39E+01	1.40E+01
WB27807	AVERAGE or MAXIMUM $\mu\text{Ci/g}$ from FORM C	1.4393E+00	
Analyst	BOOK#	94B43	
TLM	Rs (Sample Count Rate) = (TC / CT) - BKG		
Date	SAMPLE + SPIKE $\mu\text{Ci/g}$ = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/ μCi)		
05/05/95	PERCENT SPIKE RECOVERY = (((S+S $\mu\text{Ci/g}$ - SAMPLE $\mu\text{Ci/g}$) * ((SDF/SVol)/(DF/SS/Dg/L)))/(SVal))*100		
Time			
10:30 AM			

RESULT AVG. PERCENT SPIKE RECOVERY = 68.4%

Data Entry by: <i>Sharon H. H. H.</i>	Date: 08-May-95
Approved by: <i>[Signature]</i>	Date: 5/8/95

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)	2200	2089
1318	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.5	0.5
AT	SAMPLE SIZE in mL (SS)	0.100	0.100
Test Code	DILUTION FACTOR (DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS/L (Dg/L)	2.1224	2.1224
Matrix	EFFICIENCY FACTOR (EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	72.833	69.133
Sample #	Sample Concentration in $\mu\text{Ci/g}$	6.80E-01	BOOK#
S95T804	Replicate Concentration in $\mu\text{Ci/g}$	6.45E-01	
Instrument Code			
WB27807	Average Concentration in $\mu\text{Ci/g}$	6.6250E-01	
Analyst			
TLM	Rs (Sample Count Rate) = $(TC / CT) - BKG$		
Date	ALPHA TOTAL $\mu\text{Ci/g}$ = $Rs \cdot 1000\text{mL/L} \cdot DF / (EFF \cdot SS \cdot Dg/L \cdot 2220000\text{dpm}/\mu\text{Ci})$		
05/05/95			
Time	Relative Counting Error = $[(The Square Root of TC + BKG \cdot CT) / (TC - BKG \cdot CT)] \cdot 1.96 \cdot 100$		
10:30 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)	=	6.62E-01	DETECTION LEVEL
				6.47E-03
RELATIVE COUNTING ERROR		=	4.3%	$\mu\text{Ci/g}$

Data Entry by: <i>Sharon H. [Signature]</i>	Date: 05/08/95
Approved by: <i>[Signature]</i>	Date: 5/8/95

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)	1867	1750
1318	COUNT TIME in MINUTES (CT)	30	30
AT or TB?	BACKGROUND in cpm (BKG)	0.5	0.5
AT	SAMPLE SIZE in mL (SS)	0.100	0.100
Test Code	DILUTION FACTOR (DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS/L (Dg/L)	2.1548	2.1548
Matrix	EFFICIENCY FACTOR (EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	61.733	57.833
Sample #	Sample Concentration in $\mu\text{Ci/g}$	5.68E-01	BOOK#
S95T804	Replicate Concentration in $\mu\text{Ci/g}$	5.32E-01	
Instrument Code	Average Concentration in $\mu\text{Ci/g}$	5.4958E-01	
WB27807			
Analyst			
TLM	Rs (Sample Count Rate) = (TC / CT) - BKG		
Date	ALPHA TOTAL $\mu\text{Ci/g}$ = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/ μCi)		
05/05/95			
Time	Relative Counting Error = [(The Square Root of TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100		
10:30 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)	=	5.50E-01	DETECTION LEVEL
					6.37E-03 $\mu\text{Ci/g}$
RELATIVE COUNTING ERROR			=	4.7%	

Data Entry by:

Date: 05/08/95

Approved by:

Date: 5/8/95

RUSH

LABCORE Data Entry Template for Worklist# 1366

Analyst: LM Instrument: AB00 16 Book # 107B52
WB 27806

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

Worklist Comment: Use a .050 mL sample size. Rerun #1. 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>13</u>		@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
95000056	C-203	4 SAMPLE	S95T000800	0 F	@ALPHA01 ALPHA01	SOLID	N/A			uCi/g
95000056	C-203	4 SAMPLE	S95T000800	0 F	@ALPHA01 ALPHA01E	SOLID	N/A			% Ct. Error
95000056	C-203	5 DUP	S95T000800	0 F	@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
95000056	C-203	5 DUP	S95T000800	0 F	@ALPHA01 ALPHA01E	SOLID			N/A	% Ct. Error
95000056	C-203	6 SPK	S95T000800	0 F	@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
95000056	C-203	7 SAMPLE	S95T000804	0 F	@ALPHA01 ALPHA01	SOLID	N/A			uCi/g
95000056	C-203	7 SAMPLE	S95T000804	0 F	@ALPHA01 ALPHA01E	SOLID	N/A			% Ct. Error
95000056	C-203	8 DUP	S95T000804	0 F	@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
95000056	C-203	8 DUP	S95T000804	0 F	@ALPHA01 ALPHA01E	SOLID			N/A	% Ct. Error

Final page for worklist # 1366

Perisa Mijp 5-10-95
Analyst Signature Date

Sharon L. Uvalde 5-11-95
Analyst Signature Date

Data Entry Comments:

Data from 1st run (worklist 1318) will be
used instead of this data. H. Alf 5/15/95

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-112, REV. 0

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

LA-548-101 (A-3) LIQUIDS

		STANDARD	REPLICATE
Type	DETECTOR NUMBER	16	16
STANDARD	DISH SIZE 1, 2, or 5 (MS)	2	2
Work List	TOTAL COUNTS (TC)	3931	3718
1366	COUNT TIME in MINUTES (CT)	30	30
AT or TB?	BACKGROUND in cpm (BKG)	0.4	0.4
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)	0.2104	0.2104
LIQUID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	130.633	123.533
Sample #	Sample Concentration in $\mu\text{Ci/L}$	2.80E-02	BOOK#
WORKLIST#1366	Replicate Concentration in $\mu\text{Ci/L}$	2.64E-02	107B52
Instrument Code			
WB27806	Average Concentration in $\mu\text{Ci/L}$	2.7208E-02	
Analyst			
TLM	Rs (Sample Count Rate) = (TC / CT) - BKG		
Date	ALPHA TOTAL $\mu\text{Ci/L}$ = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/ μCi)		
05/10/95	ALPHA TOTAL $\mu\text{Ci/mL}$ = ALPHA TOTAL $\mu\text{Ci/L}$ / 1000mL/L		
Time	Relative Counting Error = $[(\text{The Square Root of TC} + \text{BKG} * \text{CT}) / (\text{TC} - \text{BKG} * \text{CT})] * 1.96 * 100$		
10:15 AM	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		

v RESULTS v

ALPHA TOTAL	in $\mu\text{Ci/mL}$	(Average) =	2.72E-05	DETECTION LEVEL
				1.35E-07 $\mu\text{Ci/mL}$
RELATIVE COUNTING ERROR		=	3.2%	

Data Entry by:	<i>[Signature]</i>	Date:	05/11/95
Approved by:	<i>[Signature]</i>	Date:	5/11/95

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

LA-548-101 (A-3)

SOLIDS

Type	DETECTOR NUMBER	BLANK.	REPLICATE
BLANK.	DISH SIZE 1, 2, or 5 (MS)	16	16
Work List	TOTAL COUNTS (TC)	2	2
1366	COUNT TIME in MINUTES (CT)	1	2
AT or TB ?	BACKGROUND in cpm (BKG)	30	30
AT	SAMPLE SIZE in mL (SS)	0.4	0.4
Test Code	DILUTION FACTOR (DF)	0.050	0.050
@ALPHA01	DIGEST GRAMS of SOLIDS/L (Dg/L)	1	1
Matrix	EFFICIENCY FACTOR (EFF)	1.986	1.986
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.2104	0.2104
Sample #	Sample Concentration in $\mu\text{Ci/g}$	0.269	0.269
S95T800	Replicate Concentration in $\mu\text{Ci/g}$	< 5.81E-03	BOOK#
Instrument Code		< 5.81E-03	
WB27806	Maximum Concentration in $\mu\text{Ci/g}$	< 5.8093E-03	
Analyst			
TLM	Rs (Sample Count Rate) = (TC / CT) - BKG		
Date	ALPHA TOTAL $\mu\text{Ci/g}$ = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/ μCi)		
05/10/95			
Time	Relative Counting Error = [(The Square Root of TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100		
10:15 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) =	< 5.81E-03	DETECTION LEVEL
LESS Than Value was Determined from Lc.		1.36E-02 $\mu\text{Ci/g}$
RELATIVE COUNTING ERROR =	73.3%	

Data Entry by: <i>Sharon J. Martin</i>	Date: 05/11/95
Approved by: <i>[Signature]</i>	Date: 5/11/95

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-112, REV. 0

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

LA-548-101 (A-3) SOLIDS

		SAMPLE	REPLICATE
Type	DETECTOR NUMBER	16	16
SAMPLE	DISH SIZE 1, 2, or 5 (MS)	2	2
Work List	TOTAL COUNTS (TC)	1727	1872
1366	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.4	0.4
AT	SAMPLE SIZE in mL (SS)	0.050	0.050
Test Code	DILUTION FACTOR (DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS/L (Dg/L)	1.986	1.986
Matrix	EFFICIENCY FACTOR (EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	57.167	62.000
Sample #	Sample Concentration in $\mu\text{Ci/g}$	1.23E+00	BOOK#
S95T800	Replicate Concentration in $\mu\text{Ci/g}$	1.34E+00	
Instrument Code			
WB27806	Average Concentration in $\mu\text{Ci/g}$	1.2846E+00	
Analyst			
TLM	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Date	$\text{ALPHA TOTAL } \mu\text{Ci/g} = R_s * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$		
05/10/95			
Time	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
10:15 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)	=	1.28E+00	DETECTION LEVEL
				1.36E-02 $\mu\text{Ci/g}$
RELATIVE COUNTING ERROR		=	4.8%	

Data Entry by: <i>Shayla J. Hogg</i>	Date: 05/11/95
Approved by: <i>[Signature]</i>	Date: 5/11/95

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-112, REV. 0

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

LA-548-101 (A-3)

SOLIDS

	DETECTOR NUMBER	SAMPLE	REPLICATE
Type	16	16	
DUPLICATE	DISH SIZE 1, 2, or 5 (MS)	2	2
Work List	TOTAL COUNTS (TC)	1944	2309
1366	COUNT TIME in MINUTES (CT)	30	30
AT or TB?	BACKGROUND in cpm (BKG)	0.4	0.4
AT	SAMPLE SIZE in mL (SS)	0.050	0.050
Test Code	DILUTION FACTOR (DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS/L (Dg/L)	1.918	1.918
Matrix	EFFICIENCY FACTOR (EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	64.400	76.567
Sample #	Sample Concentration in $\mu\text{Ci/g}$	1.44E+00	BOOK#
S95T800	Replicate Concentration in $\mu\text{Ci/g}$	1.71E+00	
Instrument Code			
WB27806	Average Concentration in $\mu\text{Ci/g}$	1.5735E+00	
Analyst			
TLM	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Date	ALPHA TOTAL $\mu\text{Ci/g}$ = $R_s \cdot 1000\text{mL/L} \cdot DF / (EFF \cdot SS \cdot Dg/L \cdot 2220000\text{dpm}/\mu\text{Ci})$		
05/10/95	Relative Counting Error = $[(\text{The Square Root of } TC + BKG \cdot CT) / (TC - BKG \cdot CT)] \cdot 1.96 \cdot 100$		
Time	Detection Levels and Less Than Values are determined from Procedure LA-508-002.		
10:15 AM			

v RESULTS v

ALPHA TOTAL in $\mu\text{Ci/g}$ (Average)	=	1.57E+00	DETECTION LEVEL
RELATIVE COUNTING ERROR	=	4.5%	1.41E-02 $\mu\text{Ci/g}$

Data Entry by:

Sharon L. Magle

Date:

05/11/95

Approved by:

Date:

5/11/95

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER WHC-SD-WM-DP-112, REV. 0

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

LA-548-101 (A-3) SOLIDS

		SPIKE	REPLICATE
Type	DETECTOR NUMBER	16	16
SPIKE	DISH SIZE 1, 2, or 5 (MS)	2	2
Work List	TOTAL COUNTS (TC)	27059	32081
1366	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.4	0.4
AT	SAMPLE VOLUME in mL (Spiked Vial) (SS)	0.050	0.050
Test Code	SAMPLE DILUTION FACTOR (Spiked Vial) (DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS/L (Dg/L)	1.986	1.986
Matrix	SPIKE VOLUME in mL (SVol)	0.100	0.100
SOLID	SPIKE DILUTION FACTOR (SDF)	1	1
Sample #	SPIKE VALUE in µCi/L (SVal)	36.372	36.372
S95T800	INSTRUMENT EFFICIENCY FACTOR (EFF)	0.2104	0.2104
Instrument Code	SAMPLE + SPIKE µCi/g (S+S)	1.94E+01	2.30E+01
WB27806	AVERAGE or MAXIMUM µCi/g from FORM C	1.2846E+00	
Analyst	BOOK#	94B43	
TLM	Rs (Sample Count Rate) = (TC / CT) - BKG		
Date	SAMPLE + SPIKE µCi/g = $Rs * 1000 \text{ mL/L} * DF / (EFF * SS * Dg/L * 2220000 \text{ dpm/µCi})$		
05/10/95	PERCENT SPIKE RECOVERY = $((S+S \text{ µCi/g} - \text{SAMPLE µCi/g}) * ((SDF/SVol)/(DF/SS/Dg/L)))/(SVal) * 100$		
Time			
10:15 AM			

RESULT AVG. PERCENT SPIKE RECOVERY = 54.5%

Data Entry by: *Sharon L. Hoffer* Date: 11-May-95
 Approved by: *ST* Date: 5/11/95
 Form 508101_X Rev. 1.3 Page 1 of 1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-112, REV. 0

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

LA-548-101 (A-3)

SOLIDS

		SAMPLE	REPLICATE
Type	DETECTOR NUMBER	16	16
SAMPLE	DISH SIZE 1, 2, or 5 (MS)	2	2
Work List	TOTAL COUNTS (TC)	1041	1093
1366	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.4	0.4
AT	SAMPLE SIZE in mL (SS)	0.050	0.050
Test Code	DILUTION FACTOR (DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS/L (Dg/L)	2.1224	2.1224
Matrix	EFFICIENCY FACTOR (EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	34.300	36.033
Sample #	Sample Concentration in $\mu\text{Ci/g}$	6.92E-01	BOOK#
S95T804	Replicate Concentration in $\mu\text{Ci/g}$	7.27E-01	
Instrument Code			
WB27806	Average Concentration in $\mu\text{Ci/g}$	7.0947E-01	
Analyst			
TLM	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Date	ALPHA TOTAL $\mu\text{Ci/g}$ = $R_s * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$		
05/10/95			
Time	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
10:15 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)	=	7.09E-01	DETECTION LEVEL
					1.27E-02
RELATIVE COUNTING ERROR			=	6.2%	$\mu\text{Ci/g}$

Data Entry by: <i>Sharon L. Hefley</i>	Date: 05/11/95
Approved by: <i>DS</i>	Date: 5/11/95

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-112, REV. 0

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

LA-548-101 (A-3)

SOLIDS

		SAMPLE	REPLICATE
Type	DETECTOR NUMBER	16	16
DUPLICATE	DISH SIZE 1, 2, or 5 (MS)	2	2
Work List	TOTAL COUNTS (TC)	1009	957
1366	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.4	0.4
AT	SAMPLE SIZE in mL (SS)	0.050	0.050
Test Code	DILUTION FACTOR (DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS/L (Dg/L)	2.1548	2.1548
Matrix	EFFICIENCY FACTOR (EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	33.233	31.500
Sample #	Sample Concentration in $\mu\text{Ci/g}$	6.60E-01	BOOK#
S95T804	Replicate Concentration in $\mu\text{Ci/g}$	6.26E-01	
Instrument Code	Average Concentration in $\mu\text{Ci/g}$	6.4316E-01	
WB27806			
Analyst			
FLM	Rs (Sample Count Rate) = (TC / CT) - BKG		
Date	ALPHA TOTAL $\mu\text{Ci/g}$ = $Rs \cdot 1000\text{mL/L} \cdot DF / (EFF \cdot SS \cdot Dg/L \cdot 2220000\text{dpm}/\mu\text{Ci})$		
05/10/95			
Time	Relative Counting Error = $[(\text{The Square Root of } TC + BKG \cdot CT) / (TC - BKG \cdot CT)] \cdot 1.96 \cdot 100$		
10:15 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)	=	6.43E-01	DETECTION LEVEL
					1.25E-02
RELATIVE COUNTING ERROR			=	6.5%	$\mu\text{Ci/g}$

Data Entry by: *Sharon L. Hufel*
 Approved by: *Sharon L. Hufel*
 Form 508101_C Rev. 1.3

Date: 05/11/95

Date: 5/11/95

Page 1 of 1

RUSH

worklistrpt Version 2.0 02/21/95
05/09/95 13:59

Page: 1

LABCORE Data Entry Template for Worklist# 1367

Analyst: ZNT Instrument: AB00 14 Book # 107 B52

Method: LA-508-101 Rev/Mod D-2 WB 27807

Worklist Comment: Use a .050 mL sample size. Rerun #1. 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>.33</u>			@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
95000056	C-203	4	SAMPLE	S95T000808	0	F	@ALPHA01 ALPHA01	SOLID	N/A			uCi/g
95000056	C-203	4	SAMPLE	S95T000808	0	F	@ALPHA01 ALPHA01E	SOLID	N/A			% Ct. Error
95000056	C-203	5	DUP	S95T000808	0	F	@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
95000056	C-203	5	DUP	S95T000808	0	F	@ALPHA01 ALPHA01E	SOLID			N/A	% Ct. Error
95000056	C-203	6	SAMPLE	S95T000812	0	F	@ALPHA01 ALPHA01	SOLID	N/A			uCi/g
95000056	C-203	6	SAMPLE	S95T000812	0	F	@ALPHA01 ALPHA01E	SOLID	N/A			% Ct. Error
95000056	C-203	7	DUP	S95T000812	0	F	@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
95000056	C-203	7	DUP	S95T000812	0	F	@ALPHA01 ALPHA01E	SOLID			N/A	% Ct. Error

Final page for worklist # 1367

Alissa M. 5-10-95
Analyst Signature Date

Sharon L. 5-11-95
Analyst Signature Date

Data Entry Comments:

High RPD values are consistent with original run.

Indicates a problem with sample prep (possibly that the
duplicates were interchanged). 5/15/95

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-112, REV. 0

68

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-112, REV. 0

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)	4212	4042
1367	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.3	0.3
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	140.100	134.433
Sample #	Sample Concentration in $\mu\text{Ci/L}$	2.78E-02	BOOK#
WORKLIST#1367	Replicate Concentration in $\mu\text{Ci/L}$	2.66E-02	107B52
Instrument Code			
WB27807	Average Concentration in $\mu\text{Ci/L}$	2.7191E-02	
Analyst			
TLM	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Date	ALPHA TOTAL $\mu\text{Ci/L}$ = $R_s * 1000\text{mL/L} * DF * DDF / (EFF * SS * 2220000\text{dpm}/\mu\text{Ci})$		
05/10/95	ALPHA TOTAL $\mu\text{Ci/mL}$ = ALPHA TOTAL $\mu\text{Ci/L} / 1000\text{mL/L}$		
Time	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
12:30 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)	=	2.72E-05	DETECTION LEVEL
			1.10E-07 $\mu\text{Ci/mL}$
RELATIVE COUNTING ERROR	=	3.1%	

Data Entry by: *Sharon L. Gylfe*
 Approved by: *[Signature]*
 Form 508101_C Rev. 1.3

Date: 05/11/95
 Date: 5/11/95
 Page 1 of 1

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)	3	3
1367	COUNT TIME in MINUTES (CT)	30	30
AT or TB?	BACKGROUND in cpm (BKG)	0.3	0.3
AT	SAMPLE SIZE in mL (SS)	0.050	0.050
Test Code	DILUTION FACTOR (DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS/L (Dg/L)	2.0712	2.0712
Matrix	EFFICIENCY FACTOR (EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.233	0.233
Sample #	Sample Concentration in $\mu\text{Ci/g}$	< 4.46E-03	BOOK#
S95T808	Replicate Concentration in $\mu\text{Ci/g}$	< 4.46E-03	
Instrument Code			
WB27807	Maximum Concentration in $\mu\text{Ci/g}$	< 4.4634E-03	
Analyst			
TLM	Rs (Sample Count Rate) = $(TC / CT) - BKG$		
Date	ALPHA TOTAL $\mu\text{Ci/g}$ = $Rs * 1000 \text{ mL/L} * DF / (EFF * SS * Dg/L * 2220000 \text{ dpm}/\mu\text{Ci})$		
05/10/95			
Time	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
12:30 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) =	< 4.46E-03	DETECTION LEVEL
LESS Than Value was Determined from Lc.			1.07E-02 $\mu\text{Ci/g}$
RELATIVE COUNTING ERROR	=	113.2%	

Data Entry by: <i>Sharon Littlejohn</i>	Date: 05/11/95
Approved by: <i>[Signature]</i>	Date: 5/11/95

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)	4615	4287
1367	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.3	0.3
AT	SAMPLE SIZE in mL (SS)	0.050	0.050
Test Code	DILUTION FACTOR (DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS/L (Dg/L)	2.0712	2.0712
Matrix	EFFICIENCY FACTOR (EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	153.533	142.600
Sample #	Sample Concentration in $\mu\text{Ci/g}$	2.94E+00	BOOK#
S95T808	Replicate Concentration in $\mu\text{Ci/g}$	2.73E+00	
Instrument Code			
WB27807	Average Concentration in $\mu\text{Ci/g}$	2.8322E+00	
Analyst			
TLM	Rs (Sample Count Rate) = (TC / CT) - BKG		
Date	ALPHA TOTAL $\mu\text{Ci/g}$ = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/ μCi)		
05/10/95			
Time	Relative Counting Error = $[(\text{The Square Root of TC} + \text{BKG} * \text{CT}) / (\text{TC} - \text{BKG} * \text{CT})] * 1.96 * 100$		
12:30 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)	=	2.83E+00	DETECTION LEVEL
					1.07E-02 $\mu\text{Ci/g}$
RELATIVE COUNTING ERROR			=	3.0%	

Data Entry by:	<i>Sharon J. Hinkle</i>	Date:	05/11/95
Approved by:	<i>St. J. Hinkle</i>	Date:	5/11/95

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-112, REV. 0

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)	1777	1719
1367	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.3	0.3
AT	SAMPLE SIZE in mL (SS)	0.050	0.050
Test Code	DILUTION FACTOR (DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS/L (Dg/L)	2.1844	2.1844
Matrix	EFFICIENCY FACTOR (EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	58.933	57.000
Sample #	Sample Concentration in $\mu\text{Ci/g}$	1.07E+00	BOOK#
S95T808	Replicate Concentration in $\mu\text{Ci/g}$	1.03E+00	
Instrument Code			
WB27807	Average Concentration in $\mu\text{Ci/g}$	1.0513E+00	
Analyst			
TLM	Rs (Sample Count Rate) = (TC / CT) - BKG		
Date	ALPHA TOTAL $\mu\text{Ci/g}$ = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/ μCi)		
05/10/95			
Time	Relative Counting Error = [[(The Square Root of TC + BKG * CT) / (TC - BKG * CT)]] * 1.96 * 100		
12:30 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)	=	1.05E+00	DETECTION LEVEL
					1.01E-02
RELATIVE COUNTING ERROR			=	4.8%	$\mu\text{Ci/g}$

Data Entry by:	<i>Sharon L. Luper</i>	Date:	05/11/95
Approved by:	<i>[Signature]</i>	Date:	5/11/95
Form 508101_C Rev. 1.3		Page 1 of 1	

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-112, REV. 0

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)	1482	1477
1367	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.3	0.3
AT	SAMPLE SIZE in mL (SS)	0.050	0.050
Test Code	DILUTION FACTOR (DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS/L (Dg/L)	2.19	2.19
Matrix	EFFICIENCY FACTOR (EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	49.100	48.933
Sample #	Sample Concentration in $\mu\text{Ci/g}$	8.88E-01	BOOK#
S95T812	Replicate Concentration in $\mu\text{Ci/g}$	8.85E-01	
Instrument Code			
WB27807	Average Concentration in $\mu\text{Ci/g}$	8.8672E-01	
Analyst			
TLM	$R_s \text{ (Sample Count Rate)} = (TC / CT) - BKG$		
Date	$\text{ALPHA TOTAL } \mu\text{Ci/g} = R_s * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$		
05/10/95			
Time	$\text{Relative Counting Error} = [\{ (\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT) \}] * 1.96 * 100$		
12:30 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)	=	8.87E-01	DETECTION LEVEL
					1.01E-02 $\mu\text{Ci/g}$
RELATIVE COUNTING ERROR			=	5.1%	

Data Entry by:	<i>Sharon L. Ugalde</i>	Date:	05/11/95
Approved by:	<i>AT</i>	Date:	5/11/95
Form 508101_C Rev. 1.3		Page 1 of 1	

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)	4411	4480
1367	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.3	0.3
AT	SAMPLE SIZE in mL (SS)	0.050	0.050
Test Code	DILUTION FACTOR (DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS/L (Dg/L)	2.1652	2.1652
Matrix	EFFICIENCY FACTOR (EFF)	0.2274	0.2274
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	146.733	149.033
Sample #	Sample Concentration in $\mu\text{Ci/g}$	2.68E+00	BOOK#
S95T812	Replicate Concentration in $\mu\text{Ci/g}$	2.73E+00	
Instrument Code			
WB27807	Average Concentration in $\mu\text{Ci/g}$	2.7059E+00	
Analyst			
TLM	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Date	ALPHA TOTAL $\mu\text{Ci/g}$ = $R_s * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$		
05/10/95			
Time	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
12:30 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)	=	2.71E+00	DETECTION LEVEL
			1.02E-02 $\mu\text{Ci/g}$
RELATIVE COUNTING ERROR	=	3.0%	

Data Entry by:

Date:

05/11/95

Approved by:

Date:

5/11/95

Form 508101_C Rev. 1.3

Page 1 of 1

LABCORE Data Entry Template for Worklist# 1402

Analyst: _____ Instrument: AB00 _____ Book # _____

Method: LA-508-101 Rev/Mod 22

1318 SLF
5/15/95

Worklist Comment: Re-entry of original data (Worklist 1366). 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			@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
95000056	C-203	4 SAMPLE	S95T000800	0 F	@ALPHA01 ALPHA01	SOLID	N/A			uCi/g
95000056	C-203	4 SAMPLE	S95T000800	0 F	@ALPHA01 ALPHA01E	SOLID	N/A			% Ct. Error
95000056	C-203	5 DUP	S95T000800	0 F	@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
95000056	C-203	5 DUP	S95T000800	0 F	@ALPHA01 ALPHA01E	SOLID			N/A	% Ct. Error
95000056	C-203	6 SPK	S95T000800	0 F	@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
95000056	C-203	7 SAMPLE	S95T000804	0 F	@ALPHA01 ALPHA01	SOLID	N/A			uCi/g
95000056	C-203	7 SAMPLE	S95T000804	0 F	@ALPHA01 ALPHA01E	SOLID	N/A			% Ct. Error
95000056	C-203	8 DUP	S95T000804	0 F	@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
95000056	C-203	8 DUP	S95T000804	0 F	@ALPHA01 ALPHA01E	SOLID			N/A	% Ct. Error

Final page for worklist # 1402

Analyst Signature _____ Date _____

Analyst Signature [Signature] Date 5/15/95

Data Entry Comments:

Re-entry of Data From WH 1318 (see
attached). [Signature]
5/15/95

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-112, REV. 0

THE FOLLOWING ANALYSES ARE INCLUDED IN THE DATA PACKAGE BUT THE RESULTS HAVE NOT BEEN REPORTED IN THE FINAL SUMMARY REPORTS.

LABCORE Data Entry Template for Worklist# 1287

Analyst: 154H Instrument: AB00 16 Book # 1017033

Method: LA-508-101 Rev/Mod D-2 WB 27806

Worklist Comment: If dose rate warrants, run under RWP 273. 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>.36</u>		@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
95000056	C-203	4 SAMPLE	S95T000808	0 F	@ALPHA01 ALPHA01	SOLID	N/A			uCi/g
95000056	C-203	4 SAMPLE	S95T000808	0 F	@ALPHA01 ALPHA01E	SOLID	N/A			% Ct. Error
95000056	C-203	5 DUP	S95T000808	0 F	@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
95000056	C-203	5 DUP	S95T000808	0 F	@ALPHA01 ALPHA01E	SOLID			N/A	% Ct. Error
95000056	C-203	6 SAMPLE	S95T000812	0 F	@ALPHA01 ALPHA01	SOLID	N/A			uCi/g
95000056	C-203	6 SAMPLE	S95T000812	0 F	@ALPHA01 ALPHA01E	SOLID	N/A			% Ct. Error
95000056	C-203	7 DUP	S95T000812	0 F	@ALPHA01 ALPHA01	SOLID			N/A	uCi/g
95000056	C-203	7 DUP	S95T000812	0 F	@ALPHA01 ALPHA01E	SOLID			N/A	% Ct. Error

Final page for worklist # 1287

[Signature] 5-5-95
Analyst Signature Date

DATA
NOT USED
IN PACKAGE

[Signature] 5-8-95
Analyst Signature Date

Data Entry Comments:

RPD's for samples are out of control limits. Batch
will be rerun. H-211 5/9/95

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.

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

LA-548-101 (A-3) LIQUIDS

		STANDARD	REPLICATE
Type	DETECTOR NUMBER	16	16
STANDARD	DISH SIZE 1, 2, or 5 (MS)	2	2
Work List	TOTAL COUNTS (TC)	4443	4116
1287	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	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)	0.2104	0.2104
LIQUID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	147.500	136.600
Sample #	Sample Concentration in $\mu\text{Ci/L}$	3.16E-02	BOOK#
WRKLST#1287	Replicate Concentration in $\mu\text{Ci/L}$	2.92E-02	107B52
Instrument Code			
WB27806	Average Concentration in $\mu\text{Ci/L}$	3.0412E-02	
Analyst			
KGH	Rs (Sample Count Rate) = (TC / CT) - BKG		
Date	ALPHA TOTAL $\mu\text{Ci/L}$ = Rs * 1000mL/L * DF * DDF / (EFF * SS * 2220000dpm/ μCi)		
05/05/95	ALPHA TOTAL $\mu\text{Ci/mL}$ = ALPHA TOTAL $\mu\text{Ci/L}$ / 1000mL/L		
Time	Relative Counting Error = [[(The Square Root of TC + BKG * CT) / (TC - BKG * CT)]] * 1.96 * 100		
02:00 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)	=	3.04E-05	DETECTION LEVEL
			1.61E-07 $\mu\text{Ci/mL}$
RELATIVE COUNTING ERROR	=	3.1%	

 Data Entry by: *Sharon J. Holden*
 Approved by: *[Signature]*

Date: 05/08/95

Date: 5/8/95

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-112, REV. 0

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

LA-548-101 (A-3) SOLIDS

		BLANK	REPLICATE
Type	DETECTOR NUMBER	16	16
BLANK	DISH SIZE 1, 2, or 5 (MS)	2	2
Work List	TOTAL COUNTS (TC)	11	2
1287	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.6	0.6
AT	SAMPLE SIZE in mL (SS)	0.050	0.050
Test Code	DILUTION FACTOR (DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS/L (Dg/L)	2.0712	2.0712
Matrix	EFFICIENCY FACTOR (EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	0.330	0.330
Sample #	Sample Concentration in $\mu\text{Ci/g}$	< 6.82E-03	BOOK#
S95T808	Replicate Concentration in $\mu\text{Ci/g}$	< 6.82E-03	
Instrument Code			
WB27806	Maximum Concentration in $\mu\text{Ci/g}$	< 6.8222E-03	
Analyst			
KGH	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Date	ALPHA TOTAL $\mu\text{Ci/g}$ = $R_s * 1000\text{mL/L} * DF / (EFF * SS * Dg/L * 2220000\text{dpm}/\mu\text{Ci})$		
05/05/95			
Time	Relative Counting Error = $[(\text{The Square Root of } TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100$		
02:00 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) =	< 6.82E-03	DETECTION LEVEL
LESS Than Value was Determined from Lc.				1.55E-02
RELATIVE COUNTING ERROR		=	150.8%	$\mu\text{Ci/g}$

 Data Entry by: *[Signature]*
 Approved by: *[Signature]*

 Date: 05/08/95
 Date: 5/8/95

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

LA-548-101 (A-3)

SOLIDS

		SAMPLE	REPLICATE
Type	DETECTOR NUMBER	16	16
SAMPLE	DISH SIZE 1, 2, or 5 (MS)	2	2
Work List	TOTAL COUNTS (TC)	4815	4620
1287	COUNT TIME in MINUTES (CT)	30	30
AT or TB?	BACKGROUND in cpm (BKG)	0.6	0.6
AT	SAMPLE SIZE in mL (SS)	0.050	0.050
Test Code	DILUTION FACTOR (DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS/L (Dg/L)	2.0712	2.0712
Matrix	EFFICIENCY FACTOR (EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	159.900	153.400
Sample #	Sample Concentration in $\mu\text{Ci/g}$	3.31E+00	BOOK#
S95T808	Replicate Concentration in $\mu\text{Ci/g}$	3.17E+00	
Instrument Code			
WB27806	Average Concentration in $\mu\text{Ci/g}$	3.2385E+00	
Analyst			
KGH	Rs (Sample Count Rate) = (TC / CT) - BKG		
Date	ALPHA TOTAL $\mu\text{Ci/g}$ = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/ μCi)		
05/05/95			
Time	Relative Counting Error = $[(\text{The Square Root of TC} + \text{BKG} * \text{CT}) / (\text{TC} - \text{BKG} * \text{CT})] * 1.96 * 100$		
02:00 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)	=	3.24E+00	DETECTION LEVEL
					1.55E-02 $\mu\text{Ci/g}$
RELATIVE COUNTING ERROR			=	2.9%	

Data Entry by:

Sharon J. Latala

Date:

05/08/95

Approved by:

Sharon J. Latala

Date:

5/8/95

Form 508101_C Rev. 1.3

Page 1 of 1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-112, REV. 0

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

LA-548-101 (A-3)

SOLIDS

		SAMPLE	REPLICATE
Type	DETECTOR NUMBER	16	16
DUPLICATE	DISH SIZE 1, 2, or 5 (MS)	2	2
Work List	TOTAL COUNTS (TC)	1786	1896
1287	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.6	0.6
AT	SAMPLE SIZE in mL (SS)	0.050	0.050
Test Code	DILUTION FACTOR (DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS/L (Dg/L)	2.1844	2.1844
Matrix	EFFICIENCY FACTOR (EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	58.933	62.600
Sample #	Sample Concentration in $\mu\text{Ci/g}$	1.16E+00	BOOK#
S95T808	Replicate Concentration in $\mu\text{Ci/g}$	1.23E+00	
Instrument Code			
WB27806	Average Concentration in $\mu\text{Ci/g}$	1.1911E+00	
Analyst			
KGH	Rs (Sample Count Rate) = (TC / CT) - BKG		
Date	ALPHA TOTAL $\mu\text{Ci/g}$ = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/ μCi)		
05/05/95			
Time	Relative Counting Error = [(The Square Root of TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100		
02:00 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)	=	1.19E+00	DETECTION LEVEL
					1.47E-02
RELATIVE COUNTING ERROR			=	4.7%	$\mu\text{Ci/g}$

 Data Entry by: *Sharon Hill*
 Approved by: *Sharon Hill*

Date: 05/08/95

Date: 5/8/95

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

LA-548-101 (A-3)

SOLIDS

		SAMPLE	REPLICATE
Type	DETECTOR NUMBER	16	16
SAMPLE	DISH SIZE 1, 2, or 5 (MS)	2	2
Work List	TOTAL COUNTS (TC)	1566	1529
1287	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.6	0.6
AT	SAMPLE SIZE in mL (SS)	0.050	0.050
Test Code	DILUTION FACTOR (DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS/L (Dg/L)	2.19	2.19
Matrix	EFFICIENCY FACTOR (EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	51.600	50.367
Sample #	Sample Concentration in $\mu\text{Ci/g}$	1.01E+00	BOOK#
S95T812	Replicate Concentration in $\mu\text{Ci/g}$	9.85E-01	
Instrument Code			
WB27806	Average Concentration in $\mu\text{Ci/g}$	9.9682E-01	
Analyst			
KGH	R_s (Sample Count Rate) = $(TC / CT) - BKG$		
Date	$\text{ALPHA TOTAL } \mu\text{Ci/g} = R_s \cdot 1000\text{mL/L} \cdot DF / (EFF \cdot SS \cdot Dg/L \cdot 2220000\text{dpm}/\mu\text{Ci})$		
05/05/95			
Time	Relative Counting Error = $[(\text{The Square Root of } TC + BKG \cdot CT) / (TC - BKG \cdot CT)] \cdot 1.96 \cdot 100$		
02:00 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)	=	9.97E-01	DETECTION LEVEL
					1.47E-02 $\mu\text{Ci/g}$
RELATIVE COUNTING ERROR			=	5.1%	

Data Entry by:

Date:

05/08/95

Approved by:

Date:

5/8/95

Form 508101_C Rev. 1.3

Page 1 of 1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

LA-548-101 (A-3) SOLIDS

		SAMPLE	REPLICATE
Type	DETECTOR NUMBER	16	16
DUPLICATE	DISH SIZE 1, 2, or 5 (MS)	2	2
Work List	TOTAL COUNTS (TC)	4666	4395
1287	COUNT TIME in MINUTES (CT)	30	30
AT or TB ?	BACKGROUND in cpm (BKG)	0.6	0.6
AT	SAMPLE SIZE in mL (SS)	0.050	0.050
Test Code	DILUTION FACTOR (DF)	1	1
@ALPHA01	DIGEST GRAMS of SOLIDS/L (Dg/L)	2.1652	2.1652
Matrix	EFFICIENCY FACTOR (EFF)	0.2104	0.2104
SOLID	Lc, Rmax, or Rs, (SAMPLE RATE) as APPROPRIATE	154.933	145.900
Sample #	Sample Concentration in $\mu\text{Ci/g}$	3.06E+00	BOOK#
S95T812	Replicate Concentration in $\mu\text{Ci/g}$	2.89E+00	
Instrument Code			
WB27806	Average Concentration in $\mu\text{Ci/g}$	2.9746E+00	
Analyst			
KGH	Rs (Sample Count Rate) = (TC / CT) - BKG		
Date	ALPHA TOTAL $\mu\text{Ci/g}$ = Rs * 1000mL/L * DF / (EFF * SS * Dg/L * 2220000dpm/ μCi)		
05/05/95			
Time	Relative Counting Error = [(The Square Root of TC + BKG * CT) / (TC - BKG * CT)] * 1.96 * 100		
02:00 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)	=	2.97E+00	DETECTION LEVEL
					1.48E-02
RELATIVE COUNTING ERROR			=	3.0%	$\mu\text{Ci/g}$

Data Entry by: <i>Shirley J. Hattis</i>	Date: 05/08/95
Approved by: <i>St. J. Hattis</i>	Date: 5/8/95